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# Appendix B

**E-UTRA BAND 12** 



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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
				RB1#0	23.4	24.25	34.77	PASS
				RB1#2	23.26	24.11	34.77	PASS
				RB1#5	23.22	24.07	34.77	PASS
			LCH	RB3#0	23.26	24.11	34.77	PASS
				RB3#2	23.18	24.03	34.77	PASS
				RB3#3	23.29	24.14	34.77	PASS
				RB6#0	22.47	23.32	34.77	PASS
				RB1#0	23.29	24.14	34.77	PASS
				RB1#2	23.31	24.16	34.77	PASS
				RB1#5	23.22	24.07	34.77	PASS
BAND 12	LTE/TM1	1.4M	MCH	RB3#0	23.33	24.18	34.77	PASS
				RB3#2	23.5	24.35	34.77	PASS
				RB3#3	23.42	24.27	34.77	PASS
				RB6#0	22.44	23.29	34.77	PASS
				RB1#0	22.9	23.75	34.77	PASS
				RB1#2	23.25	24.1	34.77	PASS
				RB1#5	23.02	23.87	34.77	PASS
			НСН	RB3#0	23.22	24.07	34.77	PASS
				RB3#2	23.36	24.21	34.77	PASS
				RB3#3	23.35	24.2	34.77	PASS
				RB6#0	22.35	23.2	34.77	PASS



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Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	ERP (dBm)	limit (dBm)	Verdict
				RB1#0	22.34	23.19	34.77	PASS
				RB1#2	22.09	22.94	34.77	PASS
				RB1#5	22.48	23.33	34.77	PASS
			LCH	RB3#0	22.15	23	34.77	PASS
				RB3#2	22.15	23	34.77	PASS
				RB3#3	22.29	23.14	34.77	PASS
				RB6#0	21.49	22.34	34.77	PASS
				RB1#0	22.24	23.09	34.77	PASS
				RB1#2	22.46	23.31	34.77	PASS
				RB1#5	22.6	23.45	34.77	PASS
BAND 12	LTE/TM2	1.4M	MCH	RB3#0	22.53	23.38	34.77	PASS
				RB3#2	22.47	23.32	34.77	PASS
				RB3#3	22.39	23.24	34.77	PASS
				RB6#0	21.49	22.34	34.77	PASS
				RB1#0	22.46	23.31	34.77	PASS
				RB1#2	22.42	23.27	34.77	PASS
				RB1#5	22.04	22.89	34.77	PASS
			НСН	RB3#0	21.86	22.71	34.77	PASS
				RB3#2	22.19	23.04	34.77	PASS
				RB3#3	22.14	22.99	34.77	PASS
				RB6#0	21.38	22.23	34.77	PASS



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Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	ERP (dBm)	limit (dBm)	Verdict
				RB1#0	21.93	22.78	34.77	PASS
				RB1#2	22.24	23.09	34.77	PASS
				RB1#5	21.71	22.56	34.77	PASS
			LCH	RB3#0	21.98	22.83	34.77	PASS
				RB3#2	22.04	22.89	34.77	PASS
				RB3#3	22.08	22.93	34.77	PASS
				RB6#0	20.98	21.83	34.77	PASS
				RB1#0	21.96	22.81	34.77	PASS
				RB1#2	22.11	22.96	34.77	PASS
				RB1#5	21.90	22.75	34.77	PASS
BAND 12	LTE/TM3	1.4M	MCH	RB3#0	22.01	22.86	34.77	PASS
				RB3#2	22.00	22.85	34.77	PASS
				RB3#3	21.99	22.84	34.77	PASS
				RB6#0	21.07	21.92	34.77	PASS
				RB1#0	21.85	22.70	34.77	PASS
				RB1#2	22.19	23.04	34.77	PASS
				RB1#5	22.06	22.91	34.77	PASS
			нсн	RB3#0	22.10	22.95	34.77	PASS
				RB3#2	22.25	23.10	34.77	PASS
				RB3#3	22.09	22.94	34.77	PASS
				RB6#0	21.06	21.91	34.77	PASS



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Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	ERP (dBm)	limit (dBm)	Verdict
				RB1#0	23.19	24.04	34.77	PASS
				RB1#7	23.49	24.34	34.77	PASS
				RB1#14	23.25	24.1	34.77	PASS
			LCH	RB8#0	22.31	23.16	34.77	PASS
				RB8#4	22.42	23.27	34.77	PASS
				RB8#7	22.32	23.17	34.77	PASS
				RB15#0	22.27	23.12	34.77	PASS
				RB1#0	23.26	24.11	34.77	PASS
				RB1#7	23.33	24.18	34.77	PASS
				RB1#14	23.23	24.08	34.77	PASS
BAND 12	LTE/TM1	3M	MCH	RB8#0	22.4	23.25	34.77	PASS
				RB8#4	22.41	23.26	34.77	PASS
				RB8#7	22.38	23.23	34.77	PASS
				RB15#0	22.38	23.23	34.77	PASS
				RB1#0	23.49	24.34	34.77	PASS
				RB1#7	23.44	24.29	34.77	PASS
				RB1#14	23.09	23.94	34.77	PASS
			НСН	RB8#0	22.33	23.18	34.77	PASS
			RB8#4	22.41	23.26	34.77	PASS	
				RB8#7	22.42	23.27	34.77	PASS
				RB15#0	22.42	23.27	34.77	PASS



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Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	ERP (dBm)	limit (dBm)	Verdict
				RB1#0	22.8	23.65	34.77	PASS
				RB1#7	22.41	23.26	34.77	PASS
				RB1#14	21.95	22.8	34.77	PASS
			LCH	RB8#0	21.64	22.49	34.77	PASS
				RB8#4	21.55	22.4	34.77	PASS
				RB8#7	21.63	22.48	34.77	PASS
				RB15#0	21.44	22.29	34.77	PASS
				RB1#0	22.39	23.24	34.77	PASS
				RB1#7	22.39	23.24	34.77	PASS
				RB1#14	22.39	23.24	34.77	PASS
BAND 12	LTE/TM2	ЗМ	MCH	RB8#0	21.62	22.47	34.77	PASS
				RB8#4	21.64	22.49	34.77	PASS
				RB8#7	21.74	22.59	34.77	PASS
				RB15#0	21.5	22.35	34.77	PASS
				RB1#0	22.74	23.59	34.77	PASS
				RB1#7	22.48	23.33	34.77	PASS
				RB1#14	22.2	23.05	34.77	PASS
			нсн	RB8#0	21.66	22.51	34.77	PASS
				RB8#4	21.61	22.46	34.77	PASS
				RB8#7	21.71	22.56	34.77	PASS
				RB15#0	21.33	22.18	34.77	PASS



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Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	ERP (dBm)	limit (dBm)	Verdict
				RB1#0	22.29	23.14	34.77	PASS
				RB1#2	22.17	23.02	34.77	PASS
				RB1#5	22.21	23.06	34.77	PASS
			LCH	RB3#0	21.39	22.24	34.77	PASS
				RB3#2	21.28	22.13	34.77	PASS
				RB3#3	21.31	22.16	34.77	PASS
				RB6#0	21.19	22.04	34.77	PASS
				RB1#0	22.26	23.11	34.77	PASS
				RB1#2	22.16	23.01	34.77	PASS
		ЗМ	МСН	RB1#5	22.17	23.02	34.77	PASS
BAND 12	LTE/TM3			RB3#0	21.38	22.23	34.77	PASS
				RB3#2	21.28	22.13	34.77	PASS
				RB3#3	21.23	22.08	34.77	PASS
				RB6#0	21.17	22.02	34.77	PASS
				RB1#0	22.34	23.19	34.77	PASS
				RB1#2	22.12	22.97	34.77	PASS
				RB1#5	22.30	23.15	34.77	PASS
			HCH	RB3#0	21.33	22.18	34.77	PASS
				RB3#2	21.32	22.17	34.77	PASS
				RB3#3	21.29	22.14	34.77	PASS
				RB6#0	21.16	22.01	34.77	PASS



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Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	ERP (dBm)	limit (dBm)	Verdict
, ,				RB1#0	23.19	24.04	34.77	PASS
				RB1#13	23.19	24.04	34.77	PASS
				RB1#24	23.27	24.12	34.77	PASS
			LCH	RB12#0	22.26	23.11	34.77	PASS
				RB12#6	22.35	23.2	34.77	PASS
				RB12#13	22.41	23.26	34.77	PASS
				RB25#0	22.29	23.14	34.77	PASS
				RB1#0	23.35	24.2	34.77	PASS
				RB1#13	23.33	24.18	34.77	PASS
			мсн	RB1#24	23.33	24.18	34.77	PASS
BAND 12	LTE/TM1	5M		RB12#0	22.41	23.26	34.77	PASS
				RB12#6	22.47	23.32	34.77	PASS
				RB12#13	22.38	23.23	34.77	PASS
				RB25#0	22.38	23.23	34.77	PASS
				RB1#0	23.35	24.2	34.77	PASS
				RB1#13	23.34	24.19	34.77	PASS
				RB1#24	23.15	24	34.77	PASS
		HCH	RB12#0	22.39	23.24	34.77	PASS	
			RB12#6	22.37	23.22	34.77	PASS	
			RB12#13	22.2	23.05	34.77	PASS	
				RB25#0	22.44	23.29	34.77	PASS



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Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	ERP (dBm)	limit (dBm)	Verdict
				RB1#0	22.49	23.34	34.77	PASS
				RB1#13	22.72	23.57	34.77	PASS
				RB1#24	22.5	23.35	34.77	PASS
			LCH	RB12#0	21.51	22.36	34.77	PASS
				RB12#6	21.44	22.29	34.77	PASS
				RB12#13	21.43	22.28	34.77	PASS
				RB25#0	21.34	22.19	34.77	PASS
				RB1#0	22.49	23.34	34.77	PASS
				RB1#13	22.46	23.31	34.77	PASS
			МСН	RB1#24	22.86	23.71	34.77	PASS
BAND 12	LTE/TM2	5M		RB12#0	21.51	22.36	34.77	PASS
				RB12#6	21.56	22.41	34.77	PASS
				RB12#13	21.39	22.24	34.77	PASS
				RB25#0	21.49	22.34	34.77	PASS
				RB1#0	22.72	23.57	34.77	PASS
				RB1#13	22.56	23.41	34.77	PASS
				RB1#24	22.53	23.38	34.77	PASS
		нсн	RB12#0	21.41	22.26	34.77	PASS	
			RB12#6	21.33	22.18	34.77	PASS	
			RB12#13	21.42	22.27	34.77	PASS	
				RB25#0	21.64	22.49	34.77	PASS



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Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	ERP (dBm)	limit (dBm)	Verdict
				RB1#0	22.40	23.25	34.77	PASS
				RB1#2	22.14	22.99	34.77	PASS
				RB1#5	22.21	23.06	34.77	PASS
			LCH	RB3#0	21.26	22.11	34.77	PASS
				RB3#2	21.13	21.98	34.77	PASS
				RB3#3	21.24	22.09	34.77	PASS
				RB6#0	21.32	22.17	34.77	PASS
				RB1#0	22.37	23.22	34.77	PASS
				RB1#2	22.34	23.19	34.77	PASS
				RB1#5	22.26	23.11	34.77	PASS
BAND 12	LTE/TM3	5M	МСН	RB3#0	21.29	22.14	34.77	PASS
				RB3#2	21.26	22.11	34.77	PASS
				RB3#3	21.24	22.09	34.77	PASS
				RB6#0	21.29	22.14	34.77	PASS
				RB1#0	22.30	23.15	34.77	PASS
				RB1#2	22.31	23.16	34.77	PASS
				RB1#5	22.22	23.07	34.77	PASS
			НСН	RB3#0	21.29	22.14	34.77	PASS
				RB3#2	21.27	22.12	34.77	PASS
				RB3#3	21.16	22.01	34.77	PASS
				RB6#0	21.30	22.15	34.77	PASS



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Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	ERP (dBm)	limit (dBm)	Verdict
				RB1#0	23.26	24.11	34.77	PASS
				RB1#25	23.28	24.13	34.77	PASS
				RB1#49	23	23.85	34.77	PASS
			LCH	RB25#0	22.35	23.2	34.77	PASS
				RB25#13	22.49	23.34	34.77	PASS
				RB25#25	22.43	23.28	34.77	PASS
				RB50#0	22.31	23.16	34.77	PASS
				RB1#0	23.16	24.01	34.77	PASS
				RB1#25	23.19	24.04	34.77	PASS
				RB1#49	23.22	24.07	34.77	PASS
BAND 12	LTE/TM1	10M	МСН	RB25#0	22.51	23.36	34.77	PASS
				RB25#13	22.44	23.29	34.77	PASS
				RB25#25	22.4	23.25	34.77	PASS
				RB50#0	22.41	23.26	34.77	PASS
				RB1#0	23.3	24.15	34.77	PASS
				RB1#25	23.34	24.19	34.77	PASS
				RB1#49	23.02	23.87	34.77	PASS
			НСН	RB25#0	22.48	23.33	34.77	PASS
				RB25#13	22.53	23.38	34.77	PASS
				RB25#25	22.52	23.37	34.77	PASS
				RB50#0	22.53	23.38	34.77	PASS



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		7	,	,	raye.	13 01 1		
Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	ERP (dBm)	limit (dBm)	Verdic t
				RB1#0	22.57	23.42	34.77	PASS
				RB1#25	22.26	23.11	34.77	PASS
				RB1#49	22.35	23.2	34.77	PASS
			LCH	RB25#0	21.32	22.17	34.77	PASS
				RB25#13	21.54	22.39	34.77	PASS
				RB25#25	21.45	22.3	34.77	PASS
				RB50#0	21.33	22.18	34.77	PASS
				RB1#0	22.55	23.4	34.77	PASS
				RB1#25	22.32	23.17	34.77	PASS
				RB1#49	22.35	23.2	34.77	PASS
BAND 12	LTE/TM2	10M	MCH	RB25#0	21.52	22.37	34.77	PASS
				RB25#13	21.58	22.43	34.77	PASS
				RB25#25	21.44	22.29	34.77	PASS
				RB50#0	21.43	22.28	34.77	PASS
				RB1#0	22.23	23.08	34.77	PASS
				RB1#25	22.99	23.84	34.77	PASS
				RB1#49	22.34	23.19	34.77	PASS
		НСН	RB25#0	21.47	22.32	34.77	PASS	
			RB25#13	21.64	22.49	34.77	PASS	
			RB25#25	21.62	22.47	34.77	PASS	
				RB50#0	21.48	22.33	34.77	PASS



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Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	ERP (dBm)	limit (dBm)	Verdict
		10M	LCH	RB1#0	22.34	23.19	34.77	PASS
				RB1#2	22.23	23.08	34.77	PASS
				RB1#5	22.14	22.99	34.77	PASS
				RB3#0	21.39	22.24	34.77	PASS
				RB3#2	21.30	22.15	34.77	PASS
	LTE/TM3			RB3#3	21.32	22.17	34.77	PASS
				RB6#0 21.39 22.24 34.77	34.77	PASS		
				RB1#0	22.31	23.16 34.77 23.08 34.77 22.95 34.77	PASS	
				RB1#2	22.23		PASS	
				RB1#5	22.10	22.95	34.77	PASS
BAND 12			MCH	RB3#0	21.34	22.19	34.77	PASS
				RB3#2	21.34	22.19	34.77	PASS
				RB3#3	21.35	22.20	34.77	PASS
				RB6#0	21.30	22.15	34.77	PASS
				RB1#0	22.30	23.15 34.77	PASS	
				RB1#2	22.33	23.18	34.77	PASS
				RB1#5	22.22	23.07	34.77	PASS
			нсн	RB3#0	21.31	22.16	34.77	PASS
				RB3#2	21.42	22.27	34.77	PASS
				RB3#3	21.37	22.22	34.77	PASS
				RB6#0	21.33	22.18	34.77	PASS

#### Note

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

ERP [dBm] = SGP [dBm] - Cable Loss [dB] + Gain [dBd]

b: SGP=Signal Generator Level

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## 2 Peak-to-Average Ratio

### Part I - Test Results

Test Band	Test Mode	Test Channel	Measured[dB]	Limit [dB]	Verdict
	TM1/10M	LCH	3.91	13	PASS
		MCH	4.46	13	PASS
		HCH	4.26	13	PASS
	TM2/10M	LCH	4.75	13	PASS
Band 12		MCH	5.54	13	PASS
		HCH	5.36	13	PASS
	TM3/10M	LCH	5.48	13	PASS
		MCH	5.74	13	PASS
		HCH	5.51	13	PASS



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### 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=10MHz

### 2.1.1.1.1 Test Channel = LCH



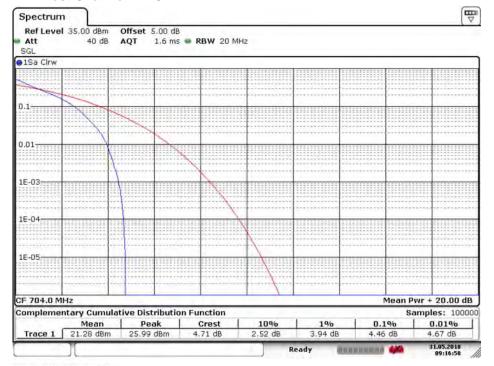
Date: 31.MAY.2018 09:15:53



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### 2.1.1.1.2 Test Channel = MCH



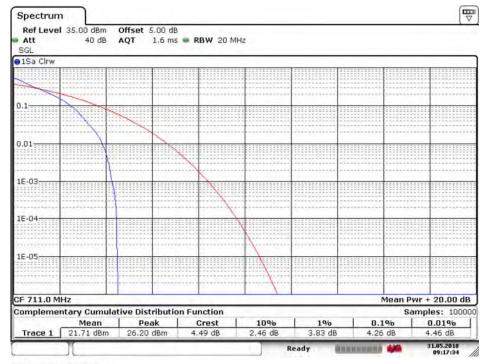
Date: 31.MAY.2018 09:16:58



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### 2.1.1.1.3 Test Channel = HCH



Date: 31.MAY.2018 09:17:35

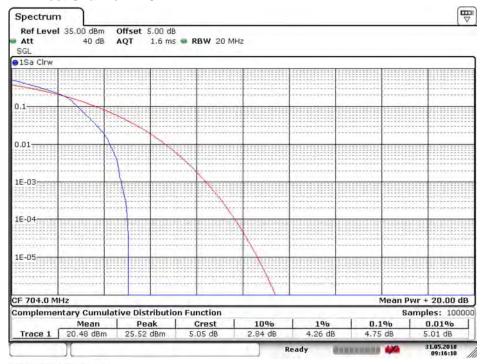


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### 2.1.1.2 Test Mode = LTE/TM2.Bandwidth=10MHz

### 2.1.1.2.1 Test Channel = LCH



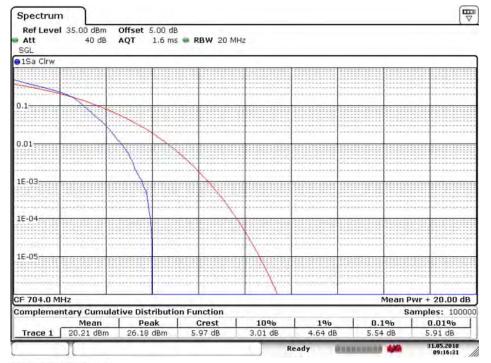
Date: 31.MAY.2018 09:16:10



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### 2.1.1.2.2 Test Channel = MCH



Date: 31.MAY.2018 09:16:32



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### 2.1.1.2.3 Test Channel = HCH



Date: 31.MAY.2018 09:18:05



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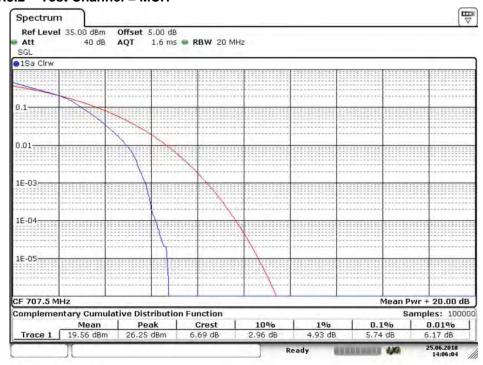
### 2.1.1.3 Test Mode = LTE/TM3.Bandwidth=10MHz

#### 2.1.1.3.1 Test Channel = LCH



Date: 25.JUN.2018 14:05:23

### 2.1.1.3.2 Test Channel = MCH



Date: 25.JUN.2018 14:06:05



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### 2.1.1.3.3 Test Channel = HCH



Date: 25.JUN.2018 14:06:28



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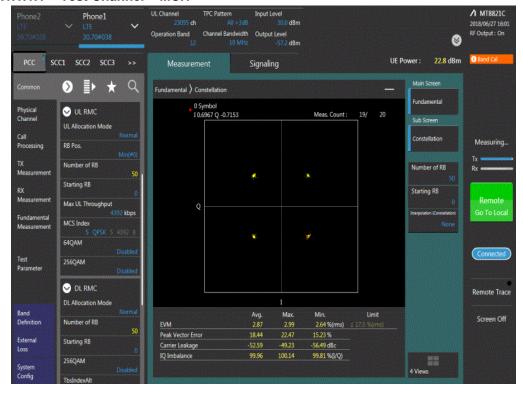
### 3 Modulation Characteristics

### 3.1 For LTE

### 3.1.1 Test Band = LTE BAND 12

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

### 3.1.1.1.1 Test Channel = MCH



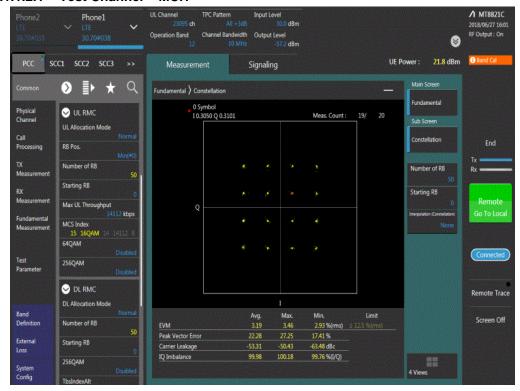


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### 3.1.1.2 Test Mode = LTE /TM2 10MHz

### 3.1.1.2.1 Test Channel = MCH



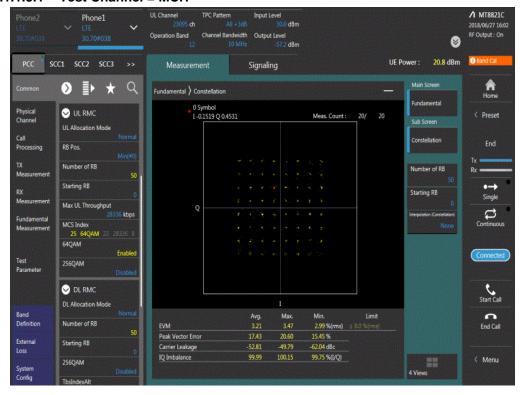


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## 3.1.1.3 Test Mode = LTE /TM3 10MHz

### 3.1.1.3.1 Test Channel = MCH





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### 4 Bandwidth

Part I - Test Results

Test Band	Test Mode	Test Channel	Occupied Bandwidth [MHz]	Emission Bandwidth [MHz]	Verdict
		LCH	1.10	1.25	PASS
	TM1/1.4MHz	MCH	1.10	1.23	PASS
		HCH	1.09	1.35	PASS
	TM2/1.4MHz	LCH	1.09	1.23	PASS
		MCH	1.09	1.24	PASS
		HCH	1.10	1.29	PASS
		LCH	1.09	1.24	PASS
	TM3/ 1.4MHz	MCH	1.08	1.23	PASS
		HCH	1.08	1.24	PASS
		LCH	2.69	2.93	PASS
	TM1/3MHz	MCH	2.69	2.94	PASS
		HCH	2.69	2.99	PASS
		LCH	2.69	2.94	PASS
	TM2/3MHz	MCH	2.69	2.96	PASS
		HCH	2.69	2.96	PASS
		LCH	2.68	2.93	PASS
Band 12	TM3/3MHz	MCH	2.69	2.93	PASS
		HCH	2.68	2.93	PASS
	TM1/5MHz	LCH	4.47	4.89	PASS
		MCH	4.49	4.92	PASS
		HCH	4.48	4.91	PASS
		LCH	4.47	4.90	PASS
	TM2/ 5MHz	MCH	4.47	4.88	PASS
		HCH	4.48	4.89	PASS
	TM3/ 5MHz	LCH	4.45	4.82	PASS
		MCH	4.47	4.89	PASS
		HCH	4.45	4.86	PASS
		LCH	8.93	9.64	PASS
	TM1/10MHz	MCH	8.97	9.85	PASS
		HCH	8.91	9.59	PASS
		LCH	8.93	9.64	PASS
	TM2/ 10MHz	MCH	8.95	9.65	PASS
		HCH	8.93	9.55	PASS



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Test Band	Test Mode	Test Channel	Occupied Bandwidth [MHz]	Emission Bandwidth [MHz]	Verdict
		LCH	8.91	9.69	PASS
TM3/ 10	TM3/ 10MHz	MCH	8.95	9.71	PASS
		HCH	8.91	9.63	PASS



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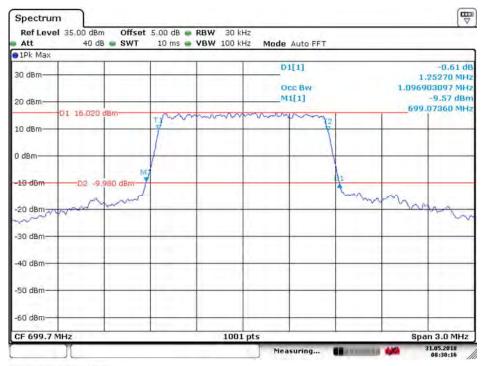
### Part II -Test Plots

### 4.1 For LTE

### 4.1.1 Test Band = LTE BAND 12

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

### 4.1.1.1.1 Test Channel = LCH



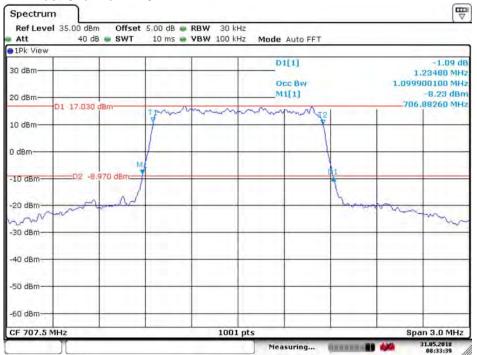
Date: 31.MAY.2018 08:30:16



Report No.: SZEM180500453501

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### 4.1.1.1.2 Test Channel = MCH



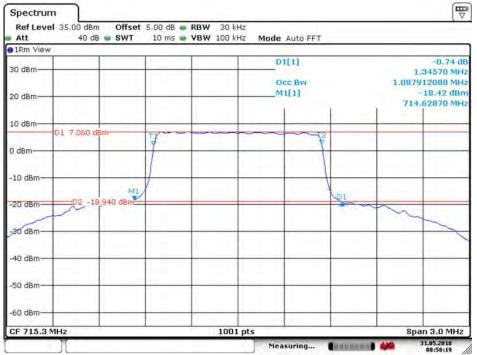
Date: 31.MAY.2018 08:33:39



Report No.: SZEM180500453501

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### 4.1.1.1.3 Test Channel = HCH



Date: 31.MAY.2018 08:58:19

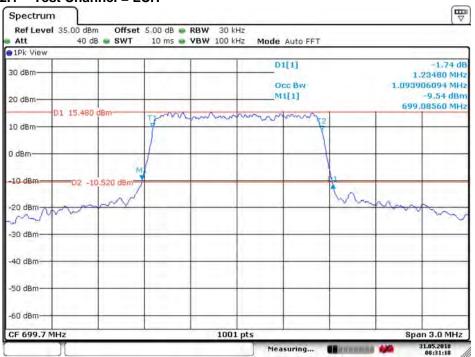


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#### 4.1.1.2 Test Mode = LTE/TM2 1.4MHz

### 4.1.1.2.1 Test Channel = LCH



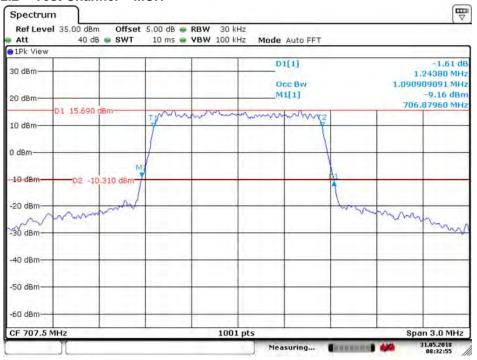
Date: 31.MAY.2018 08:31:18



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### 4.1.1.2.2 Test Channel = MCH



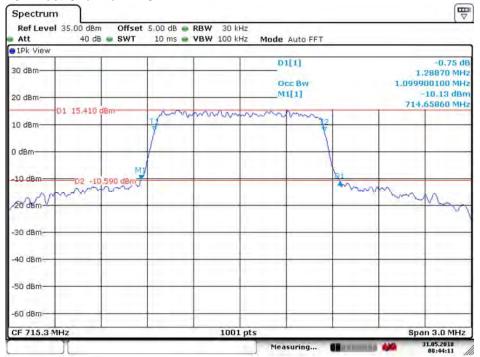
Date: 31.MAY.2018 08:32:56



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### 4.1.1.2.3 Test Channel = HCH



Date: 31 MAY 2018 08:44:10

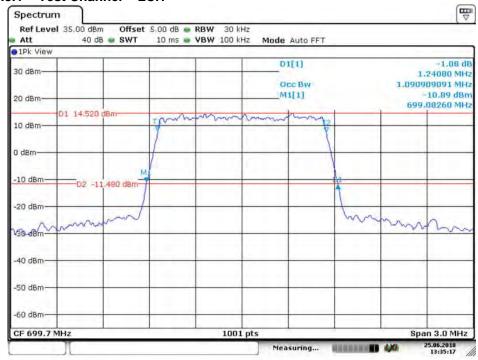


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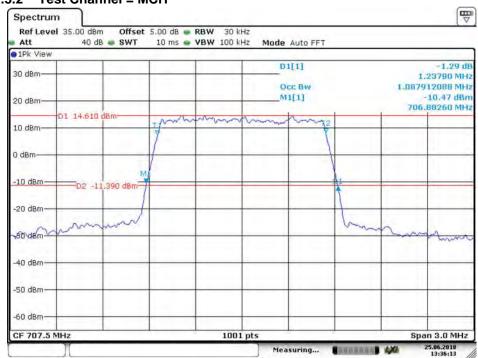
### 4.1.1.3 Test Mode = LTE/TM3 1.4MHz

### 4.1.1.3.1 Test Channel = LCH



Date: 25.JUN.2018 13:35:17

### 4.1.1.3.2 Test Channel = MCH



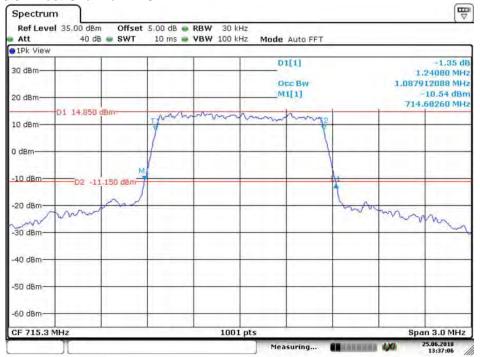
Date: 25.JUN.2018 13:36:13



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### 4.1.1.3.3 Test Channel = HCH



Date: 25.JUN.2018 13:37:07

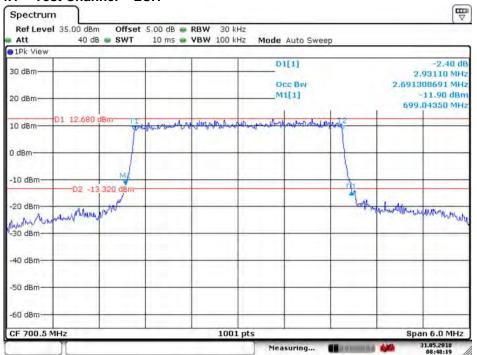


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### 4.1.1.4 Test Mode = LTE/TM1 3MHz

## 4.1.1.4.1 Test Channel = LCH



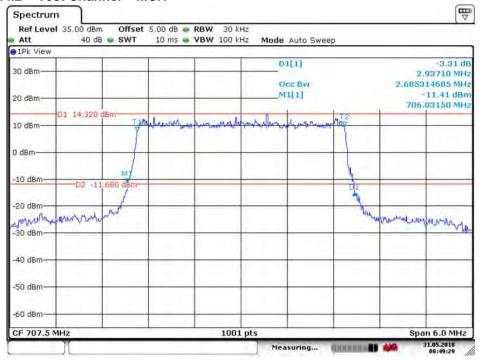
Date: 31.MAY.2018 08:48:19



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## 4.1.1.4.2 Test Channel = MCH



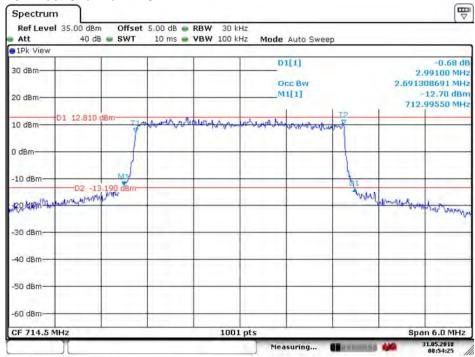
Date: 31.MAY.2018 08:49:29



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### 4.1.1.4.3 Test Channel = HCH



Date: 31 MAY 2018 08:54:26

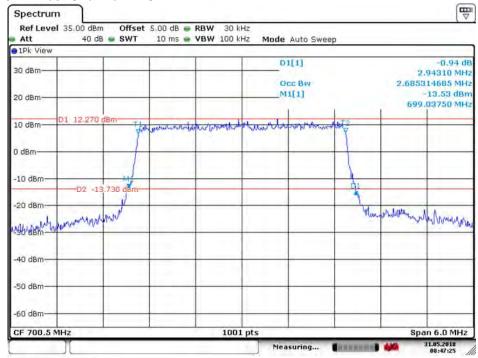


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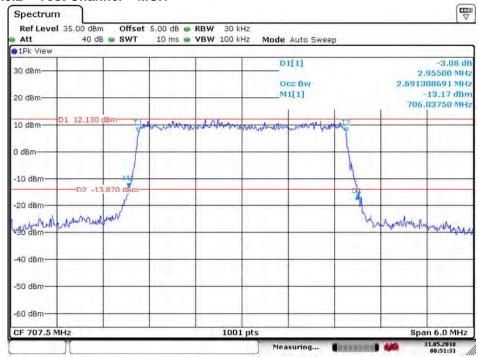
#### 4.1.1.5 Test Mode = LTE/TM2 3MHz

## 4.1.1.5.1 Test Channel = LCH



Date: 31.MAY.2018 08:47:25

### 4.1.1.5.2 Test Channel = MCH



Date: 31.MAY.2018 08:51:31

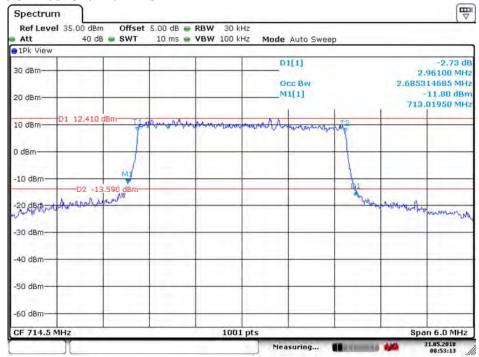
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### 4.1.1.5.3 Test Channel = HCH



Date: 31.MAY.2018 08:53:13

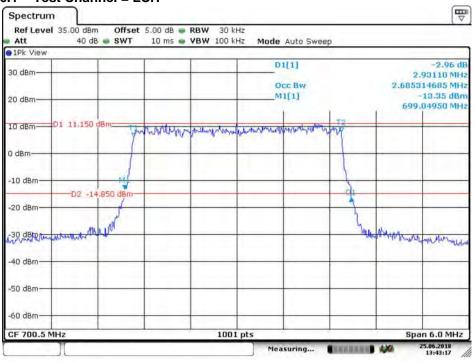


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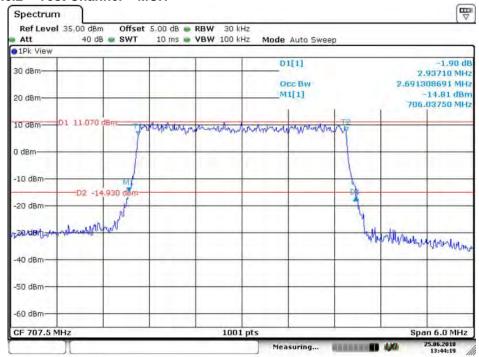
#### 4.1.1.6 Test Mode = LTE/TM3 3MHz

## 4.1.1.6.1 Test Channel = LCH



Date: 25.JUN.2018 13:43:17

### 4.1.1.6.2 Test Channel = MCH



Date: 25.JUN.2018 13:44:19

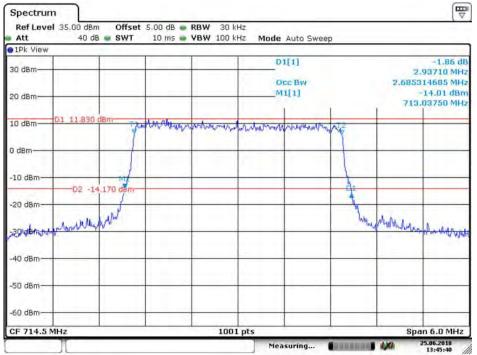
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## 4.1.1.6.3 Test Channel = HCH



Date: 25.JUN.2018 13:45:41

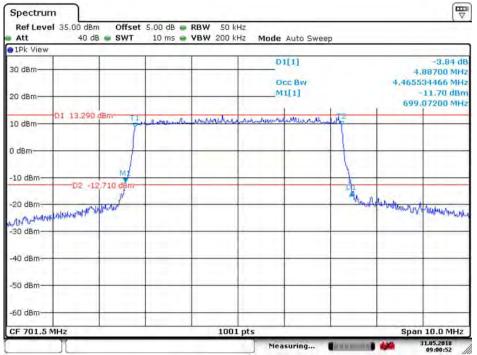


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## 4.1.1.7 Test Mode = LTE/TM1 5MHz

## 4.1.1.7.1 Test Channel = LCH



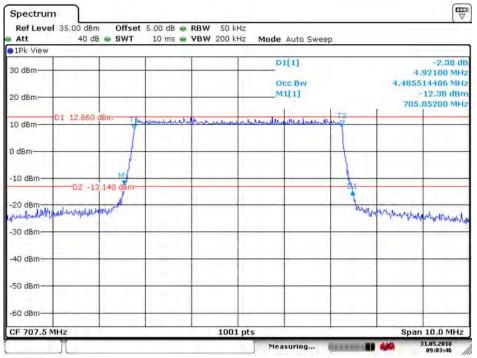
Date: 31.MAY.2018 09:00:52



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## 4.1.1.7.2 Test Channel = MCH



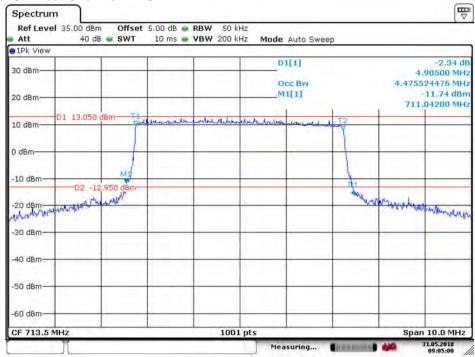
Date: 31.MAY.2018 09:03:46



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### 4.1.1.7.3 Test Channel = HCH



Date: 31.MAY.2018 09:05:00

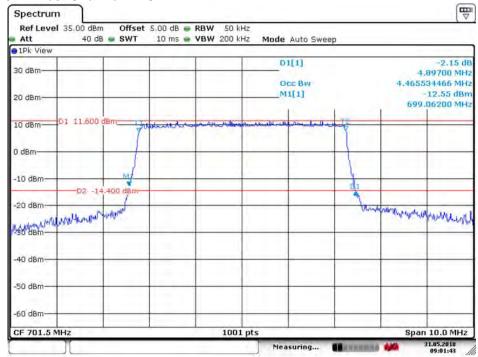


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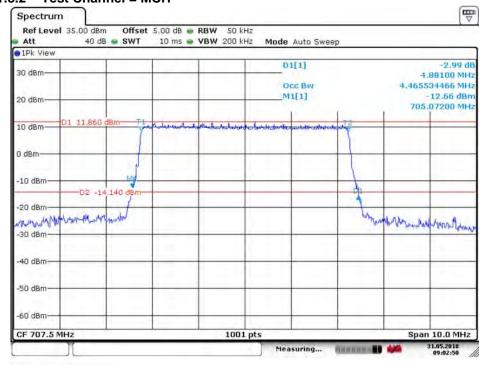
### 4.1.1.8 Test Mode = LTE/TM2 5MHz

### 4.1.1.8.1 Test Channel = LCH



Date: 31.MAY.2018 09:01:43

## 4.1.1.8.2 Test Channel = MCH



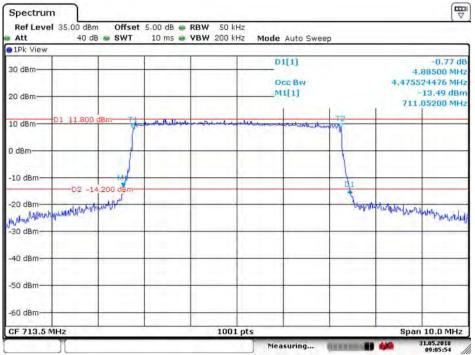
Date: 31.MAY.2018 09:02:50



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## 4.1.1.8.3 Test Channel = HCH



Date: 31.MAY.2018 09:05:55

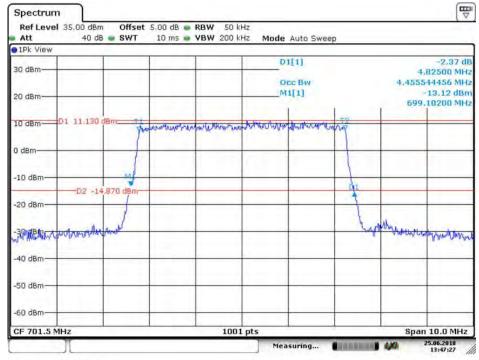


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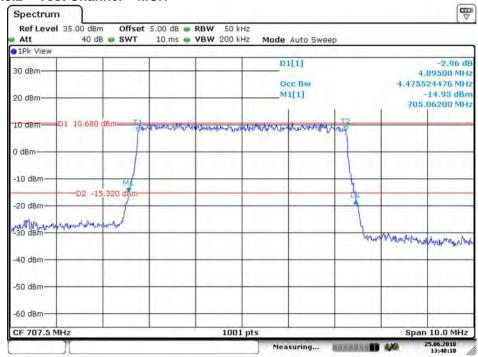
### 4.1.1.9 Test Mode = LTE/TM3 5MHz

## 4.1.1.9.1 Test Channel = LCH



Date: 25.JUN.2018 13:47:27

### 4.1.1.9.2 Test Channel = MCH



Date: 25.JUN.2018 13:48:19

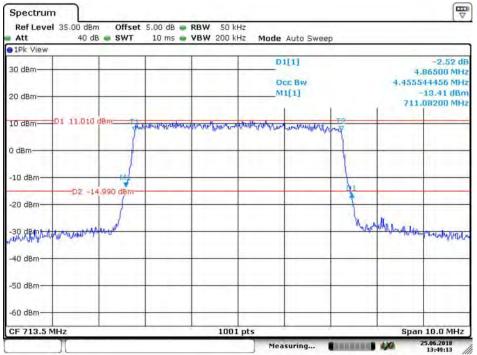
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## 4.1.1.9.3 Test Channel = HCH



Date: 25.JUN.2018 13:49:14

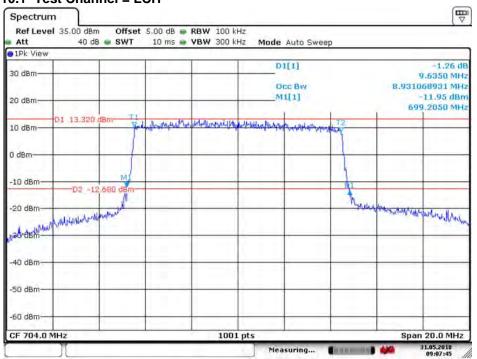


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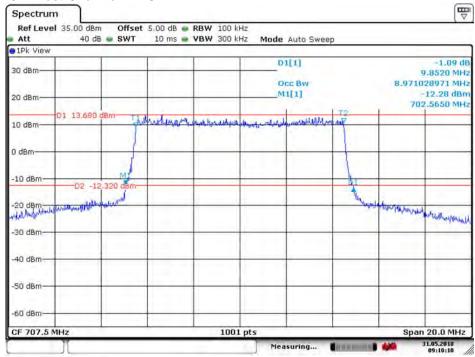
### 4.1.1.10 Test Mode = LTE/TM1 10MHz

## 4.1.1.10.1 Test Channel = LCH



Date: 31.MAY.2018 09:07:45

## 4.1.1.10.2 Test Channel = MCH



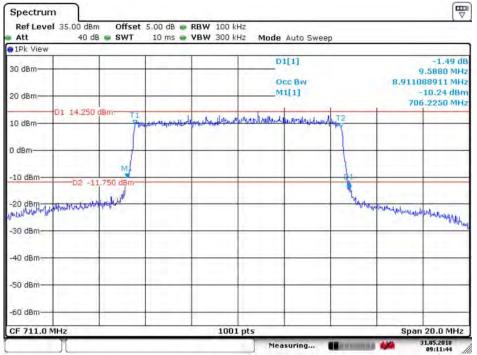
Date: 31.MAY.2018 09:10:11



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## 4.1.1.10.3 Test Channel = HCH



Date: 31.MAY.2018 09:11:45

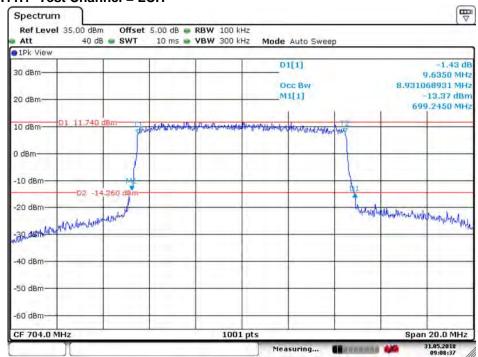


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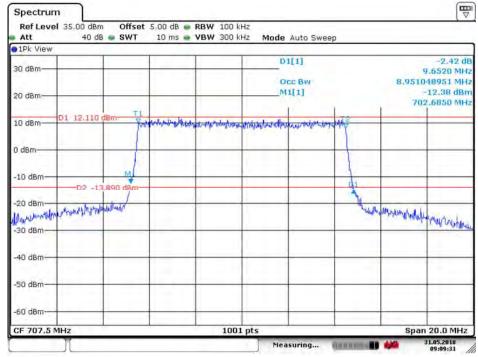
### 4.1.1.11 Test Mode = LTE/TM2 10MHz

## 4.1.1.11.1 Test Channel = LCH



Date: 31.MAY.2018 09:08:37

## 4.1.1.11.2 Test Channel = MCH



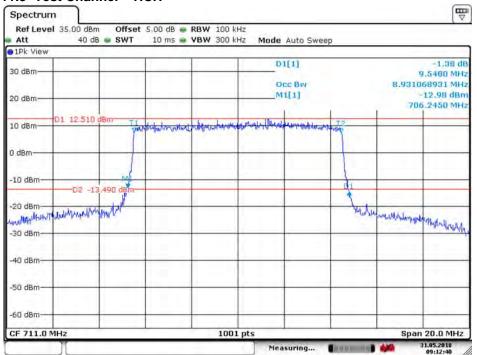
Date: 31.MAY.2018 09:09:31



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## 4.1.1.11.3 Test Channel = HCH



Date: 31.MAY.2018 09:12:40

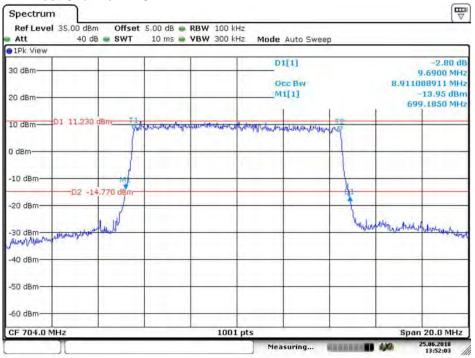


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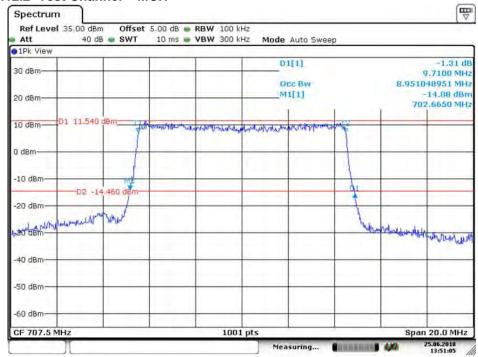
### 4.1.1.12 Test Mode = LTE/TM3 10MHz

## 4.1.1.12.1 Test Channel = LCH



Date: 25.JUN.2018 13:52:03

## 4.1.1.12.2 Test Channel = MCH



Date: 25.JUN.2018 13:51:06

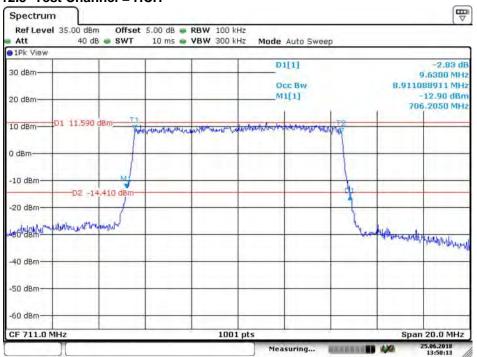
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### 4.1.1.12.3 Test Channel = HCH



Date: 25.JUN.2018 13:50:14



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## **5** Band Edges Compliance

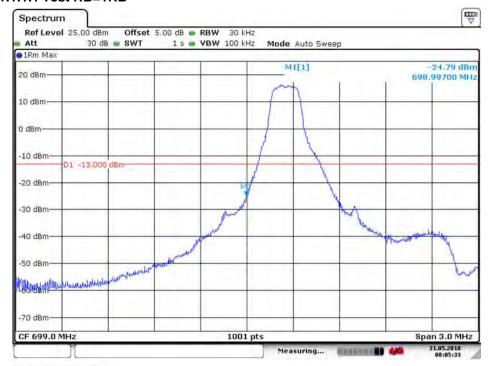
## 5.1 For LTE

### 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 Test RB=1RB



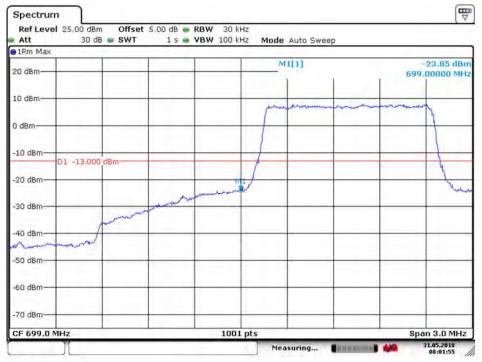
Date: 31.MAY.2018 08:05:34



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## 5.1.1.1.1.2 Test RB=6RB



Date: 31.MAY.2018 08:01:56

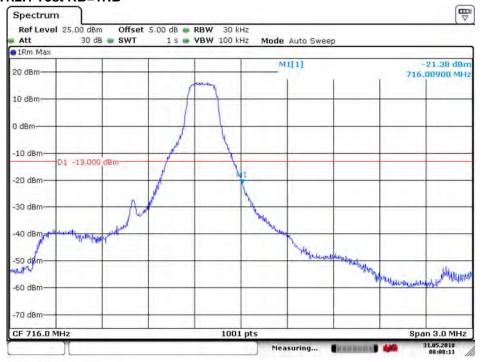


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## **5.1.1.1.2** Test Channel = HCH

## 5.1.1.1.2.1 Test RB=1RB



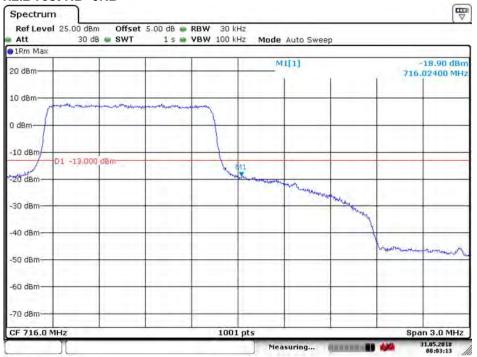
Date: 31.MAY.2018 08:08:11



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## 5.1.1.1.2.2 Test RB=6RB



Date: 31 MAY 2018 08:03:13

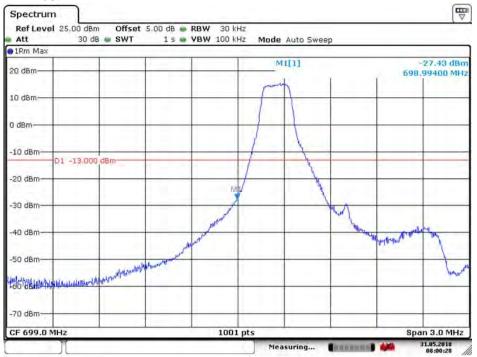


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## 5.1.1.2 Test Mode = LTE/TM2 1.4MHz 5.1.1.2.1 Test Channel = LCH

### 5.1.1.2.1.1 Test RB=1RB



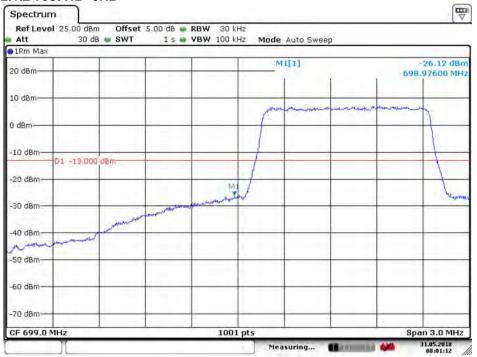
Date: 31.MAY.2018 08:00:29



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## 5.1.1.2.1.2 Test RB=6RB



Date: 31.MAY.2018 08:01:12

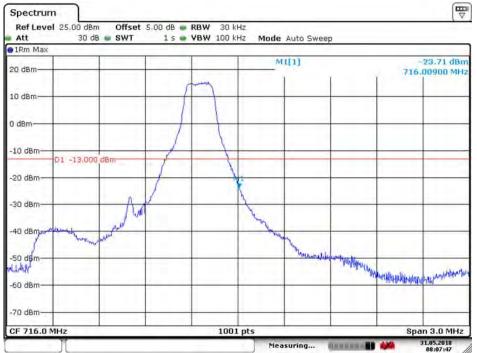


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## 5.1.1.2.2 Test Channel = HCH

## 5.1.1.2.2.1 Test RB=1RB



Date: 31.MAY.2018 08:07:48



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## 5.1.1.2.2.2 Test RB=6RB



Date: 31 MAY 2018 08:07:14



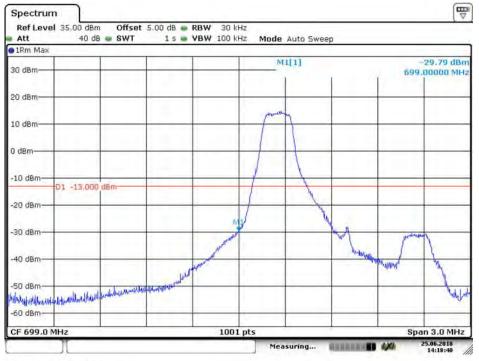
Report No.: SZEM180500453501

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## 5.1.1.3 Test Mode = LTE/TM3 1.4MHz

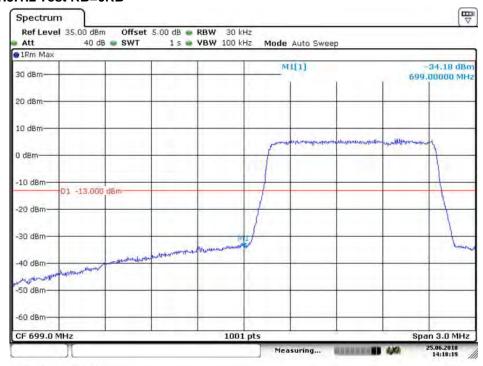
### 5.1.1.3.1 Test Channel = LCH

### 5.1.1.3.1.1 Test RB=1RB



Date: 25.JUN.2018 14:18:40

### 5.1.1.3.1.2 Test RB=6RB



Date: 25.JUN.2018 14:18:20

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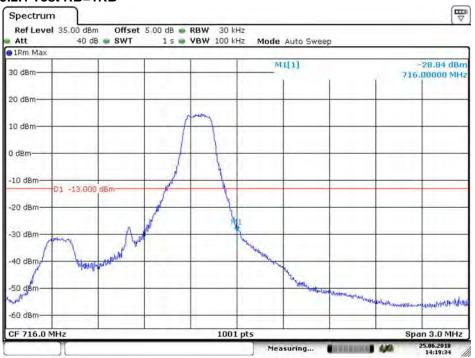


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## 5.1.1.3.2 Test Channel = HCH

## 5.1.1.3.2.1 Test RB=1RB



Date: 25.JUN.2018 14:19:35

## 5.1.1.3.2.2 Test RB=6RB



Date: 25.JUN.2018 14:20:01



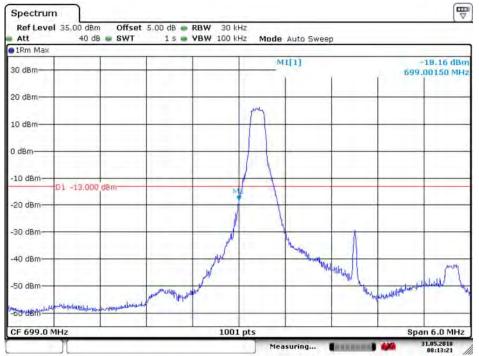
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## 5.1.1.4 Test Mode = LTE/TM1 3MHz

### 5.1.1.4.1 Test Channel = LCH

### 5.1.1.4.1.1 Test RB=1RB



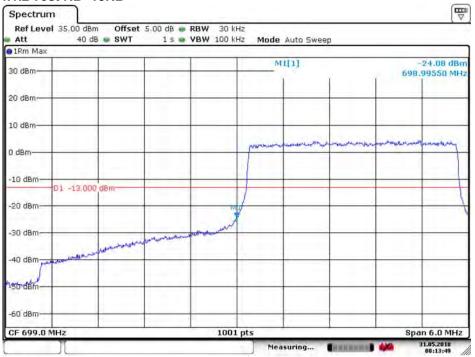
Date: 31.MAY.2018 08:13:21



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## 5.1.1.4.1.2 Test RB=15RB



Date: 31.MAY.2018 08:13:49

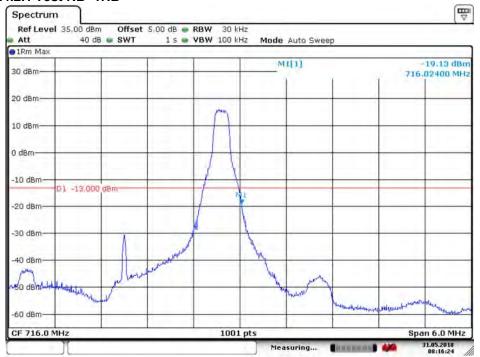


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## 5.1.1.4.2 Test Channel = HCH

## 5.1.1.4.2.1 Test RB=1RB



Date: 31.MAY.2018 08:16:25



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## 5.1.1.4.2.2 Test RB=15RB



Date: 31.MAY.2018 08:15:45



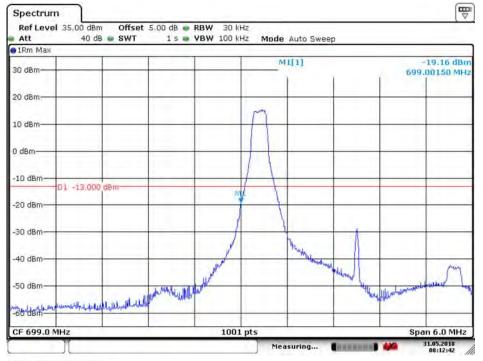
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## 5.1.1.5 Test Mode = LTE/TM2 3MHz

### 5.1.1.5.1 Test Channel = LCH

### 5.1.1.5.1.1 Test RB=1RB



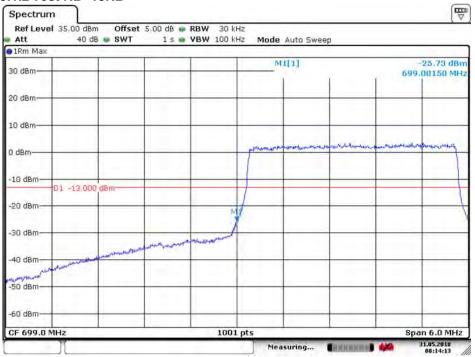
Date: 31.MAY.2018 08:12:43



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## 5.1.1.5.1.2 Test RB=15RB



Date: 31.MAY.2018 08:14:13

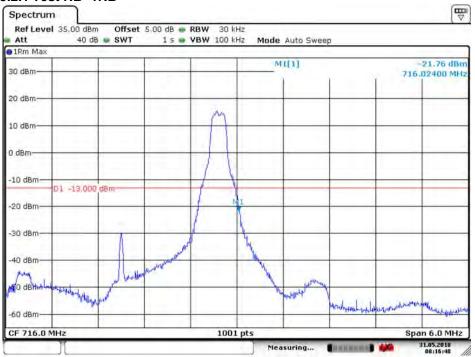


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#### 5.1.1.5.2 Test Channel = HCH

#### 5.1.1.5.2.1 Test RB=1RB



Date: 31.MAY.2018 08:16:49



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#### 5.1.1.5.3 Test RB=15RB



Date: 31.MAY.2018 08:15:18



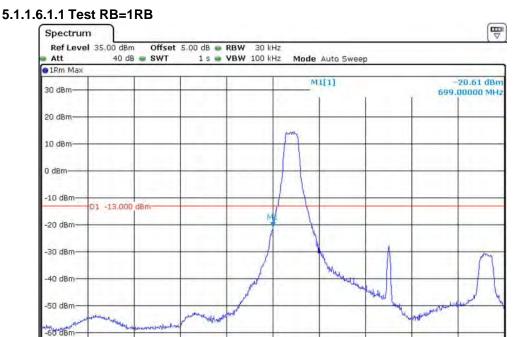
Report No.: SZEM180500453501

Span 6.0 MHz

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### 5.1.1.6 Test Mode = LTE/TM3 3MHz

### 5.1.1.6.1 Test Channel = LCH



1001 pts

Measuring...

Date: 25.JUN.2018 14:15:23

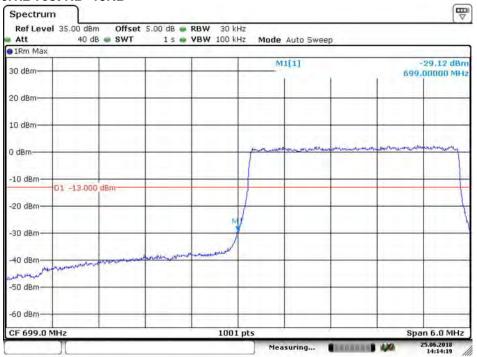
CF 699.0 MHz



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### 5.1.1.6.1.2 Test RB=15RB



Date: 25.JUN.2018 14:14:19

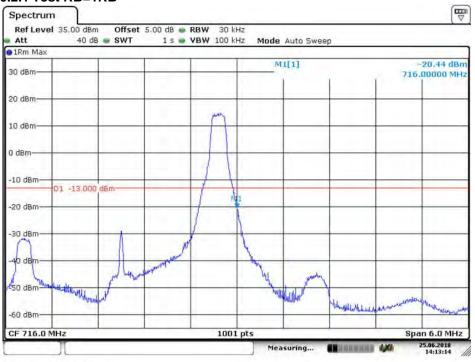


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#### 5.1.1.6.2 Test Channel = HCH

### 5.1.1.6.2.1 Test RB=1RB



Date: 25.JUN.2018 14:13:14

### 5.1.1.6.2.2 Test RB=15RB



Date: 25.JUN.2018 14:12:49

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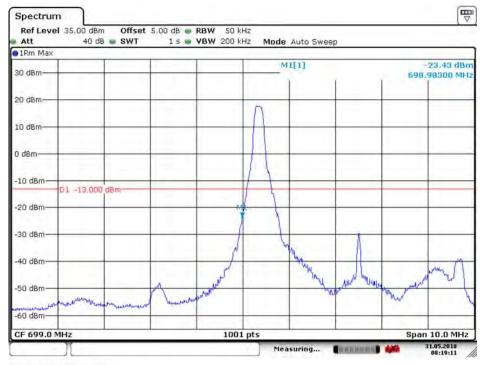
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### 5.1.1.7 Test Mode = LTE/TM1 5MHz

#### 5.1.1.7.1 Test Channel = LCH

#### 5.1.1.7.1.1 Test RB=1RB



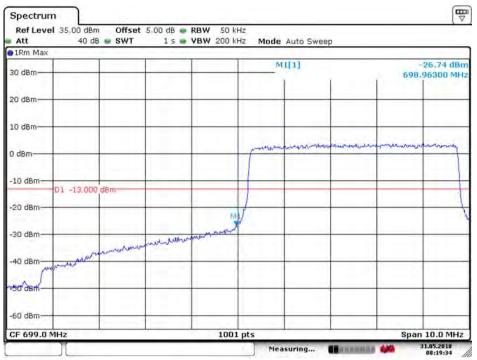
Date: 31.MAY.2018 08:19:11



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#### 5.1.1.7.1.2 Test RB=25RB



Date: 31.MAY.2018 08:19:34

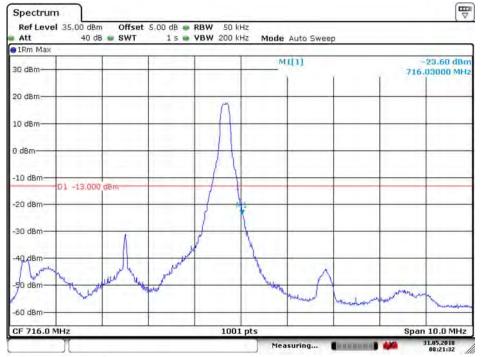


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### 5.1.1.7.2 Test Channel = HCH

#### 5.1.1.7.2.1 Test RB=1RB



Date: 31.MAY.2018 08:21:32



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#### 5.1.1.7.2.2 Test RB=25RB



Date: 31.MAY.2018 08:21:10



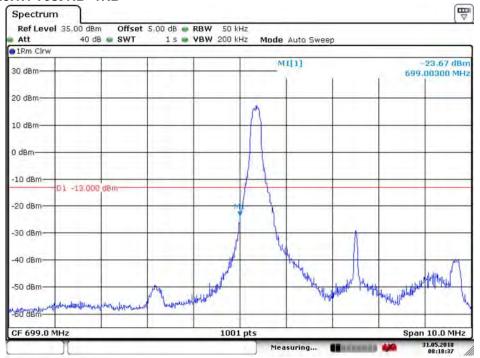
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### 5.1.1.8 Test Mode = LTE/TM2 5MHz

#### 5.1.1.8.1 Test Channel = LCH

#### 5.1.1.8.1.1 Test RB=1RB



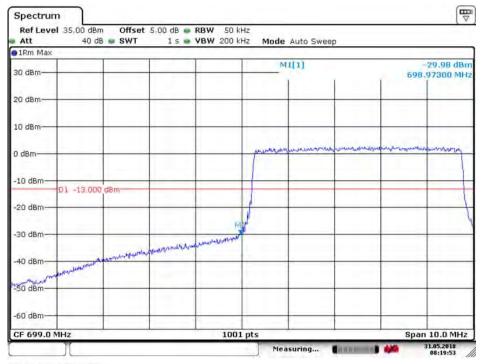
Date: 31.MAY.2018 08:18:37



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#### 5.1.1.8.1.2 Test RB=25RB



Date: 31.MAY.2018 08:19:54

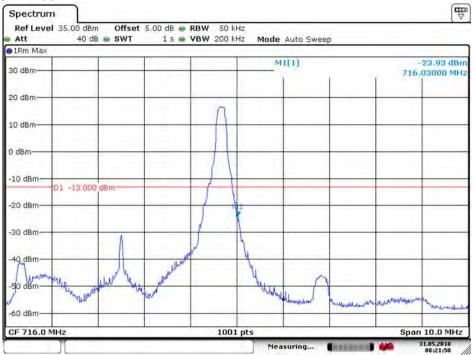


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#### 5.1.1.8.2 Test Channel = HCH

#### 5.1.1.8.2.1 Test RB=1RB



Date: 31.MAY.2018 08:21:51



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#### 5.1.1.8.2.2 Test RB=25RB



Date: 31.MAY.2018 08:20:45



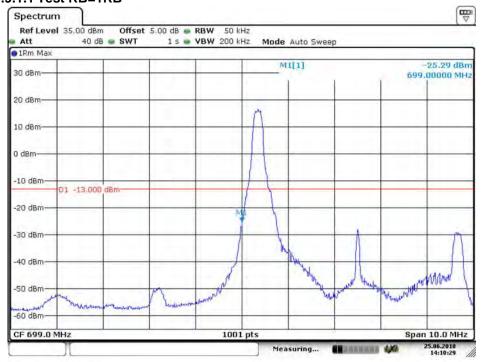
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### 5.1.1.9 Test Mode = LTE/TM2 5MHz

#### **5.1.1.9.1** Test Channel = LCH

### 5.1.1.9.1.1 Test RB=1RB



Date: 25.JUN.2018 14:10:29



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#### 5.1.1.9.1.2 Test RB=25RB



Date: 25.JUN 2018 14:10:00

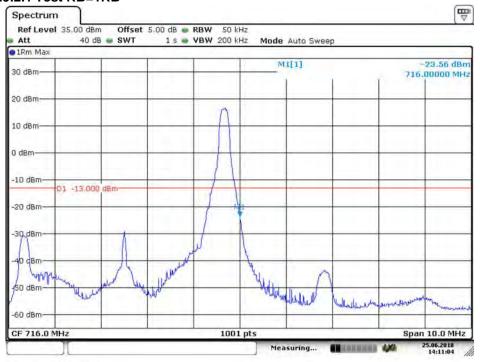


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### 5.1.1.9.2 Test Channel = HCH

#### 5.1.1.9.2.1 Test RB=1RB



Date: 25.JUN.2018 14:11:05

#### 5.1.1.9.2.2 Test RB=25RB



Date: 25.JUN.2018 14:11:30

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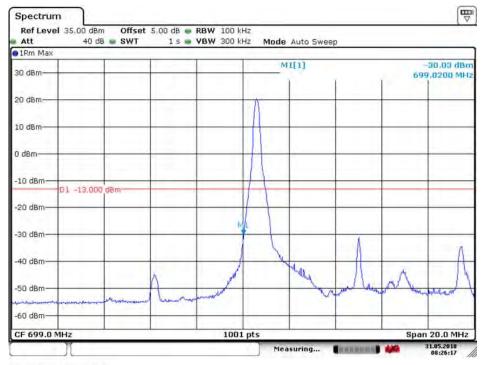


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### 5.1.1.10 Test Mode = LTE/TM1 10MHz 5.1.1.10.1 Test Channel = LCH

#### 5.1.1.10.1.1 Test RB=1RB



Date: 31.MAY.2018 08:26:17



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#### 5.1.1.10.1.2 Test RB=50RB



Date: 31.MAY.2018 08:26:44

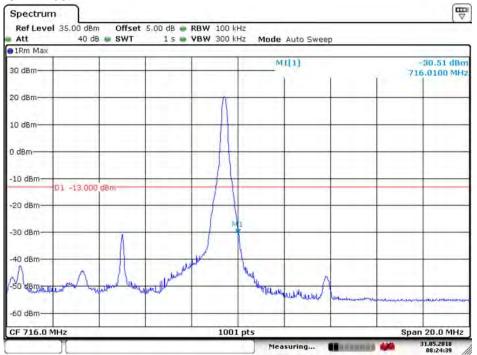


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#### 5.1.1.10.2 Test Channel = HCH

### 5.1.1.10.2.1 Test RB=1RB



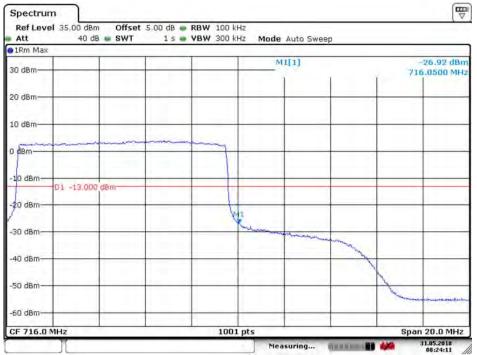
Date: 31.MAY.2018 08:24:40



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### 5.1.1.10.2.2 Test RB=50RB



Date: 31.MAY.2018 08:24:11

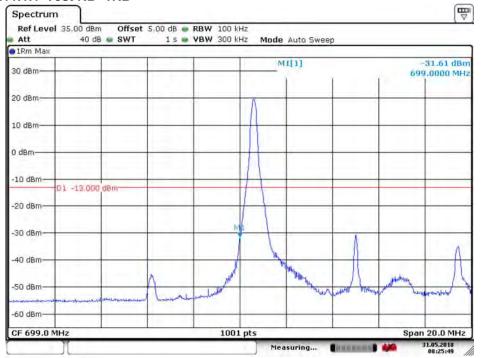


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### 5.1.1.11 Test Mode = LTE/TM2 10MHz 5.1.1.11.1 Test Channel = LCH

#### 5.1.1.11.1.1 Test RB=1RB



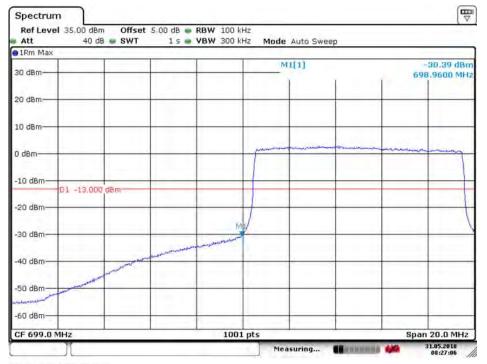
Date: 31.MAY.2018 08:25:50



Report No.: SZEM180500453501

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#### 5.1.1.11.1.2 Test RB=50RB



Date: 31.MAY.2018 08:27:06

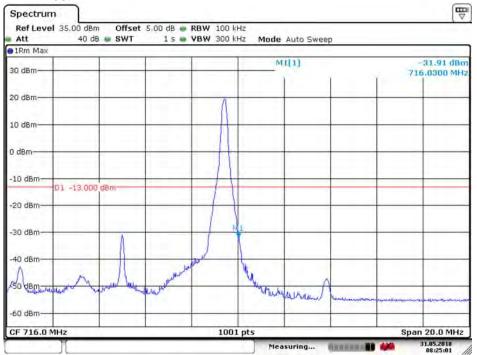


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### 5.1.1.11.2 Test Channel = HCH

### 5.1.1.11.2.1 Test RB=1RB



Date: 31.MAY.2018 08:25:01



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#### 5.1.1.11.2.2 Test RB=50RB



Date: 31.MAY.2018 08:23:36



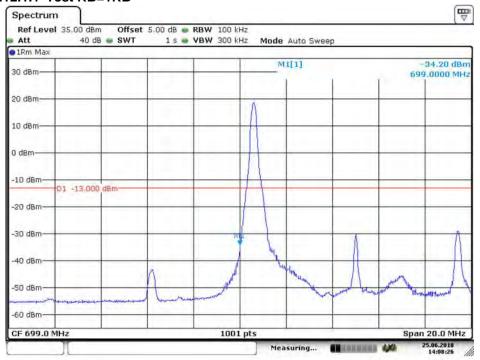
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### 5.1.1.12 Test Mode = LTE/TM3 10MHz

#### 5.1.1.12.1 Test Channel = LCH

### 5.1.1.12.1.1 Test RB=1RB



Date: 25.JUN.2018 14:08:27



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#### 5.1.1.12.1.2 Test RB=50RB



Date: 25.JUN.2018 14:09:07

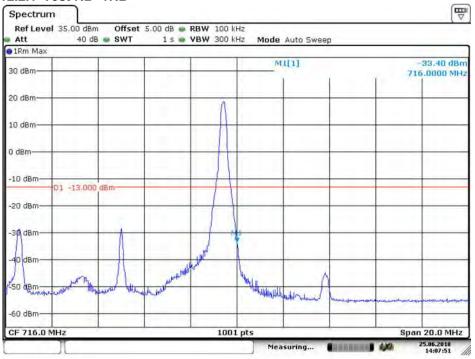


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#### 5.1.1.12.2 Test Channel = HCH

#### 5.1.1.12.2.1 Test RB=1RB



Date: 25.JUN.2018 14:07:51

### 5.1.1.12.2.2 Test RB=50RB



Date: 25.JUN.2018 14:07:27

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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 = 4 \* (Span / RBW) with k = 4 \* (Span / RBW)

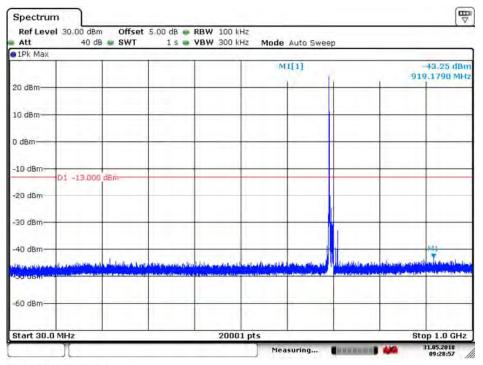
Part I - Test Plots

### 6.1 For LTE

#### 6.1.1 Test Band = LTE BAND 12

### 6.1.1.1 Test Mode = LTE / TM1 15MHz RB1#0

#### 6.1.1.1.1 Test Channel = LCH

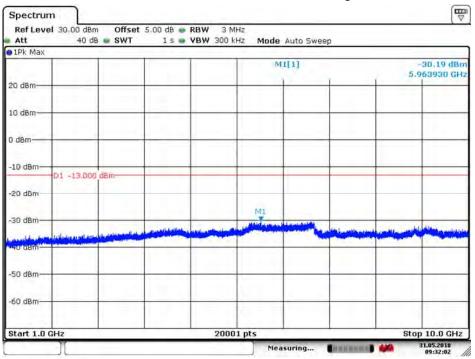


Date: 31.MAY.2018 09:28:57



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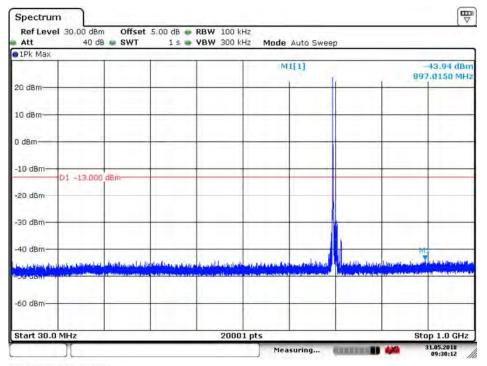
Date: 31.MAY.2018 09:32:02



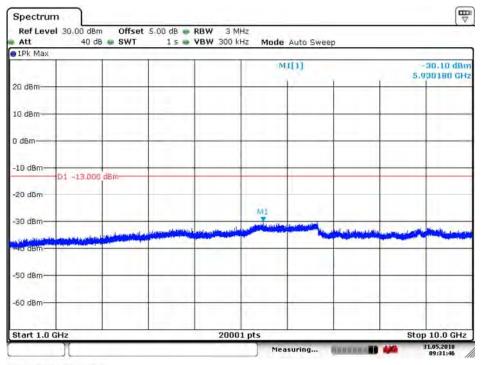
Report No.: SZEM180500453501

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#### 6.1.1.1.2 Test Channel = MCH



Date: 31.MAY.2018 09:30:12



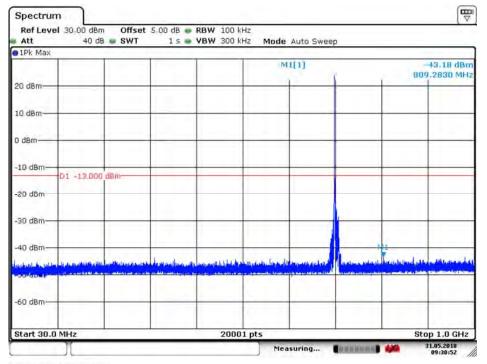
Date: 31.MAY.2018 09:31:46



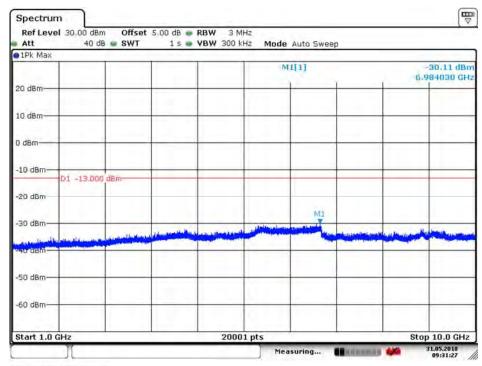
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#### 6.1.1.1.3 Test Channel = HCH



Date: 31.MAY.2018 09:30:53



Date: 31.MAY.2018 09:31:27



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### 7 Field Strength of Spurious Radiation

### 7.1 For LTE

### 7.1.1 Test Band = LTE BAND 12

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

7.1.1.1.1 Test Channel = LCH

7.1.1.1.1	est Channel = LCH		1	
Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Over Limit (dB)	Polarization
64.533333	-81.79	-13.00	68.79	Vertical
179.846667	-83.19	-13.00	70.19	Vertical
1399.000000	-67.15	-13.00	54.15	Vertical
2816.000000	-57.05	-13.00	44.05	Vertical
4872.975000	-66.48	-13.00	53.48	Vertical
7951.050000	-63.59	-13.00	50.59	Vertical
62.900000	-77.86	-13.00	64.86	Horizontal
181.760000	-74.07	-13.00	61.07	Horizontal
1399.000000	-66.27	-13.00	53.27	Horizontal
2743.500000	-57.61	-13.00	44.61	Horizontal
6024.450000	-65.15	-13.00	52.15	Horizontal
10631.325000	-63.34	-13.00	50.34	Horizontal

### 7.1.1.1.2 Test Channel = MCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Over Limit (dB)	Polarization
62.760000	-77.46	-13.00	64.46	Vertical
182.646667	-80.69	-13.00	67.69	Vertical
1406.000000	-67.17	-13.00	54.17	Vertical
2743.500000	-57.61	-13.00	44.61	Vertical
4298.212500	-66.79	-13.00	53.79	Vertical
6060.037500	-64.94	-13.00	51.94	Vertical
62.806667	-77.41	-13.00	64.41	Horizontal
181.573333	-73.28	-13.00	60.28	Horizontal
1406.000000	-64.55	-13.00	51.55	Horizontal
4298.700000	-66.70	-13.00	53.70	Horizontal
6048.825000	-64.91	-13.00	51.91	Horizontal
9265.837500	-63.60	-13.00	50.60	Horizontal



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#### **7.1.1.1.3** Test Channel = HCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Over Limit (dB)	Polarization
64.300000	-81.48	-13.00	68.48	Vertical
128.606667	-85.46	-13.00	72.46	Vertical
182.506667	-81.11	-13.00	68.11	Vertical
1413.000000	-66.93	-13.00	53.93	Vertical
2844.000000	-57.29	-13.00	44.29	Vertical
4839.825000	-66.54	-13.00	53.54	Vertical
62.480000	-77.83	-13.00	64.83	Horizontal
180.686667	-73.03	-13.00	60.03	Horizontal
281.580000	-83.53	-13.00	70.53	Horizontal
1413.000000	-62.08	-13.00	49.08	Horizontal
2367.500000	-59.20	-13.00	46.20	Horizontal
5077.237500	-66.28	-13.00	53.28	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.
- 2) We have tested all modulation and all bandwidth, but only the worst case data presented in this report.



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## 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
			TN	VL	0.31	0.000440	PASS
		LCH		VN	9.51	0.013516	PASS
				VH	-2.45	-0.003475	PASS
				VL	4.52	0.006394	PASS
	LTE/TM1 10MHz	MCH	TN	VN	4.16	0.005882	PASS
				VH	1.31	0.001855	PASS
				VL	-3.74	-0.005266	PASS
		HCH	TN	VN	-2.16	-0.003034	PASS
				VH	8.28	0.011642	PASS
		LCH	TN	VL	-8.72	-0.012384	PASS
				VN	-7.23	-0.010276	PASS
				VH	-7.63	-0.010838	PASS
I TE DAND				VL 8.56	8.56	0.012103	PASS
LTE BAND 12	LTE/TM2 10MHz	MCH	TN	VN	4.71	0.006660	PASS
				VH	2.80	0.003960	PASS
				VL	4.99	0.007021	PASS
		HCH	TN	VN	-7.22	-0.010157	PASS
				VH	-1.25	-0.001753	PASS
				VL	-6.37	-0.009051	PASS
		LCH	TN	VN	3.07	0.004360	PASS
				VH	9.57	0.013592	PASS
				VL	-4.82	-0.006807	PASS
	LTE/TM3 10MHz	MCH	TN	VN	-0.79	-0.001120	PASS
				VH	5.13	0.007256	PASS
				VL	-9.06	-0.012741	PASS
		HCH	TN VN -1.88	-1.88	-0.002640	PASS	
				VH	-7.53	-0.010596	PASS



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### 8.2 Frequency Error VS. Temperature

Test Band	Test Mode	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict		
				-30	-3.89	-0.005522	PASS		
				-20	9.79	0.013908	PASS		
				-10	-1.90	-0.002706	PASS		
				0	2.18	0.003099	PASS		
		LCH	VN	10	-8.66	-0.012302	PASS		
				20	-6.83	-0.009700	PASS		
				30	5.42	0.007704	PASS		
				40	-2.03	-0.002878	PASS		
				50	0.50	0.000707	PASS		
				-30	-6.80	-0.009606	PASS		
				-20	0.77	0.001087	PASS		
				-10	-1.97	-0.002787	PASS		
				0	0.22 0.000313	PASS			
LTE BAND 12	LTE/TM1 10MHz	MCH		10	-3.71	-0.005250	PASS		
12				0.003905	PASS				
				30	2.23	-0.005522 0.013908 -0.002706 0.003099 -0.012302 -0.009700 0.007704 -0.002878 0.000707 -0.009606 0.001087 -0.002787 0.000313 -0.005250	PASS		
			-	40	-9.81		PASS		
				50	-1.34		PASS		
				-30	7.71	0.010850	PASS		
				-20	-4.57	-0.006421	PASS		
				-10	-1.32	-0.001853	PASS		
				0	7.09	0.009965	PASS		
		HCH	VN	10	4.11	0.005786	PASS		
				20	5.96	0.008376	PASS		
				30	1.93	0.002709	PASS		
				40	1.76	0.002470	PASS		
						50	0.28	0.000399	PASS



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Test Band	Test Mode	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
				-30	6.98	0.009912	PASS
				-20	8.39	0.011922	PASS
				-10	-8.47	-0.012034	PASS
				0	4.78	0.006785	PASS
		LCH	VN	10	-0.74	-0.001047	PASS
				20	7.55	0.010718	PASS
				30	-6.36	-0.009028	PASS
				40	-9.83	-0.013964	PASS
				50	-7.24	-0.010287	PASS
				-30	4.74	0.006699	PASS
				-20	-0.90	-0.001267	PASS
				-10	6.37	0.009002	PASS
		мсн	VN	0	3.84	0.005422	PASS
LTE BAND 12	LTE/TM2 10MHz			10	-1.89	-0.002667	PASS
12				20	3.27	0.004618	PASS
				30	8.14	0.011500	PASS
					-3.69	-0.005216	PASS
				50	-4.52	-0.001267 P 0.009002 P 0.005422 P -0.002667 P 0.004618 P 0.011500 P -0.005216 P -0.006395 P 0.003323 P 0.004338 P 0.005969 P -0.013958 P	PASS
				-30	2.36	0.003323	PASS
				-20	3.08	0.004338	PASS
				-10	4.24	0.005969	PASS
				0	-9.92	-0.013958	PASS
		HCH	VN	10	5.98	0.008413	PASS
				20	-1.83	-0.002573	PASS
				30	-0.90	-0.001266	PASS
				40	-8.81	-0.012390	PASS
				50	-9.54	-0.013419	PASS



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Test Band	Test Mode	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
				-30	-9.16	-0.013008	PASS
				-20	1.55	0.002205	PASS
				-10	-1.44	-0.002049	PASS
				0	-2.11	-0.003003	PASS
		LCH	VN	10	0.31	0.000446	PASS
				20	6.05	0.008590	PASS
				30	3.46	0.004918	PASS
				40	-6.01	-0.008534	PASS
				50	-2.58	-0.003666	PASS
				-30	-5.56	-0.003666 -0.007864 -0.007243 0.000330	PASS
				-20	-5.12	-0.007243	PASS
				-10	0.23	0.000330	PASS
				0	-1.05	2 -0.007243 3 0.000330 5 -0.001480 4 -0.006129	PASS
LTE BAND 12	LTE/TM3 10MHz	MCH	VN	VN 10 -4.34 -0.006129	-0.006129	PASS	
12				20	-8.37	rated [ppm] -0.013008 0.002205 -0.002049 -0.003003 0.000446 0.008590 0.004918 -0.003666 -0.007864 -0.007243 0.000330 -0.001480 -0.006129	PASS
				30	-7.44		PASS
				40	3.45		PASS
				50	-5.24	-0.007411	PASS
				-30	-4.26	0.002205 -0.002049 -0.003003 0.000446 0.008590 0.004918 -0.008534 -0.003666 -0.007864 -0.007243 0.000330 -0.001480 -0.006129 -0.011833 -0.010515 0.004873 -0.007411 -0.005992 -0.011700 0.012855 -0.013521 0.000841 0.003692 0.005397 0.007584	PASS
				-20	-8.32		PASS
				-10	9.14	0.012855	PASS
				0	-9.61	-0.013521	PASS
		HCH	VN	10	0.60	0.000841	PASS
				20	2.63	0.003692	PASS
				30	3.84	0.005397	PASS
			-	40	5.39	0.007584	PASS
				50	-2.43	-0.003413	PASS

The End