

Report No.: SEWM2207000119RG01

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# Appendix B.12

LTE Cat-M1 Band85



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

#### **Test Result**

Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dBm)	ERP (dBm)	Limit (dBm)	Verdict
Band85	5M	QPSK	L	1RB0	20.64	21.49	34.77	PASS
Band85	5M	QPSK	L	1RB5	20.52	21.37	34.77	PASS
Band85	5M	QPSK	L	6RB0	19.42	20.27	34.77	PASS
Band85	5M	QPSK	М	1RB0	20.69	21.54	34.77	PASS
Band85	5M	QPSK	М	1RB5	20.63	21.48	34.77	PASS
Band85	5M	QPSK	М	6RB0	19.45	20.3	34.77	PASS
Band85	5M	QPSK	Н	1RB0	20.58	21.43	34.77	PASS
Band85	5M	QPSK	Н	1RB5	20.74	21.59	34.77	PASS
Band85	5M	QPSK	Н	6RB0	19.36	20.21	34.77	PASS





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### Peak-to-Average Ratio(CCDF)

#### **Test Result**

Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dB)	Limit(dB)	Verdict
Band85	5MHz	QPSK	L	6RB#0	10.88	13	PASS
Band85	5MHz	QPSK	М	6RB#0	10.92	13	PASS
Band85	5MHz	QPSK	Н	6RB#0	10.90	13	PASS

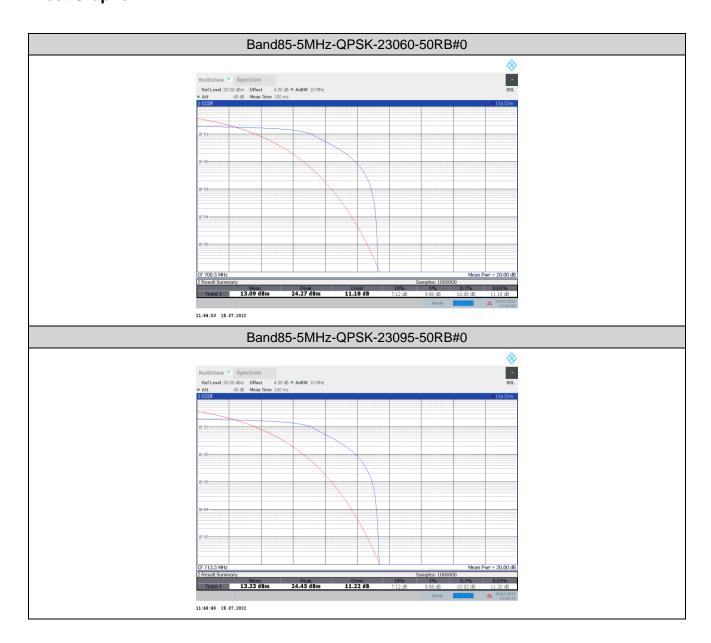




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### **Test Graphs**





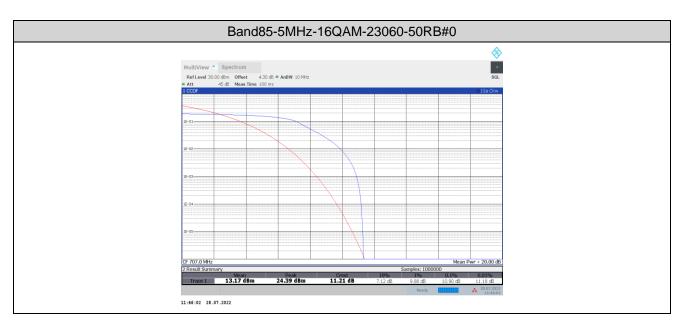
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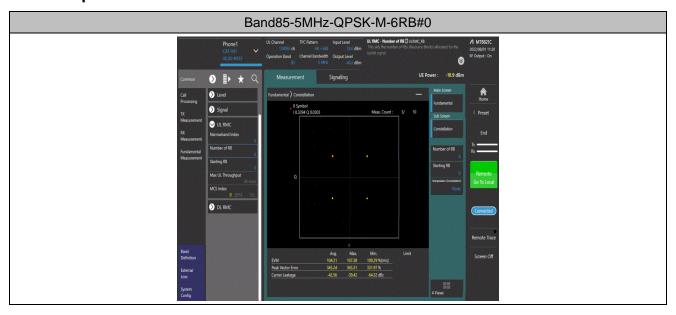
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#### **Modulation Characteristics**

#### **Test Result**

Band	Bandwidth	Modulation	Channel	RB Configuration	Result	Verdict
Band85	5MHz	QPSK	М	6RB#0	PASS	PASS

### **Test Graphs**





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### 26dB Bandwidth and Occupied Bandwidth

#### **Test Result**

Band	Bandwidth	Modulation	Channel	RB Configuration	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
Band85	5MHz	QPSK	134027	6RB#0	1.095	1.28	PASS
Band85	5MHz	QPSK	134092	6RB#0	1.121	1.43	PASS
Band85	5MHz	QPSK	134157	6RB#0	1.131	1.44	PASS

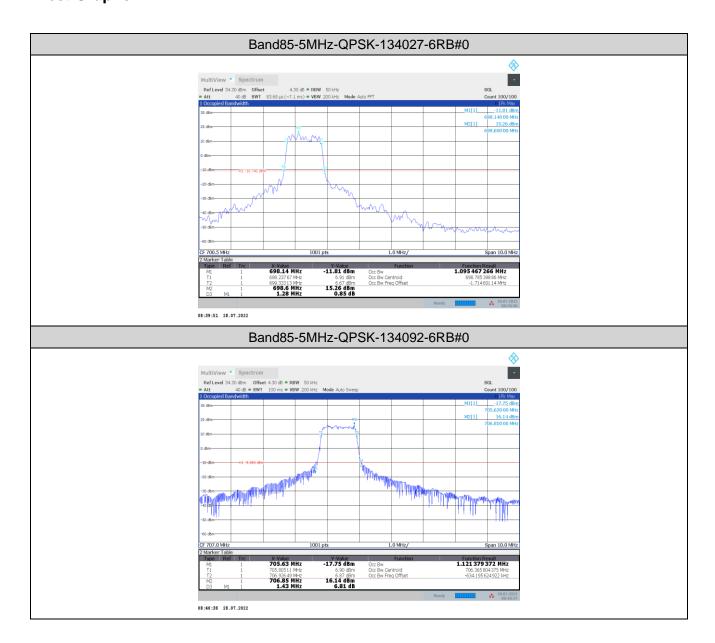




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### **Test Graphs**

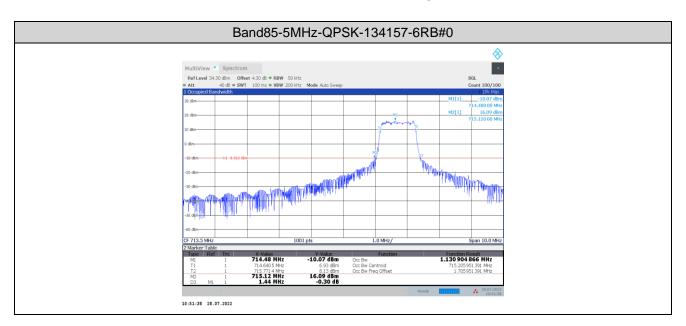






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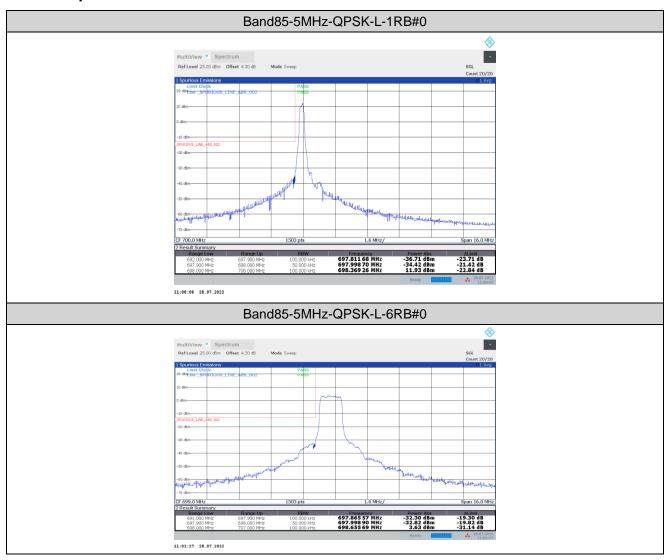
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### **Band Edge**

### **Test Graphs**



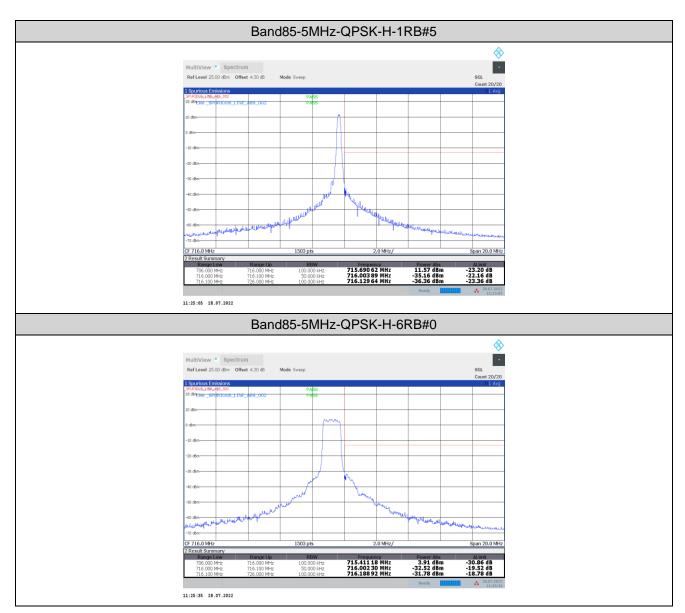




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### **Conducted Spurious Emission**

### **Test Graphs**



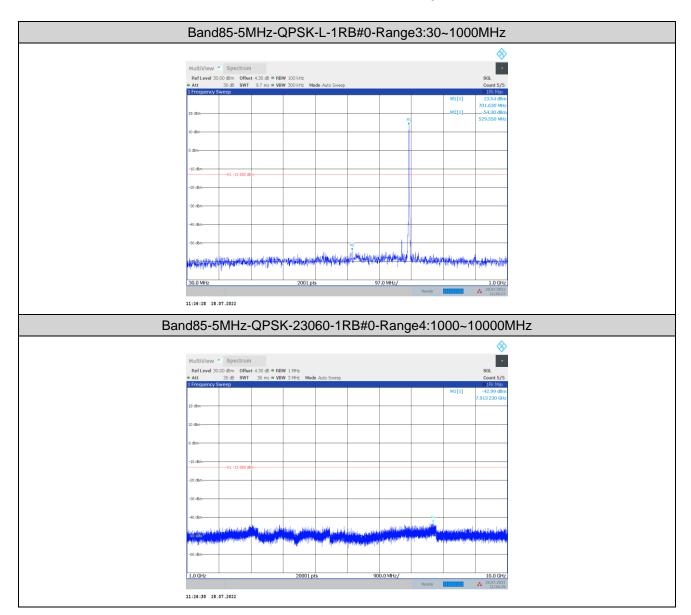




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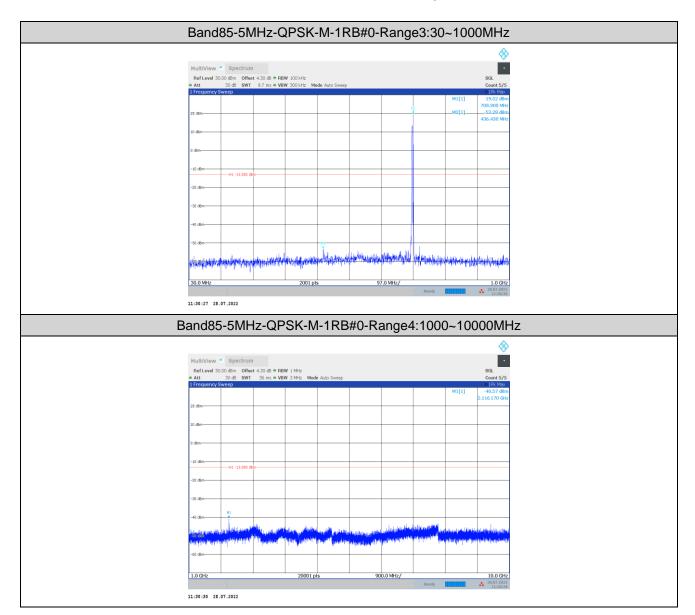
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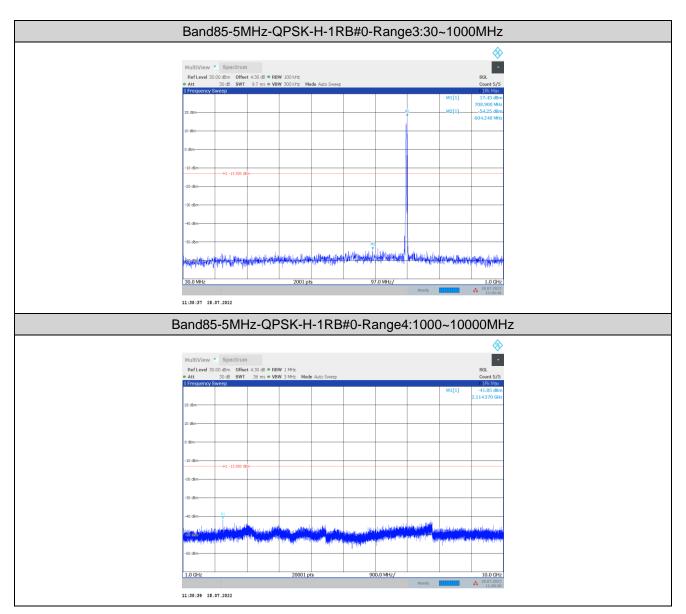
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### **Field Strength of Spurious Radiation**

Test Band = CAT M1 Band 85\_ TM1 Test Channel = Low

Final	Final Data List													
NO	Frequency	Reading	Factor	Λ Γ[dD/m]	Level	Limit	Margin	Height	Angle	Dolority				
NO.	[MHz]	[dBµV]	[dB]	AF[dB/m]	[dBm]	[dBm]	[dB]	[cm]	[°]	Polarity				
1	1397.1800	63.63	-48.00	25.62	-54.01	-13.00	41.01	214	359	Horizontal				
2	2095.7700	69.80	-47.72	26.98	-46.20	-13.00	33.20	168	317	Horizontal				
3	2794.3600	57.60	-46.93	28.47	-56.12	-13.00	43.12	253	171	Horizontal				
4	3494.2857	63.27	-46.54	29.51	-49.02	-13.00	36.02	229	250	Horizontal				
5	4191.5400	50.00	-45.96	31.09	-60.13	-13.00	47.13	237	360	Horizontal				
6	4890.1300	50.08	-45.59	32.57	-58.19	-13.00	45.19	246	250	Horizontal				

Final	Final Data List													
NO	Frequency	Reading	Factor	Λ Γ[dD/m]	Level	Limit	Margin	Height	Angle	Dolority				
NO.	[MHz]	[dBµV]	[dB]	AF[dB/m]	[dBm]	[dBm]	[dB]	[cm]	[°]	Polarity				
1	1397.1800	54.14	-48.00	25.62	-63.50	-13.00	50.50	197	268	Vertical				
2	2095.7700	63.29	-47.72	26.98	-52.71	-13.00	39.71	164	163	Vertical				
3	2794.3600	49.92	-46.93	28.47	-63.80	-13.00	50.80	217	42	Vertical				
4	3492.9500	50.91	-46.54	29.51	-61.38	-13.00	48.38	226	83	Vertical				
5	4191.5400	48.63	-45.96	31.09	-61.50	-13.00	48.50	235	294	Vertical				
6	4890.1300	50.16	-45.59	32.57	-58.11	-13.00	45.11	184	227	Vertical				



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# Test Band = CAT M1 Band 85\_ TM1 Test Channel = Mid

Final	Final Data List													
NO.	Frequency	Reading	Factor	Λ Γ[dD/m]	Level	Limit	Margin	Height	Angle	Dolority				
NO.	[MHz]	[dBµV]	[dB]	AF[dB/m]	[dBm]	[dBm]	[dB]	[cm]	[°]	Polarity				
1	1405.1800	63.87	-48.02	25.61	-53.80	-13.00	40.80	167	359	Horizontal				
2	2107.7700	72.10	-47.71	27.02	-43.85	-13.00	30.85	149	304	Horizontal				
3	2810.3900	64.21	-46.88	28.53	-49.40	-13.00	36.40	213	224	Horizontal				
4	3513.7143	62.19	-46.51	29.53	-50.05	-13.00	37.05	228	250	Horizontal				
5	4215.5400	49.06	-45.93	31.13	-61.00	-13.00	48.00	254	104	Horizontal				
6	4918.1300	49.45	-45.62	32.65	-58.78	-13.00	45.78	237	359	Horizontal				

Final	Final Data List													
NO	Frequency	Reading	Factor	Λ Γ[dD/m]	Level	Limit	Margin	Height	Angle	Dolority				
NO.	[MHz]	[dBµV]	[dB]	AF[dB/m]	[dBm]	[dBm]	[dB]	[cm]	[°]	Polarity				
1	1405.1800	54.31	-48.02	25.61	-63.36	-13.00	50.36	191	280	Vertical				
2	2107.7700	62.35	-47.71	27.02	-53.60	-13.00	40.60	213	68	Vertical				
3	2810.3900	50.76	-46.88	28.53	-62.85	-13.00	49.85	253	0	Vertical				
4	3512.9500	50.50	-46.51	29.53	-61.74	-13.00	48.74	186	356	Vertical				
5	4215.5400	50.12	-45.93	31.13	-59.94	-13.00	46.94	237	347	Vertical				
6	4918.1300	50.33	-45.62	32.65	-57.90	-13.00	44.90	254	42	Vertical				





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# Test Band = CAT M1 Band 85\_ TM1 Test Channel = High

Final	Final Data List													
NO.	Frequency	Reading	Factor	AF[dB/m]	Level	Limit	Margin	Height	Angle	Polarity				
NO.	[MHz]	[dBµV]	[dB]	Ar[ub/III]	[dBm]	[dBm]	[dB]	[cm]	[°]	Polatily				
1	1413.1800	62.78	-48.04	25.60	-54.92	-13.00	41.92	218	292	Horizontal				
2	2119.7700	76.66	-47.70	27.06	-39.24	-13.00	26.24	193	226	Horizontal				
3	2532.9500	51.42	-47.16	27.88	-63.12	-13.00	50.12	256	264	Horizontal				
4	2826.3600	65.45	-46.83	28.60	-48.04	-13.00	35.04	271	226	Horizontal				
5	4239.5400	49.27	-45.89	31.18	-60.70	-13.00	47.70	238	104	Horizontal				
6	4946.1300	49.53	-45.69	32.73	-58.69	-13.00	45.69	259	292	Horizontal				

Final	Final Data List												
NO.	Frequency	Reading	Factor	Λ Γ[dD/m]	Level	Limit	Margin	Height	Angle	Dolority			
NO.	[MHz]	[dBµV]	[dB]	AF[dB/m]	[dBm]	[dBm]	[dB]	[cm]	[°]	Polarity			
1	1413.1800	52.73	-48.04	25.60	-64.97	-13.00	51.97	146	9	Vertical			
2	2120.5714	66.56	-47.70	27.06	-49.34	-13.00	36.34	216	269	Vertical			
3	2532.9500	51.04	-47.16	27.88	-63.50	-13.00	50.50	257	95	Vertical			
4	2826.3600	52.05	-46.83	28.60	-61.44	-13.00	48.44	168	269	Vertical			
5	4239.5400	49.78	-45.89	31.18	-60.19	-13.00	47.19	193	123	Vertical			
6	4946.1300	49.78	-45.69	32.73	-58.44	-13.00	45.44	171	55	Vertical			

#### Remark:

The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier gain. The basic equation with a sample calculation is as follows:

Level = Reading Level + AF(dB/m) + Factor(dB)

AF = Antenna Factor(dB/m)

Factor = Cable Factor(dB) - Preamplifier gain (dB)

Margin = Limit(dBm) - Level(dBm)

 $dBm = dB\mu V - 95.26$ 





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### **Frequency Stability**

#### **Test Result**

Band	Bandwidth	Modulation	Channel	RB Configure	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Verdict
Band85	5MHz	QPSK	М	6RB#0	VL	NT	-7.40	-0.002056	PASS
Band85	5MHz	QPSK	М	6RB#0	VN	NT	-5.00	-0.001389	PASS
Band85	5MHz	QPSK	М	6RB#0	VH	NT	-8.80	-0.002444	PASS

Band	Bandwidth	Modulation	Channel	RB Configure	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Verdict
Band85	5MHz	QPSK	М	6RB#0	NV	-30	-15.50	-0.004306	PASS
Band85	5MHz	QPSK	М	6RB#0	NV	-20	-15.00	-0.004167	PASS
Band85	5MHz	QPSK	М	6RB#0	NV	0	-12.80	-0.003556	PASS
Band85	5MHz	QPSK	М	6RB#0	NV	10	-4.40	-0.001222	PASS
Band85	5MHz	QPSK	М	6RB#0	NV	20	-5.30	-0.001472	PASS
Band85	5MHz	QPSK	М	6RB#0	NV	30	-12.20	-0.003389	PASS
Band85	5MHz	QPSK	М	6RB#0	NV	40	-14.30	-0.003972	PASS
Band85	5MHz	QPSK	М	6RB#0	NV	50	-7.70	-0.002139	PASS

---End of Attachment---

