

Report No.: SEWM2207000119RG01

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# Appendix B.7

LTE Cat-M1 Band14



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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
Band14	5M	QPSK	L	1RB0	20.39	21.24	34.77	PASS
Band14	5M	QPSK	L	1RB5	20.63	21.48	34.77	PASS
Band14	5M	QPSK	L	6RB0	19.28	20.13	34.77	PASS
Band14	5M	QPSK	М	1RB0	20.42	21.27	34.77	PASS
Band14	5M	QPSK	М	1RB5	20.63	21.48	34.77	PASS
Band14	5M	QPSK	М	6RB0	19.42	20.27	34.77	PASS
Band14	5M	QPSK	Н	1RB0	20.44	21.29	34.77	PASS
Band14	5M	QPSK	Н	1RB5	20.51	21.36	34.77	PASS
Band14	5M	QPSK	Н	6RB0	19.32	20.17	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
Band14	5MHz	QPSK	23305	6RB#0	8.94	13	PASS
Band14	5MHz	QPSK	23330	6RB#0	8.96	13	PASS
Band14	5MHz	QPSK	23355	6RB#0	9.04	13	PASS

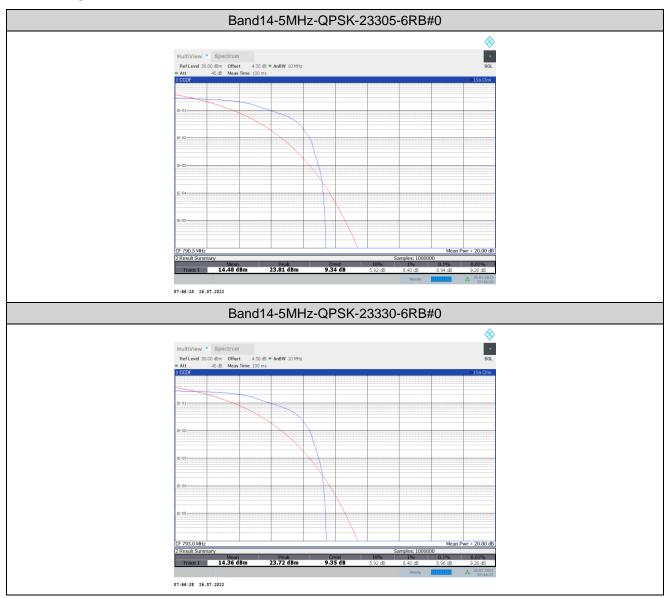




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#### **Test Graphs**





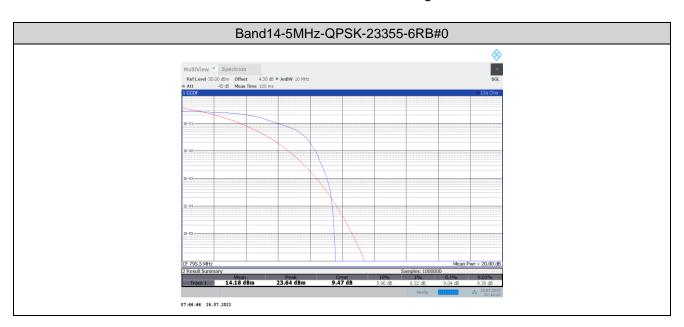
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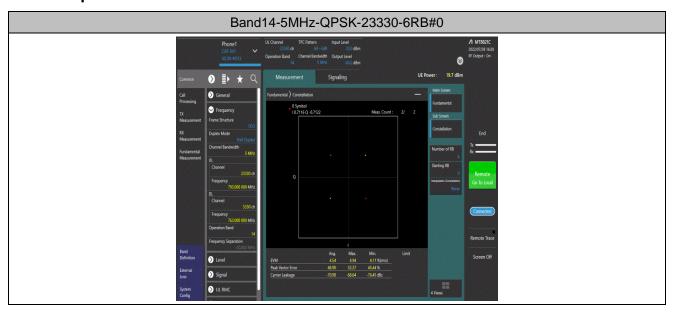
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#### **Modulation Characteristics**

#### **Test Result**

Band	Bandwidth	Modulation	Channel	RB Configuration	Result	Verdict
Band14	5MHz	QPSK	23330	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
Band14	5MHz	QPSK	23305	6RB#0	1.104	1.29	PASS
Band14	5MHz	QPSK	23330	6RB#	1.124	1.43	PASS
Band14	5MHz	QPSK	23355	6RB#	1.126	1.42	PASS



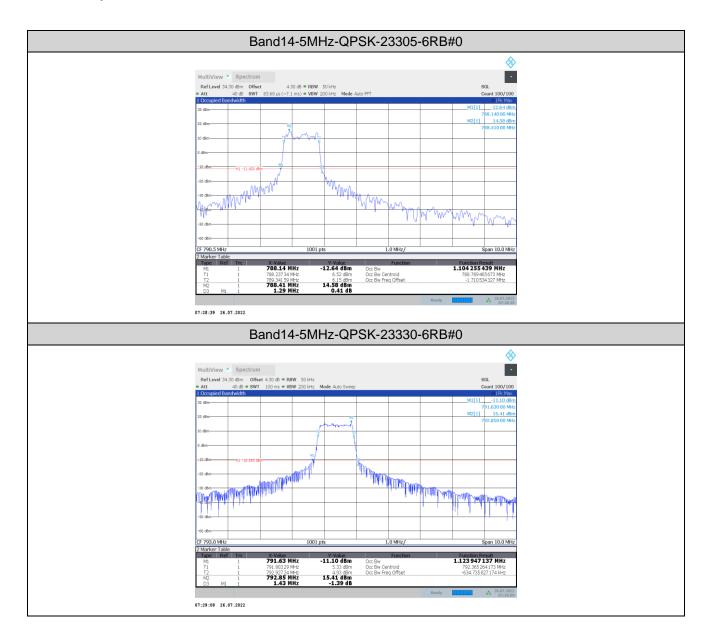


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#### **Test Graphs**

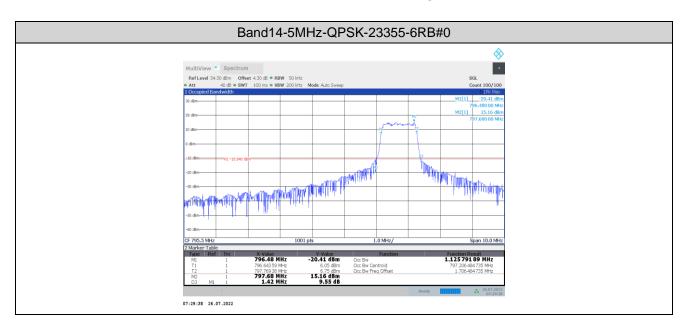






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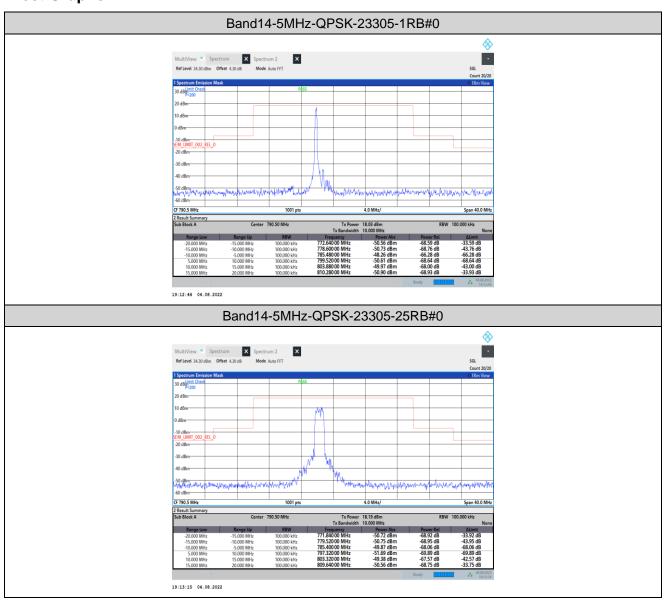
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### **Emission Mask**

#### **Test Graphs**





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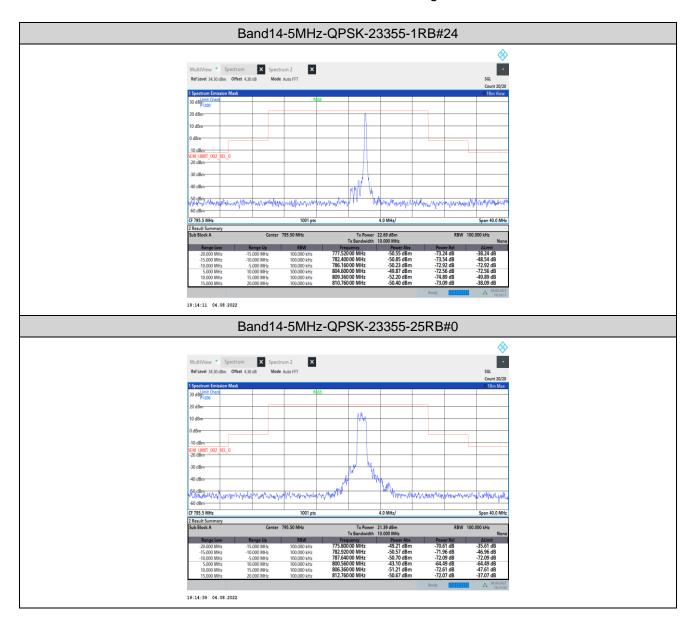
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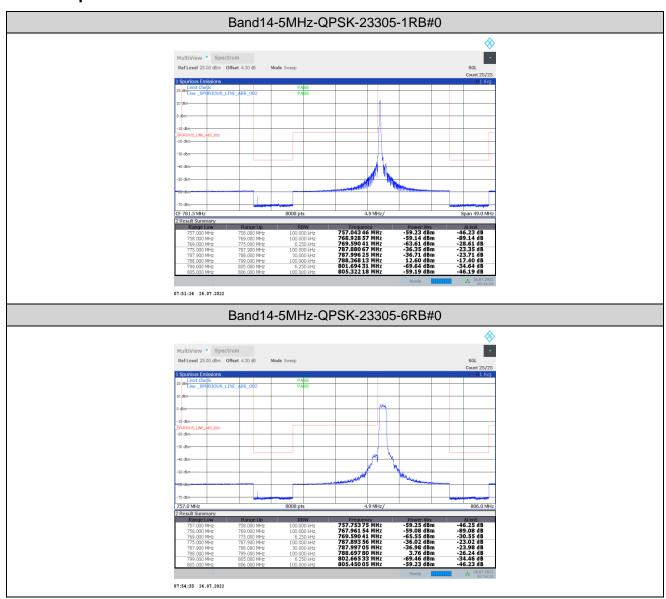
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### **Band Edge**

#### **Test Graphs**



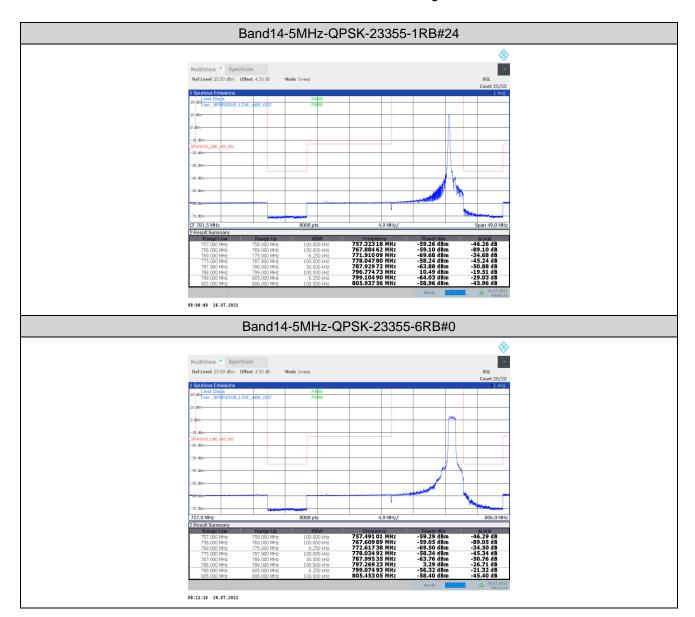




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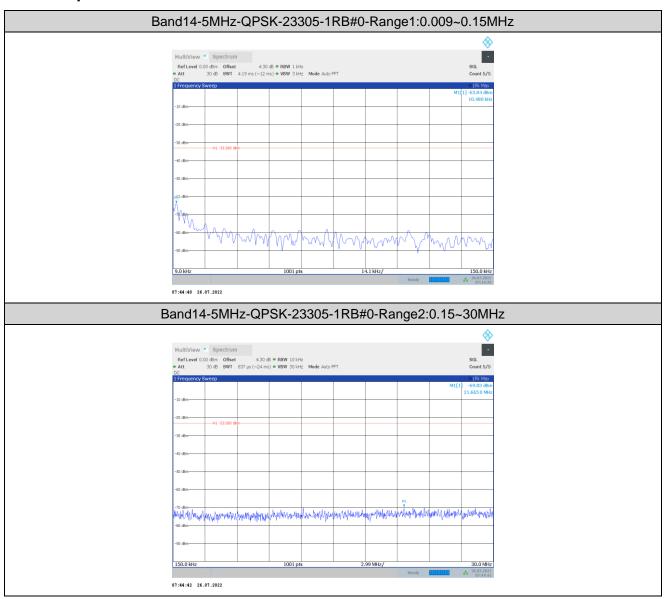
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### **Conducted Spurious Emission**

#### **Test Graphs**





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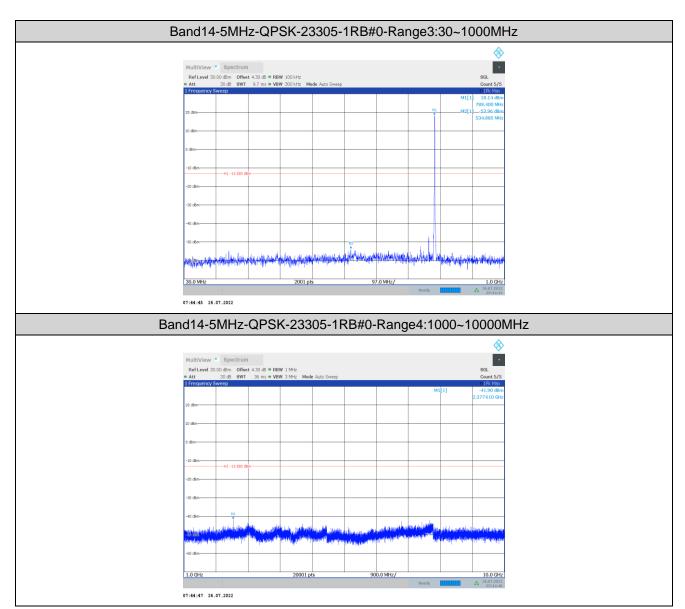
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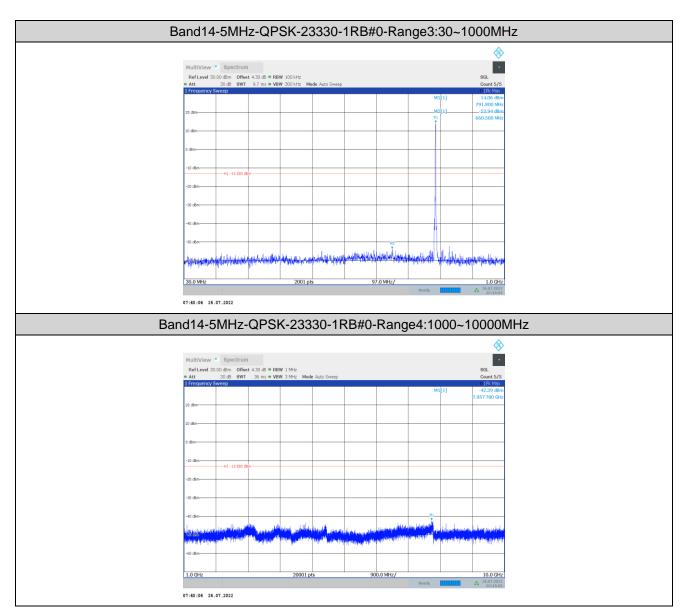
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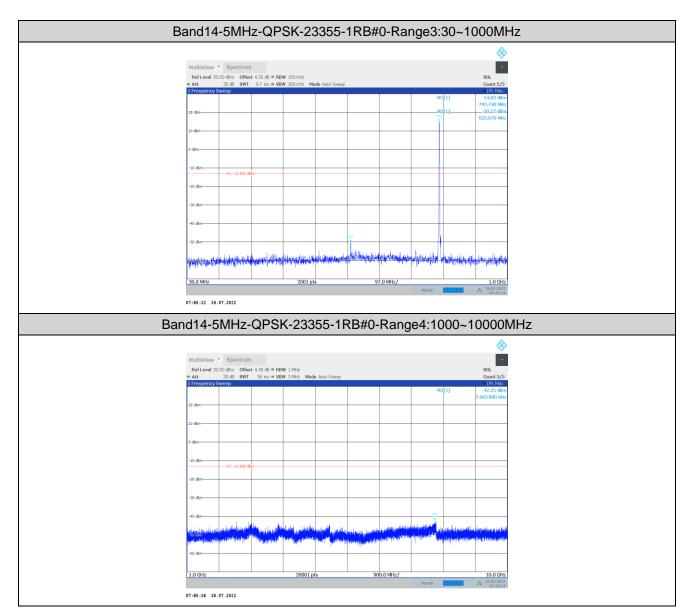
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### **Field Strength of Spurious Radiation**

Test Band = CAT M1 Band 14\_ 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	1579.6800	51.65	-48.29	25.38	-66.52	-40.00	26.52	214	360	Horizontal			
2	2365.0200	77.78	-47.47	27.42	-37.52	-13.00	24.52	156	225	Horizontal			
3	3153.3600	59.53	-46.50	29.60	-52.63	-13.00	39.63	231	185	Horizontal			
4	3942.2857	57.87	-46.22	30.66	-52.94	-13.00	39.94	173	225	Horizontal			
5	4730.0400	49.31	-45.75	32.11	-59.59	-13.00	46.59	255	159	Horizontal			
6	5518.3800	49.11	-45.16	32.93	-58.38	-13.00	45.38	147	351	Horizontal			

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	1579.6800	51.94	-48.29	25.38	-66.23	-40.00	26.23	163	0	Vertical			
2	2365.0200	58.96	-47.47	27.42	-56.34	-13.00	43.34	214	118	Vertical			
3	3153.3600	53.72	-46.50	29.60	-58.44	-13.00	45.44	157	268	Vertical			
4	3941.7000	50.69	-46.22	30.66	-60.12	-13.00	47.12	184	346	Vertical			
5	4730.0400	49.16	-45.75	32.11	-59.74	-13.00	46.74	196	187	Vertical			
6	5518.3800	49.28	-45.16	32.93	-58.21	-13.00	45.21	226	213	Vertical			





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# Test Band = CAT M1 Band 14\_ 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	1581.6800	68.64	-48.29	25.37	-49.53	-40.00	9.53	241	238	Horizontal			
2	2372.5200	77.33	-47.46	27.43	-37.97	-13.00	24.97	169	225	Horizontal			
3	3163.3600	59.98	-46.46	29.62	-52.12	-13.00	39.12	223	93	Horizontal			
4	3954.2000	55.11	-46.21	30.69	-55.67	-13.00	42.67	257	276	Horizontal			
5	4745.0400	50.11	-45.73	32.15	-58.73	-13.00	45.73	183	250	Horizontal			
6	5535.8800	49.42	-45.19	32.95	-58.08	-13.00	45.08	167	355	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	1581.6800	54.55	-48.29	25.37	-63.62	-40.00	23.62	171	357	Vertical			
2	2373.1429	59.13	-47.46	27.43	-56.17	-13.00	43.17	218	243	Vertical			
3	3163.3600	52.45	-46.46	29.62	-59.65	-13.00	46.65	256	176	Vertical			
4	3954.2000	49.94	-46.21	30.69	-60.84	-13.00	47.84	246	255	Vertical			
5	4745.0400	49.70	-45.73	32.15	-59.14	-13.00	46.14	197	0	Vertical			
6	5535.8800	48.55	-45.19	32.95	-58.95	-13.00	45.95	228	121	Vertical			





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# Test Band = CAT M1 Band 14\_ TM1 Test Channel = High

Final	Final Data List												
NO.	Frequency	Reading	Factor	ΛΕ[dD/m]	Level	Limit	Margin	Height	Angle	Polarity			
NO.	[MHz]	[dBµV]	[dB]	AF[dB/m]	[dBm]	[dBm]	[dB]	[cm]	[°]	Polatily			
1	1586.6800	67.64	-48.29	25.37	-50.54	-40.00	10.54	162	209	Horizontal			
2	2380	79.36	-47.46	27.43	-35.93	-13.00	22.93	158	236	Horizontal			
3	3173.1429	64.20	-46.41	29.64	-47.84	-13.00	34.84	221	236	Horizontal			
4	3966.7000	58.26	-46.21	30.72	-52.49	-13.00	39.49	241	275	Horizontal			
5	4760.0400	48.80	-45.70	32.20	-59.96	-13.00	46.96	187	3	Horizontal			
6	5553.3800	48.74	-45.21	32.97	-58.76	-13.00	45.76	169	360	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	1586.6800	52.80	-48.29	25.37	-65.38	-40.00	25.38	158	282	Vertical			
2	2380.0200	59.29	-47.46	27.43	-56.00	-13.00	43.00	169	150	Vertical			
3	3173.3600	51.51	-46.41	29.64	-60.52	-13.00	47.52	218	136	Vertical			
4	3966.7000	50.28	-46.21	30.72	-60.47	-13.00	47.47	246	71	Vertical			
5	4760.0400	48.37	-45.70	32.20	-60.39	-13.00	47.39	253	71	Vertical			
6	5553.3800	49.56	-45.21	32.97	-57.94	-13.00	44.94	183	1	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**

				Vo	ltage				
Band	Bandwidth	Modulation	Channel	RB Configure	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Verdict
Band14	5MHz	QPSK	23330	6RB#0	VL	NT	-0.20	-0.000252	PASS
Band14	5MHz	QPSK	23330	6RB#0	VN	NT	0.20	0.000252	PASS
Band14	5MHz	QPSK	23330	6RB#0	VH	NT	-1.40	-0.001765	PASS

				Temp	erature				
Band	Bandwidth	Modulation	Channel	RB Configure	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Verdict
Band14	5MHz	QPSK	23330	6RB#0	NV	-30	-0.20	-0.000252	PASS
Band14	5MHz	QPSK	23330	6RB#0	NV	-20	1.10	0.001387	PASS
Band14	5MHz	QPSK	23330	6RB#0	NV	-10	1.00	0.001261	PASS
Band14	5MHz	QPSK	23330	6RB#0	NV	0	1.40	0.001765	PASS
Band14	5MHz	QPSK	23330	6RB#0	NV	10	-1.50	-0.001892	PASS
Band14	5MHz	QPSK	23330	6RB#0	NV	20	-1.10	-0.001387	PASS
Band14	5MHz	QPSK	23330	6RB#0	NV	30	-0.50	-0.000631	PASS
Band14	5MHz	QPSK	23330	6RB#0	NV	40	0.50	0.000631	PASS
Band14	5MHz	QPSK	23330	6RB#0	NV	50	-1.60	-0.002018	PASS

---End of Attachment---

