

Appendix A: Effective (Isotropic) Radiated Power Output Data

Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Conducted Power (dBm)	ERP/EIRP (dBm)	ERP/EIRP Limit (dBm)	Verdict
Band13	5MHz	QPSK	23205	1RB#0	22.94	16.19	34.77	PASS
Band13	5MHz	QPSK	23205	1RB#12	23.07	16.32	34.77	PASS
Band13	5MHz	QPSK	23205	1RB#24	22.89	16.14	34.77	PASS
Band13	5MHz	QPSK	23205	12RB#0	22.00	15.25	34.77	PASS
Band13	5MHz	QPSK	23205	12RB#6	21.98	15.23	34.77	PASS
Band13	5MHz	QPSK	23205	12RB#11	22.04	15.29	34.77	PASS
Band13	5MHz	QPSK	23205	25RB#0	22.03	15.28	34.77	PASS
Band13	5MHz	QPSK	23230	1RB#0	23.07	16.32	34.77	PASS
Band13	5MHz	QPSK	23230	1RB#12	23.17	16.42	34.77	PASS
Band13	5MHz	QPSK	23230	1RB#24	23.08	16.33	34.77	PASS
Band13	5MHz	QPSK	23230	12RB#0	22.06	15.31	34.77	PASS
Band13	5MHz	QPSK	23230	12RB#6	22.06	15.31	34.77	PASS
Band13	5MHz	QPSK	23230	12RB#11	22.05	15.3	34.77	PASS
Band13	5MHz	QPSK	23230	25RB#0	22.08	15.33	34.77	PASS
Band13	5MHz	QPSK	23255	1RB#0	23.03	16.28	34.77	PASS
Band13	5MHz	QPSK	23255	1RB#12	23.07	16.32	34.77	PASS
Band13	5MHz	QPSK	23255	1RB#24	23.03	16.28	34.77	PASS
Band13	5MHz	QPSK	23255	12RB#0	22.05	15.3	34.77	PASS
Band13	5MHz	QPSK	23255	12RB#6	22.05	15.3	34.77	PASS
Band13	5MHz	QPSK	23255	12RB#11	22.05	15.3	34.77	PASS
Band13	5MHz	QPSK	23255	25RB#0	22.03	15.28	34.77	PASS
Band13	5MHz	16QAM	23205	1RB#0	21.92	15.17	34.77	PASS
Band13	5MHz	16QAM	23205	1RB#12	22.02	15.27	34.77	PASS
Band13	5MHz	16QAM	23205	1RB#24	21.94	15.19	34.77	PASS
Band13	5MHz	16QAM	23205	12RB#0	20.93	14.18	34.77	PASS
Band13	5MHz	16QAM	23205	12RB#6	21.05	14.3	34.77	PASS
Band13	5MHz	16QAM	23205	12RB#11	21.01	14.26	34.77	PASS
Band13	5MHz	16QAM	23205	25RB#0	21.04	14.29	34.77	PASS
Band13	5MHz	16QAM	23230	1RB#0	22.02	15.27	34.77	PASS
Band13	5MHz	16QAM	23230	1RB#12	22.16	15.41	34.77	PASS
Band13	5MHz	16QAM	23230	1RB#24	22.05	15.3	34.77	PASS
Band13	5MHz	16QAM	23230	12RB#0	21.07	14.32	34.77	PASS
Band13	5MHz	16QAM	23230	12RB#6	21.06	14.31	34.77	PASS
Band13	5MHz	16QAM	23230	12RB#11	21.03	14.28	34.77	PASS
Band13	5MHz	16QAM	23230	25RB#0	21.09	14.34	34.77	PASS

Band13	5MHz	16QAM	23255	1RB#0	22.29	15.54	34.77	PASS
Band13	5MHz	16QAM	23255	1RB#12	22.31	15.56	34.77	PASS
Band13	5MHz	16QAM	23255	1RB#24	22.22	15.47	34.77	PASS
Band13	5MHz	16QAM	23255	12RB#0	21.09	14.34	34.77	PASS
Band13	5MHz	16QAM	23255	12RB#6	21.07	14.32	34.77	PASS
Band13	5MHz	16QAM	23255	12RB#11	21.11	14.36	34.77	PASS
Band13	5MHz	16QAM	23255	25RB#0	21.03	14.28	34.77	PASS
Band13	10MHz	QPSK	23230	1RB#0	23.02	16.27	34.77	PASS
Band13	10MHz	QPSK	23230	1RB#24	23.17	16.42	34.77	PASS
Band13	10MHz	QPSK	23230	1RB#49	23.07	16.32	34.77	PASS
Band13	10MHz	QPSK	23230	25RB#0	22.23	15.48	34.77	PASS
Band13	10MHz	QPSK	23230	25RB#12	22.18	15.43	34.77	PASS
Band13	10MHz	QPSK	23230	25RB#24	22.20	15.45	34.77	PASS
Band13	10MHz	QPSK	23230	50RB#0	22.18	15.43	34.77	PASS
Band13	10MHz	16QAM	23230	1RB#0	22.27	15.52	34.77	PASS
Band13	10MHz	16QAM	23230	1RB#24	22.41	15.66	34.77	PASS
Band13	10MHz	16QAM	23230	1RB#49	22.33	15.58	34.77	PASS
Band13	10MHz	16QAM	23230	25RB#0	21.20	14.45	34.77	PASS
Band13	10MHz	16QAM	23230	25RB#12	21.21	14.46	34.77	PASS
Band13	10MHz	16QAM	23230	25RB#24	21.23	14.48	34.77	PASS
Band13	10MHz	16QAM	23230	50RB#0	21.25	14.5	34.77	PASS

Remark: EIRP (dBm) = Conducted power (dBm) + Antenna Gain (dBi).

ERP (dBm) = EIRP (dBm) - 2.15 (dB). (For Band 13)

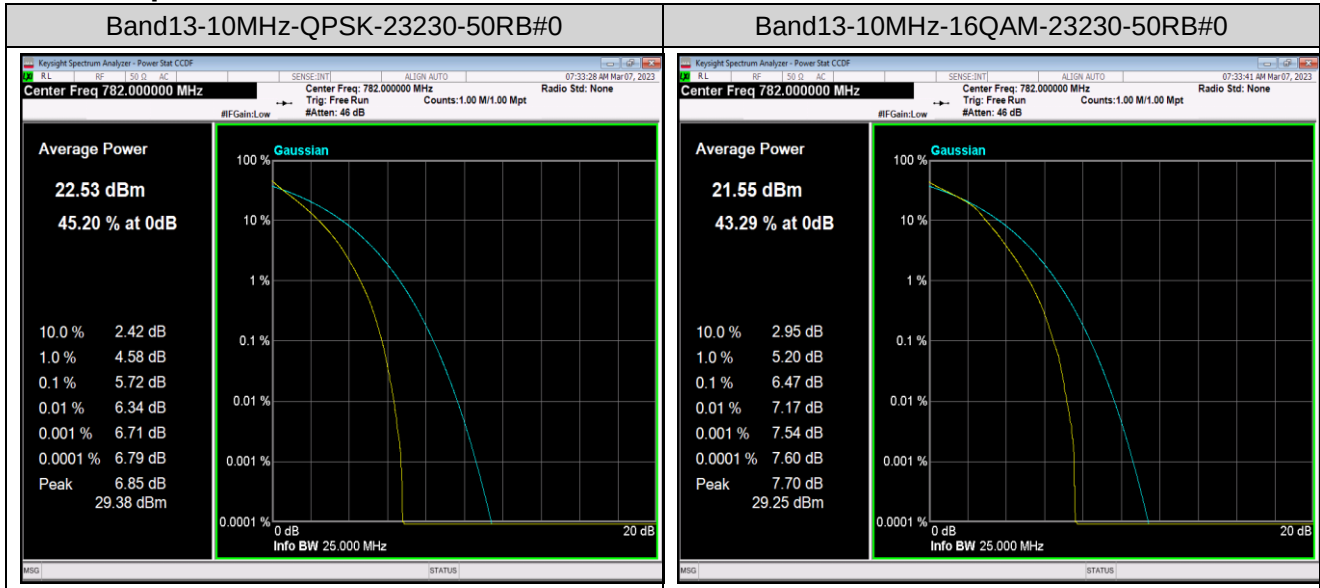
Appendix B: Peak-to-Average Ratio(CCDF)

Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dB)	Limit(dB)	Verdict
Band13	10MHz	QPSK	23230	50RB#0	5.72	13	PASS
Band13	10MHz	16QAM	23230	50RB#0	6.47	13	PASS

Remark: All bandwidth and all modulation had been tested, but only the worst case data displayed in this report.

Test Graphs



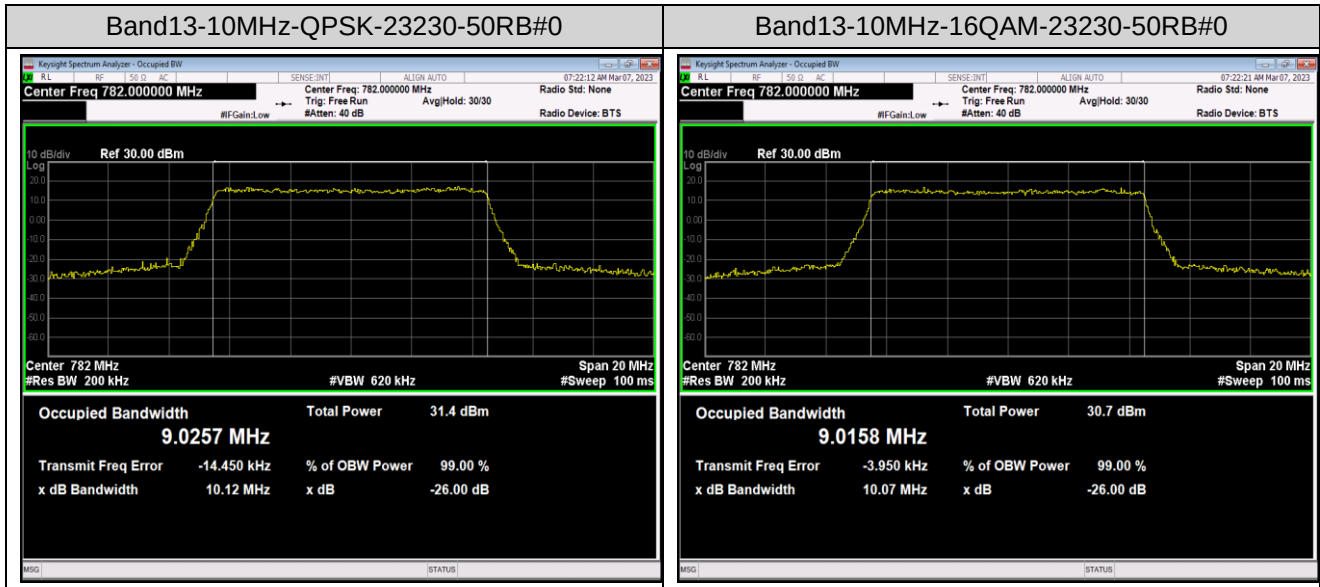
Appendix C: 26dB Bandwidth and Occupied Bandwidth

Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
Band13	5MHz	QPSK	23205	25RB#0	4.5356	5.219	PASS
Band13	5MHz	QPSK	23230	25RB#0	4.5321	5.223	PASS
Band13	5MHz	QPSK	23255	25RB#0	4.5041	5.164	PASS
Band13	5MHz	16QAM	23205	25RB#0	4.5183	5.147	PASS
Band13	5MHz	16QAM	23230	25RB#0	4.5145	5.139	PASS
Band13	5MHz	16QAM	23255	25RB#0	4.5327	5.196	PASS
Band13	10MHz	QPSK	23230	50RB#0	9.0257	10.12	PASS
Band13	10MHz	16QAM	23230	50RB#0	9.0158	10.07	PASS

Test Graphs





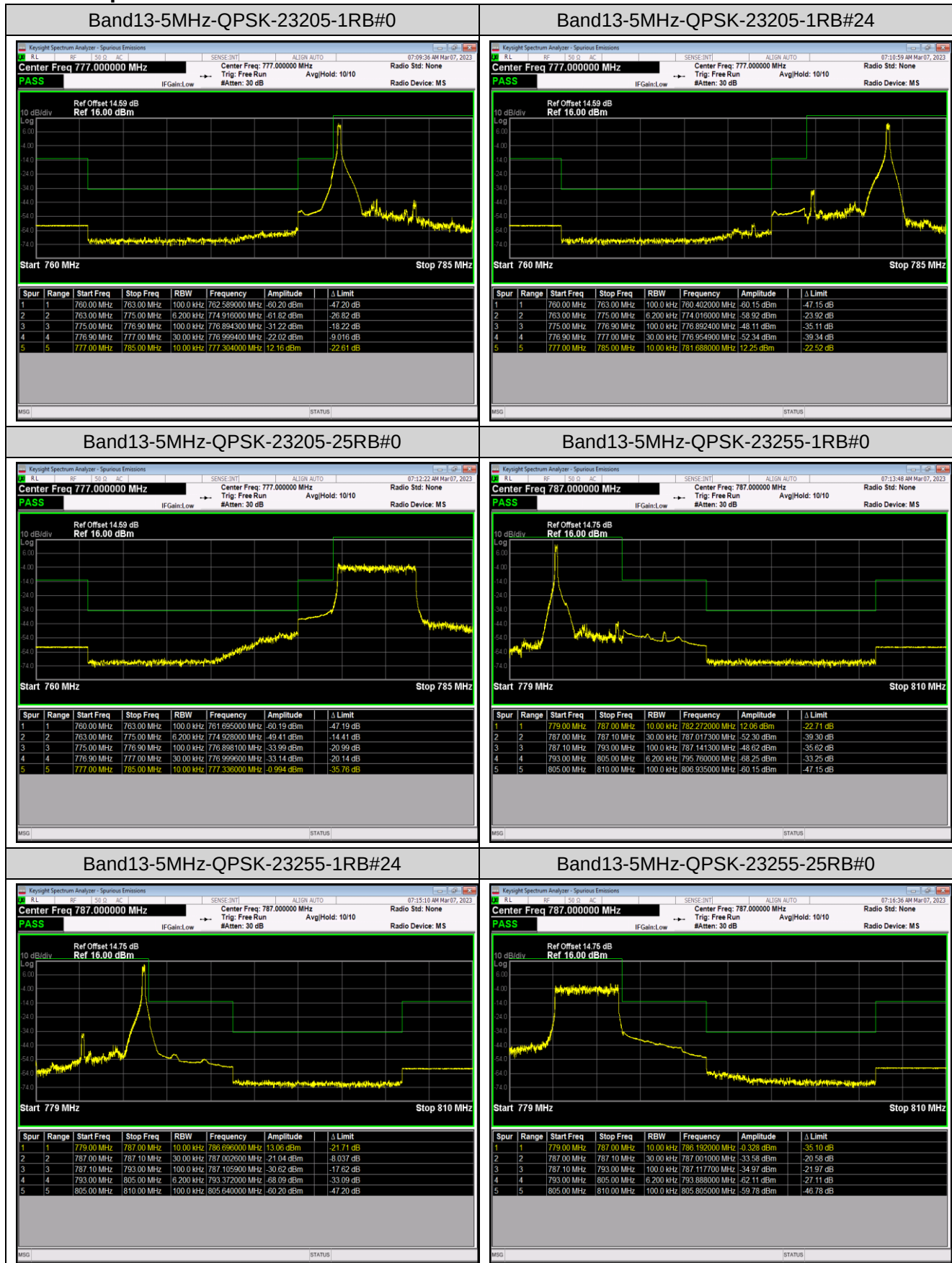
Appendix D: Band Edge

Test Result (worst case)

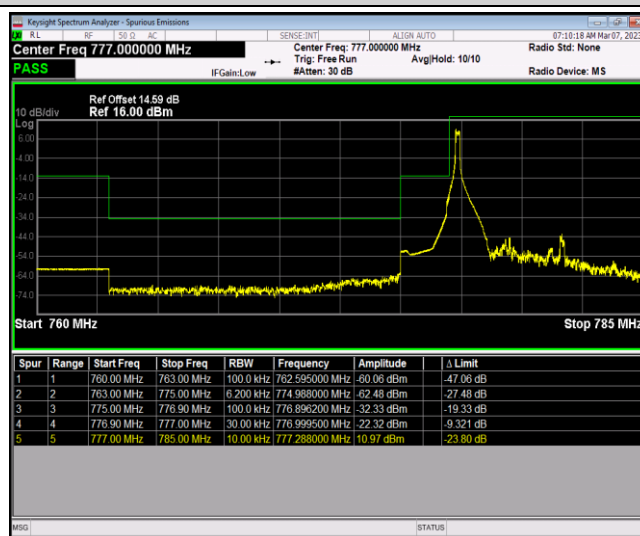
Band	Bandwidth	Modulation	Channel	RB Config.	Result (dBm)	Verdict
Band13	5MHz	QPSK	23205	1RB#0	-60.20,-61.82,-31.22,-22.02	PASS
Band13	5MHz	QPSK	23205	1RB#24	-60.15,-58.92,-48.11,-52.34	PASS
Band13	5MHz	QPSK	23205	25RB#0	-60.19,-49.41,-33.99,-33.14	PASS
Band13	5MHz	QPSK	23255	1RB#0	-52.30,-48.62,-68.25,-60.15	PASS
Band13	5MHz	QPSK	23255	1RB#24	-21.04,-30.62,-68.09,-60.20	PASS
Band13	5MHz	QPSK	23255	25RB#0	-33.58,-34.97,-62.11,-59.78	PASS
Band13	5MHz	16QAM	23205	1RB#0	-60.06,-62.48,-32.33,-22.32	PASS
Band13	5MHz	16QAM	23205	1RB#24	-60.20,-60.08,-47.88,-52.18	PASS
Band13	5MHz	16QAM	23205	25RB#0	-60.20,-48.95,-33.96,-33.93	PASS
Band13	5MHz	16QAM	23255	1RB#0	-53.03,-48.81,-68.68,-60.23	PASS
Band13	5MHz	16QAM	23255	1RB#24	-22.05,-31.96,-67.83,-59.70	PASS
Band13	5MHz	16QAM	23255	25RB#0	-34.47,-34.54,-61.64,-59.70	PASS
Band13	10MHz	QPSK	23230	1RB#0	-59.93,-61.88,-36.12,-28.10,-55.44,-50.34,-59.73,-59.72	PASS
Band13	10MHz	QPSK	23230	1RB#49	-59.85,-61.51,-49.91,-54.21,-27.72,-36.81,-62.88,-59.76	PASS
Band13	10MHz	QPSK	23230	50RB#0	-59.90,-49.75,-36.88,-38.58,-39.15,-37.13,-54.71,-59.84	PASS
Band13	10MHz	16QAM	23230	1RB#0	-60.02,-62.22,-37.57,-28.96,-55.54,-51.12,-61.23,-59.65	PASS
Band13	10MHz	16QAM	23230	1RB#49	-60.02,-62.54,-49.99,-54.42,-27.44,-37.08,-64.19,-59.65	PASS
Band13	10MHz	16QAM	23230	50RB#0	-60.01,-49.91,-37.16,-39.76,-39.47,-36.83,-54.41,-60.14	PASS

Remark: All bandwidth and all modulation had been tested, but only the worst case data displayed in this report.

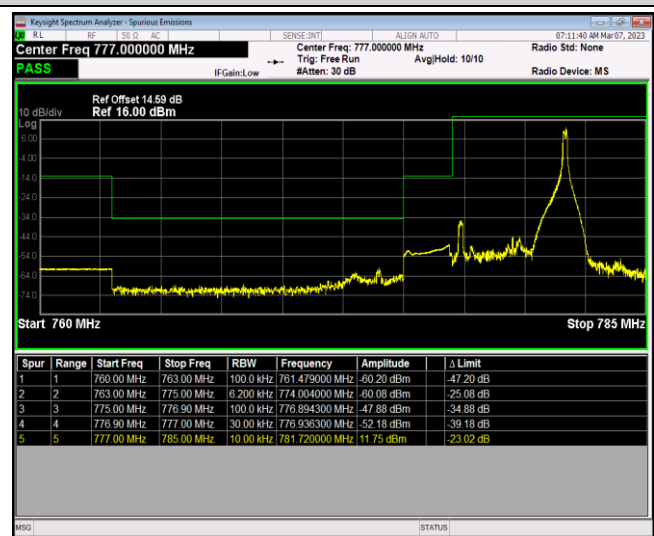
Test Graphs



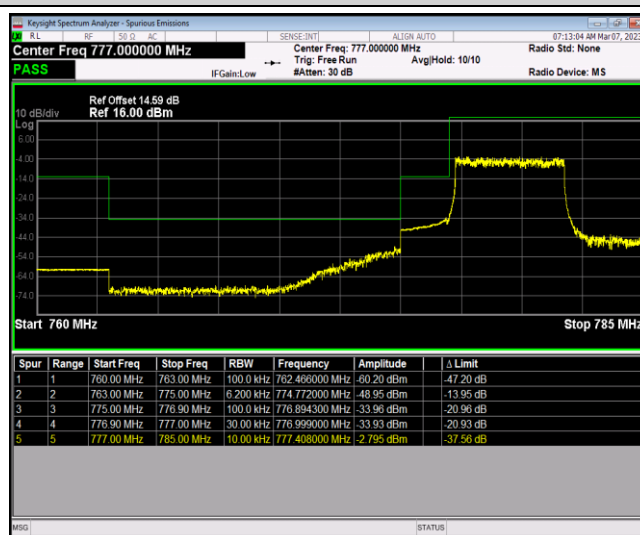
Band13-5MHz-16QAM-23205-1RB#0



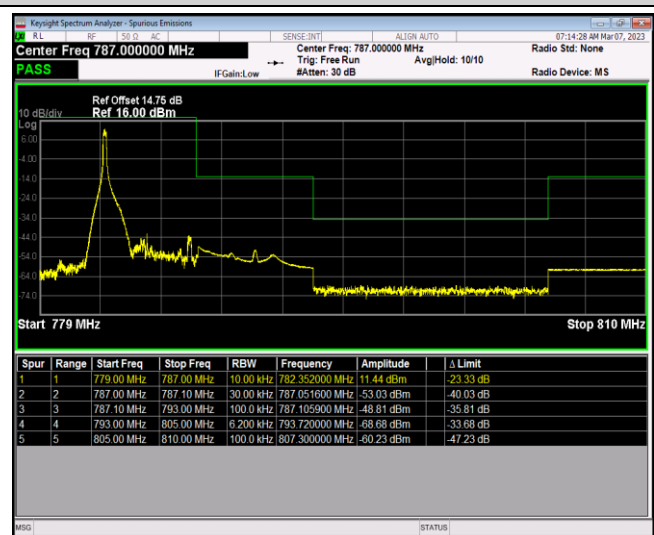
Band13-5MHz-16QAM-23205-1RB#24



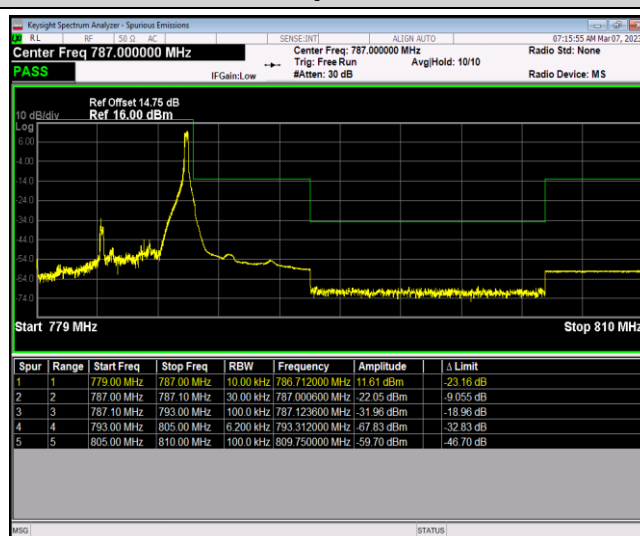
Band13-5MHz-16QAM-23205-25RB#0



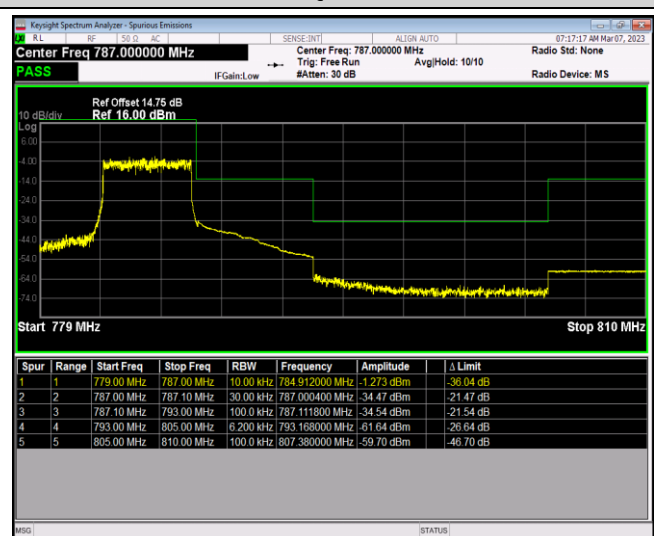
Band13-5MHz-16QAM-23255-1RB#0



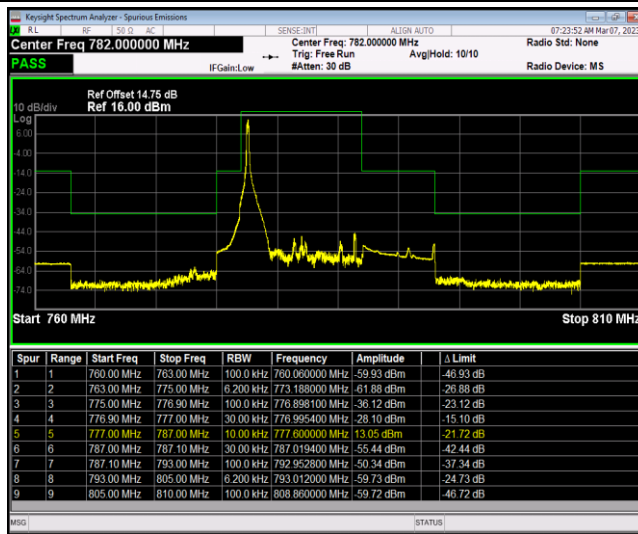
Band13-5MHz-16QAM-23255-1RB#24



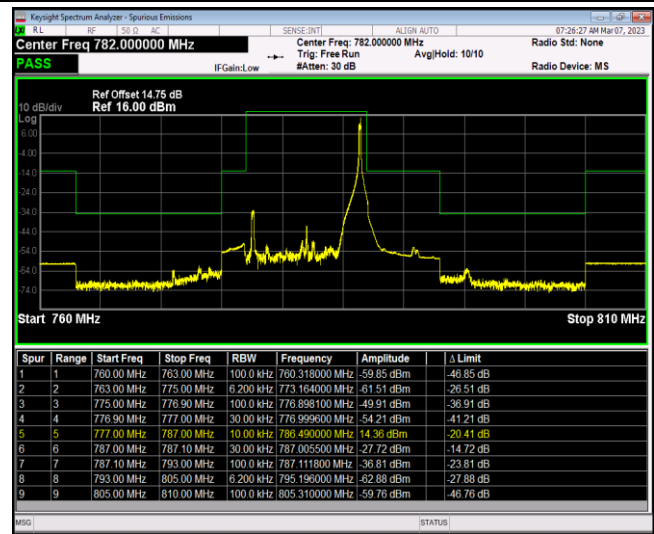
Band13-5MHz-16QAM-23255-25RB#0



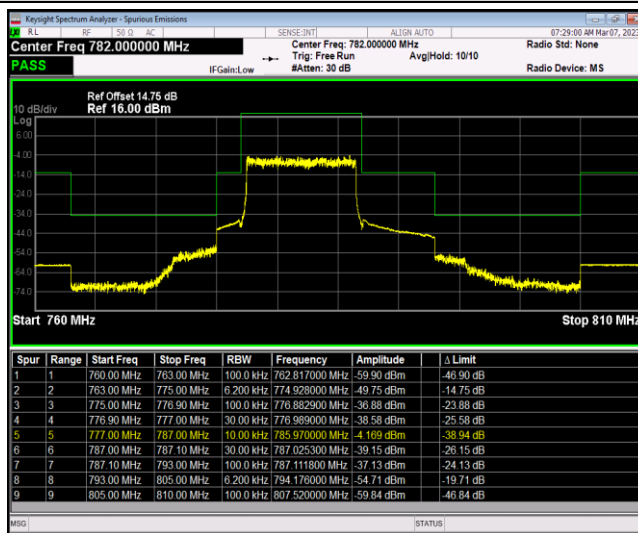
Band13-10MHz-QPSK-23230-1RB#0



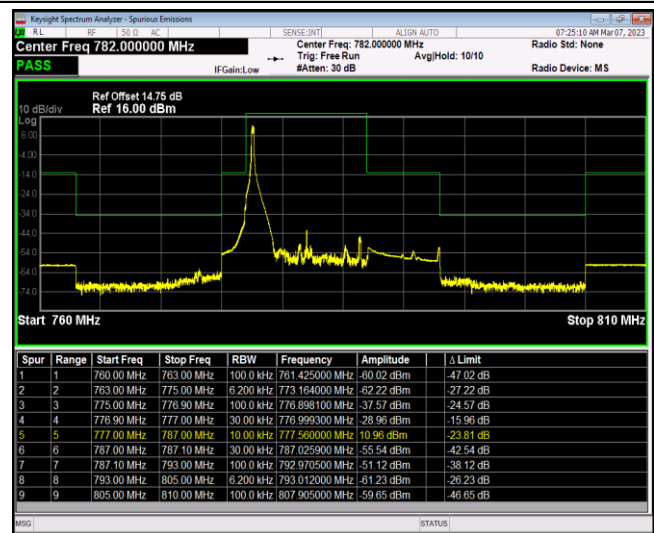
Band13-10MHz-QPSK-23230-1RB#49



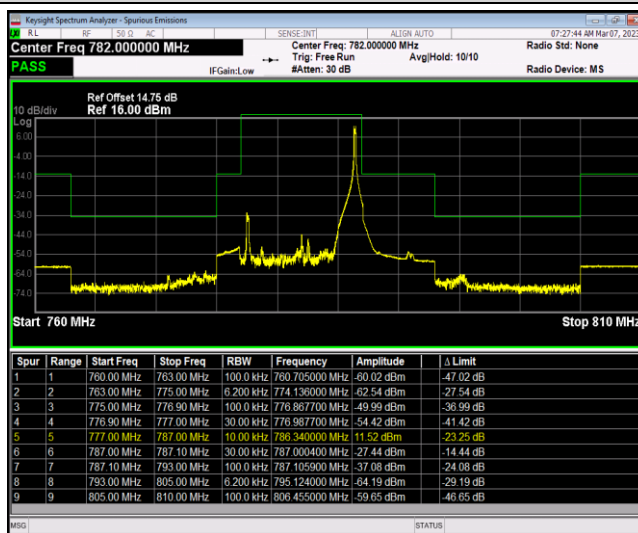
Band13-10MHz-QPSK-23230-50RB#0



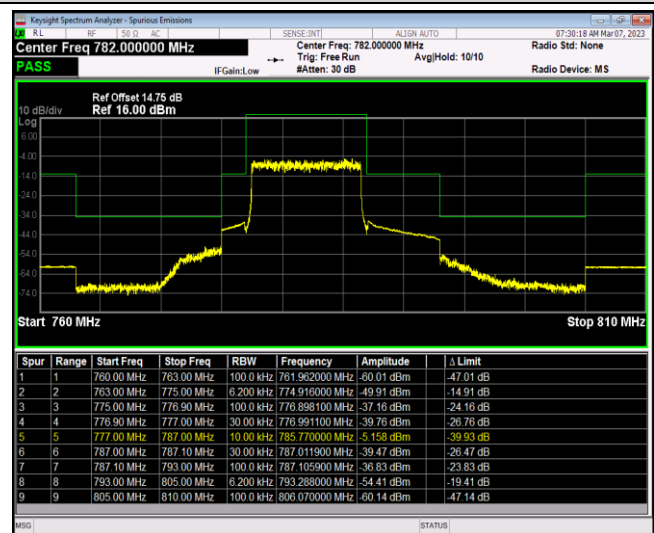
Band13-10MHz-16QAM-23230-1RB#0



Band13-10MHz-16QAM-23230-1RB#49



Band13-10MHz-16QAM-23230-50RB#0



Appendix E: Conducted Spurious Emission

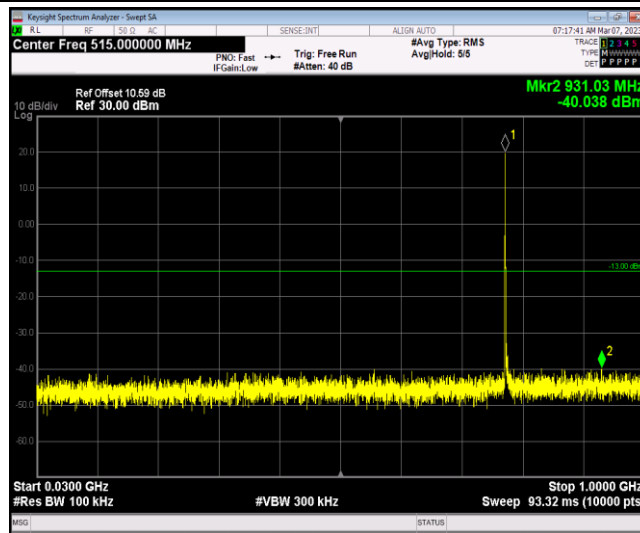
Test Result (worst case)

Band	Bandwidth	Modulation	Channel	RB Configuration	Frequency Range	Result (dBm)	Verdict
Band13	5MHz	QPSK	23205	1RB#0	Range1:30~1000MHz	-40.04	PASS
Band13	5MHz	QPSK	23205	1RB#0	Range2:1000~10000MHz	-34.21	PASS
Band13	5MHz	QPSK	23205	1RB#0	Range3:1559~1610MHz	-53.78	PASS
Band13	5MHz	QPSK	23230	1RB#0	Range1:30~1000MHz	-38.81	PASS
Band13	5MHz	QPSK	23230	1RB#0	Range2:1000~10000MHz	-34.57	PASS
Band13	5MHz	QPSK	23230	1RB#0	Range3:1559~1610MHz	-54.31	PASS
Band13	5MHz	QPSK	23255	1RB#0	Range1:30~1000MHz	-39.85	PASS
Band13	5MHz	QPSK	23255	1RB#0	Range2:1000~10000MHz	-35.27	PASS
Band13	5MHz	QPSK	23255	1RB#0	Range3:1559~1610MHz	-53.58	PASS
Band13	5MHz	16QAM	23205	1RB#0	Range1:30~1000MHz	-40.25	PASS
Band13	5MHz	16QAM	23205	1RB#0	Range2:1000~10000MHz	-34.27	PASS
Band13	5MHz	16QAM	23205	1RB#0	Range3:1559~1610MHz	-54.05	PASS
Band13	5MHz	16QAM	23230	1RB#0	Range1:30~1000MHz	-38.99	PASS
Band13	5MHz	16QAM	23230	1RB#0	Range2:1000~10000MHz	-35.23	PASS
Band13	5MHz	16QAM	23230	1RB#0	Range3:1559~1610MHz	-53.6	PASS
Band13	5MHz	16QAM	23255	1RB#0	Range1:30~1000MHz	-39.31	PASS
Band13	5MHz	16QAM	23255	1RB#0	Range2:1000~10000MHz	-34.34	PASS
Band13	5MHz	16QAM	23255	1RB#0	Range3:1559~1610MHz	-54.23	PASS
Band13	10MHz	QPSK	23230	1RB#0	Range1:30~1000MHz	-39.77	PASS
Band13	10MHz	QPSK	23230	1RB#0	Range2:1000~10000MHz	-34.77	PASS
Band13	10MHz	QPSK	23230	1RB#0	Range3:1559~1610MHz	-54	PASS
Band13	10MHz	16QAM	23230	1RB#0	Range1:30~1000MHz	-39.55	PASS
Band13	10MHz	16QAM	23230	1RB#0	Range2:1000~10000MHz	-34.46	PASS
Band13	10MHz	16QAM	23230	1RB#0	Range3:1559~1610MHz	-53.92	PASS

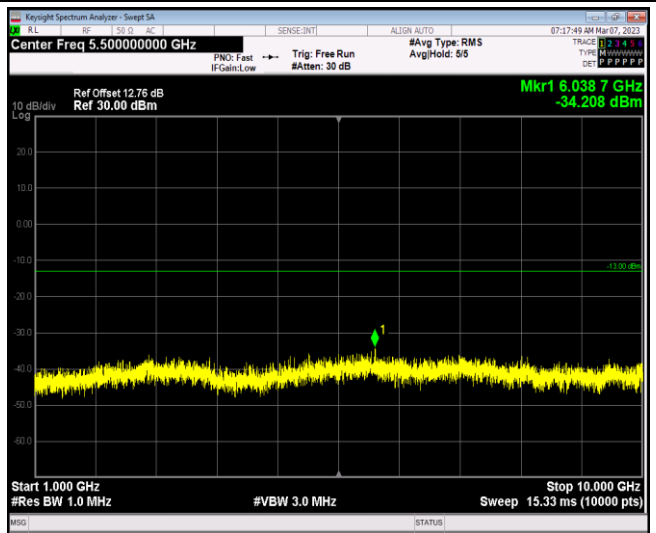
Remark: All bandwidth and all modulation had been tested, but only the worst case data displayed in this report.

Test Graphs

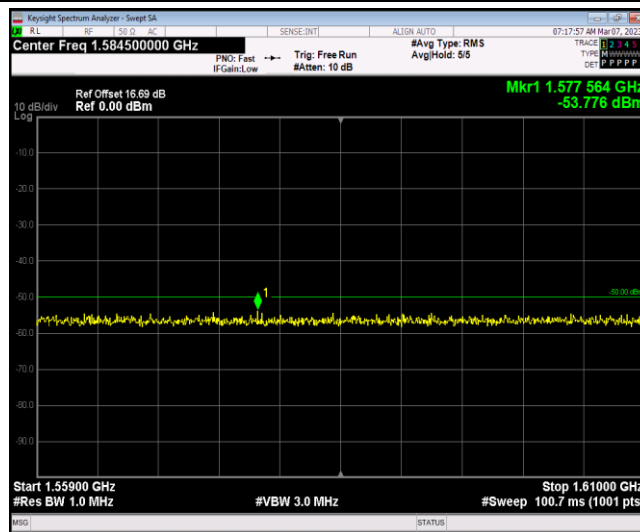
Band13-5MHz-QPSK-23205-1RB#0-Range1:30~10
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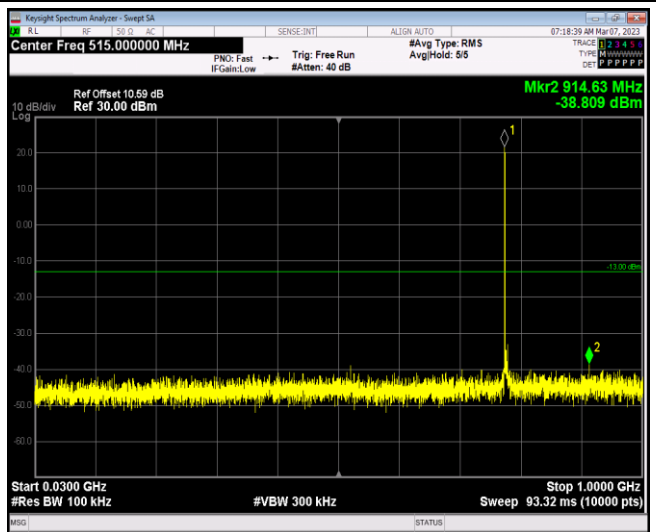
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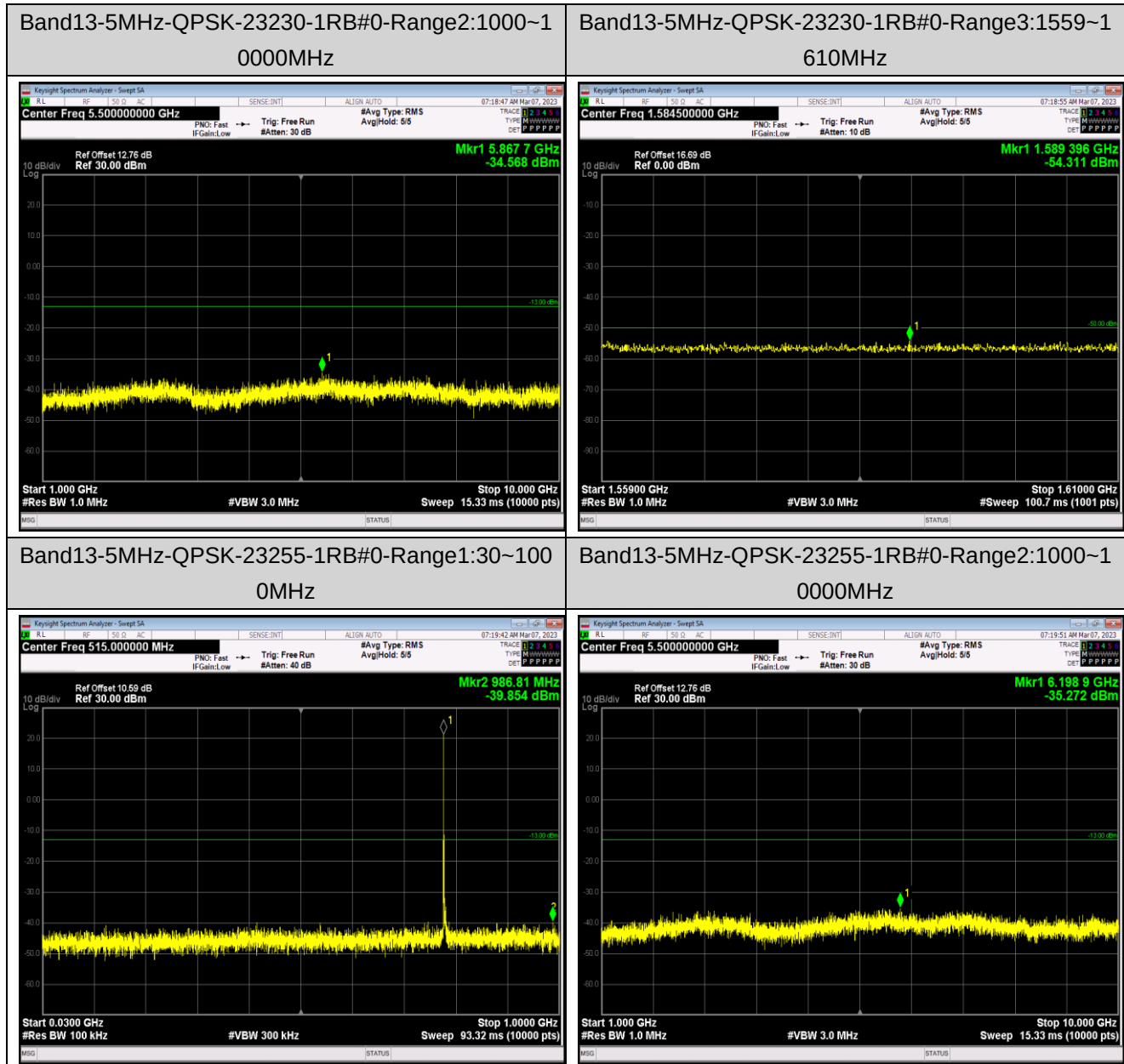


Band13-5MHz-QPSK-23205-1RB#0-Range3:1559~
1610MHz

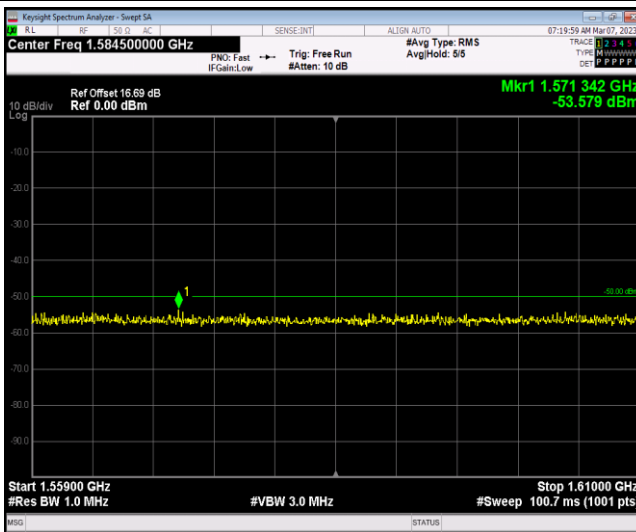


Band13-5MHz-QPSK-23230-1RB#0-Range1:30~100
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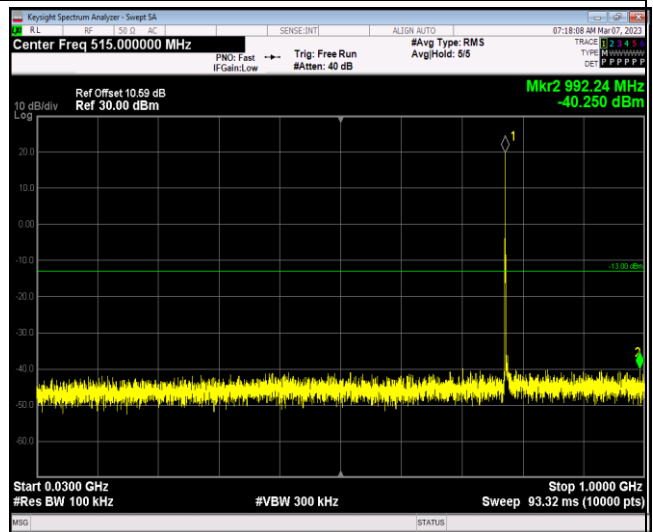




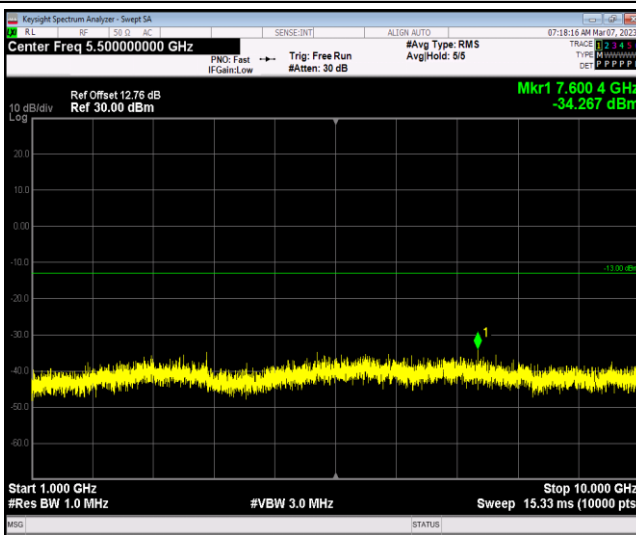
Band13-5MHz-QPSK-23255-1RB#0-Range3:1559~1610MHz



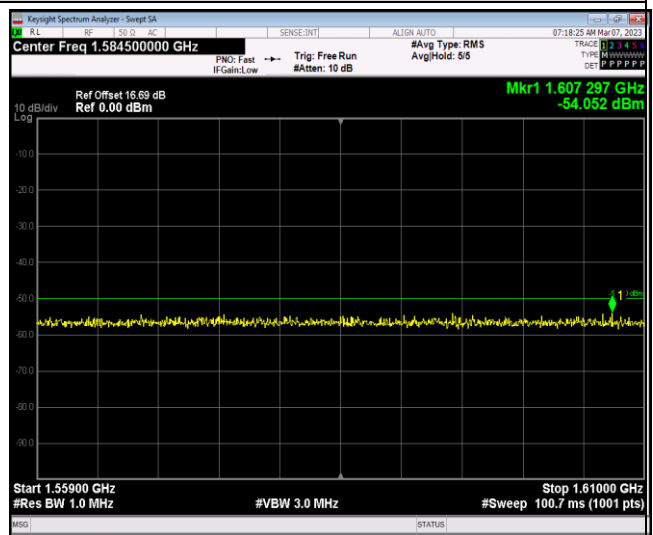
Band13-5MHz-16QAM-23205-1RB#0-Range1:30~1000MHz



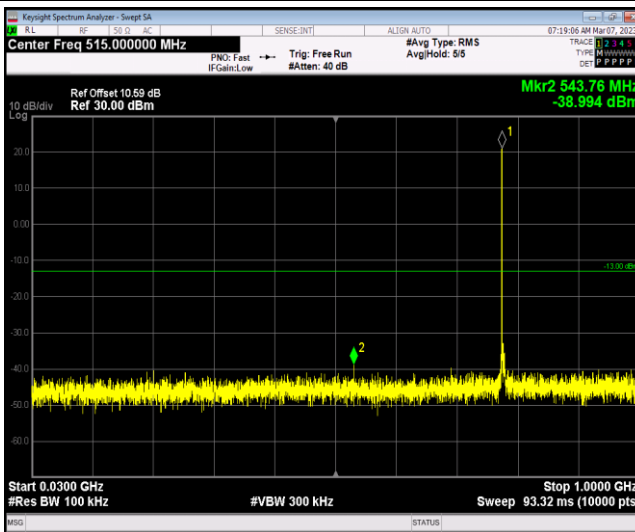
Band13-5MHz-16QAM-23205-1RB#0-Range2:1000~10000MHz



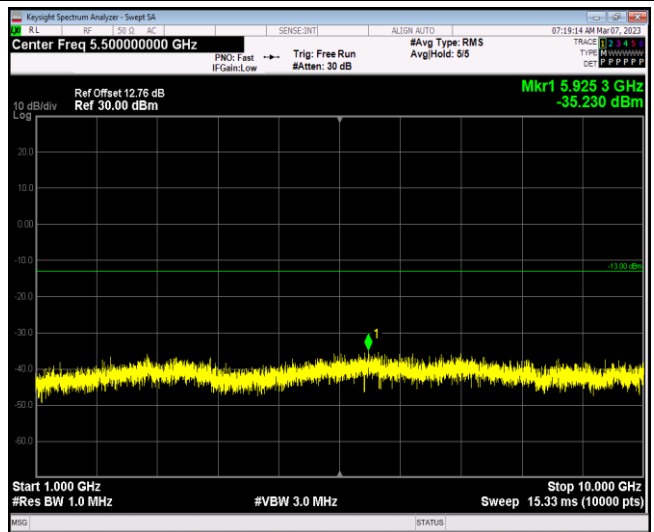
Band13-5MHz-16QAM-23205-1RB#0-Range3:1559~1610MHz



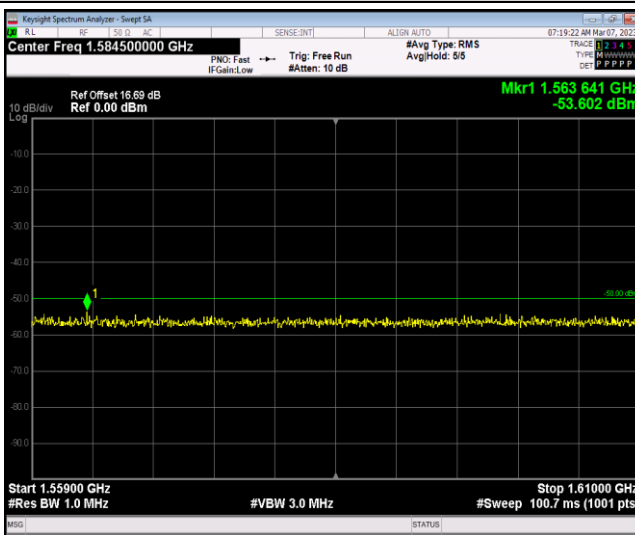
Band13-5MHz-16QAM-23230-1RB#0-Range1:30~1000MHz



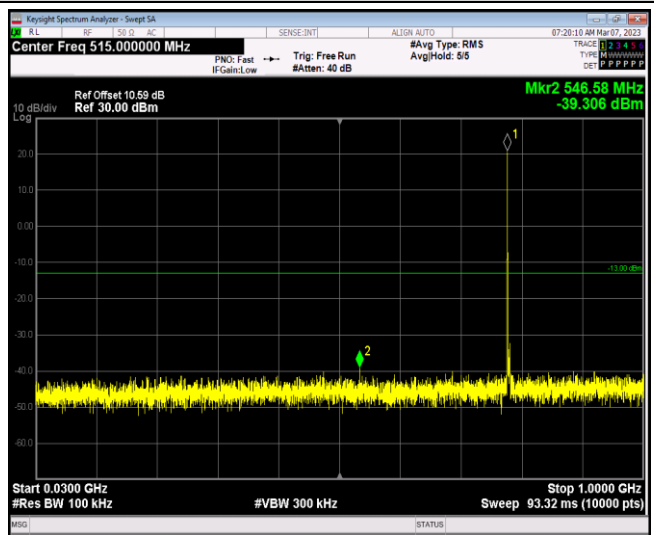
Band13-5MHz-16QAM-23230-1RB#0-Range2:1000~10000MHz



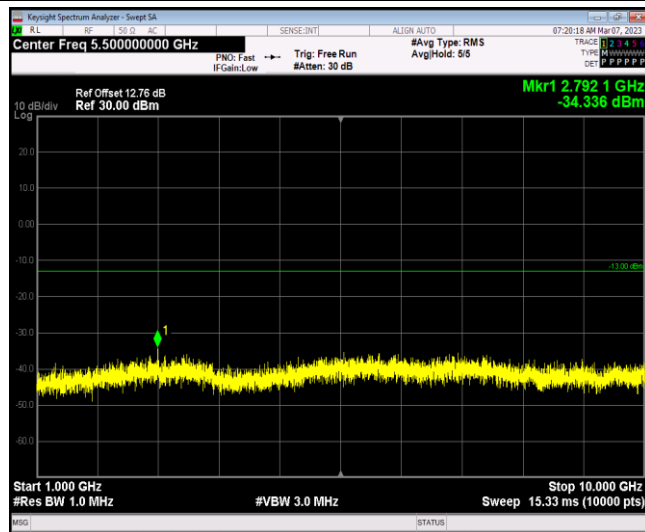
Band13-5MHz-16QAM-23230-1RB#0-Range3:1559~1610MHz



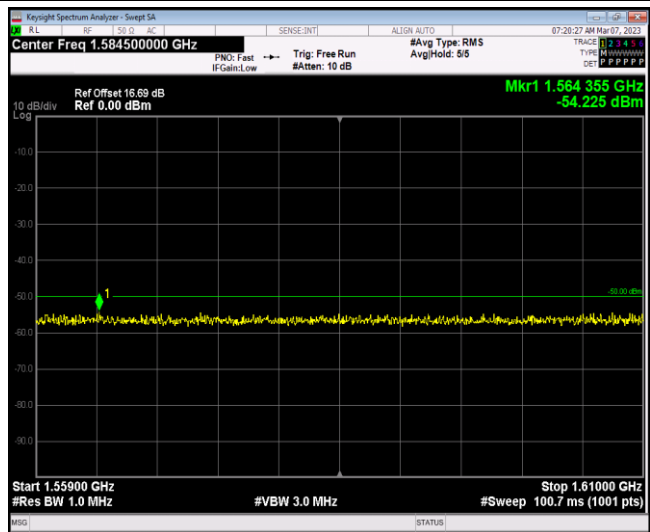
Band13-5MHz-16QAM-23255-1RB#0-Range1:30~1000MHz



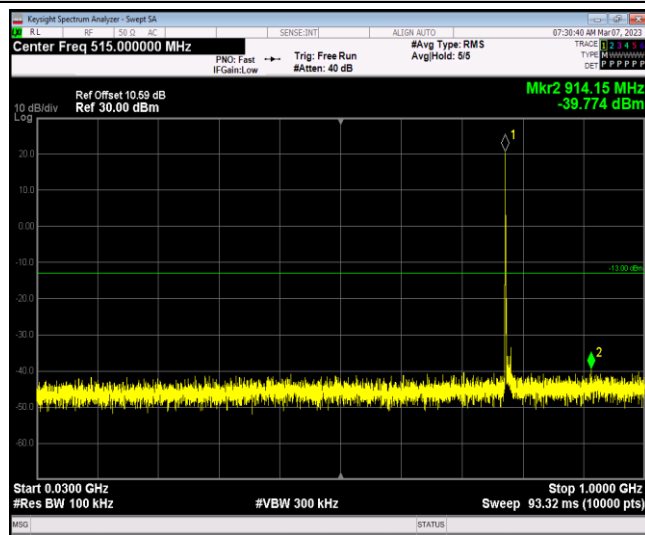
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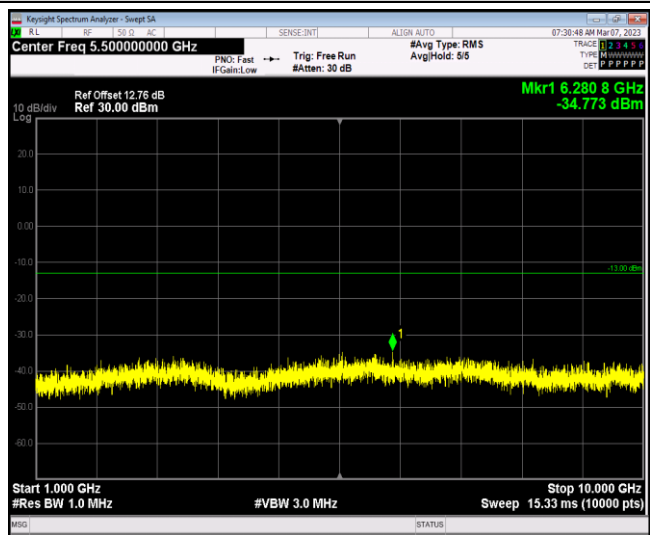
Band13-5MHz-16QAM-23255-1RB#0-Range3:1559~1610MHz



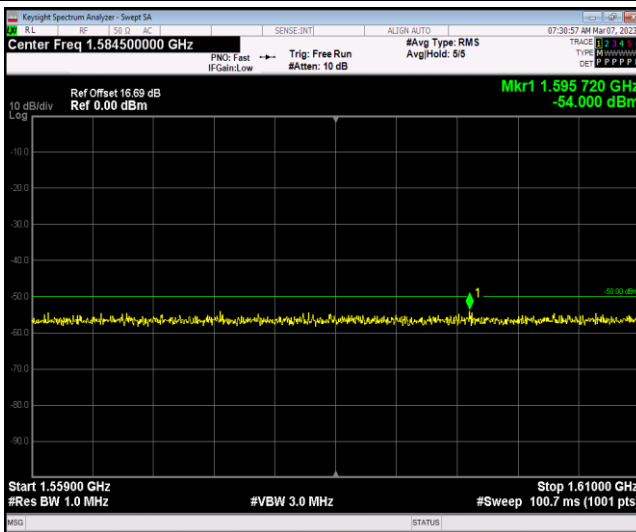
Band13-10MHz-QPSK-23230-1RB#0-Range1:30~1000MHz



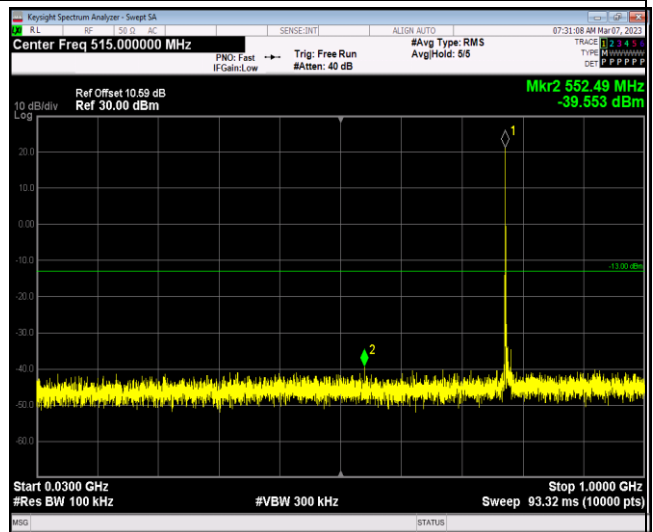
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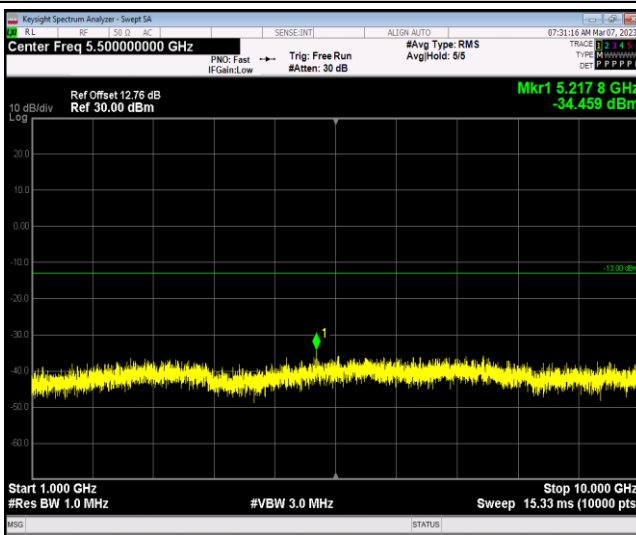
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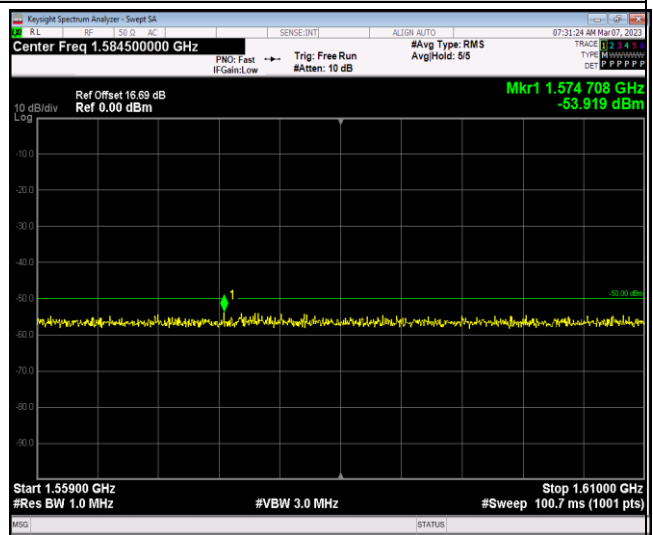
Band13-10MHz-16QAM-23230-1RB#0-Range1:30~1000MHz



Band13-10MHz-16QAM-23230-1RB#0-Range2:1000~10000MHz



Band13-10MHz-16QAM-23230-1RB#0-Range3:1559~1610MHz



Appendix F: Frequency Stability

Test Result

LTE Band 13 part:

Reference Frequency: LTE Band 13(10MHz) Middle channel=23230 Frequency=782MHz					
Temperature					
Power supplied (Vdc)	Temperature (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.85	-30	-11.76	-0.015038	Within authorized band for Band 13	Pass
	-20	-12.46	-0.015934		
	-10	-8.43	-0.010780		
	0	-7.58	-0.009693		
	10	-9.28	-0.011867		
	20	-9.51	-0.012161		
	30	-7.48	-0.009565		
	40	-10.79	-0.013798		
	50	-12.30	-0.015729		
16QAM					
3.85	-30	-3.79	-0.004847	Within authorized band for Band 13	Pass
	-20	-2.68	-0.003427		
	-10	5.18	0.006624		
	0	-8.13	-0.010396		
	10	-3.98	-0.005090		
	20	-12.27	-0.015691		
	30	-8.40	-0.010742		
	40	-13.69	-0.017506		
	50	-11.70	-0.014962		
Voltage					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	-4.63	-0.005921	Within authorized band for Band 13	Pass
	3.85	-7.11	-0.009092		
	4.40	-1.79	-0.002289		
16QAM					
25	3.50	-10.59	-0.013542	Within authorized band for Band 13	Pass
	3.85	-9.70	-0.012404		
	4.40	-8.53	-0.010908		
Remark: All bandwidth and all modulation had been tested, but only the worst case data displayed in this report.					

Appendix G: Modulation Characteristics

Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Result	Verdict
Band13	10MHz	QPSK	23230	50RB#0	PASS	PASS
Band13	10MHz	16QAM	23230	50RB#0	PASS	PASS

Remark: All bandwidth and all modulation had been tested, but only the worst case data displayed in this report.

Test Graphs

