

Appendix for LTE B41 test report

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Appendix A: Effective (Isotropic) Radiated Power Output Data

Test Result:

Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dBm)	EIRP (dBm)	Limit (dBm)	Verdict
Band41	5MHz	QPSK	40065	1RB#0	23.26	24.84	33	PASS
Band41	5MHz	QPSK	40065	1RB#13	23.38	24.96	33	PASS
Band41	5MHz	QPSK	40065	1RB#24	23.37	24.95	33	PASS
Band41	5MHz	QPSK	40065	12RB#0	22.39	23.97	33	PASS
Band41	5MHz	QPSK	40065	12RB#6	22.52	24.10	33	PASS
Band41	5MHz	QPSK	40065	12RB#11	22.40	23.98	33	PASS
Band41	5MHz	QPSK	40065	25RB#0	22.75	24.33	33	PASS
Band41	5MHz	QPSK	40640	1RB#0	23.25	24.83	33	PASS
Band41	5MHz	QPSK	40640	1RB#13	23.32	24.90	33	PASS
Band41	5MHz	QPSK	40640	1RB#24	23.19	24.77	33	PASS
Band41	5MHz	QPSK	40640	12RB#0	22.51	24.09	33	PASS
Band41	5MHz	QPSK	40640	12RB#6	22.57	24.15	33	PASS
Band41	5MHz	QPSK	40640	12RB#11	22.42	24.00	33	PASS
Band41	5MHz	QPSK	40640	25RB#0	22.45	24.03	33	PASS
Band41	5MHz	QPSK	41215	1RB#0	23.03	24.61	33	PASS
Band41	5MHz	QPSK	41215	1RB#13	23.05	24.63	33	PASS
Band41	5MHz	QPSK	41215	1RB#24	23.02	24.60	33	PASS
Band41	5MHz	QPSK	41215	12RB#0	22.25	23.83	33	PASS
Band41	5MHz	QPSK	41215	12RB#6	22.43	24.01	33	PASS
Band41	5MHz	QPSK	41215	12RB#11	22.12	23.70	33	PASS
Band41	5MHz	QPSK	41215	25RB#0	22.31	23.89	33	PASS
Band41	5MHz	16QAM	40065	1RB#0	22.20	23.78	33	PASS
Band41	5MHz	16QAM	40065	1RB#13	22.39	23.97	33	PASS
Band41	5MHz	16QAM	40065	1RB#24	22.22	23.80	33	PASS
Band41	5MHz	16QAM	40065	12RB#0	21.89	23.47	33	PASS
Band41	5MHz	16QAM	40065	12RB#6	21.74	23.32	33	PASS
Band41	5MHz	16QAM	40065	12RB#11	21.77	23.35	33	PASS
Band41	5MHz	16QAM	40065	25RB#0	21.76	23.34	33	PASS
Band41	5MHz	16QAM	40640	1RB#0	22.48	24.06	33	PASS
Band41	5MHz	16QAM	40640	1RB#13	22.56	24.14	33	PASS



Band41	5MHz	16QAM	40640	1RB#24	22.66	24.24	33	PASS
Band41	5MHz	16QAM	40640	12RB#0	21.74	23.32	33	PASS
Band41	5MHz	16QAM	40640	12RB#6	21.57	23.15	33	PASS
Band41	5MHz	16QAM	40640	12RB#11	21.34	22.92	33	PASS
Band41	5MHz	16QAM	40640	25RB#0	21.51	23.09	33	PASS
Band41	5MHz	16QAM	41215	1RB#0	22.38	23.96	33	PASS
Band41	5MHz	16QAM	41215	1RB#13	22.27	23.85	33	PASS
Band41	5MHz	16QAM	41215	1RB#24	22.33	23.91	33	PASS
Band41	5MHz	16QAM	41215	12RB#0	21.58	23.16	33	PASS
Band41	5MHz	16QAM	41215	12RB#6	21.21	22.79	33	PASS
Band41	5MHz	16QAM	41215	12RB#11	21.18	22.76	33	PASS
Band41	5MHz	16QAM	41215	25RB#0	21.20	22.78	33	PASS
Band41	10MHz	QPSK	40090	1RB#0	23.63	25.21	33	PASS
Band41	10MHz	QPSK	40090	1RB#24	23.45	25.03	33	PASS
Band41	10MHz	QPSK	40090	1RB#49	23.60	25.18	33	PASS
Band41	10MHz	QPSK	40090	25RB#0	22.61	24.19	33	PASS
Band41	10MHz	QPSK	40090	25RB#12	22.54	24.12	33	PASS
Band41	10MHz	QPSK	40090	25RB#25	22.60	24.18	33	PASS
Band41	10MHz	QPSK	40090	50RB#0	22.59	24.17	33	PASS
Band41	10MHz	QPSK	40640	1RB#0	23.51	25.09	33	PASS
Band41	10MHz	QPSK	40640	1RB#24	23.45	25.03	33	PASS
Band41	10MHz	QPSK	40640	1RB#49	23.42	25.00	33	PASS
Band41	10MHz	QPSK	40640	25RB#0	22.55	24.13	33	PASS
Band41	10MHz	QPSK	40640	25RB#12	22.49	24.07	33	PASS
Band41	10MHz	QPSK	40640	25RB#25	22.50	24.08	33	PASS
Band41	10MHz	QPSK	40640	50RB#0	22.54	24.12	33	PASS
Band41	10MHz	QPSK	41190	1RB#0	23.15	24.73	33	PASS
Band41	10MHz	QPSK	41190	1RB#25	23.23	24.81	33	PASS
Band41	10MHz	QPSK	41190	1RB#49	23.17	24.75	33	PASS
Band41	10MHz	QPSK	41190	25RB#0	22.29	23.87	33	PASS
Band41	10MHz	QPSK	41190	25RB#13	22.26	23.84	33	PASS
Band41	10MHz	QPSK	41190	25RB#25	22.14	23.72	33	PASS
Band41	10MHz	QPSK	41190	50RB#0	22.26	23.84	33	PASS
Band41	10MHz	16QAM	40090	1RB#0	22.96	24.54	33	PASS



Band41	10MHz	16QAM	40090	1RB#25	23.02	24.60	33	PASS
Band41	10MHz	16QAM	40090	1RB#49	22.97	24.55	33	PASS
Band41	10MHz	16QAM	40090	25RB#0	21.81	23.39	33	PASS
Band41	10MHz	16QAM	40090	25RB#13	21.77	23.35	33	PASS
Band41	10MHz	16QAM	40090	25RB#25	21.72	23.30	33	PASS
Band41	10MHz	16QAM	40090	50RB#0	21.61	23.19	33	PASS
Band41	10MHz	16QAM	40640	1RB#0	22.28	23.86	33	PASS
Band41	10MHz	16QAM	40640	1RB#25	22.38	23.96	33	PASS
Band41	10MHz	16QAM	40640	1RB#49	22.24	23.82	33	PASS
Band41	10MHz	16QAM	40640	25RB#0	21.54	23.12	33	PASS
Band41	10MHz	16QAM	40640	25RB#13	21.43	23.01	33	PASS
Band41	10MHz	16QAM	40640	25RB#25	21.39	22.97	33	PASS
Band41	10MHz	16QAM	40640	50RB#0	21.51	23.09	33	PASS
Band41	10MHz	16QAM	41190	1RB#0	22.66	24.24	33	PASS
Band41	10MHz	16QAM	41190	1RB#25	22.71	24.29	33	PASS
Band41	10MHz	16QAM	41190	1RB#49	22.71	24.29	33	PASS
Band41	10MHz	16QAM	41190	25RB#0	21.32	22.90	33	PASS
Band41	10MHz	16QAM	41190	25RB#13	21.38	22.96	33	PASS
Band41	10MHz	16QAM	41190	25RB#25	21.31	22.89	33	PASS
Band41	10MHz	16QAM	41190	50RB#0	21.31	22.89	33	PASS
Band41	15MHz	QPSK	40115	1RB#0	23.69	25.27	33	PASS
Band41	15MHz	QPSK	40115	1RB#38	23.67	25.25	33	PASS
Band41	15MHz	QPSK	40115	1RB#74	23.73	25.31	33	PASS
Band41	15MHz	QPSK	40115	36RB#0	22.60	24.18	33	PASS
Band41	15MHz	QPSK	40115	36RB#18	22.64	24.22	33	PASS
Band41	15MHz	QPSK	40115	36RB#39	22.55	24.13	33	PASS
Band41	15MHz	QPSK	40115	75RB#0	22.57	24.15	33	PASS
Band41	15MHz	QPSK	40640	1RB#0	23.44	25.02	33	PASS
Band41	15MHz	QPSK	40640	1RB#38	23.38	24.96	33	PASS
Band41	15MHz	QPSK	40640	1RB#74	23.28	24.86	33	PASS
Band41	15MHz	QPSK	40640	36RB#0	22.45	24.03	33	PASS
Band41	15MHz	QPSK	40640	36RB#18	22.47	24.05	33	PASS
Band41	15MHz	QPSK	40640	36RB#39	22.42	24.00	33	PASS
Band41	15MHz	QPSK	40640	75RB#0	22.48	24.06	33	PASS



Band41	15MHz	QPSK	41165	1RB#0	23.20	24.78	33	PASS
Band41	15MHz	QPSK	41165	1RB#38	23.23	24.81	33	PASS
Band41	15MHz	QPSK	41165	1RB#74	23.28	24.86	33	PASS
Band41	15MHz	QPSK	41165	36RB#0	22.34	23.92	33	PASS
Band41	15MHz	QPSK	41165	36RB#18	22.31	23.89	33	PASS
Band41	15MHz	QPSK	41165	36RB#39	22.17	23.75	33	PASS
Band41	15MHz	QPSK	41165	75RB#0	22.23	23.81	33	PASS
Band41	15MHz	16QAM	40115	1RB#0	23.10	24.68	33	PASS
Band41	15MHz	16QAM	40115	1RB#38	22.76	24.34	33	PASS
Band41	15MHz	16QAM	40115	1RB#74	22.98	24.56	33	PASS
Band41	15MHz	16QAM	40115	36RB#0	21.64	23.22	33	PASS
Band41	15MHz	16QAM	40115	36RB#18	21.59	23.17	33	PASS
Band41	15MHz	16QAM	40115	36RB#39	21.61	23.19	33	PASS
Band41	15MHz	16QAM	40115	75RB#0	21.67	23.25	33	PASS
Band41	15MHz	16QAM	40640	1RB#0	22.59	24.17	33	PASS
Band41	15MHz	16QAM	40640	1RB#38	22.54	24.12	33	PASS
Band41	15MHz	16QAM	40640	1RB#74	22.36	23.94	33	PASS
Band41	15MHz	16QAM	40640	36RB#0	21.41	22.99	33	PASS
Band41	15MHz	16QAM	40640	36RB#18	21.37	22.95	33	PASS
Band41	15MHz	16QAM	40640	36RB#39	21.36	22.94	33	PASS
Band41	15MHz	16QAM	40640	75RB#0	21.48	23.06	33	PASS
Band41	15MHz	16QAM	41165	1RB#0	22.13	23.71	33	PASS
Band41	15MHz	16QAM	41165	1RB#38	21.92	23.50	33	PASS
Band41	15MHz	16QAM	41165	1RB#74	21.96	23.54	33	PASS
Band41	15MHz	16QAM	41165	36RB#0	21.27	22.85	33	PASS
Band41	15MHz	16QAM	41165	36RB#18	21.24	22.82	33	PASS
Band41	15MHz	16QAM	41165	36RB#39	21.22	22.80	33	PASS
Band41	15MHz	16QAM	41165	75RB#0	21.32	22.90	33	PASS
Band41	20MHz	QPSK	40410	1RB#0	23.58	25.16	33	PASS
Band41	20MHz	QPSK	40410	1RB#50	23.63	25.21	33	PASS
Band41	20MHz	QPSK	40410	1RB#99	23.55	25.13	33	PASS
Band41	20MHz	QPSK	40410	50RB#0	22.64	24.22	33	PASS
Band41	20MHz	QPSK	40410	50RB#25	22.57	24.15	33	PASS
Band41	20MHz	QPSK	40410	50RB#50	22.53	24.11	33	PASS



Band41	20MHz	QPSK	40410	100RB#0	22.56	24.14	33	PASS
Band41	20MHz	QPSK	40640	1RB#0	23.72	25.30	33	PASS
Band41	20MHz	QPSK	40640	1RB#50	23.49	25.07	33	PASS
Band41	20MHz	QPSK	40640	1RB#99	23.57	25.15	33	PASS
Band41	20MHz	QPSK	40640	50RB#0	22.55	24.13	33	PASS
Band41	20MHz	QPSK	40640	50RB#25	22.53	24.11	33	PASS
Band41	20MHz	QPSK	40640	50RB#50	22.50	24.08	33	PASS
Band41	20MHz	QPSK	40640	100RB#0	22.56	24.14	33	PASS
Band41	20MHz	QPSK	41140	1RB#0	23.23	24.81	33	PASS
Band41	20MHz	QPSK	41140	1RB#50	23.60	25.18	33	PASS
Band41	20MHz	QPSK	41140	1RB#99	23.10	24.68	33	PASS
Band41	20MHz	QPSK	41140	50RB#0	22.26	23.84	33	PASS
Band41	20MHz	QPSK	41140	50RB#25	22.19	23.77	33	PASS
Band41	20MHz	QPSK	41140	50RB#50	22.37	23.95	33	PASS
Band41	20MHz	QPSK	41140	100RB#0	22.29	23.87	33	PASS
Band41	20MHz	16QAM	40410	1RB#0	22.44	24.02	33	PASS
Band41	20MHz	16QAM	40410	1RB#50	22.41	23.99	33	PASS
Band41	20MHz	16QAM	40410	1RB#99	22.47	24.05	33	PASS
Band41	20MHz	16QAM	40410	50RB#0	21.79	23.37	33	PASS
Band41	20MHz	16QAM	40410	50RB#25	21.73	23.31	33	PASS
Band41	20MHz	16QAM	40410	50RB#50	21.68	23.26	33	PASS
Band41	20MHz	16QAM	40410	100RB#0	21.57	23.15	33	PASS
Band41	20MHz	16QAM	40640	1RB#0	23.04	24.62	33	PASS
Band41	20MHz	16QAM	40640	1RB#50	23.23	24.81	33	PASS
Band41	20MHz	16QAM	40640	1RB#99	22.89	24.47	33	PASS
Band41	20MHz	16QAM	40640	50RB#0	21.62	23.20	33	PASS
Band41	20MHz	16QAM	40640	50RB#25	21.56	23.14	33	PASS
Band41	20MHz	16QAM	40640	50RB#50	21.59	23.17	33	PASS
Band41	20MHz	16QAM	40640	100RB#0	21.65	23.23	33	PASS
Band41	20MHz	16QAM	41140	1RB#0	22.76	24.34	33	PASS
Band41	20MHz	16QAM	41140	1RB#50	22.98	24.56	33	PASS
Band41	20MHz	16QAM	41140	1RB#99	22.70	24.28	33	PASS
Band41	20MHz	16QAM	41140	50RB#0	21.47	23.05	33	PASS
Band41	20MHz	16QAM	41140	50RB#25	21.32	22.90	33	PASS

Band41	20MHz	16QAM	41140	50RB#50	21.45	23.03	33	PASS
Band41	20MHz	16QAM	41140	100RB#0	21.41	22.99	33	PASS

Note1:

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

$$\text{ERP [dBm]} = \text{SGP [dBm]} - \text{Cable Loss [dB]} + \text{Gain [dBd]}$$

$$\text{EIRP [dBm]} = \text{SGP [dBm]} - \text{Cable Loss [dB]} + \text{Gain [dBi]}$$

b, SGP=Signal Generator Level

c, Antenna gain of LTE Band 41 is 1.58dBi.

Note2: SET Span=1.5*OBW

SET RBW=1%of the OBW,not to exceed 1MHz

SET VBW>= 3*RBW

SET Sweep time=auto-couple.

Detector:RMS

Appendix B: Peak-to-Average Ratio

Test Result:

Worst Case data as follows:

Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dB)	Limit(dB)	Verdict
Band41	5MHz	QPSK	40065	25RB#0	4.31	13	PASS
Band41	5MHz	QPSK	40640	25RB#0	3.70	13	PASS
Band41	5MHz	QPSK	41215	25RB#0	3.59	13	PASS
Band41	5MHz	16QAM	40065	25RB#0	5.97	13	PASS
Band41	5MHz	16QAM	40640	25RB#0	4.77	13	PASS
Band41	5MHz	16QAM	41215	25RB#0	4.60	13	PASS
Band41	10MHz	QPSK	40090	50RB#0	4.93	13	PASS
Band41	10MHz	QPSK	40640	50RB#0	3.40	13	PASS
Band41	10MHz	QPSK	41190	50RB#0	4.04	13	PASS
Band41	10MHz	16QAM	40090	50RB#0	5.59	13	PASS
Band41	10MHz	16QAM	40640	50RB#0	4.89	13	PASS
Band41	10MHz	16QAM	41190	50RB#0	4.19	13	PASS
Band41	15MHz	QPSK	40115	75RB#0	4.25	13	PASS
Band41	15MHz	QPSK	40640	75RB#0	3.38	13	PASS
Band41	15MHz	QPSK	41165	75RB#0	3.20	13	PASS
Band41	15MHz	16QAM	40115	75RB#0	4.79	13	PASS
Band41	15MHz	16QAM	40640	75RB#0	4.43	13	PASS
Band41	15MHz	16QAM	41165	75RB#0	4.21	13	PASS
Band41	20MHz	QPSK	40140	100RB#0	4.24	13	PASS
Band41	20MHz	QPSK	40640	100RB#0	4.57	13	PASS
Band41	20MHz	QPSK	41140	100RB#0	3.53	13	PASS
Band41	20MHz	16QAM	40140	100RB#0	5.18	13	PASS
Band41	20MHz	16QAM	40640	100RB#0	4.88	13	PASS
Band41	20MHz	16QAM	41140	100RB#0	4.43	13	PASS

Appendix C: Modulation Characteristics

Test Result:

Worst Case data as follows:

Band	Bandwidth	Modulation	Channel	RB Configuration	Result	Verdict
Band41	5MHz	QPSK	40065	25RB#0	PASS	PASS
Band41	5MHz	QPSK	40640	25RB#0	PASS	PASS
Band41	5MHz	QPSK	41215	25RB#0	PASS	PASS
Band41	5MHz	16QAM	40065	25RB#0	PASS	PASS
Band41	5MHz	16QAM	40640	25RB#0	PASS	PASS
Band41	5MHz	16QAM	41215	25RB#0	PASS	PASS
Band41	10MHz	QPSK	40090	50RB#0	PASS	PASS
Band41	10MHz	QPSK	40640	50RB#0	PASS	PASS
Band41	10MHz	QPSK	41190	50RB#0	PASS	PASS
Band41	10MHz	16QAM	40090	50RB#0	PASS	PASS
Band41	10MHz	16QAM	40640	50RB#0	PASS	PASS
Band41	10MHz	16QAM	41190	50RB#0	PASS	PASS
Band41	15MHz	QPSK	40115	75RB#0	PASS	PASS
Band41	15MHz	QPSK	40640	75RB#0	PASS	PASS
Band41	15MHz	QPSK	41165	75RB#0	PASS	PASS
Band41	15MHz	16QAM	40115	75RB#0	PASS	PASS
Band41	15MHz	16QAM	40640	75RB#0	PASS	PASS
Band41	15MHz	16QAM	41165	75RB#0	PASS	PASS
Band41	20MHz	QPSK	40140	100RB#0	PASS	PASS
Band41	20MHz	QPSK	40640	100RB#0	PASS	PASS
Band41	20MHz	QPSK	41140	100RB#0	PASS	PASS
Band41	20MHz	16QAM	40140	100RB#0	PASS	PASS
Band41	20MHz	16QAM	40640	100RB#0	PASS	PASS
Band41	20MHz	16QAM	41140	100RB#0	PASS	PASS

Appendix D: Bandwidth

Test Result:

Band	Bandwidth	Modulation	Channel	RB Configuration	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
Band41	5MHz	QPSK	40065	25RB#0	4.5029	5.679	PASS
Band41	5MHz	QPSK	40640	25RB#0	4.5211	6.591	PASS
Band41	5MHz	QPSK	41215	25RB#0	4.4959	5.911	PASS
Band41	5MHz	16QAM	40065	25RB#0	4.4944	5.874	PASS
Band41	5MHz	16QAM	40640	25RB#0	4.4943	4.998	PASS
Band41	5MHz	16QAM	41215	25RB#0	4.5007	4.943	PASS
Band41	10MHz	QPSK	40090	50RB#0	8.9282	10.41	PASS
Band41	10MHz	QPSK	40640	50RB#0	9.0125	12.24	PASS
Band41	10MHz	QPSK	41190	50RB#0	8.9486	9.861	PASS
Band41	10MHz	16QAM	40090	50RB#0	8.9462	11.01	PASS
Band41	10MHz	16QAM	40640	50RB#0	8.9687	10.63	PASS
Band41	10MHz	16QAM	41190	50RB#0	8.9453	9.875	PASS
Band41	15MHz	QPSK	40115	75RB#0	13.438	14.62	PASS
Band41	15MHz	QPSK	40640	75RB#0	13.451	15.83	PASS
Band41	15MHz	QPSK	41165	75RB#0	13.402	15.61	PASS
Band41	15MHz	16QAM	40115	75RB#0	13.453	16.84	PASS
Band41	15MHz	16QAM	40640	75RB#0	13.412	21.28	PASS
Band41	15MHz	16QAM	41165	75RB#0	13.421	16.19	PASS
Band41	20MHz	QPSK	40140	100RB#0	17.884	19.18	PASS
Band41	20MHz	QPSK	40640	100RB#0	17.888	19.69	PASS
Band41	20MHz	QPSK	41140	100RB#0	17.836	19.68	PASS
Band41	20MHz	16QAM	40140	100RB#0	17.908	21.77	PASS
Band41	20MHz	16QAM	40640	100RB#0	17.875	34.60	PASS
Band41	20MHz	16QAM	41140	100RB#0	17.902	20.01	PASS

Test Graphs

Band41-5MHz-QPSK-40065-25RB#0



Band41-5MHz-QPSK-40640-25RB#0

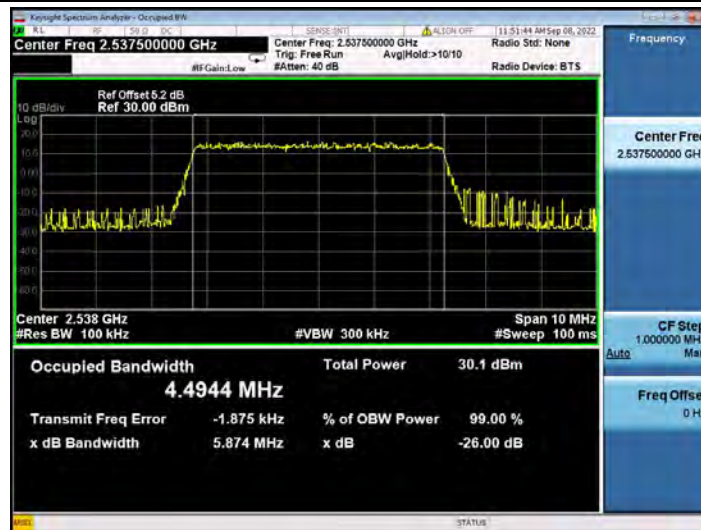


Band41-5MHz-QPSK-41215-25RB#0



Band41-5MHz-16QAM-40065-25RB#0

Band41-5MHz-16QAM-40640-25RB#0



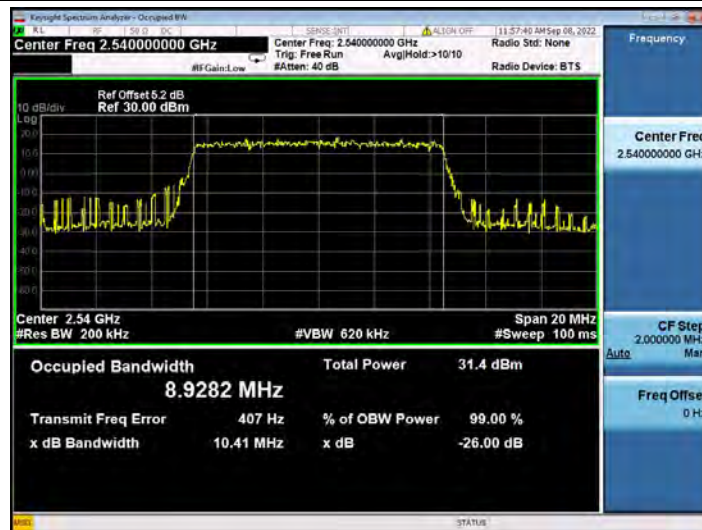
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Band41-10MHz-QPSK-40090-50RB#0



Band41-10MHz-QPSK-40640-50RB#0



Band41-10MHz-QPSK-41190-50RB#0



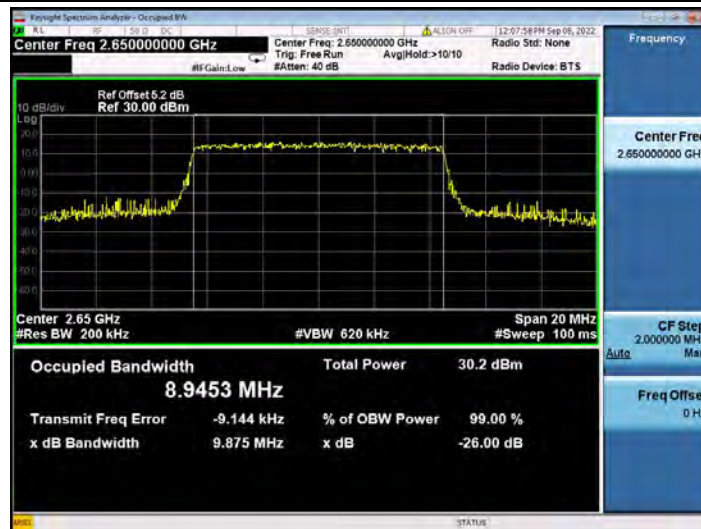
Band41-10MHz-16QAM-40090-50RB#0



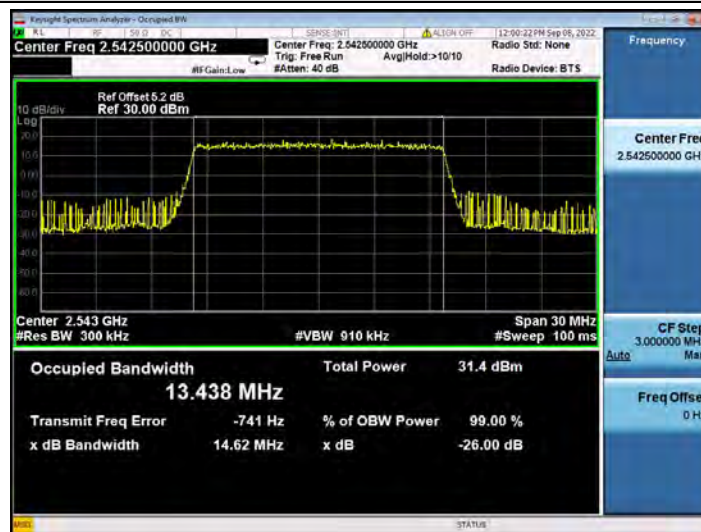
Band41-10MHz-16QAM-40640-50RB#0



Band41-10MHz-16QAM-41190-50RB#0



Band41-15MHz-QPSK-40115-75RB#0



Band41-15MHz-QPSK-40640-75RB#0



Band41-15MHz-QPSK-41165-75RB#0



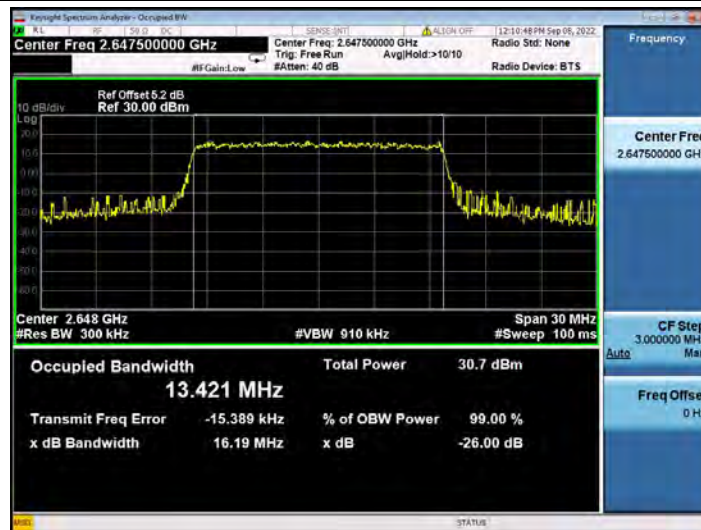
Band41-15MHz-16QAM-40115-75RB#0



Band41-15MHz-16QAM-40640-75RB#0



Band41-15MHz-16QAM-41165-75RB#0



Band41-20MHz-QPSK-40140-100RB#0



Band41-20MHz-QPSK-40640-100RB#0



Band41-20MHz-QPSK-41140-100RB#0



Band41-20MHz-16QAM-40140-100RB#0



Band41-20MHz-16QAM-40640-100RB#0



Band41-20MHz-16QAM-41140-100RB#0



Appendix E: Band Edges Compliance

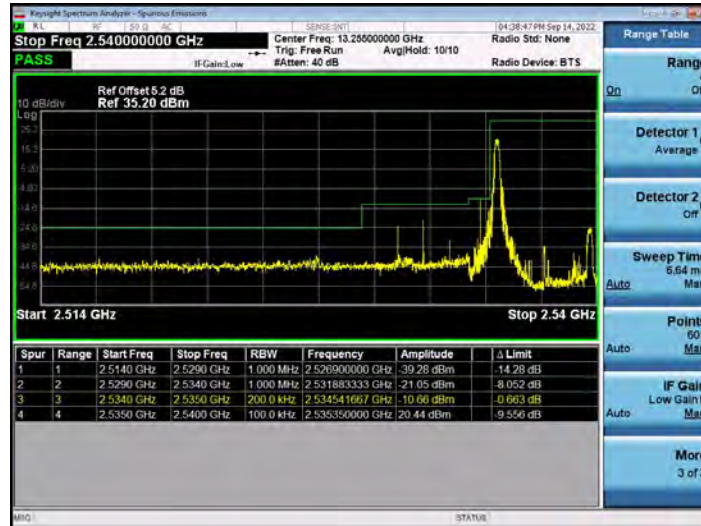
Test Result:

Worst Case data as follows:

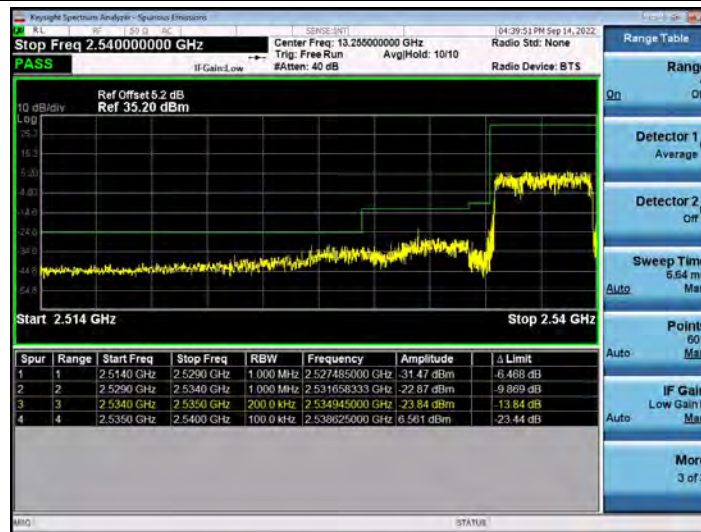
Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dBm)	Verdict
Band41	5MHz	QPSK	40065	1RB#0	Reference test Graphs	PASS
Band41	5MHz	QPSK	40065	25RB#0	Reference test Graphs	PASS
Band41	5MHz	QPSK	41215	1RB#24	Reference test Graphs	PASS
Band41	5MHz	QPSK	41215	25RB#0	Reference test Graphs	PASS
Band41	10MHz	QPSK	40090	1RB#0	Reference test Graphs	PASS
Band41	10MHz	QPSK	40090	50RB#0	Reference test Graphs	PASS
Band41	10MHz	QPSK	41190	1RB#49	Reference test Graphs	PASS
Band41	10MHz	QPSK	41190	50RB#0	Reference test Graphs	PASS
Band41	15MHz	QPSK	40115	1RB#0	Reference test Graphs	PASS
Band41	15MHz	QPSK	40115	75RB#0	Reference test Graphs	PASS
Band41	15MHz	QPSK	41165	1RB#74	Reference test Graphs	PASS
Band41	15MHz	QPSK	41165	75RB#0	Reference test Graphs	PASS
Band41	20MHz	QPSK	40140	1RB#0	Reference test Graphs	PASS
Band41	20MHz	QPSK	40140	100RB#0	Reference test Graphs	PASS
Band41	20MHz	QPSK	41140	1RB#99	Reference test Graphs	PASS
Band41	20MHz	QPSK	41140	100RB#0	Reference test Graphs	PASS

Test Graphs

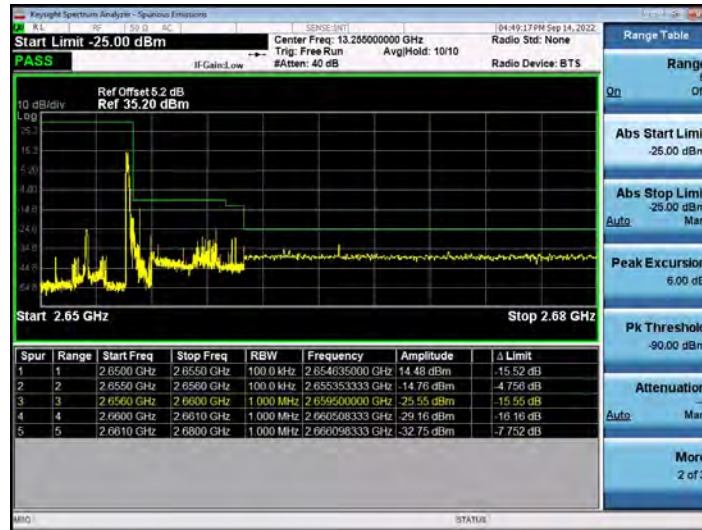
Band41-5MHz-QPSK-40065-1RB#0



Band41-5MHz-QPSK-40065-25RB#0



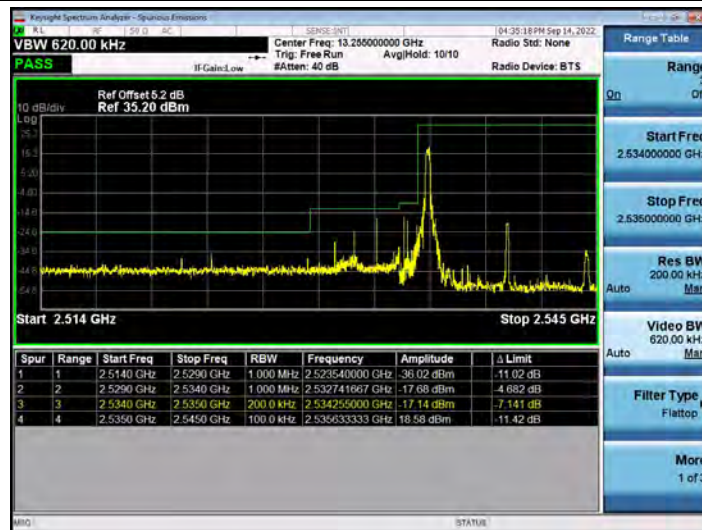
Band41-5MHz-QPSK-41215-1RB#24



Band41-5MHz-QPSK-41215-25RB#0



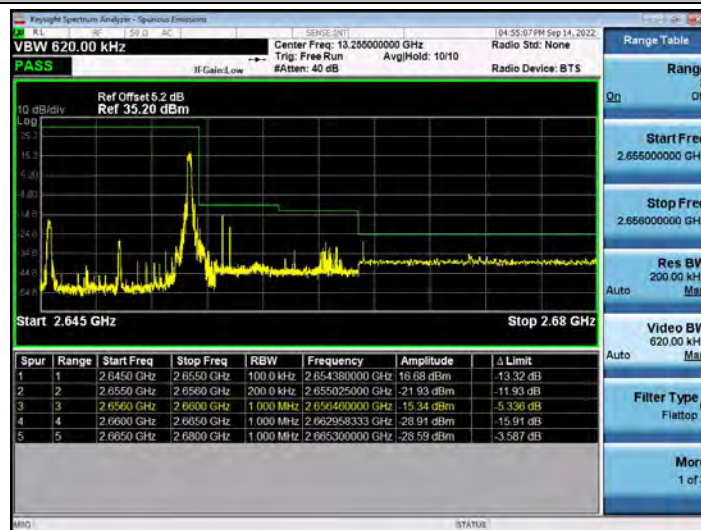
Band41-10MHz-QPSK-40090-1RB#0



Band41-10MHz-QPSK-40090-50RB#0



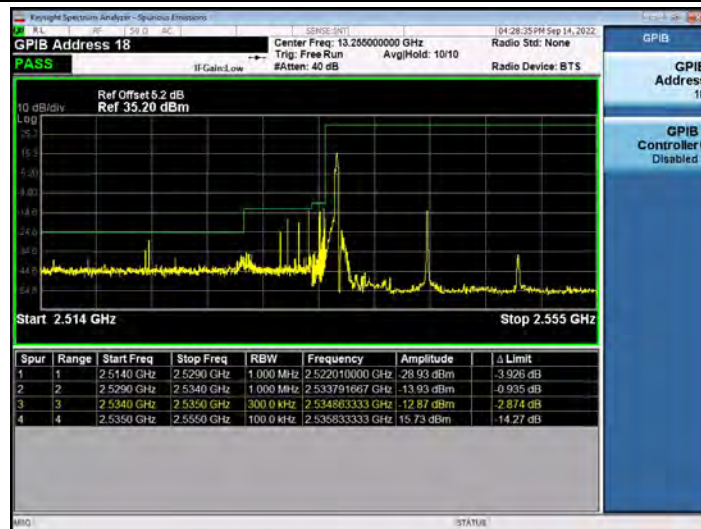
Band41-10MHz-QPSK-41190-1RB#49



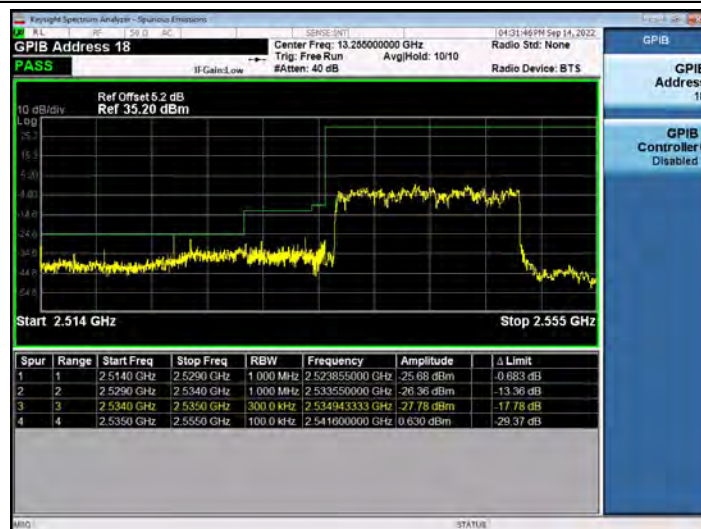
Band41-10MHz-QPSK-41190-50RB#0



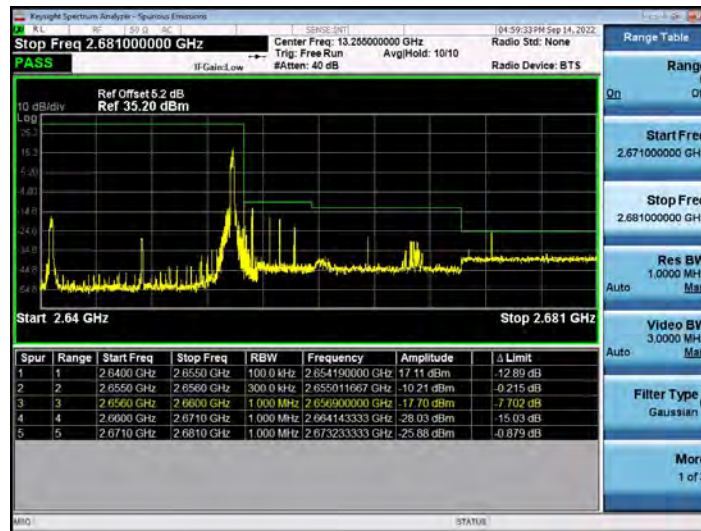
Band41-15MHz-QPSK-40115-1RB#0



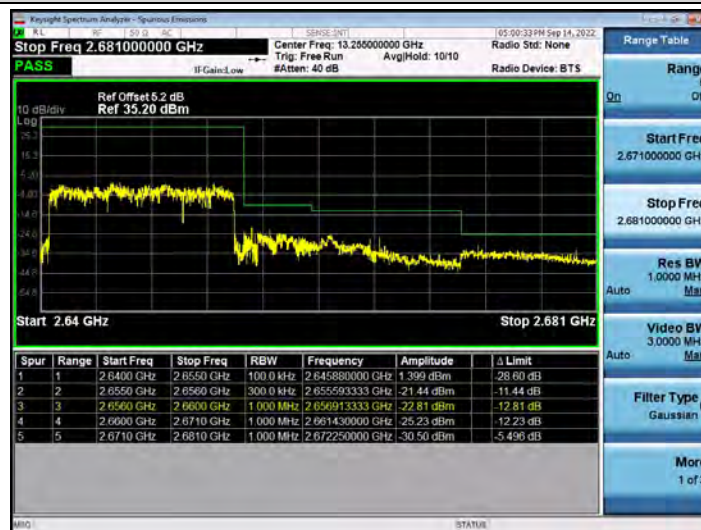
Band41-15MHz-QPSK-40115-75RB#0



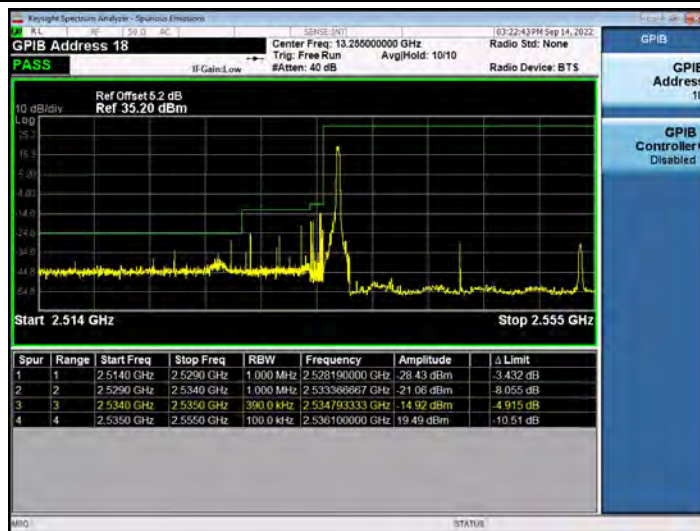
Band41-15MHz-QPSK-41165-1RB#74



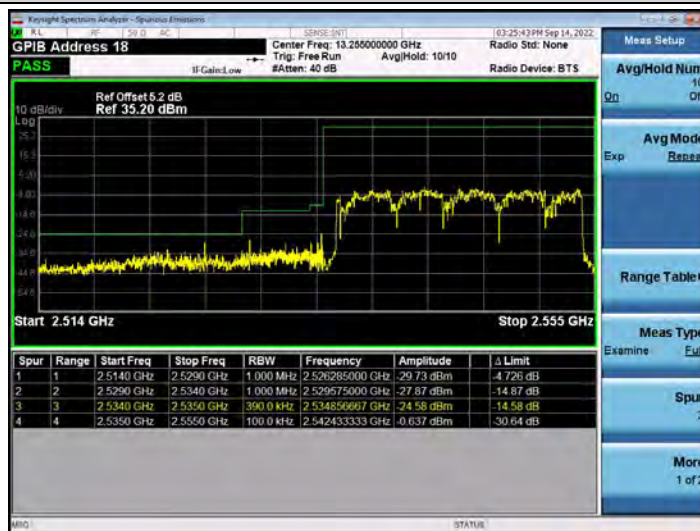
Band41-15MHz-QPSK-41165-75RB#0



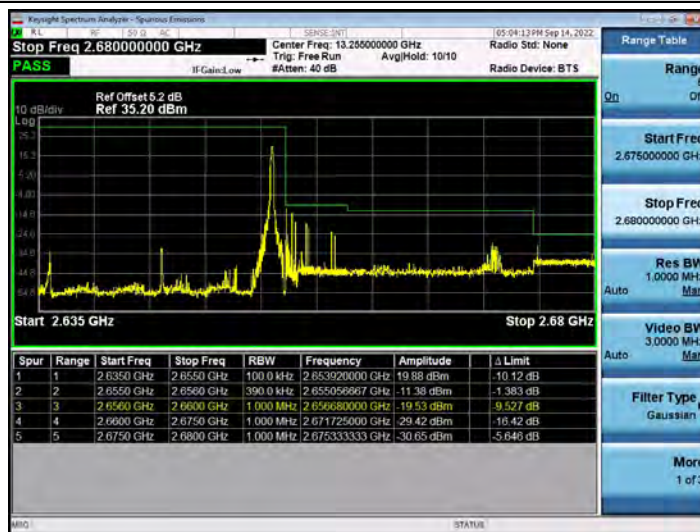
Band41-20MHz-QPSK-40140-1RB#0



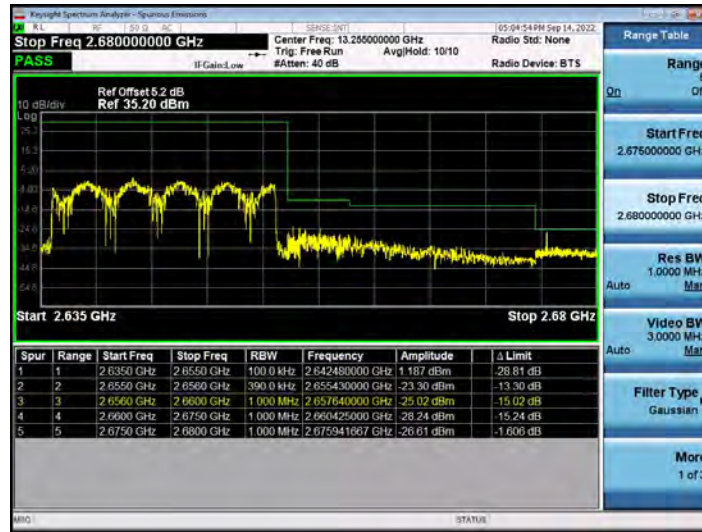
Band41-20MHz-QPSK-40140-100RB#0



Band41-20MHz-QPSK-41140-1RB#99



Band41-20MHz-QPSK-41140-100RB#0



Appendix F: Spurious Emission at Antenna Terminals

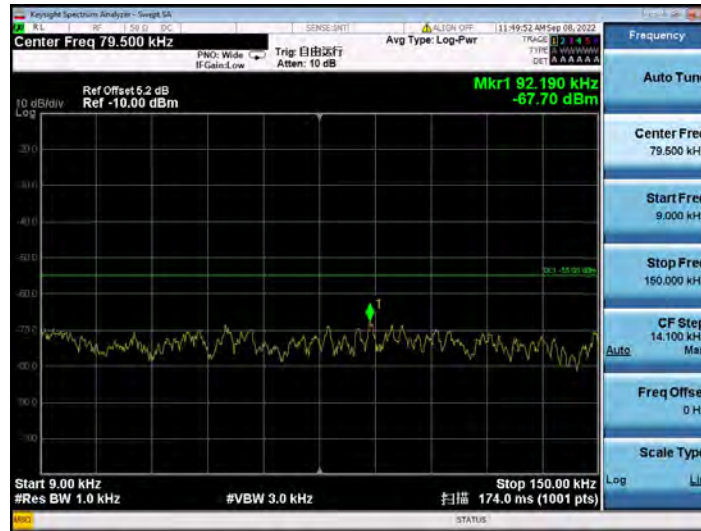
Test Result:

Worst Case data as follows:

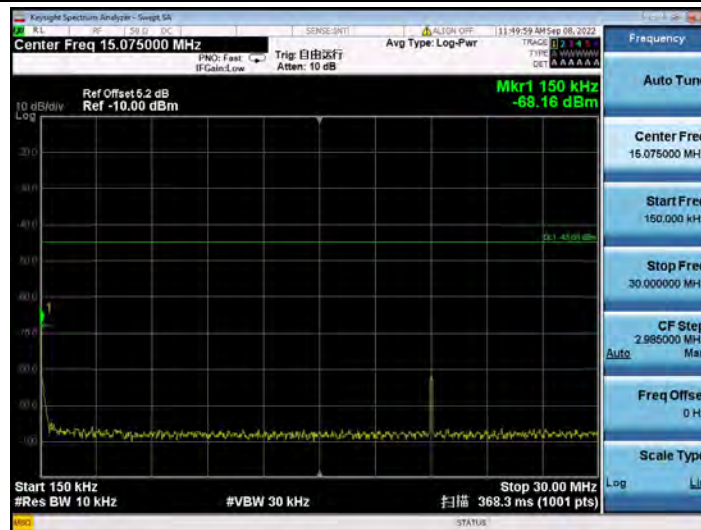
Band	Bandwidth	Modulation	Channel	RB Configuration	Frequency Range	Result (dBm)	Verdict
Band41	5MHz	QPSK	40640	1RB#0	Range1: 9KHz~150KHz	-67.70	PASS
Band41	5MHz	QPSK	40640	1RB#0	Range2:150KHz~30MHz	-68.16	PASS
Band41	5MHz	QPSK	40640	1RB#0	Range3: 30MHz~25.95GHz	-59.72	PASS
Band41	10MHz	QPSK	40640	1RB#0	Range1: 9KHz~150KHz	-67.95	PASS
Band41	10MHz	QPSK	40640	1RB#0	Range2:150KHz~30MHz	-49.71	PASS
Band41	10MHz	QPSK	40640	1RB#0	Range3: 30MHz~25.95GHz	-59.79	PASS
Band41	15MHz	QPSK	40640	1RB#0	Range1: 9KHz~150KHz	-67.23	PASS
Band41	15MHz	QPSK	40640	1RB#0	Range2:150KHz~30MHz	-47.24	PASS
Band41	15MHz	QPSK	40640	1RB#0	Range3: 30MHz~25.95GHz	-59.73	PASS
Band41	20MHz	QPSK	40640	1RB#0	Range1: 9KHz~150KHz	-67.82	PASS
Band41	20MHz	QPSK	40640	1RB#0	Range2:150KHz~30MHz	-49.86	PASS
Band41	20MHz	QPSK	40640	1RB#0	Range3: 30MHz~25.95GHz	-59.75	PASS

Test Graphs

Band41-5MHz-QPSK-21100-1RB#0-Range1:9KHz~150KHz



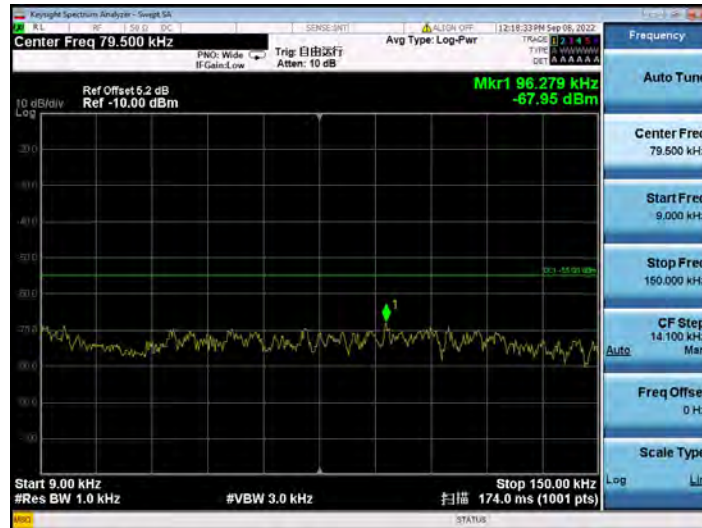
Band41-5MHz-QPSK-21100-1RB#0-Range2:150KHz~30MHz



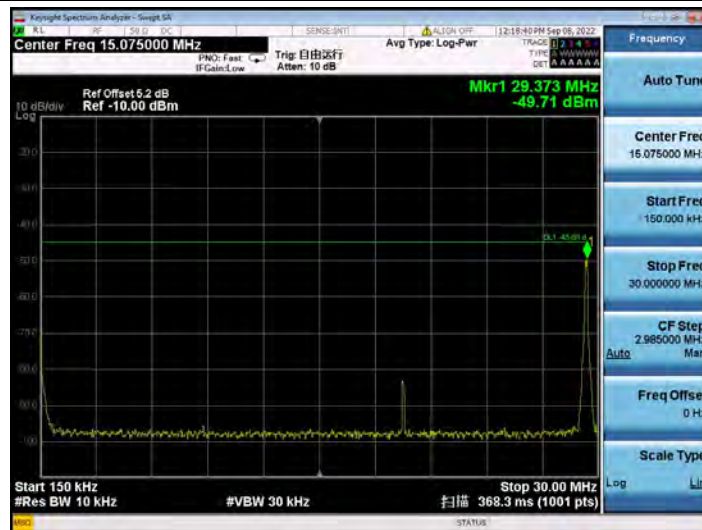
Band41-5MHz-QPSK-21100-1RB#0-Range3:30MHz~25.95GHz



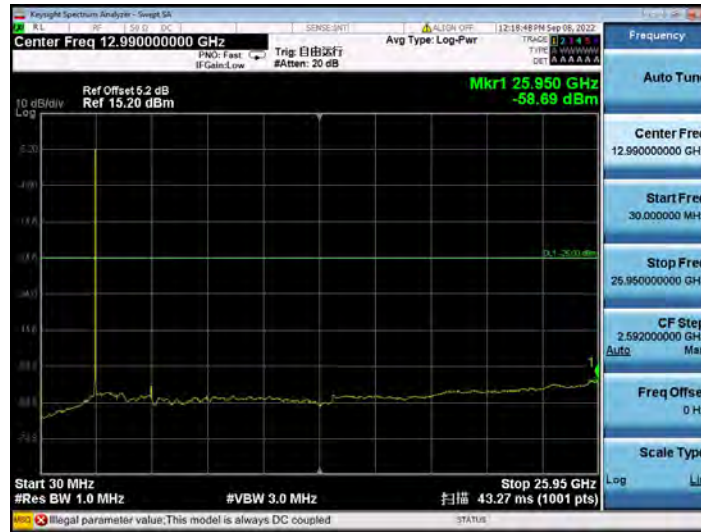
Band41-10MHz-QPSK-21100-1RB#0-Range1:9KHz~150KHz



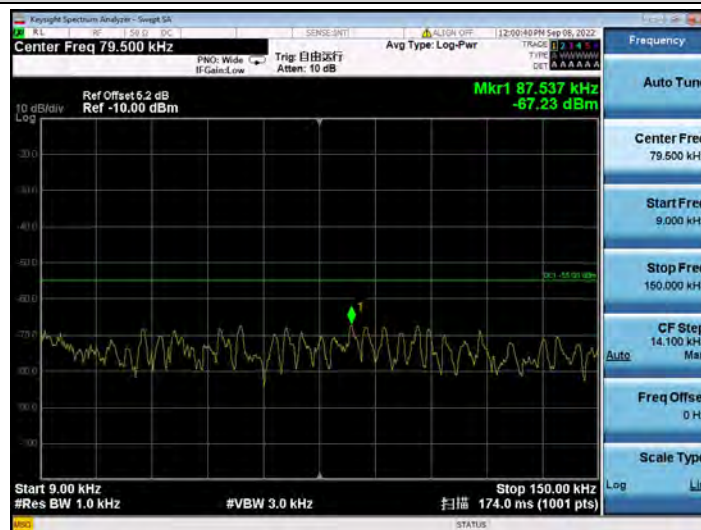
Band41-10MHz-QPSK-21100-1RB#0-Range2:150KHz~30MHz



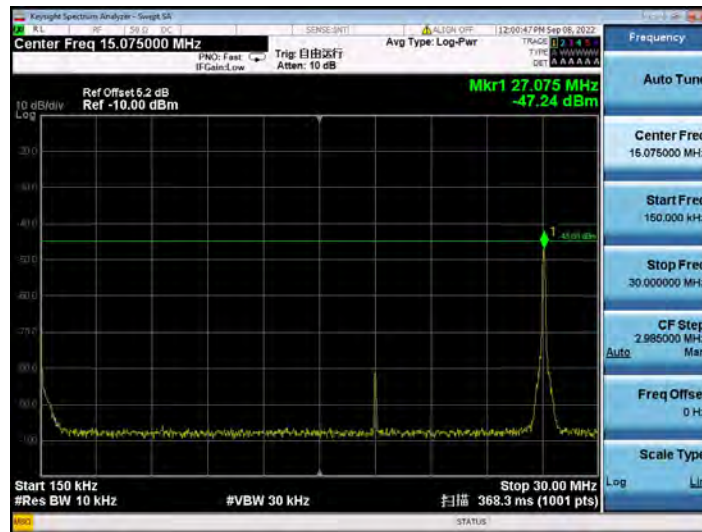
Band41-10MHz-QPSK-21100-1RB#0-Range3:30MHz~25.95GHz



Band41-15MHz-QPSK-21100-1RB#0-Range1:9kHz~150kHz



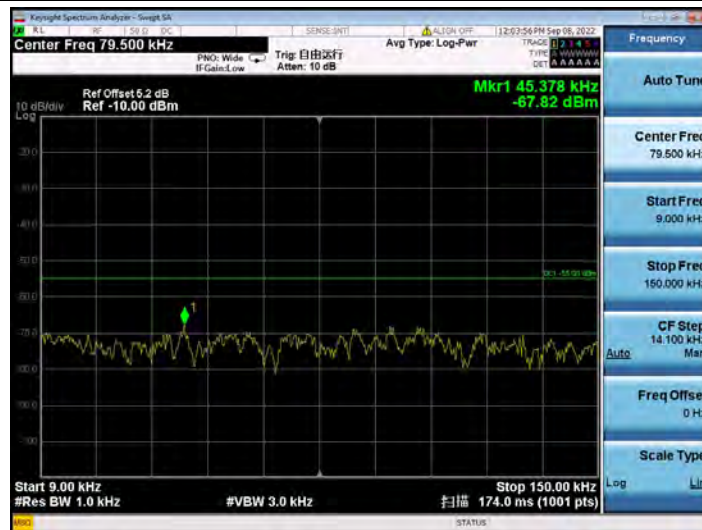
Band41-15MHz-QPSK-21100-1RB#0-Range2:150kHz~30MHz



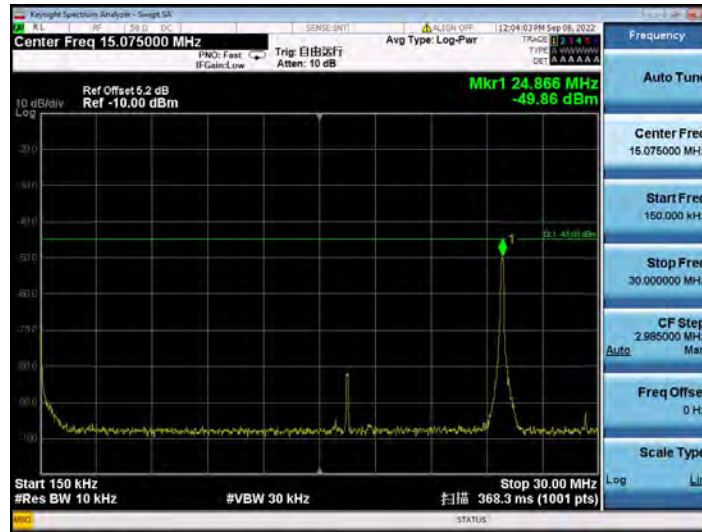
Band41-15MHz-QPSK-21100-1RB#0-Range3:30MHz~25.95GHz



Band41-20MHz-QPSK-21100-1RB#0-Range1:9kHz~150kHz



Band41-20MHz-QPSK-21100-1RB#0-Range2:150KHz~30MHz



Band41-20MHz-QPSK-21100-1RB#0-Range3:30MHz~25.95GHz



Appendix G: Field Strength of Spurious Radiation

The transmitting equipment under test (EUT) is placed on a styrene turntable which is four feet in diameter and approximately 0.8 meter up to 1GHz and 1.5 meter above 1GHz in height above the ground plane. During the radiated emissions test, the turntable is rotated and any cables leaving the EUT are manipulated to find the configuration resulting in maximum emissions. The EUT is adjusted through all three orthogonal axes to obtain maximum emission levels. The antenna height and polarization are varied during the testing to search for maximum signal levels.

The frequency range scanned is from the lowest radio frequency signal generated in the device which is greater than 9 kHz to the tenth harmonic of the highest fundamental frequency or 40 GHz, whichever is lower. The emissions were very low against the limit in the frequency range 9kHz to 30MHz and 18 GHz ~ 20 GHz.

Note: We tested all modes, but the data presented below is the worst case.

9kHz~150kHz, VBW = 200Hz, VBW = 600 Hz, Detector: PK

150kHz~30MHz, VBW = 9kHz, VBW = 30k Hz, Detector: PK

30MHz~1GHz, RBW = 100 kHz, VBW = 300 kHz. Detector: RMS

Above 1GHz, RBW = 1 MHz, VBW = 3 MHz. Detector: PK

Test Plots

Test Band = BAND41

Worst Test Bandwidth = 5MHz(30MHz~1GHz)

Worst Test Bandwidth = 5MHz,20MHz, -Middle channel(1GHz~26GHz)

Note:

1. The amplitude of spurious emissions attenuated more than 20 dB below the permissible value is not required to be report.
2. The EUT is tested radiation emission at each test mode in three axes. The worst emissions are reported in all test mode and channels.
3. Measurement = Reading + Correct Factor
Over = Measurement – Limit.

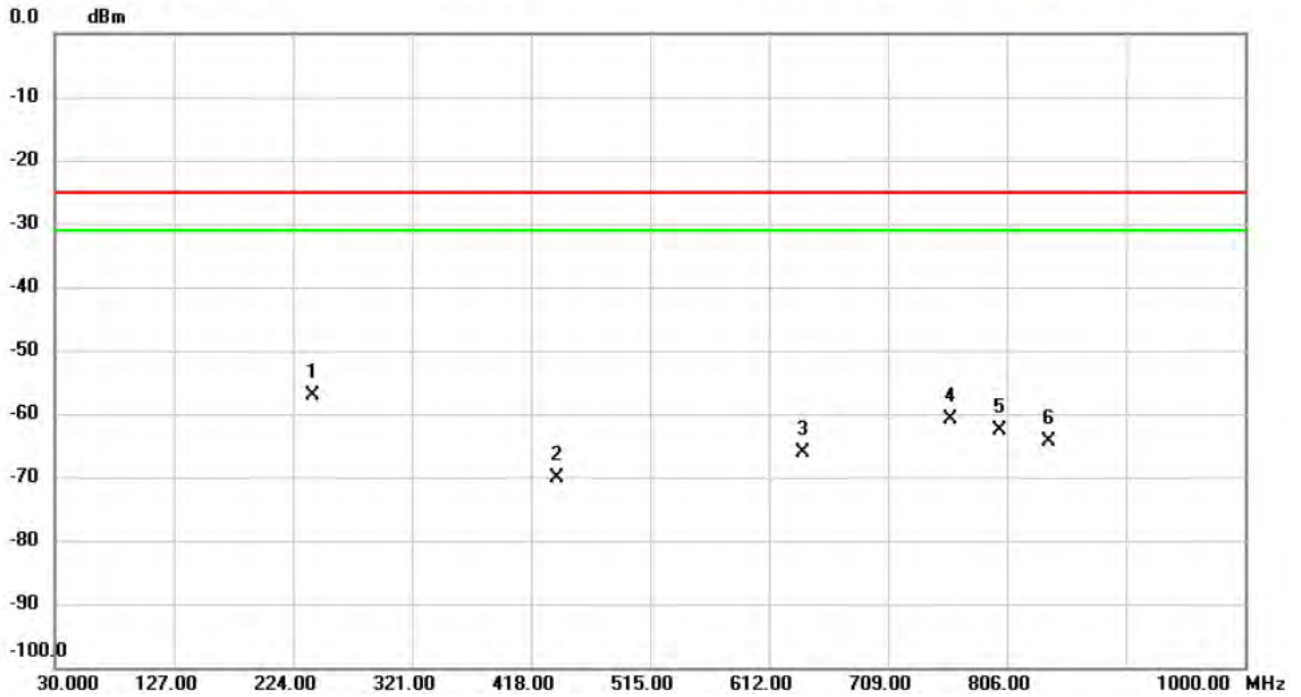
**Middle channel Horizontal
Below 1G
BW_5MHz
Radiated Emission Measurement**

File :FCCP_BELOW1G

Data :#16

Date: 2022/9/19

Time: 20:14:22



No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Margin dB	Detector
1	*	240.0050	-53.11	-4.00	-57.11	-25.00	-32.11	RMS
2		439.8250	-68.75	-1.38	-70.13	-25.00	-45.13	RMS
3		640.1300	-68.03	1.94	-66.09	-25.00	-41.09	RMS
4		759.9250	-64.39	3.55	-60.84	-25.00	-35.84	RMS
5		800.1800	-66.96	4.28	-62.68	-25.00	-37.68	RMS
6		839.9500	-68.60	4.22	-64.38	-25.00	-39.38	RMS

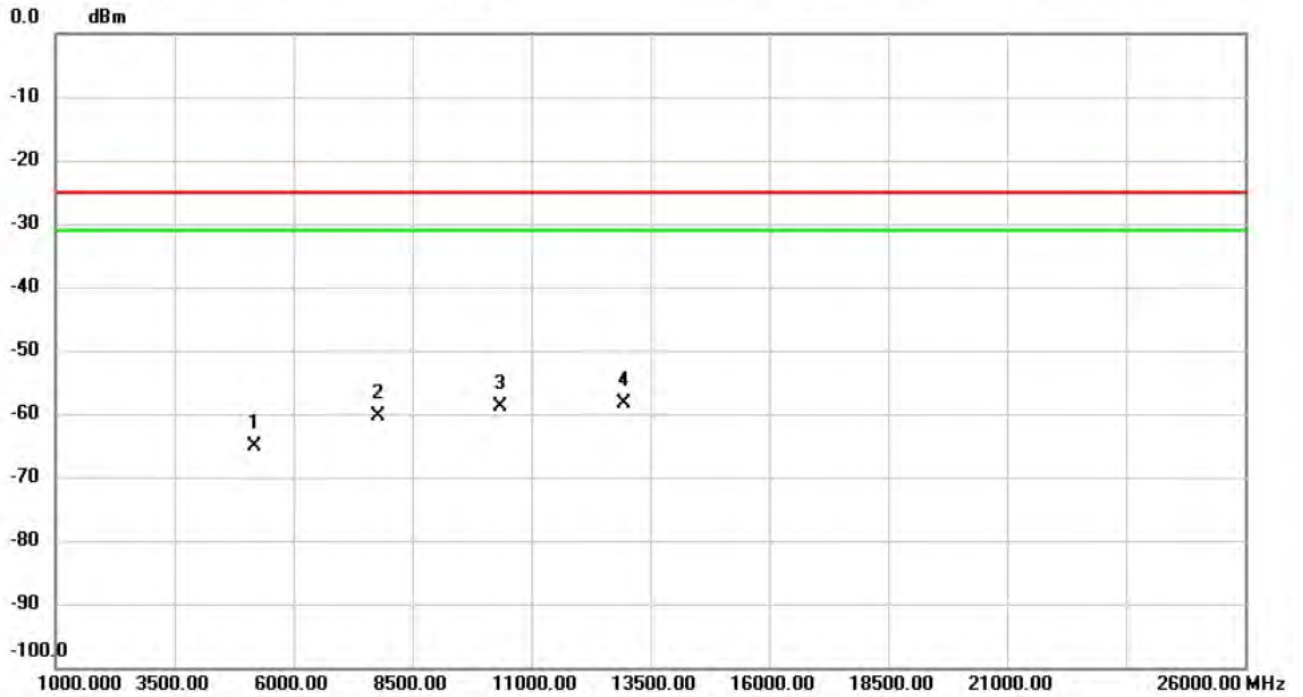
Above 1G
BW_5MHz
Radiated Emission Measurement

File :FCCP_ABOVE1G

Data :#40

Date: 2022/9/19

Time: 20:52:27



No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Margin dB	Detector
1		5182.000	-60.82	-4.28	-65.10	-25.00	-40.10	RMS
2		7772.800	-60.60	0.19	-60.41	-25.00	-35.41	RMS
3		10363.60	-62.49	3.66	-58.83	-25.00	-33.83	RMS
4	*	12953.75	-66.06	7.64	-58.42	-25.00	-33.42	RMS

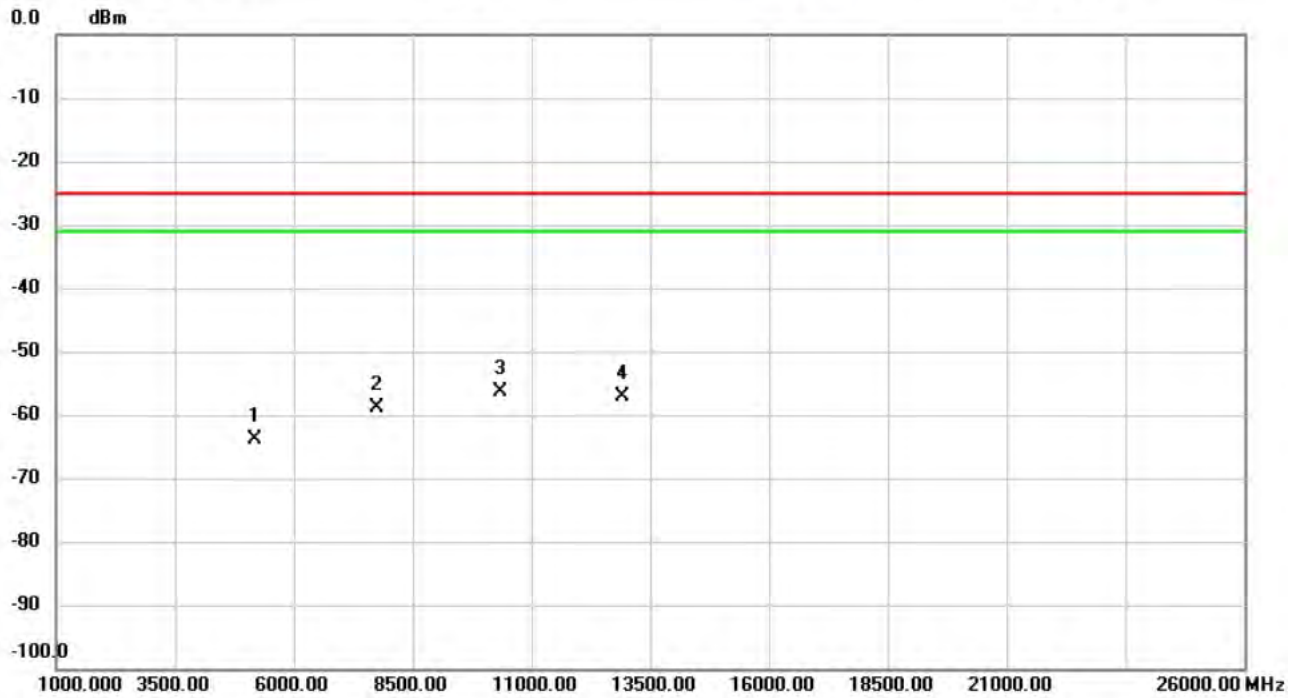
**BW_20MHz
Radiated Emission Measurement**

File :FCCP_ABOVE1G

Data :#38

Date: 2022/9/19

Time: 20:47:37



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin	Detector
		MHz	dBm	dB	dBm	dBm	dB	
1		5168.400	-59.50	-4.32	-63.82	-25.00	-38.82	RMS
2		7752.400	-59.15	0.19	-58.96	-25.00	-33.96	RMS
3	*	10336.40	-59.83	3.57	-56.26	-25.00	-31.26	RMS
4		12920.40	-64.69	7.58	-57.11	-25.00	-32.11	RMS

Middle channel Vertical

Below 1G
BW_5MHz

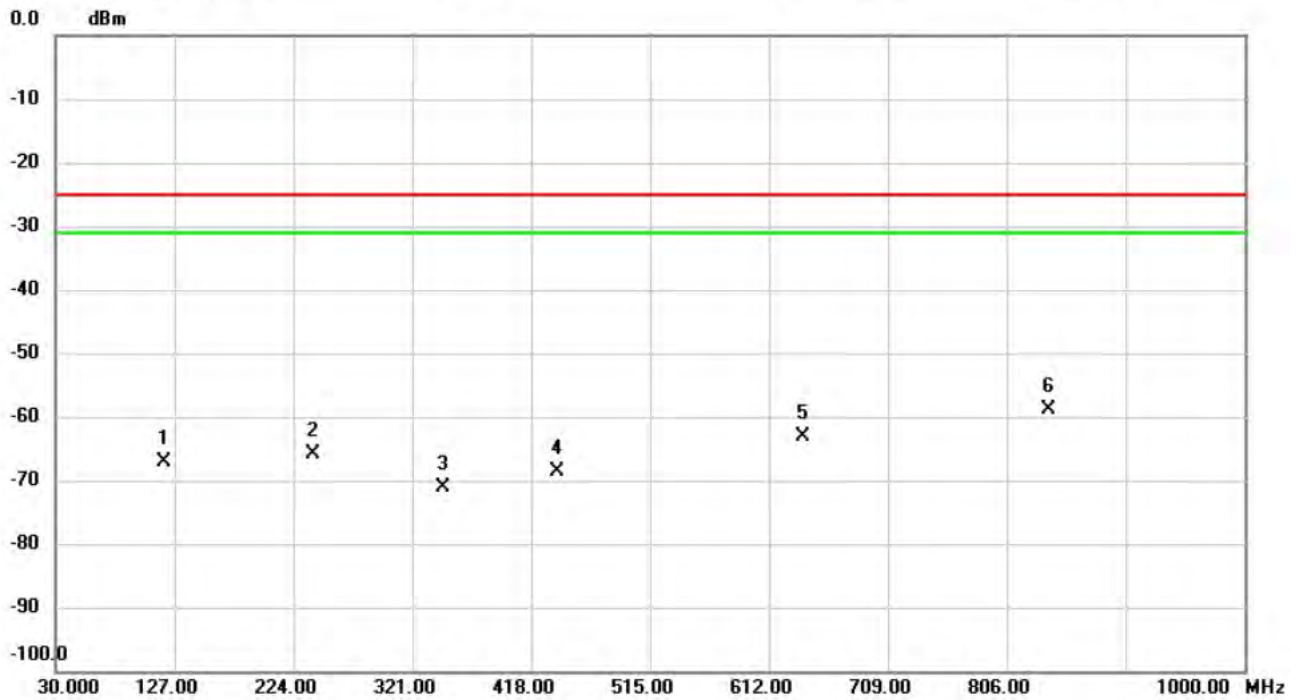
Radiated Emission Measurement

File :FCCP_BELOW1G

Data :#15

Date: 2022/9/19

Time: 20:13:12



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin	Detector
		MHz	dBm	dB	dBm	dBm	dB	
1		118.7550	-66.87	-0.34	-67.21	-25.00	-42.21	RMS
2		240.0050	-60.34	-5.49	-65.83	-25.00	-40.83	RMS
3		346.7050	-68.50	-2.55	-71.05	-25.00	-46.05	RMS
4		439.8250	-67.27	-1.28	-68.55	-25.00	-43.55	RMS
5		640.1300	-64.95	1.95	-63.00	-25.00	-38.00	RMS
6	*	839.9500	-62.51	3.60	-58.91	-25.00	-33.91	RMS

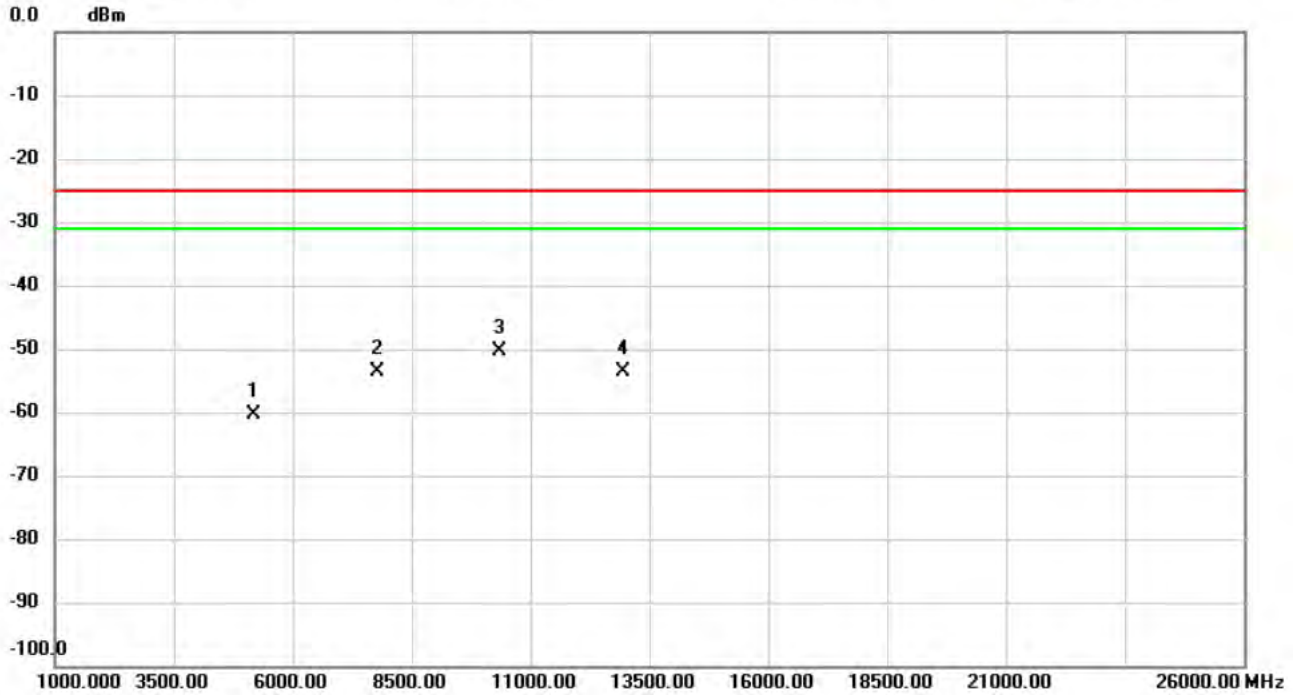
Above 1G
BW_5MHz
Radiated Emission Measurement

File :FCCP_ABOVE1G

Data :#39

Date: 2022/9/19

Time: 20:51:16



No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Margin dB	Detector
1		5182.000	-56.23	-4.13	-60.36	-25.00	-35.36	RMS
2		7772.800	-53.94	0.40	-53.54	-25.00	-28.54	RMS
3	*	10363.60	-53.82	3.56	-50.26	-25.00	-25.26	RMS
4		12954.40	-61.72	8.06	-53.66	-25.00	-28.66	RMS

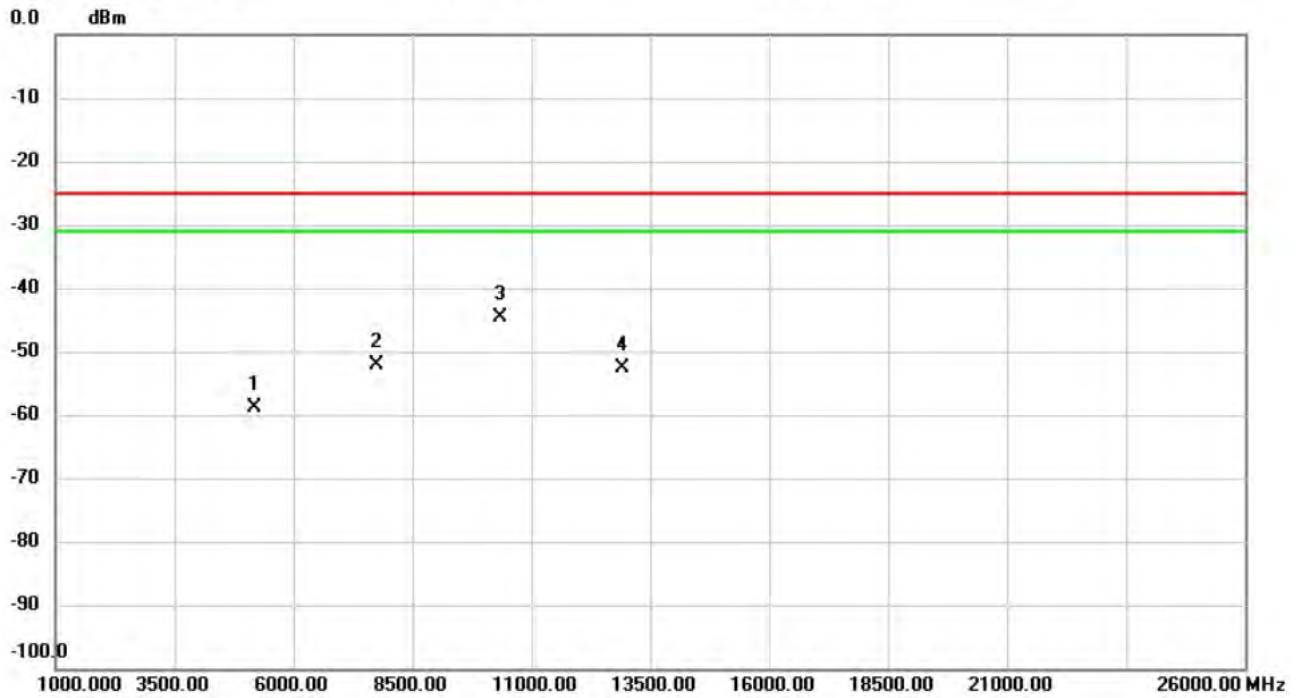
BW_20MHz
Radiated Emission Measurement

File :FCCP_ABOVE1G

Data :#37

Date: 2022/9/19

Time: 20:46:22



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin	Detector
		MHz	dBm	dB	dBm	dBm	dB	
1		5168.400	-54.73	-4.17	-58.90	-25.00	-33.90	RMS
2		7752.400	-52.58	0.36	-52.22	-25.00	-27.22	RMS
3	*	10336.40	-48.05	3.49	-44.56	-25.00	-19.56	RMS
4		12920.40	-60.53	8.00	-52.53	-25.00	-27.53	RMS

Appendix H: Frequency Stability

Test Result:

Frequency Error vs. Voltage:

Worst Case data as follows:

Voltage										
Band	Bandwidth	Modulation	Channel	RB Configure	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
Band41	5MHz	QPSK	40640	1RB#0	VH	NT	8.82	0.003398844	±2.5	PASS
Band41	5MHz	QPSK	40640	1RB#0	VN	NT	7.33	0.002824663	±2.5	PASS
Band41	5MHz	QPSK	40640	1RB#0	VL	NT	5.96	0.002296724	±2.5	PASS
Band41	10MHz	QPSK	40640	1RB#0	VH	NT	5.18	0.001996146	±2.5	PASS
Band41	10MHz	QPSK	40640	1RB#0	VN	NT	7.86	0.003028902	±2.5	PASS
Band41	10MHz	QPSK	40640	1RB#0	VL	NT	6.15	0.002369942	±2.5	PASS
Band41	15MHz	QPSK	40640	1RB#0	VH	NT	5.60	0.002157996	±2.5	PASS
Band41	15MHz	QPSK	40640	1RB#0	VN	NT	4.01	0.001545279	±2.5	PASS
Band41	15MHz	QPSK	40640	1RB#0	VL	NT	6.43	0.002477842	±2.5	PASS
Band41	20MHz	QPSK	40640	1RB#0	VH	NT	5.08	0.001957611	±2.5	PASS
Band41	20MHz	QPSK	40640	1RB#0	VN	NT	8.98	0.003460501	±2.5	PASS
Band41	20MHz	QPSK	40640	1RB#0	VL	NT	8.70	0.003352601	±2.5	PASS

Frequency Error vs. Temperature:

Worst Case data

Temperature										
Band	Bandwidth	Modulation	Channel	RB Configur e	Voltag e [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
Band41	5MHz	QPSK	40640	1RB#0	NV	-40	4.24	0.00163391	±2.5	PASS
Band41	5MHz	QPSK	40640	1RB#0	NV	-30	4.76	0.00183430	±2.5	PASS
Band41	5MHz	QPSK	40640	1RB#0	NV	-20	7.77	0.00299422	±2.5	PASS
Band41	5MHz	QPSK	40640	1RB#0	NV	-10	5.01	0.00193064	±2.5	PASS
Band41	5MHz	QPSK	40640	1RB#0	NV	0	6.88	0.00265125	±2.5	PASS
Band41	5MHz	QPSK	40640	1RB#0	NV	10	7.69	0.00296339	±2.5	PASS
Band41	5MHz	QPSK	40640	1RB#0	NV	20	7.56	0.00291329	±2.5	PASS
Band41	5MHz	QPSK	40640	1RB#0	NV	30	6.33	0.00243931	±2.5	PASS
Band41	5MHz	QPSK	40640	1RB#0	NV	40	7.47	0.00287861	±2.5	PASS
Band41	5MHz	QPSK	40640	1RB#0	NV	50	8.09	0.00311753	±2.5	PASS
Band41	5MHz	QPSK	40640	1RB#0	NV	60	8.63	0.00332563	±2.5	PASS
Band41	5MHz	QPSK	40640	1RB#0	NV	70	7.99	0.00307900	±2.5	PASS
Band41	10MHz	QPSK	40640	1RB#0	NV	80	4.54	0.00174952	±2.5	PASS
Band41	10MHz	QPSK	40640	1RB#0	NV	-40	6.34	0.00244316	±2.5	PASS
Band41	10MHz	QPSK	40640	1RB#0	NV	-30	6.20	0.00238921	±2.5	PASS
Band41	10MHz	QPSK	40640	1RB#0	NV	-20	7.31	0.00281696	±2.5	PASS
Band41	10MHz	QPSK	40640	1RB#0	NV	-10	6.75	0.00260116	±2.5	PASS
Band41	10MHz	QPSK	40640	1RB#0	NV	0	7.77	0.00299422	±2.5	PASS
Band41	10MHz	QPSK	40640	1RB#0	NV	10	4.32	0.00166474	±2.5	PASS
Band41	10MHz	QPSK	40640	1RB#0	NV	20	4.86	0.00187283	±2.5	PASS
Band41	10MHz	QPSK	40640	1RB#0	NV	30	5.97	0.00230058	±2.5	PASS
Band41	10MHz	QPSK	40640	1RB#0	NV	40	6.20	0.00238921	±2.5	PASS
Band41	10MHz	QPSK	40640	1RB#0	NV	50	4.35	0.00167630	±2.5	PASS
Band41	10MHz	QPSK	40640	1RB#0	NV	60	4.74	0.00182659	±2.5	PASS
Band41	10MHz	QPSK	40640	1RB#0	NV	70	6.36	0.00245087	±2.5	PASS
Band41	10MHz	QPSK	40640	1RB#0	NV	80	4.66	0.00179576	±2.5	PASS
Band41	15MHz	QPSK	40640	1RB#0	NV	-40	4.25	0.00163776	±2.5	PASS
Band41	15MHz	QPSK	40640	1RB#0	NV	-30	7.69	0.00296339	±2.5	PASS
Band41	15MHz	QPSK	40640	1RB#0	NV	-20	7.59	0.00292486	±2.5	PASS
Band41	15MHz	QPSK	40640	1RB#0	NV	-10	5.59	0.00215414	±2.5	PASS
Band41	15MHz	QPSK	40640	1RB#0	NV	0	8.97	0.00345665	±2.5	PASS
Band41	15MHz	QPSK	40640	1RB#0	NV	10	8.73	0.00336416	±2.5	PASS



Band41	15MHz	QPSK	40640	1RB#0	NV	20	6.20	0.00238921	±2.5	PASS
Band41	15MHz	QPSK	40640	1RB#0	NV	30	4.61	0.00177649	±2.5	PASS
Band41	15MHz	QPSK	40640	1RB#0	NV	40	6.20	0.00238921	±2.5	PASS
Band41	15MHz	QPSK	40640	1RB#0	NV	50	6.99	0.00269364	±2.5	PASS
Band41	15MHz	QPSK	40640	1RB#0	NV	60	8.80	0.00339114	±2.5	PASS
Band41	15MHz	QPSK	40640	1RB#0	NV	70	4.27	0.00164547	±2.5	PASS
Band41	15MHz	QPSK	40640	1RB#0	NV	80	7.60	0.00292871	±2.5	PASS
Band41	20MHz	QPSK	40640	1RB#0	NV	-40	8.50	0.00327553	±2.5	PASS
Band41	20MHz	QPSK	40640	1RB#0	NV	-30	8.35	0.00321773	±2.5	PASS
Band41	20MHz	QPSK	40640	1RB#0	NV	-20	5.25	0.00202312	±2.5	PASS
Band41	20MHz	QPSK	40640	1RB#0	NV	-10	4.51	0.00173796	±2.5	PASS
Band41	20MHz	QPSK	40640	1RB#0	NV	0	8.72	0.00336031	±2.5	PASS
Band41	20MHz	QPSK	40640	1RB#0	NV	10	5.95	0.00229287	±2.5	PASS
Band41	20MHz	QPSK	40640	1RB#0	NV	20	7.19	0.00277071	±2.5	PASS
Band41	20MHz	QPSK	40640	1RB#0	NV	30	8.68	0.00334489	±2.5	PASS
Band41	20MHz	QPSK	40640	1RB#0	NV	40	4.11	0.00158382	±2.5	PASS
Band41	20MHz	QPSK	40640	1RB#0	NV	50	7.95	0.00306358	±2.5	PASS
Band41	20MHz	QPSK	40640	1RB#0	NV	60	4.21	0.00162235	±2.5	PASS
Band41	20MHz	QPSK	40640	1RB#0	NV	70	6.07	0.00233911	±2.5	PASS
Band41	20MHz	QPSK	40640	1RB#0	NV	80	7.89	0.00304046	±2.5	PASS

END