

## Appendix for LTE B7 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
Band7	5MHz	QPSK	20775	1RB#0	23.99	25.47	30	PASS
Band7	5MHz	QPSK	20775	1RB#12	24.07	25.55	30	PASS
Band7	5MHz	QPSK	20775	1RB#24	23.70	25.18	30	PASS
Band7	5MHz	QPSK	20775	12RB#0	22.78	24.26	30	PASS
Band7	5MHz	QPSK	20775	12RB#6	22.83	24.31	30	PASS
Band7	5MHz	QPSK	20775	12RB#13	22.84	24.32	30	PASS
Band7	5MHz	QPSK	20775	25RB#0	22.80	24.28	30	PASS
Band7	5MHz	QPSK	21100	1RB#0	23.94	25.42	30	PASS
Band7	5MHz	QPSK	21100	1RB#12	23.95	25.43	30	PASS
Band7	5MHz	QPSK	21100	1RB#24	23.72	25.20	30	PASS
Band7	5MHz	QPSK	21100	12RB#0	22.84	24.32	30	PASS
Band7	5MHz	QPSK	21100	12RB#6	22.88	24.36	30	PASS
Band7	5MHz	QPSK	21100	12RB#13	22.79	24.27	30	PASS
Band7	5MHz	QPSK	21100	25RB#0	22.98	24.46	30	PASS
Band7	5MHz	QPSK	21425	1RB#0	24.02	25.50	30	PASS
Band7	5MHz	QPSK	21425	1RB#12	24.11	25.59	30	PASS
Band7	5MHz	QPSK	21425	1RB#24	24.18	25.66	30	PASS
Band7	5MHz	QPSK	21425	12RB#0	22.96	24.44	30	PASS
Band7	5MHz	QPSK	21425	12RB#6	23.00	24.48	30	PASS
Band7	5MHz	QPSK	21425	12RB#13	22.95	24.43	30	PASS
Band7	5MHz	QPSK	21425	25RB#0	22.86	24.34	30	PASS
Band7	5MHz	16QAM	20775	1RB#0	22.64	24.12	30	PASS
Band7	5MHz	16QAM	20775	1RB#12	22.91	24.39	30	PASS
Band7	5MHz	16QAM	20775	1RB#24	22.45	23.93	30	PASS
Band7	5MHz	16QAM	20775	12RB#0	21.74	23.22	30	PASS
Band7	5MHz	16QAM	20775	12RB#6	21.71	23.19	30	PASS
Band7	5MHz	16QAM	20775	12RB#13	21.92	23.40	30	PASS
Band7	5MHz	16QAM	20775	25RB#0	21.75	23.23	30	PASS
Band7	5MHz	16QAM	21100	1RB#0	22.39	23.87	30	PASS
Band7	5MHz	16QAM	21100	1RB#12	22.70	24.18	30	PASS



Band7	5MHz	16QAM	21100	1RB#24	22.81	24.29	30	PASS
Band7	5MHz	16QAM	21100	12RB#0	21.65	23.13	30	PASS
Band7	5MHz	16QAM	21100	12RB#6	21.75	23.23	30	PASS
Band7	5MHz	16QAM	21100	12RB#13	21.70	23.18	30	PASS
Band7	5MHz	16QAM	21100	25RB#0	21.72	23.20	30	PASS
Band7	5MHz	16QAM	21425	1RB#0	22.60	24.08	30	PASS
Band7	5MHz	16QAM	21425	1RB#12	22.79	24.27	30	PASS
Band7	5MHz	16QAM	21425	1RB#24	22.72	24.20	30	PASS
Band7	5MHz	16QAM	21425	12RB#0	21.93	23.41	30	PASS
Band7	5MHz	16QAM	21425	12RB#6	21.98	23.46	30	PASS
Band7	5MHz	16QAM	21425	12RB#13	22.09	23.57	30	PASS
Band7	5MHz	16QAM	21425	25RB#0	21.82	23.30	30	PASS
Band7	10MHz	QPSK	20800	1RB#0	23.90	25.38	30	PASS
Band7	10MHz	QPSK	20800	1RB#24	24.27	25.75	30	PASS
Band7	10MHz	QPSK	20800	1RB#49	24.08	25.56	30	PASS
Band7	10MHz	QPSK	20800	25RB#0	23.06	24.54	30	PASS
Band7	10MHz	QPSK	20800	25RB#12	22.96	24.44	30	PASS
Band7	10MHz	QPSK	20800	25RB#25	22.95	24.43	30	PASS
Band7	10MHz	QPSK	20800	50RB#0	22.92	24.40	30	PASS
Band7	10MHz	QPSK	21100	1RB#0	23.98	25.46	30	PASS
Band7	10MHz	QPSK	21100	1RB#24	24.56	26.04	30	PASS
Band7	10MHz	QPSK	21100	1RB#49	23.94	25.42	30	PASS
Band7	10MHz	QPSK	21100	25RB#0	23.00	24.48	30	PASS
Band7	10MHz	QPSK	21100	25RB#12	22.93	24.41	30	PASS
Band7	10MHz	QPSK	21100	25RB#25	22.89	24.37	30	PASS
Band7	10MHz	QPSK	21100	50RB#0	22.84	24.32	30	PASS
Band7	10MHz	QPSK	21400	1RB#0	24.30	25.78	30	PASS
Band7	10MHz	QPSK	21400	1RB#24	24.21	25.69	30	PASS
Band7	10MHz	QPSK	21400	1RB#49	24.20	25.68	30	PASS
Band7	10MHz	QPSK	21400	25RB#0	23.17	24.65	30	PASS
Band7	10MHz	QPSK	21400	25RB#12	23.06	24.54	30	PASS
Band7	10MHz	QPSK	21400	25RB#25	23.03	24.51	30	PASS
Band7	10MHz	QPSK	21400	50RB#0	23.10	24.58	30	PASS
Band7	10MHz	16QAM	20800	1RB#0	22.86	24.34	30	PASS



Band7	10MHz	16QAM	20800	1RB#24	22.65	24.13	30	PASS
Band7	10MHz	16QAM	20800	1RB#49	23.02	24.50	30	PASS
Band7	10MHz	16QAM	20800	25RB#0	21.93	23.41	30	PASS
Band7	10MHz	16QAM	20800	25RB#12	21.90	23.38	30	PASS
Band7	10MHz	16QAM	20800	25RB#25	21.87	23.35	30	PASS
Band7	10MHz	16QAM	20800	50RB#0	21.84	23.32	30	PASS
Band7	10MHz	16QAM	21100	1RB#0	22.82	24.30	30	PASS
Band7	10MHz	16QAM	21100	1RB#24	23.22	24.70	30	PASS
Band7	10MHz	16QAM	21100	1RB#49	22.95	24.43	30	PASS
Band7	10MHz	16QAM	21100	25RB#0	21.85	23.33	30	PASS
Band7	10MHz	16QAM	21100	25RB#12	22.04	23.52	30	PASS
Band7	10MHz	16QAM	21100	25RB#25	21.81	23.29	30	PASS
Band7	10MHz	16QAM	21100	50RB#0	21.78	23.26	30	PASS
Band7	10MHz	16QAM	21400	1RB#0	22.95	24.43	30	PASS
Band7	10MHz	16QAM	21400	1RB#24	23.00	24.48	30	PASS
Band7	10MHz	16QAM	21400	1RB#49	23.18	24.66	30	PASS
Band7	10MHz	16QAM	21400	25RB#0	21.94	23.42	30	PASS
Band7	10MHz	16QAM	21400	25RB#12	22.19	23.67	30	PASS
Band7	10MHz	16QAM	21400	25RB#25	22.04	23.52	30	PASS
Band7	10MHz	16QAM	21400	50RB#0	21.95	23.43	30	PASS
Band7	15MHz	QPSK	20825	1RB#0	24.22	25.70	30	PASS
Band7	15MHz	QPSK	20825	1RB#38	24.27	25.75	30	PASS
Band7	15MHz	QPSK	20825	1RB#74	23.87	25.35	30	PASS
Band7	15MHz	QPSK	20825	38RB#0	23.00	24.48	30	PASS
Band7	15MHz	QPSK	20825	38RB#18	22.97	24.45	30	PASS
Band7	15MHz	QPSK	20825	38RB#37	23.02	24.50	30	PASS
Band7	15MHz	QPSK	20825	75RB#0	23.02	24.50	30	PASS
Band7	15MHz	QPSK	21100	1RB#0	24.18	25.66	30	PASS
Band7	15MHz	QPSK	21100	1RB#38	24.03	25.51	30	PASS
Band7	15MHz	QPSK	21100	1RB#74	23.98	25.46	30	PASS
Band7	15MHz	QPSK	21100	38RB#0	22.98	24.46	30	PASS
Band7	15MHz	QPSK	21100	38RB#18	22.89	24.37	30	PASS
Band7	15MHz	QPSK	21100	38RB#37	22.90	24.38	30	PASS
Band7	15MHz	QPSK	21100	75RB#0	22.91	24.39	30	PASS



Band7	15MHz	QPSK	21375	1RB#0	24.08	25.56	30	PASS
Band7	15MHz	QPSK	21375	1RB#38	24.07	25.55	30	PASS
Band7	15MHz	QPSK	21375	1RB#74	24.07	25.55	30	PASS
Band7	15MHz	QPSK	21375	38RB#0	23.00	24.48	30	PASS
Band7	15MHz	QPSK	21375	38RB#18	23.03	24.51	30	PASS
Band7	15MHz	QPSK	21375	38RB#37	23.06	24.54	30	PASS
Band7	15MHz	QPSK	21375	75RB#0	23.04	24.52	30	PASS
Band7	15MHz	16QAM	20825	1RB#0	22.95	24.43	30	PASS
Band7	15MHz	16QAM	20825	1RB#38	22.74	24.22	30	PASS
Band7	15MHz	16QAM	20825	1RB#74	22.91	24.39	30	PASS
Band7	15MHz	16QAM	20825	38RB#0	21.97	23.45	30	PASS
Band7	15MHz	16QAM	20825	38RB#18	21.99	23.47	30	PASS
Band7	15MHz	16QAM	20825	38RB#37	21.84	23.32	30	PASS
Band7	15MHz	16QAM	20825	75RB#0	21.94	23.42	30	PASS
Band7	15MHz	16QAM	21100	1RB#0	22.73	24.21	30	PASS
Band7	15MHz	16QAM	21100	1RB#38	22.95	24.43	30	PASS
Band7	15MHz	16QAM	21100	1RB#74	22.97	24.45	30	PASS
Band7	15MHz	16QAM	21100	38RB#0	21.88	23.36	30	PASS
Band7	15MHz	16QAM	21100	38RB#18	21.95	23.43	30	PASS
Band7	15MHz	16QAM	21100	38RB#37	21.92	23.40	30	PASS
Band7	15MHz	16QAM	21100	75RB#0	21.84	23.32	30	PASS
Band7	15MHz	16QAM	21375	1RB#0	22.62	24.10	30	PASS
Band7	15MHz	16QAM	21375	1RB#38	22.61	24.09	30	PASS
Band7	15MHz	16QAM	21375	1RB#74	23.00	24.48	30	PASS
Band7	15MHz	16QAM	21375	38RB#0	22.03	23.51	30	PASS
Band7	15MHz	16QAM	21375	38RB#18	22.08	23.56	30	PASS
Band7	15MHz	16QAM	21375	38RB#37	21.96	23.44	30	PASS
Band7	15MHz	16QAM	21375	75RB#0	22.01	23.49	30	PASS
Band7	20MHz	QPSK	20850	1RB#0	23.80	25.28	30	PASS
Band7	20MHz	QPSK	20850	1RB#49	24.17	25.65	30	PASS
Band7	20MHz	QPSK	20850	1RB#99	23.85	25.33	30	PASS
Band7	20MHz	QPSK	20850	50RB#0	22.92	24.40	30	PASS
Band7	20MHz	QPSK	20850	50RB#25	22.96	24.44	30	PASS
Band7	20MHz	QPSK	20850	50RB#50	22.86	24.34	30	PASS



Band7	20MHz	QPSK	20850	100RB#0	22.87	24.35	30	PASS
Band7	20MHz	QPSK	21100	1RB#0	24.07	25.55	30	PASS
Band7	20MHz	QPSK	21100	1RB#49	24.52	26.00	30	PASS
Band7	20MHz	QPSK	21100	1RB#99	23.96	25.44	30	PASS
Band7	20MHz	QPSK	21100	50RB#0	23.01	24.49	30	PASS
Band7	20MHz	QPSK	21100	50RB#25	22.96	24.44	30	PASS
Band7	20MHz	QPSK	21100	50RB#50	22.92	24.40	30	PASS
Band7	20MHz	QPSK	21100	100RB#0	22.88	24.36	30	PASS
Band7	20MHz	QPSK	21350	1RB#0	23.84	25.32	30	PASS
Band7	20MHz	QPSK	21350	1RB#49	24.09	25.57	30	PASS
Band7	20MHz	QPSK	21350	1RB#99	24.04	25.52	30	PASS
Band7	20MHz	QPSK	21350	50RB#0	23.01	24.49	30	PASS
Band7	20MHz	QPSK	21350	50RB#25	22.95	24.43	30	PASS
Band7	20MHz	QPSK	21350	50RB#50	23.03	24.51	30	PASS
Band7	20MHz	QPSK	21350	100RB#0	23.03	24.51	30	PASS
Band7	20MHz	16QAM	20850	1RB#0	22.50	23.98	30	PASS
Band7	20MHz	16QAM	20850	1RB#49	22.66	24.14	30	PASS
Band7	20MHz	16QAM	20850	1RB#99	22.35	23.83	30	PASS
Band7	20MHz	16QAM	20850	50RB#0	22.00	23.48	30	PASS
Band7	20MHz	16QAM	20850	50RB#25	21.99	23.47	30	PASS
Band7	20MHz	16QAM	20850	50RB#50	21.82	23.30	30	PASS
Band7	20MHz	16QAM	20850	100RB#0	21.84	23.32	30	PASS
Band7	20MHz	16QAM	21100	1RB#0	22.59	24.07	30	PASS
Band7	20MHz	16QAM	21100	1RB#49	22.89	24.37	30	PASS
Band7	20MHz	16QAM	21100	1RB#99	22.49	23.97	30	PASS
Band7	20MHz	16QAM	21100	50RB#0	21.82	23.30	30	PASS
Band7	20MHz	16QAM	21100	50RB#25	21.87	23.35	30	PASS
Band7	20MHz	16QAM	21100	50RB#50	21.82	23.30	30	PASS
Band7	20MHz	16QAM	21100	100RB#0	21.81	23.29	30	PASS
Band7	20MHz	16QAM	21350	1RB#0	22.75	24.23	30	PASS
Band7	20MHz	16QAM	21350	1RB#49	22.91	24.39	30	PASS
Band7	20MHz	16QAM	21350	1RB#99	22.93	24.41	30	PASS
Band7	20MHz	16QAM	21350	50RB#0	22.02	23.50	30	PASS
Band7	20MHz	16QAM	21350	50RB#25	22.04	23.52	30	PASS

Band7	20MHz	16QAM	21350	50RB#50	21.82	23.30	30	PASS
Band7	20MHz	16QAM	21350	100RB#0	22.13	23.61	30	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 7 is 1.48dBi.

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 date as follows:

Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dB)	Limit(dB)	Verdict
Band7	5MHz	QPSK	20775	25RB#0	4.35	13	PASS
Band7	5MHz	QPSK	21100	25RB#0	4.4	13	PASS
Band7	5MHz	QPSK	21425	25RB#0	4.45	13	PASS
Band7	5MHz	16QAM	20775	25RB#0	5.06	13	PASS
Band7	5MHz	16QAM	21100	25RB#0	5.09	13	PASS
Band7	5MHz	16QAM	21425	25RB#0	5.19	13	PASS
Band7	10MHz	QPSK	20800	50RB#0	4.17	13	PASS
Band7	10MHz	QPSK	21100	50RB#0	4.43	13	PASS
Band7	10MHz	QPSK	21400	50RB#0	4.35	13	PASS
Band7	10MHz	16QAM	20800	50RB#0	5.0	13	PASS
Band7	10MHz	16QAM	21100	50RB#0	5.32	13	PASS
Band7	10MHz	16QAM	21400	50RB#0	5.12	13	PASS
Band7	15MHz	QPSK	20825	75RB#0	4.13	13	PASS
Band7	15MHz	QPSK	21100	75RB#0	4.41	13	PASS
Band7	15MHz	QPSK	21375	75RB#0	4.20	13	PASS
Band7	15MHz	16QAM	20825	75RB#0	4.91	13	PASS
Band7	15MHz	16QAM	21100	75RB#0	5.25	13	PASS
Band7	15MHz	16QAM	21375	75RB#0	5.02	13	PASS
Band7	20MHz	QPSK	20850	100RB#0	4.22	13	PASS
Band7	20MHz	QPSK	21100	100RB#0	4.34	13	PASS
Band7	20MHz	QPSK	21350	100RB#0	4.12	13	PASS
Band7	20MHz	16QAM	20850	100RB#0	5.01	13	PASS
Band7	20MHz	16QAM	21100	100RB#0	5.20	13	PASS
Band7	20MHz	16QAM	21350	100RB#0	5.0	13	PASS

## Appendix C: Modulation Characteristics

**Test Result:**

Band	Bandwidth	Modulation	Channel	RB Configuration	Result	Verdict
Band7	5MHz	QPSK	20775	25RB#0	PASS	PASS
Band7	5MHz	QPSK	21100	25RB#0	PASS	PASS
Band7	5MHz	QPSK	21425	25RB#0	PASS	PASS
Band7	5MHz	16QAM	20775	25RB#0	PASS	PASS
Band7	5MHz	16QAM	21100	25RB#0	PASS	PASS
Band7	5MHz	16QAM	21425	25RB#0	PASS	PASS
Band7	10MHz	QPSK	20800	50RB#0	PASS	PASS
Band7	10MHz	QPSK	21100	50RB#0	PASS	PASS
Band7	10MHz	QPSK	21400	50RB#0	PASS	PASS
Band7	10MHz	16QAM	20800	50RB#0	PASS	PASS
Band7	10MHz	16QAM	21100	50RB#0	PASS	PASS
Band7	10MHz	16QAM	21400	50RB#0	PASS	PASS
Band7	15MHz	QPSK	20825	75RB#0	PASS	PASS
Band7	15MHz	QPSK	21100	75RB#0	PASS	PASS
Band7	15MHz	QPSK	21375	75RB#0	PASS	PASS
Band7	15MHz	16QAM	20825	75RB#0	PASS	PASS
Band7	15MHz	16QAM	21100	75RB#0	PASS	PASS
Band7	15MHz	16QAM	21375	75RB#0	PASS	PASS
Band7	20MHz	QPSK	20850	100RB#0	PASS	PASS
Band7	20MHz	QPSK	21100	100RB#0	PASS	PASS
Band7	20MHz	QPSK	21350	100RB#0	PASS	PASS
Band7	20MHz	16QAM	20850	100RB#0	PASS	PASS
Band7	20MHz	16QAM	21100	100RB#0	PASS	PASS
Band7	20MHz	16QAM	21350	100RB#0	PASS	PASS

## Appendix D: Bandwidth

**Test Result:**

Band	Bandwidth	Modulation	Channel	RB Configuration	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
Band7	5MHz	QPSK	20775	25RB#0	4.5064	4.959	PASS
Band7	5MHz	QPSK	21100	25RB#0	4.5072	4.989	PASS
Band7	5MHz	QPSK	21425	25RB#0	4.5301	5.033	PASS
Band7	5MHz	16QAM	20775	25RB#0	4.5027	5.042	PASS
Band7	5MHz	16QAM	21100	25RB#0	4.4998	4.991	PASS
Band7	5MHz	16QAM	21425	25RB#0	4.4966	4.957	PASS
Band7	10MHz	QPSK	20800	50RB#0	8.9564	9.936	PASS
Band7	10MHz	QPSK	21100	50RB#0	8.9690	9.901	PASS
Band7	10MHz	QPSK	21400	50RB#0	8.9710	9.873	PASS
Band7	10MHz	16QAM	20800	50RB#0	8.9494	9.890	PASS
Band7	10MHz	16QAM	21100	50RB#0	8.9633	9.901	PASS
Band7	10MHz	16QAM	21400	50RB#0	8.9543	9.808	PASS
Band7	15MHz	QPSK	20825	75RB#0	13.425	14.69	PASS
Band7	15MHz	QPSK	21100	75RB#0	13.441	14.74	PASS
Band7	15MHz	QPSK	21375	75RB#0	13.428	14.67	PASS
Band7	15MHz	16QAM	20825	75RB#0	13.432	14.64	PASS
Band7	15MHz	16QAM	21100	75RB#0	13.425	14.70	PASS
Band7	15MHz	16QAM	21375	75RB#0	13.438	14.75	PASS
Band7	20MHz	QPSK	20850	100RB#0	17.864	19.40	PASS
Band7	20MHz	QPSK	21100	100RB#0	17.902	19.30	PASS
Band7	20MHz	QPSK	21350	100RB#0	17.868	19.45	PASS
Band7	20MHz	16QAM	20850	100RB#0	17.872	19.42	PASS
Band7	20MHz	16QAM	21100	100RB#0	17.885	19.45	PASS
Band7	20MHz	16QAM	21350	100RB#0	17.900	19.55	PASS

Test Graphs

Band7-5MHz-QPSK-20775-25RB#0



Band7-5MHz-QPSK-21100-25RB#0



Band7-5MHz-QPSK-21425-25RB#0



Band7-5MHz-16QAM-20775-25RB#0



Band7-5MHz-16QAM-21100-25RB#0





Band7-5MHz-16QAM-21425-25RB#0



Band7-10MHz-QPSK-20800-50RB#0



Band7-10MHz-QPSK-21100-50RB#0



Band7-10MHz-QPSK-21400-50RB#0



Band7-10MHz-16QAM-20800-50RB#0



Band7-10MHz-16QAM-21100-50RB#0



Band7-10MHz-16QAM-21400-50RB#0



Band7-15MHz-QPSK-20825-75RB#0





Band7-15MHz-QPSK-21100-75RB#0



Band7-15MHz-QPSK-21375-75RB#0



Band7-15MHz-16QAM-20825-75RB#0



Band7-15MHz-16QAM-21100-75RB#0



Band7-15MHz-16QAM-21375-75RB#0



Band7-20MHz-QPSK-20850-100RB#0



Band7-20MHz-QPSK-21100-100RB#0



Band7-20MHz-QPSK-21350-100RB#0



Band7-20MHz-16QAM-20850-100RB#0



Band7-20MHz-16QAM-21100-100RB#0





Band7-20MHz-16QAM-21350-100RB#0



## Appendix E: Band Edges Compliance

### Test Result:

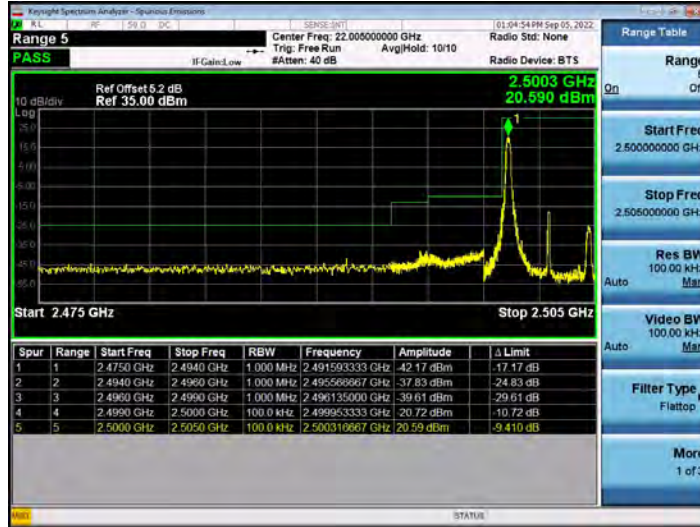
Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dBm)	Verdict
Band7	5MHz	QPSK	20775	1RB#0	Reference test Graphs	PASS
Band7	5MHz	QPSK	20775	1RB#24	Reference test Graphs	PASS
Band7	5MHz	QPSK	20775	25RB#0	Reference test Graphs	PASS
Band7	5MHz	QPSK	21425	1RB#0	Reference test Graphs	PASS
Band7	5MHz	QPSK	21425	1RB#24	Reference test Graphs	PASS
Band7	5MHz	QPSK	21425	25RB#0	Reference test Graphs	PASS
Band7	5MHz	16QAM	20775	1RB#0	Reference test Graphs	PASS
Band7	5MHz	16QAM	20775	1RB#24	Reference test Graphs	PASS
Band7	5MHz	16QAM	20775	25RB#0	Reference test Graphs	PASS
Band7	5MHz	16QAM	21425	1RB#0	Reference test Graphs	PASS
Band7	5MHz	16QAM	21425	1RB#24	Reference test Graphs	PASS
Band7	5MHz	16QAM	21425	25RB#0	Reference test Graphs	PASS
Band7	10MHz	QPSK	20800	1RB#0	Reference test Graphs	PASS
Band7	10MHz	QPSK	20800	1RB#49	Reference test Graphs	PASS
Band7	10MHz	QPSK	20800	50RB#0	Reference test Graphs	PASS
Band7	10MHz	QPSK	21400	1RB#0	Reference test Graphs	PASS
Band7	10MHz	QPSK	21400	1RB#49	Reference test Graphs	PASS
Band7	10MHz	QPSK	21400	50RB#0	Reference test Graphs	PASS
Band7	10MHz	16QAM	20800	1RB#0	Reference test Graphs	PASS
Band7	10MHz	16QAM	20800	1RB#49	Reference test Graphs	PASS
Band7	10MHz	16QAM	20800	50RB#0	Reference test Graphs	PASS
Band7	10MHz	16QAM	21400	1RB#0	Reference test Graphs	PASS
Band7	10MHz	16QAM	21400	1RB#49	Reference test Graphs	PASS
Band7	10MHz	16QAM	21400	50RB#0	Reference test Graphs	PASS
Band7	15MHz	QPSK	20825	1RB#0	Reference test Graphs	PASS
Band7	15MHz	QPSK	20825	1RB#74	Reference test Graphs	PASS
Band7	15MHz	QPSK	20825	75RB#0	Reference test Graphs	PASS
Band7	15MHz	QPSK	21375	1RB#0	Reference test Graphs	PASS
Band7	15MHz	QPSK	21375	1RB#74	Reference test Graphs	PASS
Band7	15MHz	QPSK	21375	75RB#0	Reference test Graphs	PASS
Band7	15MHz	16QAM	20825	1RB#0	Reference test Graphs	PASS
Band7	15MHz	16QAM	20825	1RB#74	Reference test Graphs	PASS
Band7	15MHz	16QAM	20825	75RB#0	Reference test Graphs	PASS
Band7	15MHz	16QAM	21375	1RB#0	Reference test Graphs	PASS
Band7	15MHz	16QAM	21375	1RB#74	Reference test Graphs	PASS



Band7	15MHz	16QAM	21375	75RB#0	Reference test Graphs	PASS
Band7	20MHz	QPSK	20850	1RB#0	Reference test Graphs	PASS
Band7	20MHz	QPSK	20850	1RB#99	Reference test Graphs	PASS
Band7	20MHz	QPSK	20850	100RB#0	Reference test Graphs	PASS
Band7	20MHz	QPSK	21350	1RB#0	Reference test Graphs	PASS
Band7	20MHz	QPSK	21350	1RB#99	Reference test Graphs	PASS
Band7	20MHz	QPSK	21350	100RB#0	Reference test Graphs	PASS
Band7	20MHz	16QAM	20850	1RB#0	Reference test Graphs	PASS
Band7	20MHz	16QAM	20850	1RB#99	Reference test Graphs	PASS
Band7	20MHz	16QAM	20850	100RB#0	Reference test Graphs	PASS
Band7	20MHz	16QAM	21350	1RB#0	Reference test Graphs	PASS
Band7	20MHz	16QAM	21350	1RB#99	Reference test Graphs	PASS
Band7	20MHz	16QAM	21350	100RB#0	Reference test Graphs	PASS

Test Graphs

Band7-5MHz-QPSK-20775-1RB#0

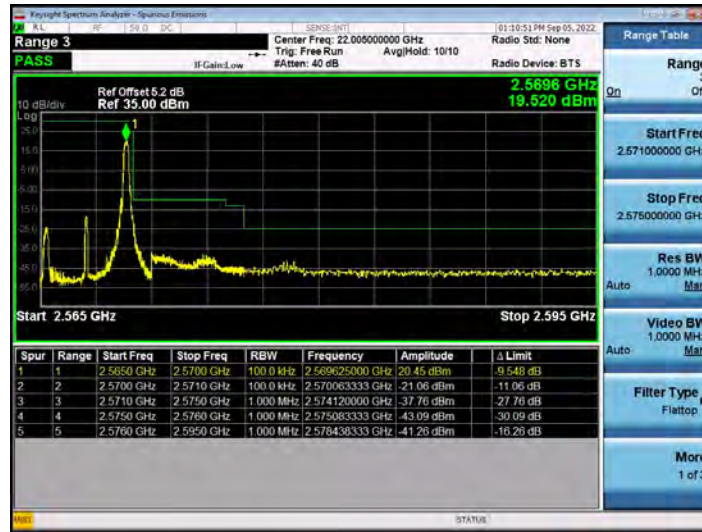


Band7-5MHz-QPSK-20775-25RB#0



Band7-5MHz-QPSK-21425-1RB#24





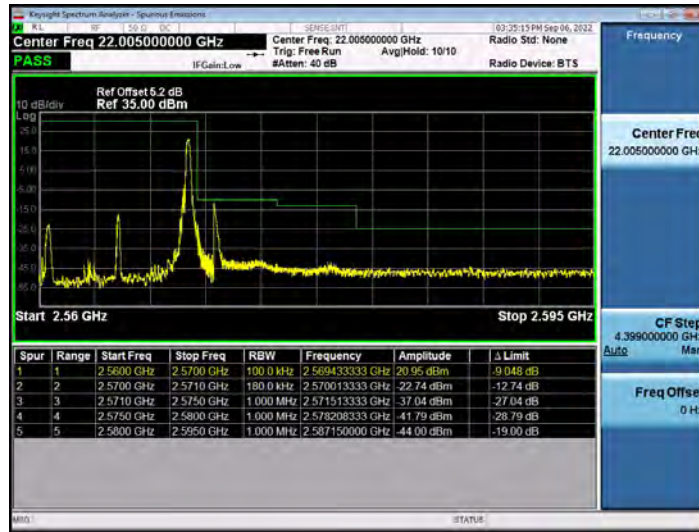
Band7-5MHz-QPSK-21425-25RB#0



Band7-10MHz-QPSK-20800-50RB#0



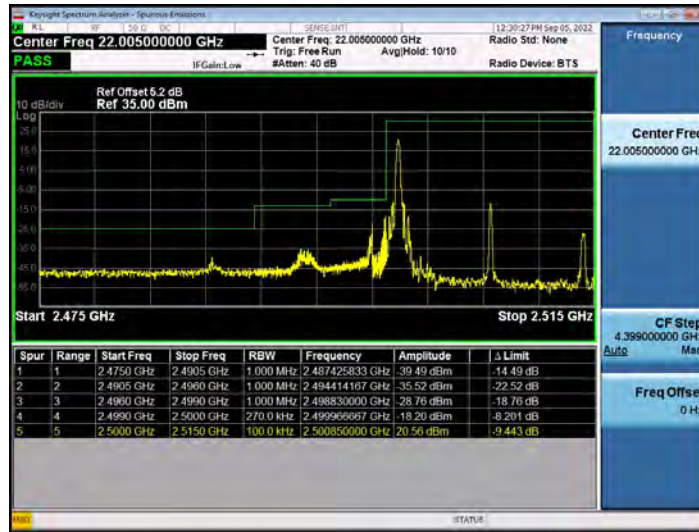
Band7-10MHz-QPSK-21400-1RB#49



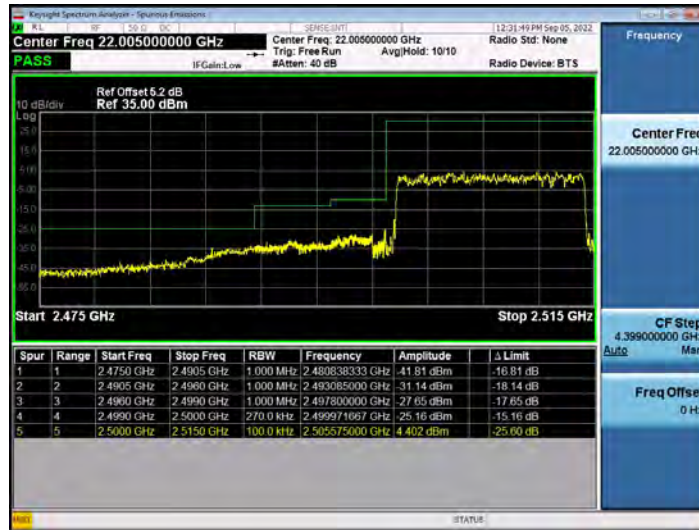
Band7-10MHz-QPSK-21400-50RB#0



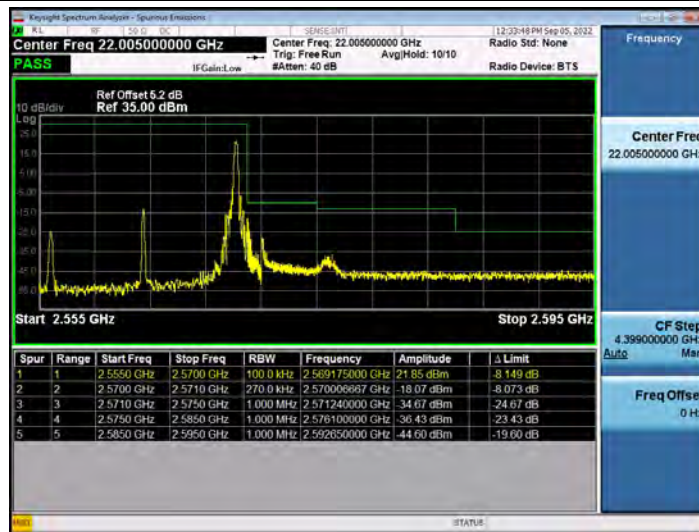
Band7-15MHz-QPSK-20825-1RB#0



Band7-15MHz-QPSK-20825-75RB#0



Band7-15MHz-QPSK-21375-1RB#74

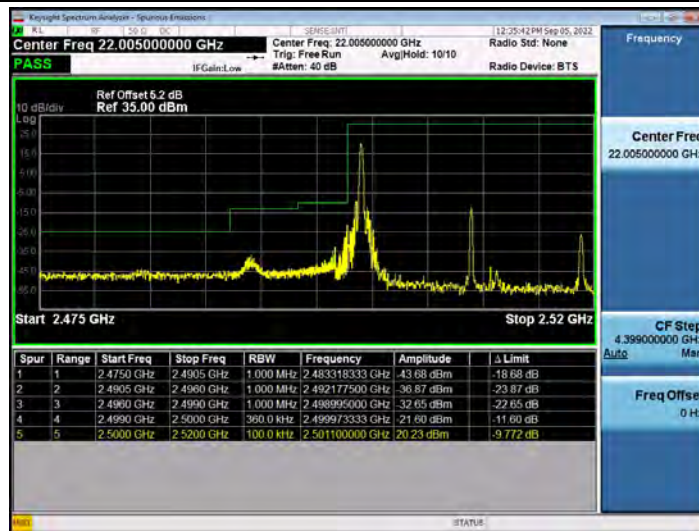




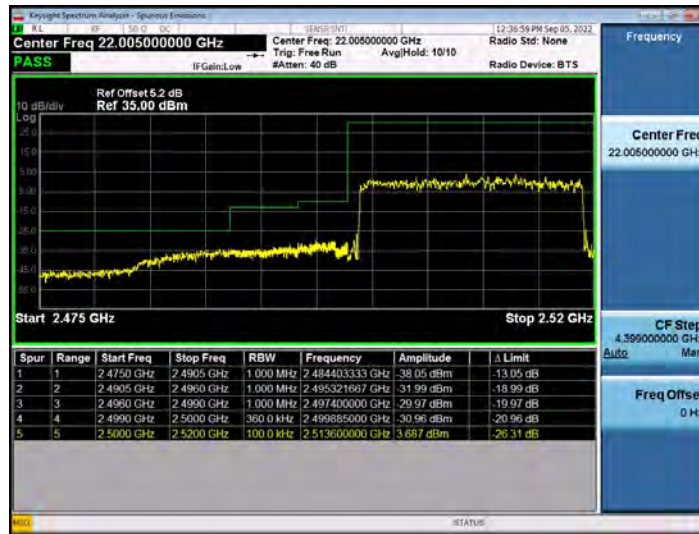
Band7-15MHz-QPSK-21375-75RB#0



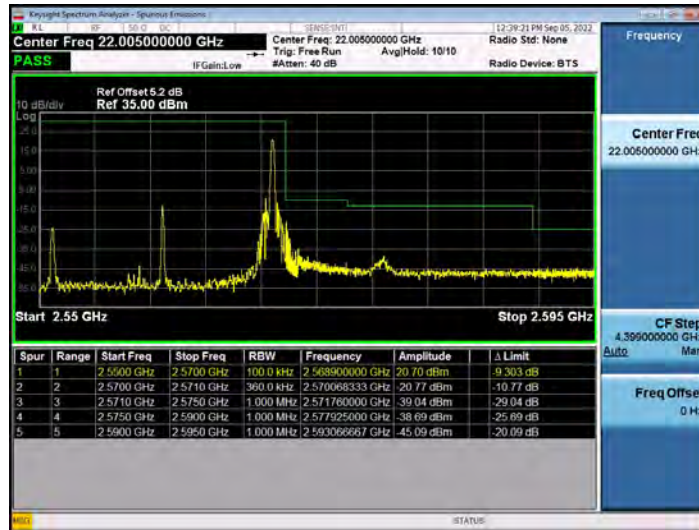
Band7-20MHz-QPSK-20850-1RB#0



Band7-20MHz-QPSK-20850-100RB#0



Band7-20MHz-QPSK-21350-1RB#99



Band7-20MHz-QPSK-21350-100RB#0



## Appendix F: Spurious Emission at Antenna Terminals

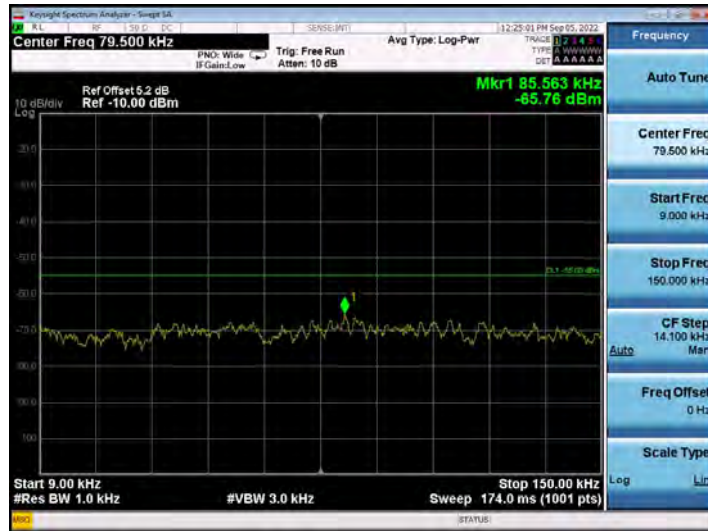
Test Result:

Worst Case date as follows:

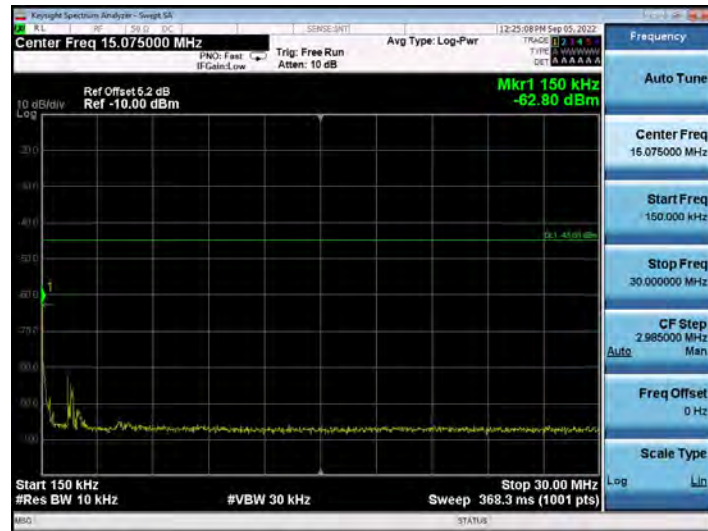
Band	Bandwidth	Modulation	Channel	RB Configuration	Frequency Range	Result (dBm)	Verdict
Band7	5MHz	QPSK	21100	1RB#0	Range1: 9KHz~150KHz	-65.76	PASS
Band7	5MHz	QPSK	21100	1RB#0	Range2: 150KHz~30MHz	-62.80	PASS
Band7	5MHz	QPSK	21100	1RB#0	Range3: 30MHz~25.35GHz	-59.72	PASS
Band7	10MHz	QPSK	21100	1RB#0	Range1: 9KHz~150KHz	-65.64	PASS
Band7	10MHz	QPSK	21100	1RB#0	Range2: 150KHz~30MHz	-64.12	PASS
Band7	10MHz	QPSK	21100	1RB#0	Range3: 30MHz~25.35GHz	-59.79	PASS
Band7	15MHz	QPSK	21100	1RB#0	Range1: 9KHz~150KHz	-65.83	PASS
Band7	15MHz	QPSK	21100	1RB#0	Range2: 150KHz~30MHz	-63.51	PASS
Band7	15MHz	QPSK	21100	1RB#0	Range3: 30MHz~25.35GHz	-59.73	PASS
Band7	20MHz	QPSK	21100	1RB#0	Range1: 9KHz~150KHz	-64.86	PASS
Band7	20MHz	QPSK	21100	1RB#0	Range2: 150KHz~30MHz	-63.11	PASS
Band7	20MHz	QPSK	21100	1RB#0	Range3: 30MHz~25.35GHz	-59.75	PASS

Test Graphs

Band7-5MHz-QPSK-21100-1RB#0-Range1: 9KHz~150KHz

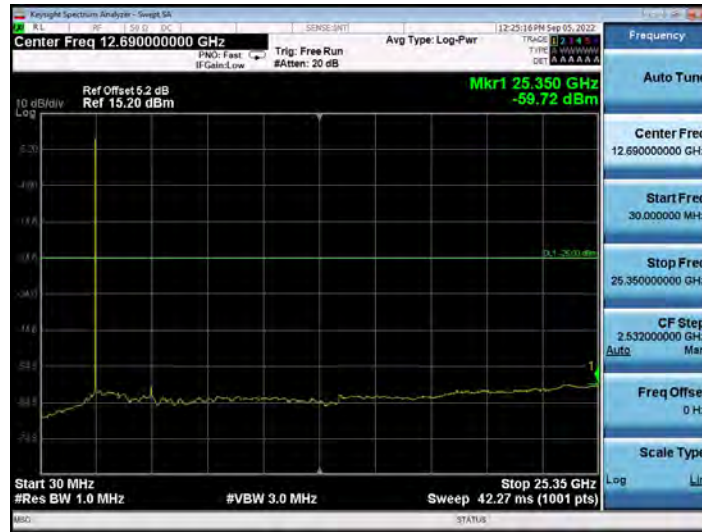


Band7-5MHz-QPSK-21100-1RB#0-Range2: 150KHz~30MHz



Band7-5MHz-QPSK-21100-1RB#0-Range3:30MHz~25.35GHz

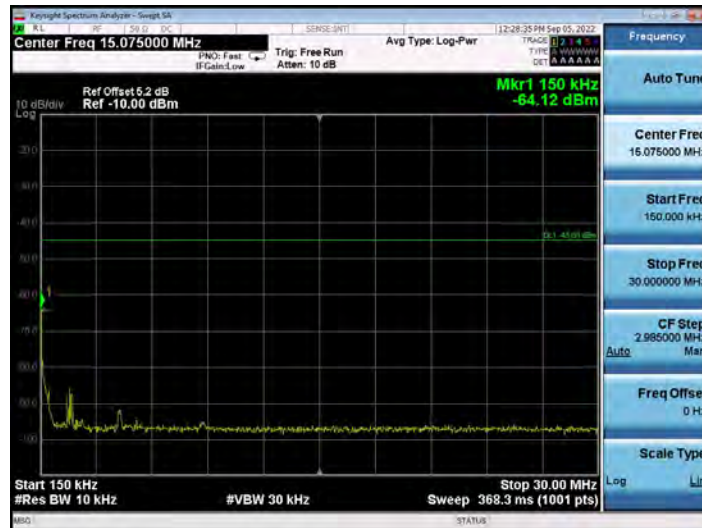




Band7-10MHz-QPSK-21100-1RB#0-Range1: 9KHz~150KHz

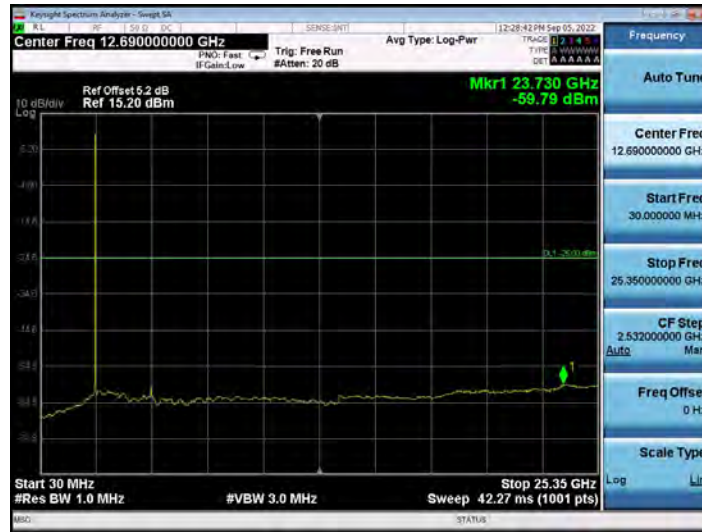


Band7-10MHz-QPSK-21100-1RB#0-Range2: 150KHz~30MHz

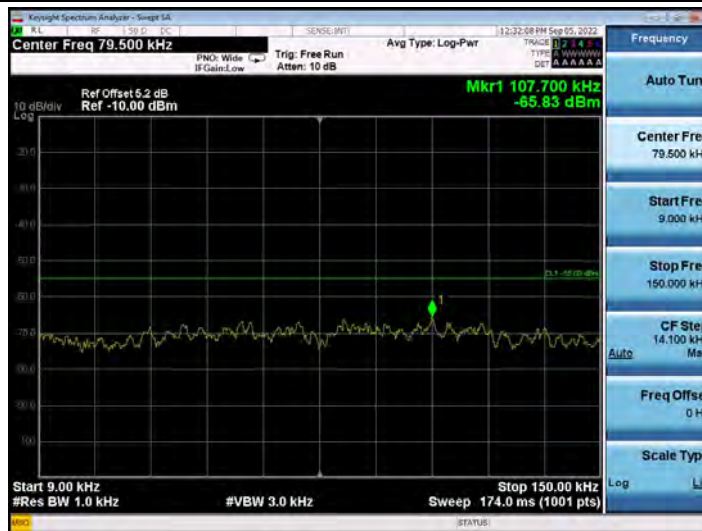




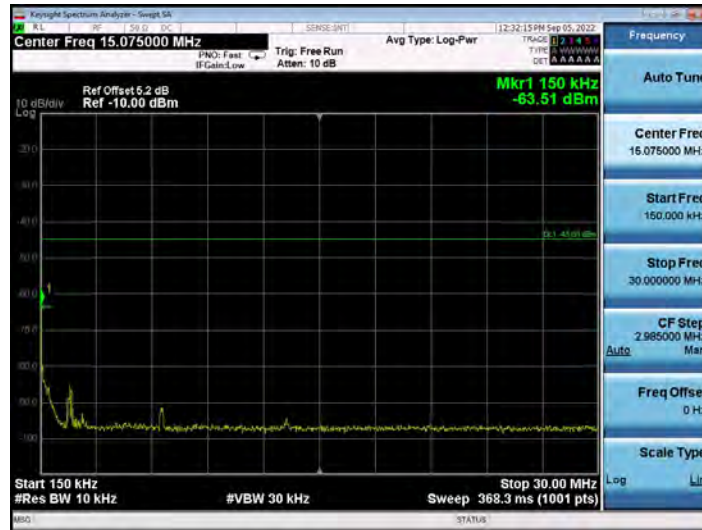
Band7-10MHz-QPSK-21100-1RB#0-Range3:30MHz~25.35GHz



Band7-15MHz-QPSK-21100-1RB#0-Range1: 9KHz~150KHz



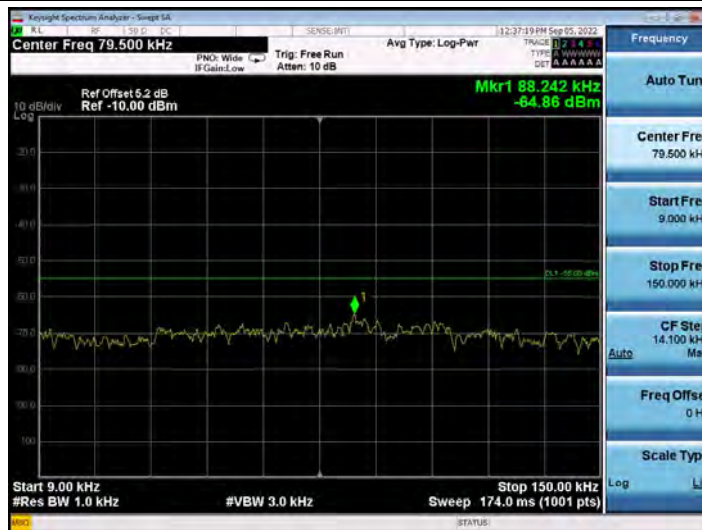
Band7-15MHz-QPSK-21100-1RB#0-Range2: 150KHz~30MHz



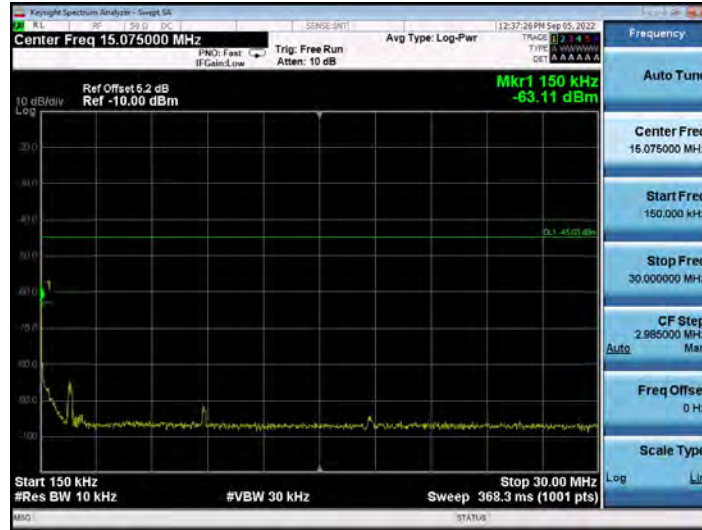
Band7-15MHz-QPSK-21100-1RB#0-Range3: 30MHz~25.35GHz



Band7-20MHz-QPSK-21100-1RB#0-Range1: 9KHz~150KHz



Band7-20MHz-QPSK-21100-1RB#0-Range2: 150KHz~30MHz



Band7-20MHz-QPSK-21100-1RB#0-Range3: 30MHz~25.35GHz



## 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: RMS

Test Plots

Test Band = BAND7

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

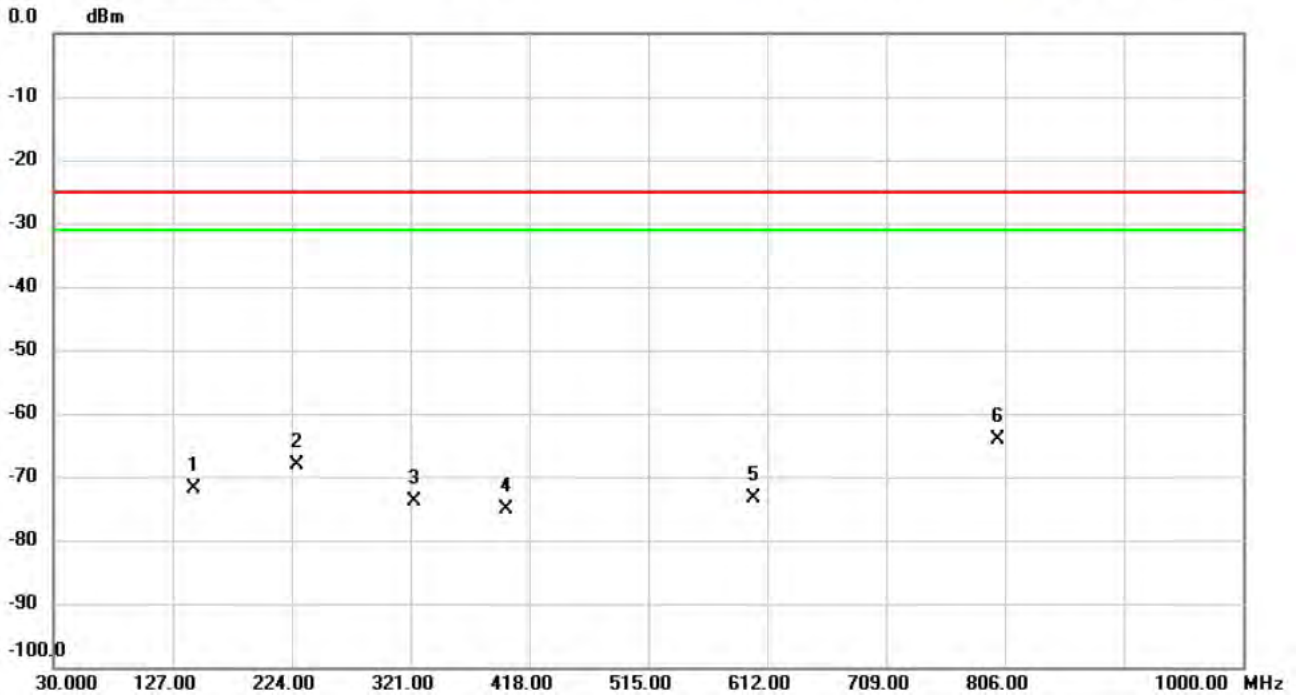
**Radiated Emission Measurement**

File :FCCP\_BELOW1G

Data :#6

Date: 2022/9/13

Time: 11:10:53



No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Margin dB	Detector
1		144.4600	-66.41	-5.41	-71.82	-25.00	-46.82	RMS
2		228.8500	-63.51	-4.66	-68.17	-25.00	-43.17	RMS
3		323.9100	-71.17	-2.81	-73.98	-25.00	-48.98	RMS
4		399.5700	-73.34	-1.76	-75.10	-25.00	-50.10	RMS
5		600.3600	-75.21	1.95	-73.26	-25.00	-48.26	RMS
6	*	800.1800	-68.49	4.28	-64.21	-25.00	-39.21	RMS



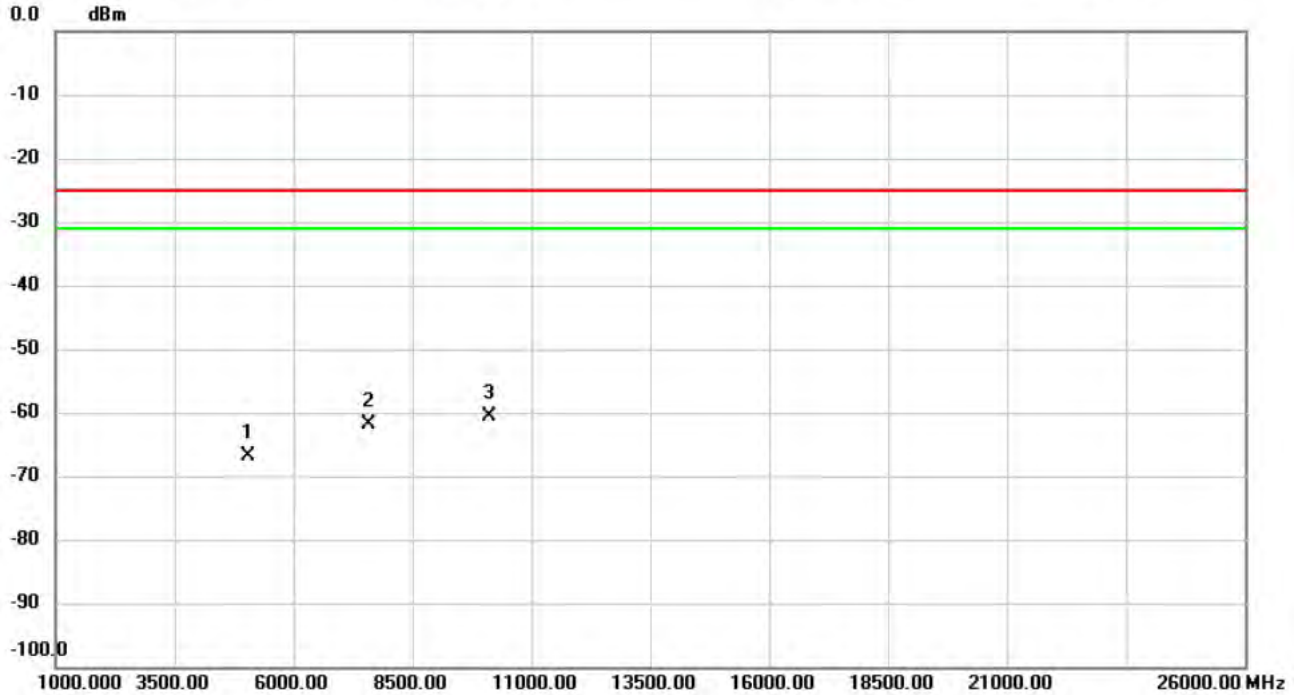
Above 1G  
 BW\_5MHz  
**Radiated Emission Measurement**

File :FCCP\_ABOVE1G

Data :#34

Date: 2022/9/7

Time: 11:55:38



No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Margin dB	Detector
1		5065.500	-64.33	-2.46	-66.79	-25.00	-41.79	RMS
2		7598.250	-64.10	2.33	-61.77	-25.00	-36.77	RMS
3	*	10131.00	-65.62	5.10	-60.52	-25.00	-35.52	RMS

BW\_20MHz

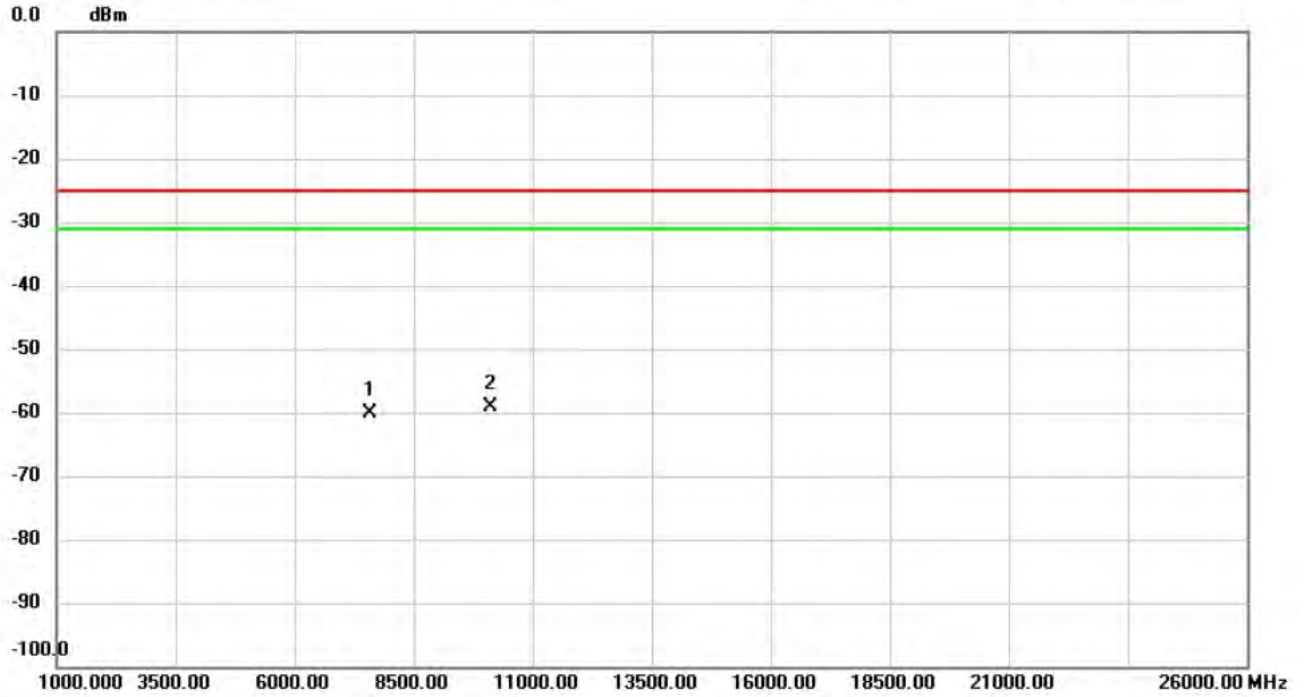
### Radiated Emission Measurement

File :FCCP\_ABOVE1G

Data :#36

Date: 2022/9/7

Time: 13:04:55



No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Margin dB	Detector
1		7579.000	-62.41	2.32	-60.09	-25.00	-35.09	RMS
2	*	10104.00	-64.07	5.02	-59.05	-25.00	-34.05	RMS

**Middle channel Vertical**

Below 1G

BW\_5MHz

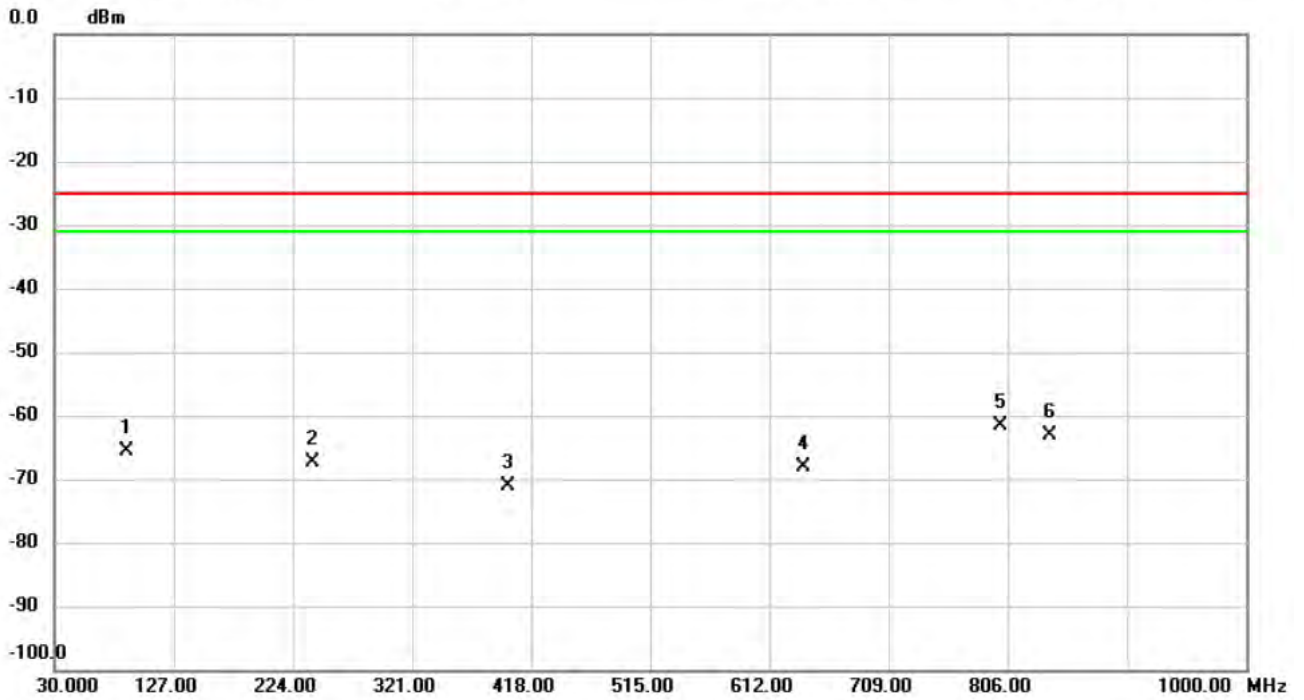
**Radiated Emission Measurement**

File :FCCP\_BELOW1G

Data :#5

Date: 2022/9/13

Time: 11:09:24



No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Margin dB	Detector
1		89.1700	-61.54	-4.03	-65.57	-25.00	-40.57	RMS
2		239.5200	-61.80	-5.49	-67.29	-25.00	-42.29	RMS
3		399.5700	-69.51	-1.55	-71.06	-25.00	-46.06	RMS
4		640.1300	-70.08	1.95	-68.13	-25.00	-43.13	RMS
5	*	800.1800	-65.18	3.44	-61.74	-25.00	-36.74	RMS
6		839.9500	-66.67	3.60	-63.07	-25.00	-38.07	RMS



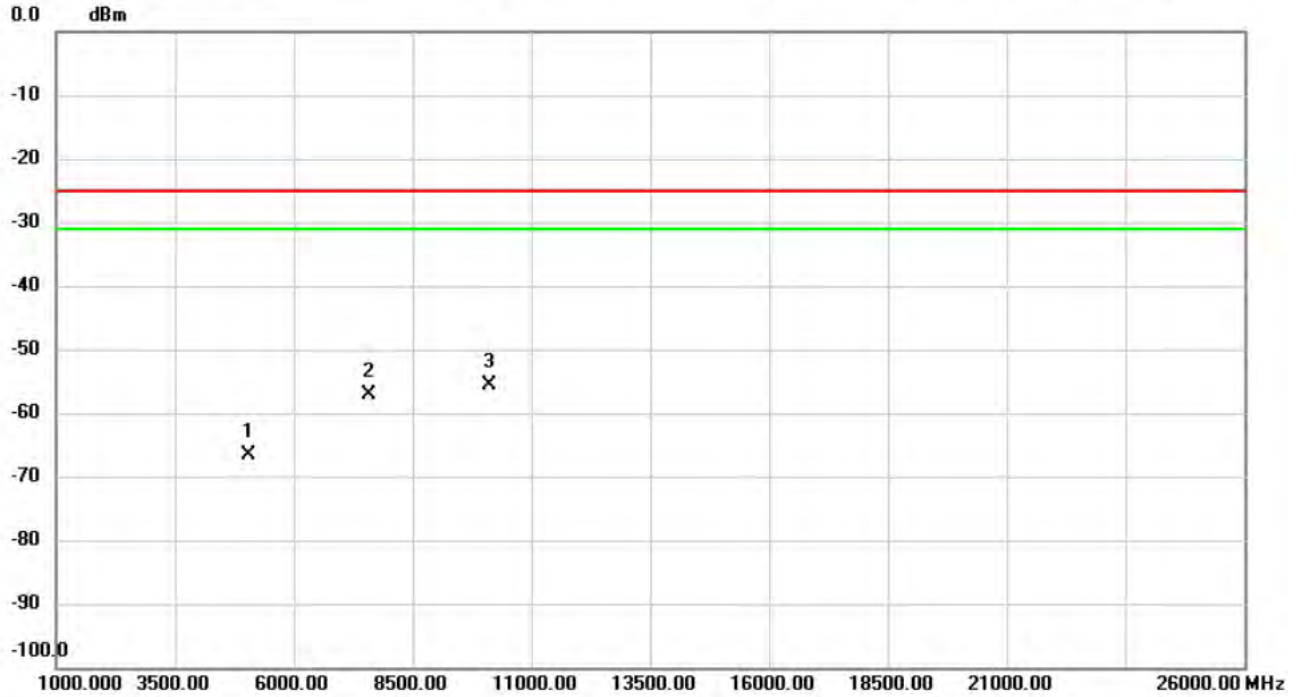
Above 1G  
 BW\_5MHz  
**Radiated Emission Measurement**

File :FCCP\_ABOVE1G

Data :#33

Date: 2022/9/7

Time: 11:53:56



No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Margin dB	Detector
1		5065.500	-64.25	-2.29	-66.54	-25.00	-41.54	RMS
2		7596.000	-59.32	2.25	-57.07	-25.00	-32.07	RMS
3	*	10129.000	-60.65	5.05	-55.60	-25.00	-30.60	RMS

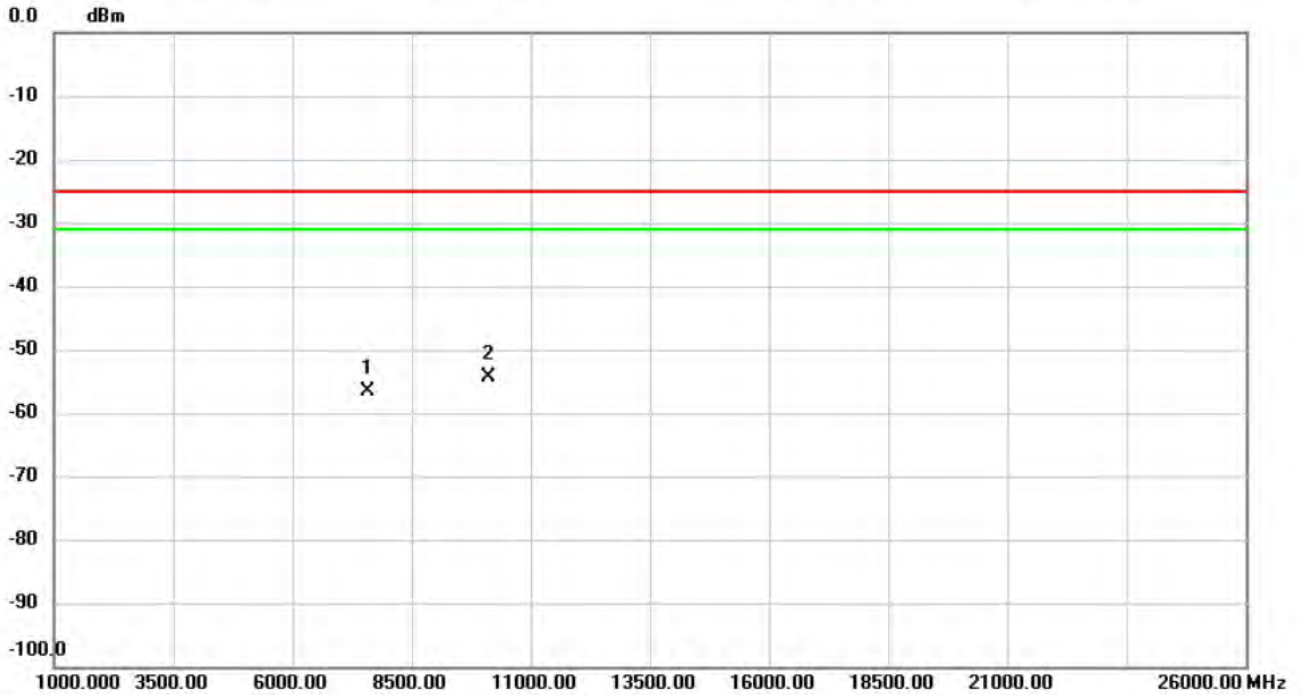
BW\_20MHz  
**Radiated Emission Measurement**

File :FCCP\_ABOVE1G

Data :#35

Date: 2022/9/7

Time: 11:59:25



No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Margin dB	Detector
1		7579.000	-58.79	2.22	-56.57	-25.00	-31.57	RMS
2	*	10112.00	-59.43	5.00	-54.43	-25.00	-29.43	RMS

## Appendix H: Frequency Stability

Test Result:

Frequency Error vs. Voltage:

Worst Case date as follows:

Voltage										
Band	Bandwidth	Modulation	Channel	RB Configure	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
Band7	5MHz	QPSK	21100	1RB#0	VH	NT	8.74	0.00344773	±2.5	PASS
Band7	5MHz	QPSK	21100	1RB#0	VN	NT	6.06	0.00239053	±2.5	PASS
Band7	5MHz	QPSK	21100	1RB#0	VL	NT	6.97	0.00274951	±2.5	PASS
Band7	10MHz	QPSK	21100	1RB#0	VH	NT	8.77	0.00345957	±2.5	PASS
Band7	10MHz	QPSK	21100	1RB#0	VN	NT	4.37	0.00172387	±2.5	PASS
Band7	10MHz	QPSK	21100	1RB#0	VL	NT	5.78	0.00228008	±2.5	PASS
Band7	15MHz	QPSK	21100	1RB#0	VH	NT	8.21	0.00323866	±2.5	PASS
Band7	15MHz	QPSK	21100	1RB#0	VN	NT	6.26	0.00246943	±2.5	PASS
Band7	15MHz	QPSK	21100	1RB#0	VL	NT	5.32	0.00209862	±2.5	PASS
Band7	20MHz	QPSK	21100	1RB#0	VH	NT	4.77	0.00188166	±2.5	PASS
Band7	20MHz	QPSK	21100	1RB#0	VN	NT	5.72	0.00225641	±2.5	PASS
Band7	20MHz	QPSK	21100	1RB#0	VL	NT	4.27	0.00168442	±2.5	PASS

**Frequency Error vs. Temperature:**
**Worst Case date as follows:**

Temperature										
Band	Bandwidth	Modulation	Channel	RB Configure	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
Band7	5MHz	QPSK	21100	1RB#0	NV	-40	8.86	0.00349507	±2.5	PASS
Band7	5MHz	QPSK	21100	1RB#0	NV	-30	5.12	0.00201972	±2.5	PASS
Band7	5MHz	QPSK	21100	1RB#0	NV	-20	-8.89	-0.00350690	±2.5	PASS
Band7	5MHz	QPSK	21100	1RB#0	NV	-10	4.05	0.00159763	±2.5	PASS
Band7	5MHz	QPSK	21100	1RB#0	NV	0	6.58	0.00259566	±2.5	PASS
Band7	5MHz	QPSK	21100	1RB#0	NV	10	8.42	0.00332150	±2.5	PASS
Band7	5MHz	QPSK	21100	1RB#0	NV	20	5.99	0.00236292	±2.5	PASS
Band7	5MHz	QPSK	21100	1RB#0	NV	30	-8.86	-0.00349507	±2.5	PASS
Band7	5MHz	QPSK	21100	1RB#0	NV	40	7.70	0.00303748	±2.5	PASS
Band7	5MHz	QPSK	21100	1RB#0	NV	50	6.31	0.00248915	±2.5	PASS
Band7	5MHz	QPSK	21100	1RB#0	NV	60	7.84	0.00309270	±2.5	PASS
Band7	5MHz	QPSK	21100	1RB#0	NV	70	4.20	0.00165680	±2.5	PASS
Band7	10MHz	QPSK	21100	1RB#0	NV	80	-5.35	-0.00211045	±2.5	PASS
Band7	10MHz	QPSK	21100	1RB#0	NV	-40	6.31	0.00248915	±2.5	PASS
Band7	10MHz	QPSK	21100	1RB#0	NV	-30	-4.07	-0.00160552	±2.5	PASS
Band7	10MHz	QPSK	21100	1RB#0	NV	-20	4.77	0.00188166	±2.5	PASS
Band7	10MHz	QPSK	21100	1RB#0	NV	-10	5.66	0.00223274	±2.5	PASS
Band7	10MHz	QPSK	21100	1RB#0	NV	0	7.36	0.00290335	±2.5	PASS
Band7	10MHz	QPSK	21100	1RB#0	NV	10	-4.76	-0.00187771	±2.5	PASS
Band7	10MHz	QPSK	21100	1RB#0	NV	20	6.92	0.00272978	±2.5	PASS
Band7	10MHz	QPSK	21100	1RB#0	NV	30	5.34	0.00210651	±2.5	PASS
Band7	10MHz	QPSK	21100	1RB#0	NV	40	7.04	0.00277712	±2.5	PASS
Band7	10MHz	QPSK	21100	1RB#0	NV	50	8.73	0.00344379	±2.5	PASS
Band7	10MHz	QPSK	21100	1RB#0	NV	60	-5.99	-0.00236292	±2.5	PASS
Band7	10MHz	QPSK	21100	1RB#0	NV	70	6.60	0.00260355	±2.5	PASS
Band7	10MHz	QPSK	21100	1RB#0	NV	80	-8.83	-0.00348323	±2.5	PASS
Band7	15MHz	QPSK	21100	1RB#0	NV	-40	7.96	0.00314004	±2.5	PASS
Band7	15MHz	QPSK	21100	1RB#0	NV	-30	8.79	0.00346746	±2.5	PASS
Band7	15MHz	QPSK	21100	1RB#0	NV	-20	8.71	0.00343590	±2.5	PASS
Band7	15MHz	QPSK	21100	1RB#0	NV	-10	-4.73	-0.00186588	±2.5	PASS
Band7	15MHz	QPSK	21100	1RB#0	NV	0	5.09	0.00200789	±2.5	PASS
Band7	15MHz	QPSK	21100	1RB#0	NV	10	7.39	0.00291519	±2.5	PASS
Band7	15MHz	QPSK	21100	1RB#0	NV	20	-4.16	-0.00164103	±2.5	PASS



Band7	15MHz	QPSK	21100	1RB#0	NV	30	8.24	0.00325049	±2.5	PASS
Band7	15MHz	QPSK	21100	1RB#0	NV	40	4.12	0.00162525	±2.5	PASS
Band7	15MHz	QPSK	21100	1RB#0	NV	50	-7.37	-0.00290730	±2.5	PASS
Band7	15MHz	QPSK	21100	1RB#0	NV	60	-7.78	-0.00306903	±2.5	PASS
Band7	15MHz	QPSK	21100	1RB#0	NV	70	7.53	0.00297041	±2.5	PASS
Band7	15MHz	QPSK	21100	1RB#0	NV	80	6.38	0.00251677	±2.5	PASS
Band7	20MHz	QPSK	21100	1RB#0	NV	-40	4.57	0.00180276	±2.5	PASS
Band7	20MHz	QPSK	21100	1RB#0	NV	-30	5.19	0.00204734	±2.5	PASS
Band7	20MHz	QPSK	21100	1RB#0	NV	-20	-8.07	-0.00318343	±2.5	PASS
Band7	20MHz	QPSK	21100	1RB#0	NV	-10	6.97	0.00274951	±2.5	PASS
Band7	20MHz	QPSK	21100	1RB#0	NV	0	4.56	0.00179882	±2.5	PASS
Band7	20MHz	QPSK	21100	1RB#0	NV	10	7.28	0.00287179	±2.5	PASS
Band7	20MHz	QPSK	21100	1RB#0	NV	20	6.23	0.00245759	±2.5	PASS
Band7	20MHz	QPSK	21100	1RB#0	NV	30	-6.56	-0.00258777	±2.5	PASS
Band7	20MHz	QPSK	21100	1RB#0	NV	40	-8.05	-0.00317554	±2.5	PASS
Band7	20MHz	QPSK	21100	1RB#0	NV	50	4.09	0.00161341	±2.5	PASS
Band7	20MHz	QPSK	21100	1RB#0	NV	60	4.41	0.00173964	±2.5	PASS
Band7	20MHz	QPSK	21100	1RB#0	NV	70	5.26	0.00207495	±2.5	PASS
Band7	20MHz	QPSK	21100	1RB#0	NV	80	-6.13	-0.00241815	±2.5	PASS

END