TD-LTE/LTE FDD terminal

M/N:HP-N323

FCC ID:2BN5N-HPN323

Applicant:HPYJ USA LLC

Appendix for LTE Band 7

Appendix A: Conducted Power Output Data

Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dBm)	Verdict
Band7	5MHz	QPSK	20775	1RB#0	25.84	PASS
Band7	5MHz	QPSK	20775	1RB#12	25.77	PASS
Band7	5MHz	QPSK	20775	1RB#24	25.84	PASS
Band7	5MHz	QPSK	20775	12RB#0	24.80	PASS
Band7	5MHz	QPSK	20775	12RB#6	24.79	PASS
Band7	5MHz	QPSK	20775	12RB#13	24.89	PASS
Band7	5MHz	QPSK	20775	25RB#0	24.79	PASS
Band7	5MHz	16QAM	20775	1RB#0	24.80	PASS
Band7	5MHz	16QAM	20775	1RB#12	24.95	PASS
Band7	5MHz	16QAM	20775	1RB#24	24.86	PASS
Band7	5MHz	16QAM	20775	12RB#0	23.93	PASS
Band7	5MHz	16QAM	20775	12RB#6	23.99	PASS
Band7	5MHz	16QAM	20775	12RB#13	24.11	PASS
Band7	5MHz	16QAM	20775	25RB#0	23.94	PASS
Band7	5MHz	QPSK	21100	1RB#0	25.20	PASS
Band7	5MHz	QPSK	21100	1RB#12	25.13	PASS
Band7	5MHz	QPSK	21100	1RB#24	25.18	PASS
Band7	5MHz	QPSK	21100	12RB#0	24.14	PASS
Band7	5MHz	QPSK	21100	12RB#6	24.22	PASS
Band7	5MHz	QPSK	21100	12RB#13	24.19	PASS
Band7	5MHz	QPSK	21100	25RB#0	24.25	PASS
Band7	5MHz	16QAM	21100	1RB#0	24.12	PASS
Band7	5MHz	16QAM	21100	1RB#12	24.10	PASS
Band7	5MHz	16QAM	21100	1RB#24	24.11	PASS
Band7	5MHz	16QAM	21100	12RB#0	23.38	PASS
Band7	5MHz	16QAM	21100	12RB#6	23.40	PASS
Band7	5MHz	16QAM	21100	12RB#13	23.36	PASS
Band7	5MHz	16QAM	21100	25RB#0	23.42	PASS
Band7	5MHz	QPSK	21425	1RB#0	23.44	PASS
Band7	5MHz	QPSK	21425	1RB#12	24.00	PASS
Band7	5MHz	QPSK	21425	1RB#24	24.27	PASS
Band7	5MHz	QPSK	21425	12RB#0	22.83	PASS
Band7	5MHz	QPSK	21425	12RB#6	22.86	PASS
Band7	5MHz	QPSK	21425	12RB#13	23.28	PASS
Band7	5MHz	QPSK	21425	25RB#0	23.21	PASS
Band7	5MHz	16QAM	21425	1RB#0	22.59	PASS
Band7	5MHz	16QAM	21425	1RB#12	23.22	PASS

Band7	5MHz	16QAM	21425	1RB#24	23.37	PASS
Band7	5MHz	16QAM	21425	12RB#0	22.07	PASS
Band7	5MHz	16QAM	21425	12RB#6	22.01	PASS
Band7	5MHz	16QAM	21425	12RB#13	22.53	PASS
Band7	5MHz	16QAM	21425	25RB#0	22.49	PASS
Band7	10MHz	QPSK	20800	1RB#0	26.12	PASS
Band7	10MHz	QPSK	20800	1RB#24	25.67	PASS
Band7	10MHz	QPSK	20800	1RB#49	25.17	PASS
Band7	10MHz	QPSK	20800	25RB#0	24.90	PASS
Band7	10MHz	QPSK	20800	25RB#12	24.89	PASS
Band7	10MHz	QPSK	20800	25RB#25	24.59	PASS
Band7	10MHz	QPSK	20800	50RB#0	24.97	PASS
Band7	10MHz	16QAM	20800	1RB#0	24.90	PASS
Band7	10MHz	16QAM	20800	1RB#24	24.90	PASS
Band7	10MHz	16QAM	20800	1RB#49	24.51	PASS
Band7	10MHz	16QAM	20800	25RB#0	23.93	PASS
Band7	10MHz	16QAM	20800	25RB#12	23.93	PASS
Band7	10MHz	16QAM	20800	25RB#25	23.77	PASS
Band7	10MHz	QPSK	21100	1RB#0	25.36	PASS
Band7	10MHz	QPSK	21100	1RB#24	25.08	PASS
Band7	10MHz	QPSK	21100	1RB#49	25.31	PASS
Band7	10MHz	QPSK	21100	25RB#0	24.00	PASS
Band7	10MHz	QPSK	21100	25RB#12	24.12	PASS
Band7	10MHz	QPSK	21100	25RB#25	24.10	PASS
Band7	10MHz	QPSK	21100	50RB#0	24.35	PASS
Band7	10MHz	16QAM	21100	1RB#0	24.16	PASS
Band7	10MHz	16QAM	21100	1RB#24	23.95	PASS
Band7	10MHz	16QAM	21100	1RB#49	23.97	PASS
Band7	10MHz	16QAM	21100	25RB#0	23.22	PASS
Band7	10MHz	16QAM	21100	25RB#12	23.26	PASS
Band7	10MHz	16QAM	21100	25RB#25	23.22	PASS
Band7	10MHz	QPSK	21400	1RB#0	22.99	PASS
Band7	10MHz	QPSK	21400	1RB#24	23.41	PASS
Band7	10MHz	QPSK	21400	1RB#49	24.43	PASS
Band7	10MHz	QPSK	21400	25RB#0	22.16	PASS
Band7	10MHz	QPSK	21400	25RB#12	22.22	PASS
Band7	10MHz	QPSK	21400	25RB#25	23.13	PASS
Band7	10MHz	QPSK	21400	50RB#0	22.65	PASS
Band7	10MHz	16QAM	21400	1RB#0	21.97	PASS
Band7	10MHz	16QAM	21400	1RB#24	22.42	PASS
Band7	10MHz	16QAM	21400	1RB#49	23.30	PASS
Band7	10MHz	16QAM	21400	25RB#0	21.46	PASS

Band7	10MHz	16QAM	21400	25RB#12	21.51	PASS
Band7	10MHz	16QAM	21400	25RB#25	22.35	PASS
Band7	15MHz	QPSK	20825	1RB#0	25.95	PASS
Band7	15MHz	QPSK	20825	1RB#38	25.28	PASS
Band7	15MHz	QPSK	20825	1RB#74	24.83	PASS
Band7	15MHz	QPSK	20825	38RB#0	24.70	PASS
Band7	15MHz	QPSK	20825	38RB#18	24.69	PASS
Band7	15MHz	QPSK	20825	38RB#37	24.74	PASS
Band7	15MHz	QPSK	20825	75RB#0	24.78	PASS
Band7	15MHz	16QAM	20825	1RB#0	25.08	PASS
Band7	15MHz	16QAM	20825	1RB#38	24.83	PASS
Band7	15MHz	16QAM	20825	1RB#74	24.24	PASS
Band7	15MHz	16QAM	20825	38RB#0	24.72	PASS
Band7	15MHz	16QAM	20825	38RB#18	24.75	PASS
Band7	15MHz	16QAM	20825	38RB#37	24.73	PASS
Band7	15MHz	QPSK	21100	1RB#0	25.15	PASS
Band7	15MHz	QPSK	21100	1RB#38	25.22	PASS
Band7	15MHz	QPSK	21100	1RB#74	25.30	PASS
Band7	15MHz	QPSK	21100	38RB#0	24.41	PASS
Band7	15MHz	QPSK	21100	38RB#18	24.39	PASS
Band7	15MHz	QPSK	21100	38RB#37	24.38	PASS
Band7	15MHz	QPSK	21100	75RB#0	24.65	PASS
Band7	15MHz	16QAM	21100	1RB#0	24.58	PASS
Band7	15MHz	16QAM	21100	1RB#38	24.39	PASS
Band7	15MHz	16QAM	21100	1RB#74	24.45	PASS
Band7	15MHz	16QAM	21100	38RB#0	24.40	PASS
Band7	15MHz	16QAM	21100	38RB#18	24.39	PASS
Band7	15MHz	16QAM	21100	38RB#37	24.37	PASS
Band7	15MHz	QPSK	21375	1RB#0	24.55	PASS
Band7	15MHz	QPSK	21375	1RB#38	23.21	PASS
Band7	15MHz	QPSK	21375	1RB#74	24.40	PASS
Band7	15MHz	QPSK	21375	38RB#0	22.55	PASS
Band7	15MHz	QPSK	21375	38RB#18	22.62	PASS
Band7	15MHz	QPSK	21375	38RB#37	22.60	PASS
Band7	15MHz	QPSK	21375	75RB#0	22.71	PASS
Band7	15MHz	16QAM	21375	1RB#0	23.48	PASS
Band7	15MHz	16QAM	21375	1RB#38	22.23	PASS
Band7	15MHz	16QAM	21375	1RB#74	23.31	PASS
Band7	15MHz	16QAM	21375	38RB#0	22.60	PASS
Band7	15MHz	16QAM	21375	38RB#18	22.59	PASS
Band7	15MHz	16QAM	21375	38RB#37	22.61	PASS
Band7	20MHz	QPSK	20850	1RB#0	26.24	PASS

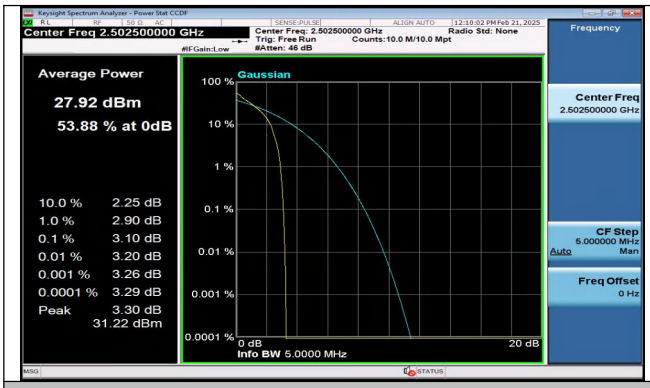
Band7	20MHz	QPSK	20850	1RB#49	25.53	PASS
Band7	20MHz	QPSK	20850	1RB#99	24.54	PASS
Band7	20MHz	QPSK	20850	50RB#0	25.12	PASS
Band7	20MHz	QPSK	20850	50RB#25	25.16	PASS
Band7	20MHz	QPSK	20850	50RB#50	24.17	PASS
Band7	20MHz	QPSK	20850	100RB#0	24.56	PASS
Band7	20MHz	16QAM	20850	1RB#0	25.07	PASS
Band7	20MHz	16QAM	20850	1RB#49	24.63	PASS
Band7	20MHz	16QAM	20850	1RB#99	23.74	PASS
Band7	20MHz	QPSK	21100	1RB#0	25.14	PASS
Band7	20MHz	QPSK	21100	1RB#49	25.34	PASS
Band7	20MHz	QPSK	21100	1RB#99	25.41	PASS
Band7	20MHz	QPSK	21100	50RB#0	24.53	PASS
Band7	20MHz	QPSK	21100	50RB#25	24.44	PASS
Band7	20MHz	QPSK	21100	50RB#50	24.57	PASS
Band7	20MHz	QPSK	21100	100RB#0	24.55	PASS
Band7	20MHz	16QAM	21100	1RB#0	24.42	PASS
Band7	20MHz	16QAM	21100	1RB#49	24.52	PASS
Band7	20MHz	16QAM	21100	1RB#99	24.50	PASS
Band7	20MHz	QPSK	21350	1RB#0	25.37	PASS
Band7	20MHz	QPSK	21350	1RB#49	23.17	PASS
Band7	20MHz	QPSK	21350	1RB#99	24.48	PASS
Band7	20MHz	QPSK	21350	50RB#0	23.78	PASS
Band7	20MHz	QPSK	21350	50RB#25	23.71	PASS
Band7	20MHz	QPSK	21350	50RB#50	22.69	PASS
Band7	20MHz	QPSK	21350	100RB#0	22.56	PASS
Band7	20MHz	16QAM	21350	1RB#0	24.51	PASS
Band7	20MHz	16QAM	21350	1RB#49	22.43	PASS
Band7	20MHz	16QAM	21350	1RB#99	23.37	PASS

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

Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dB)	Limit(dB)	Verdict
Band7	5MHz	QPSK	20775	1RB#0	3.10	13	PASS
Band7	5MHz	QPSK	20775	25RB#0	4.92	13	PASS
Band7	5MHz	16QAM	20775	1RB#0	4.04	13	PASS
Band7	5MHz	16QAM	20775	25RB#0	5.60	13	PASS
Band7	5MHz	QPSK	21100	1RB#0	3.09	13	PASS
Band7	5MHz	QPSK	21100	25RB#0	4.86	13	PASS
Band7	5MHz	16QAM	21100	1RB#0	3.81	13	PASS
Band7	5MHz	16QAM	21100	25RB#0	5.51	13	PASS
Band7	5MHz	QPSK	21425	1RB#0	4.49	13	PASS
Band7	5MHz	QPSK	21425	25RB#0	5.29	13	PASS
Band7	5MHz	16QAM	21425	1RB#0	5.05	13	PASS
Band7	5MHz	16QAM	21425	25RB#0	5.95	13	PASS
Band7	10MHz	QPSK	20800	1RB#0	2.96	13	PASS
Band7	10MHz	QPSK	20800	50RB#0	4.89	13	PASS
Band7	10MHz	16QAM	20800	1RB#0	4.08	13	PASS
Band7	10MHz	QPSK	21100	1RB#0	2.99	13	PASS
Band7	10MHz	QPSK	21100	50RB#0	4.81	13	PASS
Band7	10MHz	16QAM	21100	1RB#0	3.94	13	PASS
Band7	10MHz	QPSK	21400	1RB#0	4.81	13	PASS
Band7	10MHz	QPSK	21400	50RB#0	5.44	13	PASS
Band7	10MHz	16QAM	21400	1RB#0	5.75	13	PASS
Band7	15MHz	QPSK	20825	1RB#0	2.94	13	PASS
Band7	15MHz	QPSK	20825	75RB#0	5.25	13	PASS
Band7	15MHz	16QAM	20825	1RB#0	4.05	13	PASS
Band7	15MHz	QPSK	21100	1RB#0	3.17	13	PASS
Band7	15MHz	QPSK	21100	75RB#0	5.03	13	PASS
Band7	15MHz	16QAM	21100	1RB#0	3.94	13	PASS
Band7	15MHz	QPSK	21375	1RB#0	4.11	13	PASS
Band7	15MHz	QPSK	21375	75RB#0	5.82	13	PASS
Band7	15MHz	16QAM	21375	1RB#0	4.90	13	PASS
Band7	20MHz	QPSK	20850	1RB#0	2.89	13	PASS
Band7	20MHz	QPSK	20850	100RB#0	5.05	13	PASS
Band7	20MHz	QPSK	21100	1RB#0	3.31	13	PASS
Band7	20MHz	QPSK	21100	100RB#0	4.81	13	PASS
Band7	20MHz	QPSK	21350	1RB#0	4.15	13	PASS
Band7	20MHz	QPSK	21350	100RB#0	5.59	13	PASS

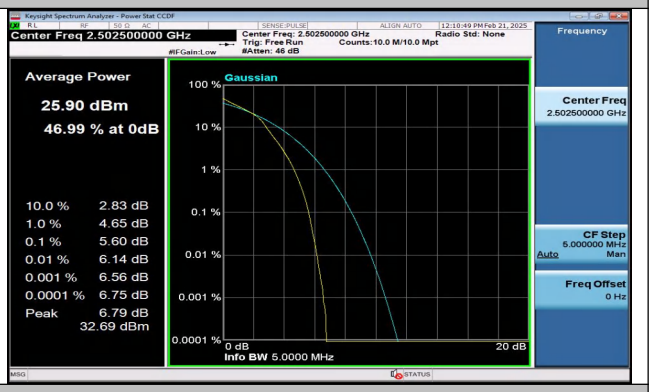
Test Graphs



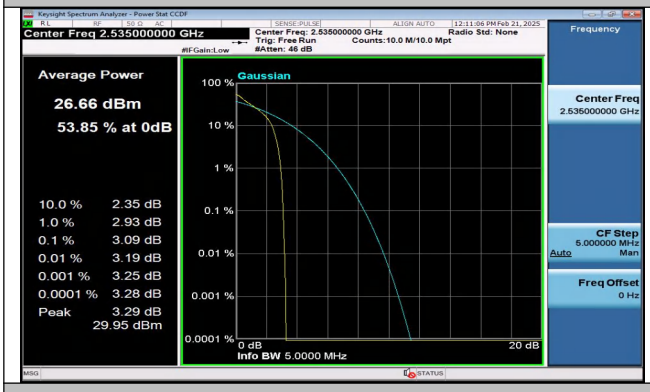
Band7-5MHz-QPSK-20775-1RB#0-PASS

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

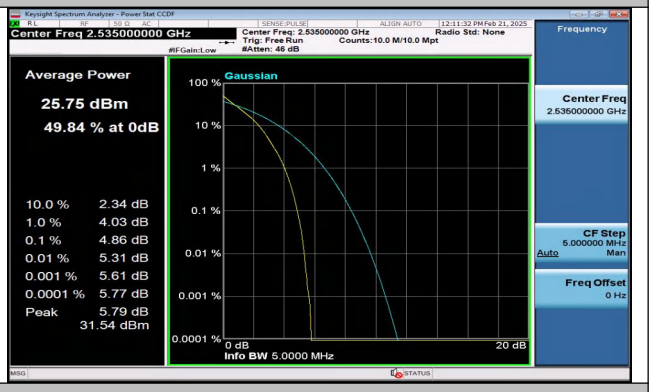
Band7-5MHz-16QAM-20775-1RB#0-PASS



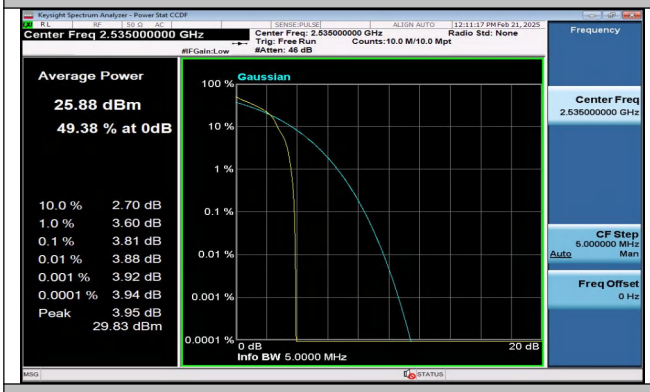
Band7-5MHz-16QAM-20775-25RB#0-PASS



Band7-5MHz-QPSK-21100-1RB#0-PASS

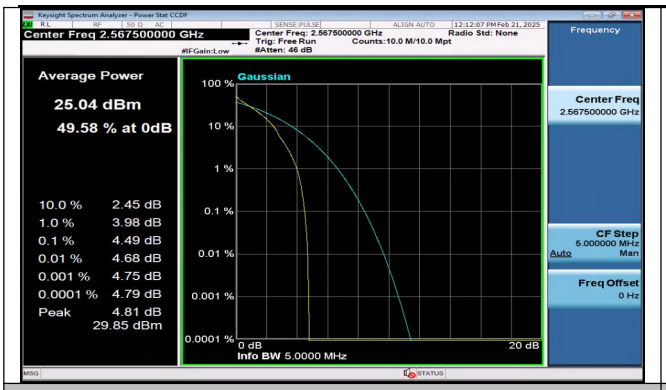


Band7-5MHz-QPSK-21100-25RB#0-PASS

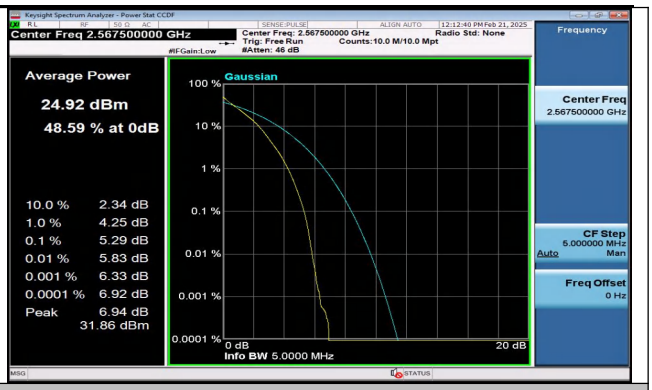


Band7-5MHz-16QAM-21100-1RB#0-PASS

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

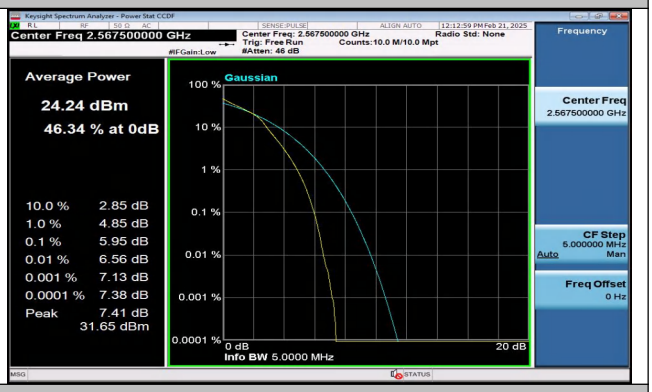


Band7-5MHz-QPSK-21425-1RB#0-PASS

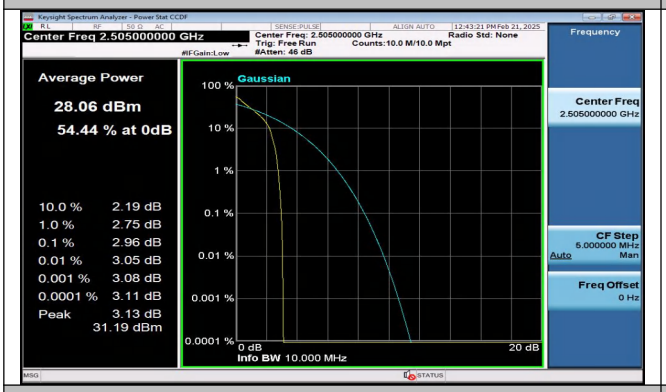


Band7-5MHz-QPSK-21425-25RB#0-PASS

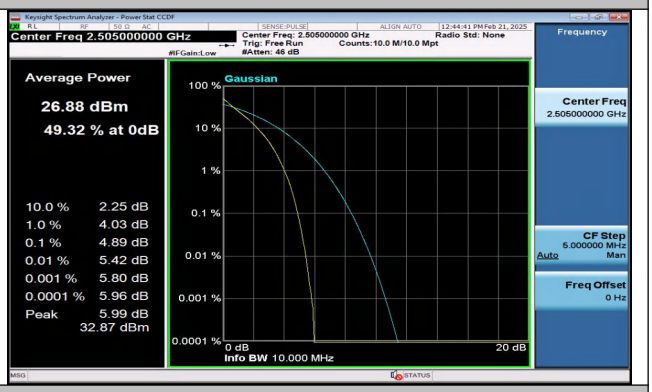
Band7-5MHz-16QAM-21425-1RB#0-PASS



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

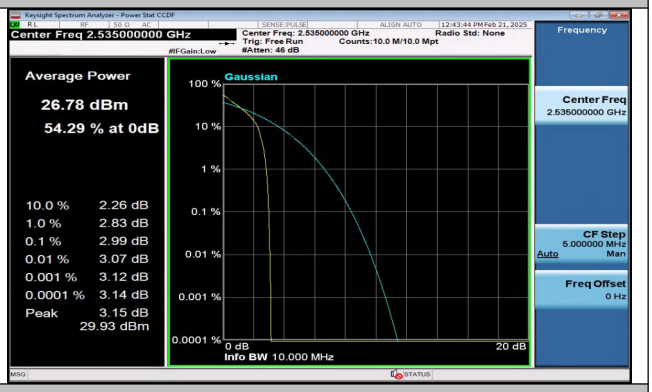


Band7-10MHz-QPSK-20800-1RB#0-PASS

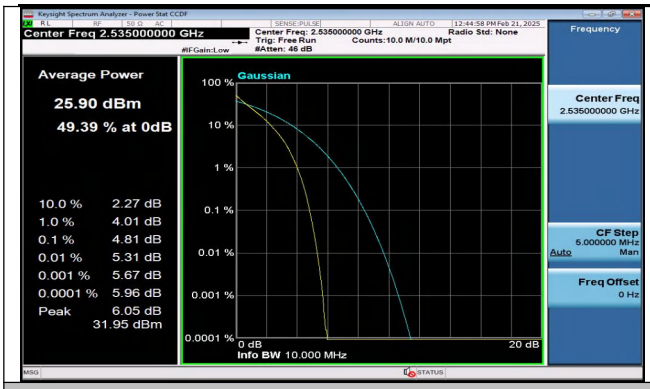


Band7-10MHz-QPSK-20800-50RB#0-PASS

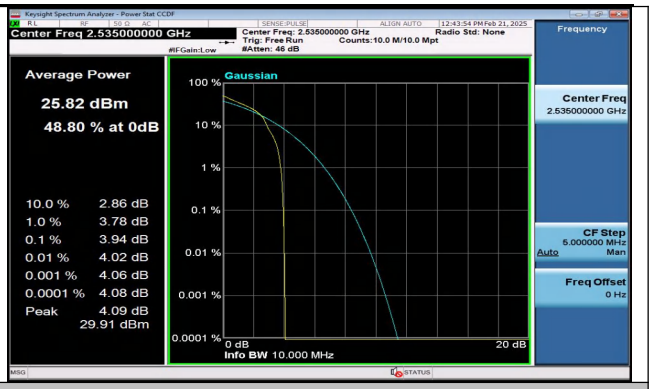
Band7-10MHz-16QAM-20800-1RB#0-PASS



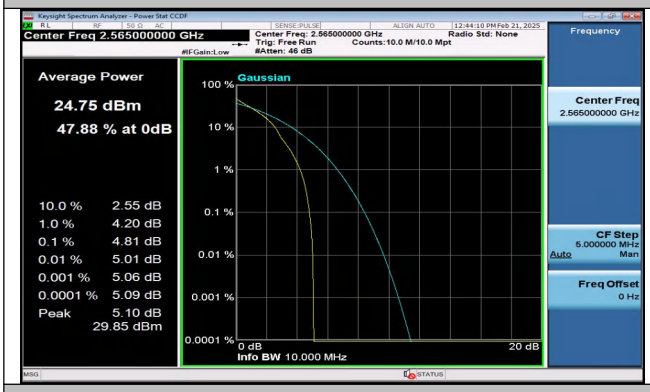
Band7-10MHz-QPSK-21100-1RB#0-PASS



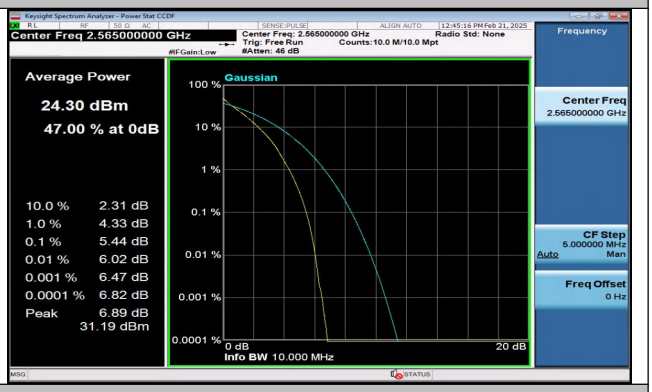
Band7-10MHz-QPSK-21100-50RB#0-PASS



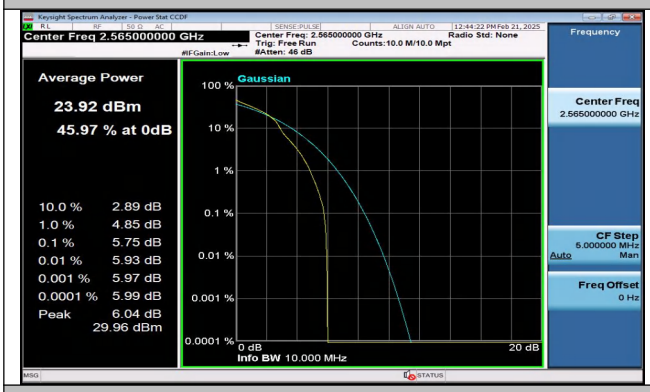
Band7-10MHz-16QAM-21100-1RB#0-PASS



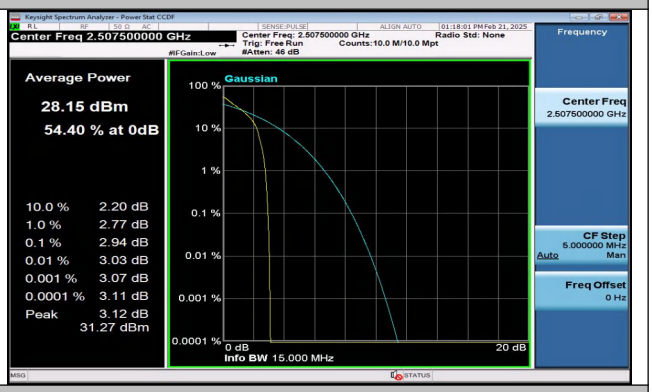
Band7-10MHz-QPSK-21400-1RB#0-PASS



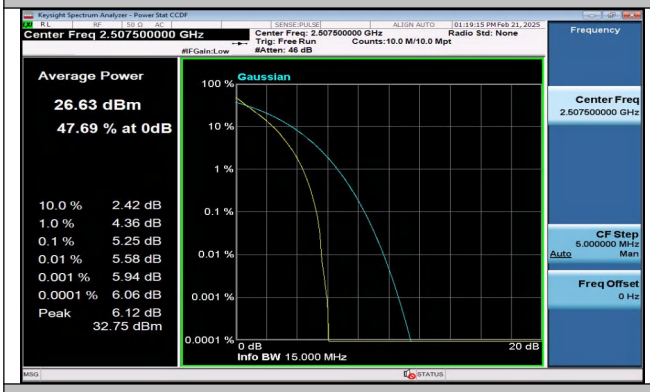
Band7-10MHz-QPSK-21400-50RB#0-PASS



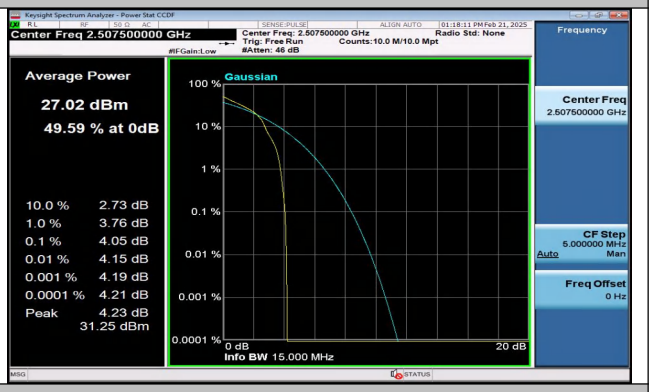
Band7-10MHz-16QAM-21400-1RB#0-PASS



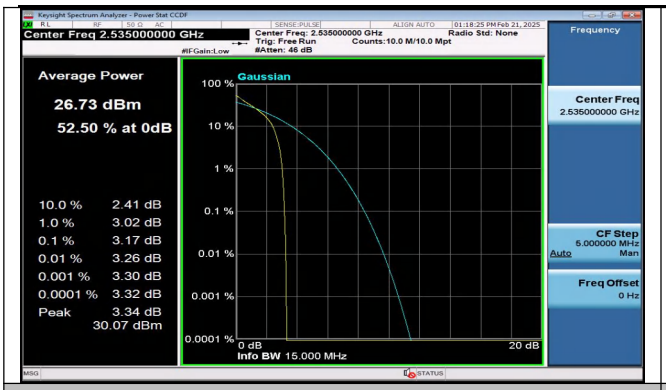
Band7-15MHz-QPSK-20825-1RB#0-PASS



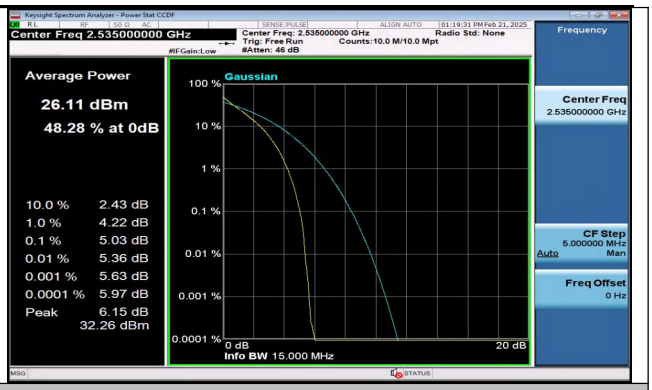
Band7-15MHz-QPSK-20825-75RB#0-PASS



Band7-15MHz-16QAM-20825-1RB#0-PASS



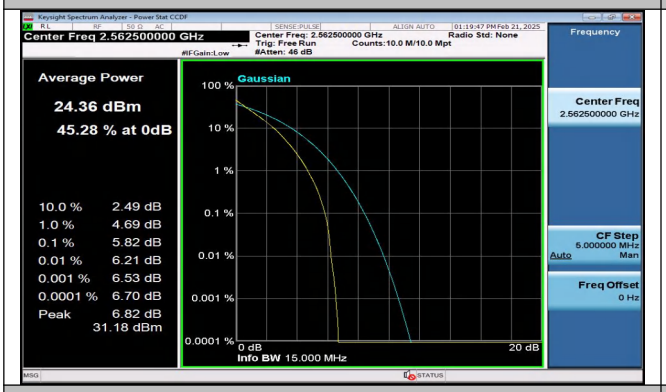
Band7-15MHz-QPSK-21100-1RB#0-PASS



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

Band7-15MHz-16QAM-21100-1RB#0-PASS

Band7-15MHz-QPSK-21375-1RB#0-PASS



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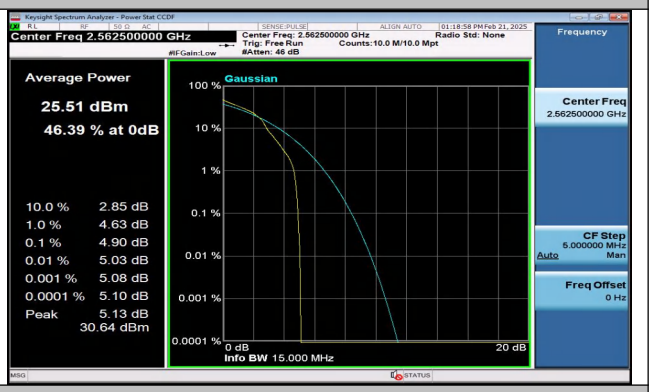
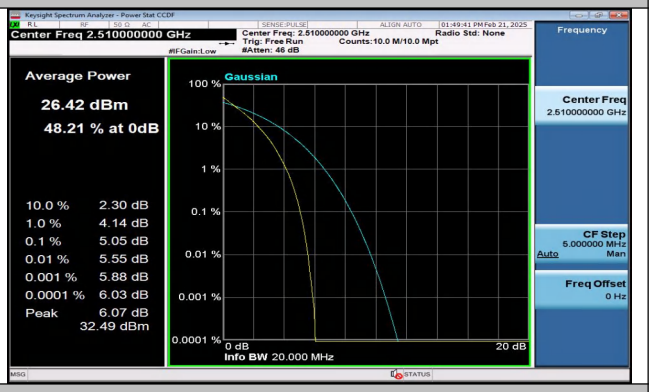
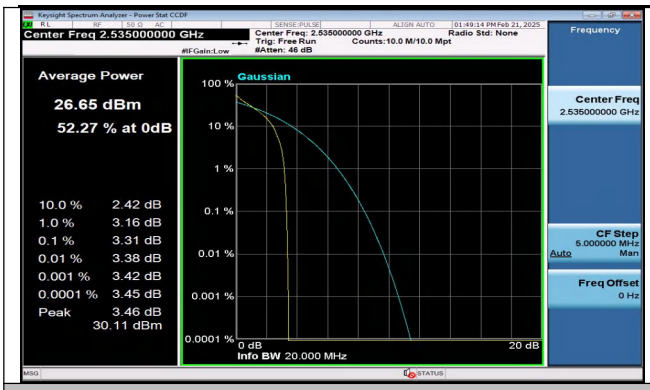


Band7-15MHz-16QAM-21375-1RB#0-PASS

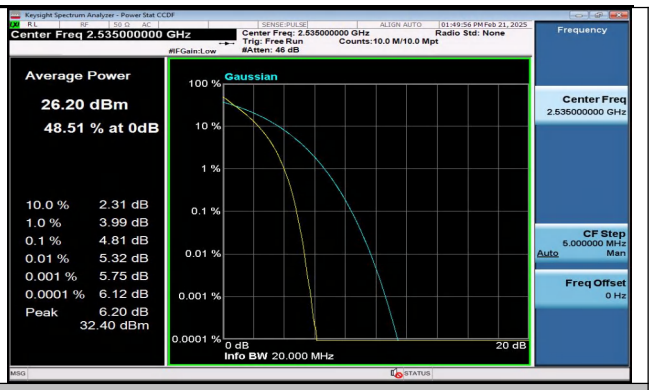
Band7-20MHz-QPSK-20850-1RB#0-PASS



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



Band7-20MHz-QPSK-21100-1RB#0-PASS



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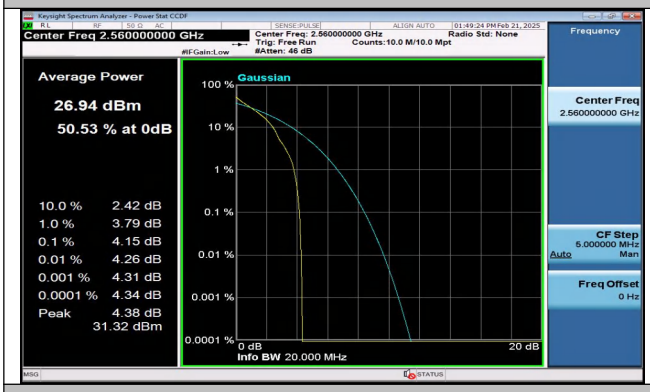
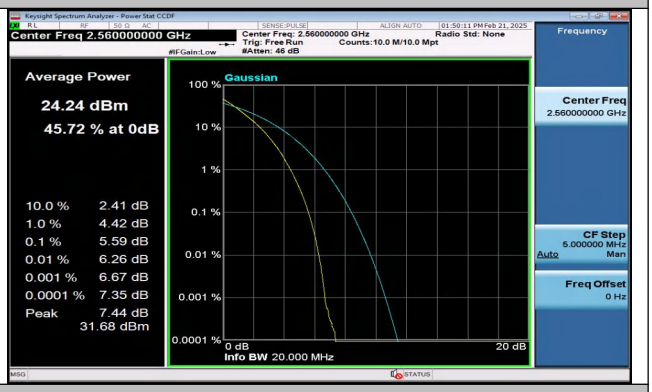


Band7-20MHz-QPSK-21350-1RB#0-PASS



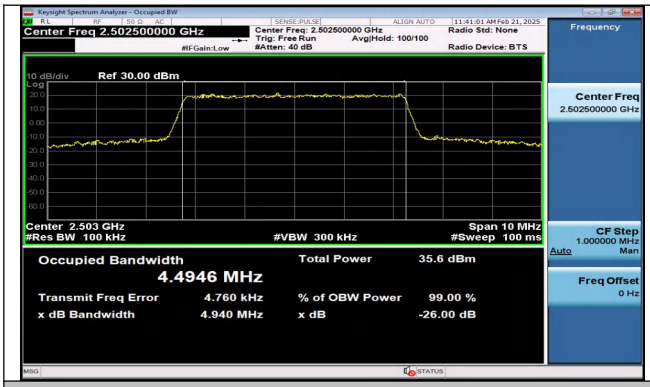
Band7-20MHz-QPSK-21350-100RB#0-PASS

Appendix C: 26dB Bandwidth and Occupied Bandwidth

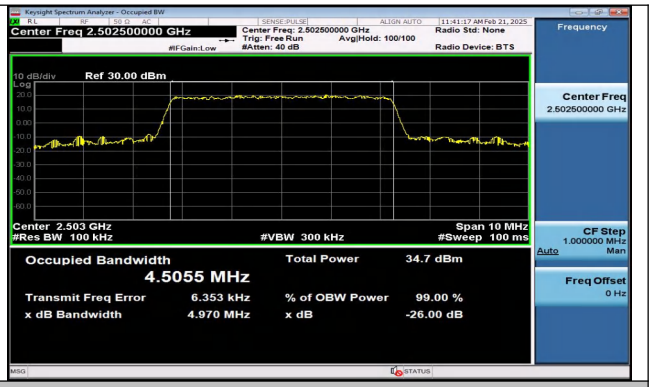
Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
Band7	5MHz	QPSK	20775	25RB#0	4.4946	4.940	PASS
Band7	5MHz	16QAM	20775	25RB#0	4.5055	4.970	PASS
Band7	5MHz	QPSK	21100	25RB#0	4.5099	4.984	PASS
Band7	5MHz	16QAM	21100	25RB#0	4.5189	4.968	PASS
Band7	5MHz	QPSK	21425	25RB#0	4.5118	4.982	PASS
Band7	5MHz	16QAM	21425	25RB#0	4.5017	4.941	PASS
Band7	10MHz	QPSK	20800	50RB#0	8.9790	9.826	PASS
Band7	10MHz	16QAM	20800	27RB#0	4.9707	5.646	PASS
Band7	10MHz	QPSK	21100	50RB#0	8.9780	9.748	PASS
Band7	10MHz	16QAM	21100	27RB#0	4.9713	5.708	PASS
Band7	10MHz	QPSK	21400	50RB#0	8.9670	9.758	PASS
Band7	10MHz	16QAM	21400	27RB#0	4.9716	5.657	PASS
Band7	15MHz	QPSK	20825	75RB#0	13.454	14.52	PASS
Band7	15MHz	16QAM	20825	27RB#0	5.0936	5.887	PASS
Band7	15MHz	QPSK	21100	75RB#0	13.527	14.70	PASS
Band7	15MHz	16QAM	21100	27RB#0	5.1076	5.931	PASS
Band7	15MHz	QPSK	21375	75RB#0	13.491	14.61	PASS
Band7	15MHz	16QAM	21375	27RB#0	5.0658	5.891	PASS
Band7	20MHz	QPSK	20850	100RB#0	17.915	19.21	PASS
Band7	20MHz	16QAM	20850	27RB#0	5.2052	7.182	PASS
Band7	20MHz	QPSK	21100	100RB#0	17.980	19.19	PASS
Band7	20MHz	16QAM	21100	27RB#0	5.1968	6.180	PASS
Band7	20MHz	QPSK	21350	100RB#0	17.914	19.24	PASS
Band7	20MHz	16QAM	21350	27RB#0	5.1420	6.085	PASS

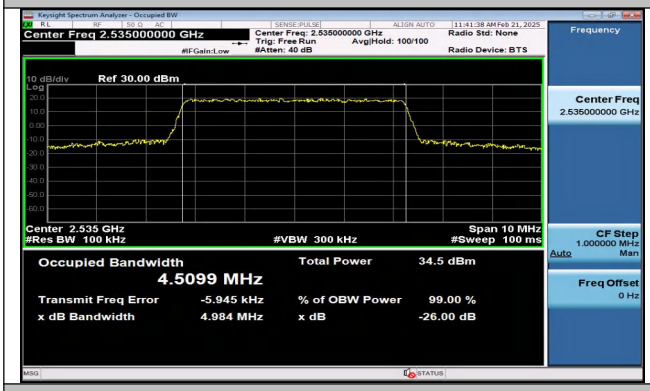
Test Graphs



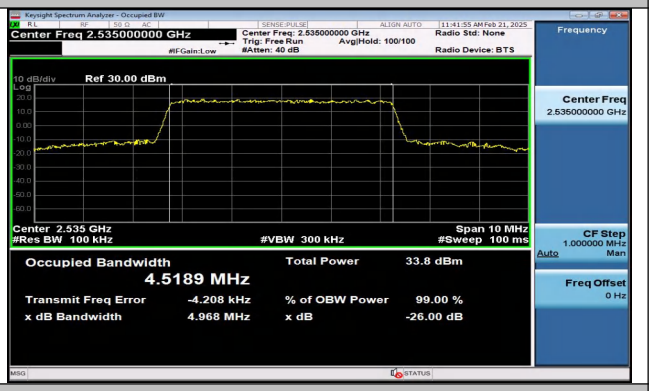
Band7-5MHz-QPSK-20775-25RB#0-PASS



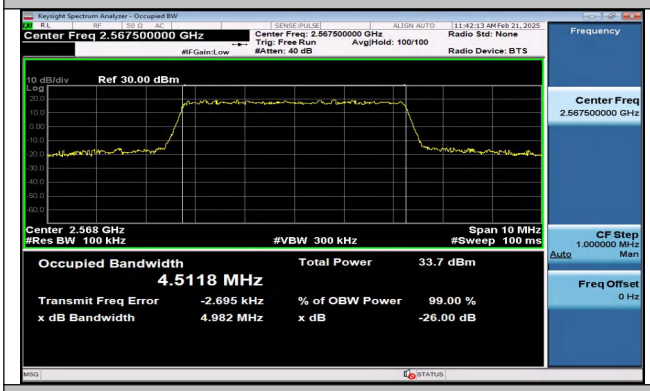
Band7-5MHz-16QAM-20775-25RB#0-PASS



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



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



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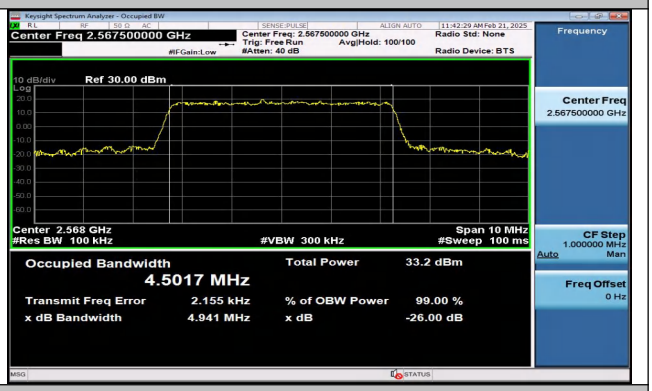

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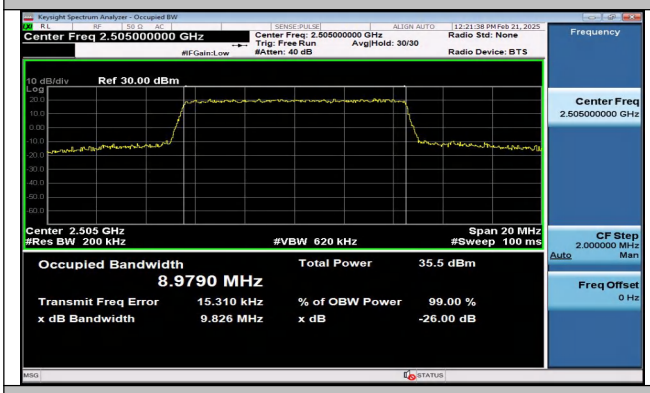
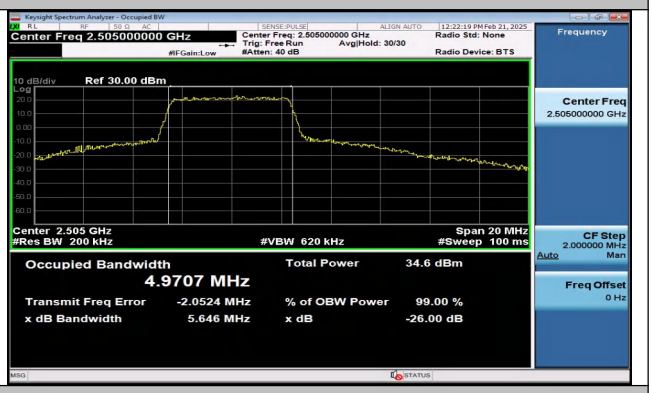
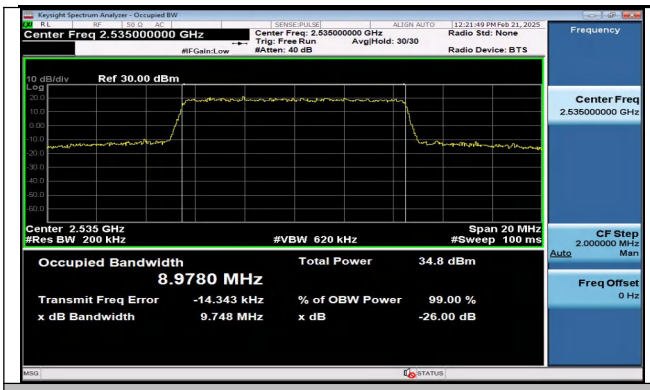


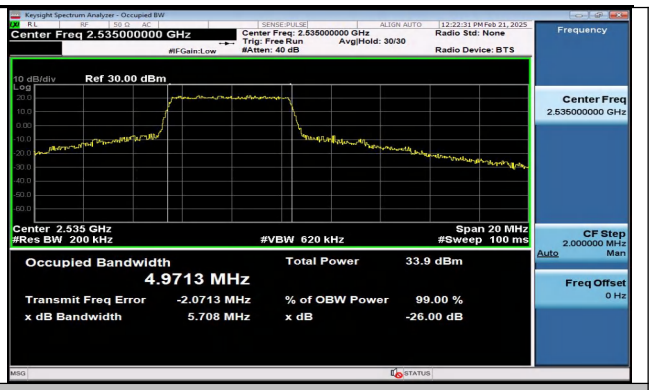
Band7-10MHz-QPSK-20800-50RB#0-PASS



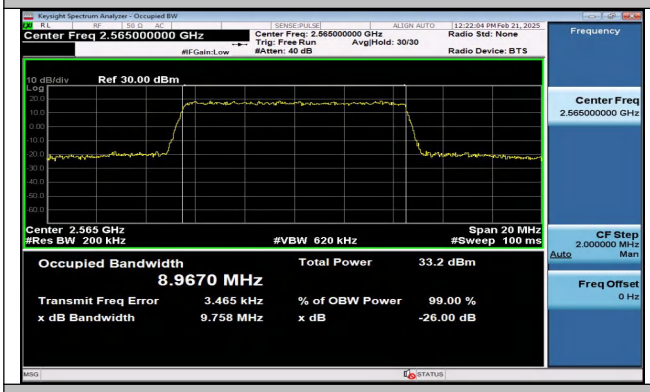
Band7-10MHz-16QAM-20800-27RB#0-PASS



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



Band7-10MHz-16QAM-21100-27RB#0-PASS



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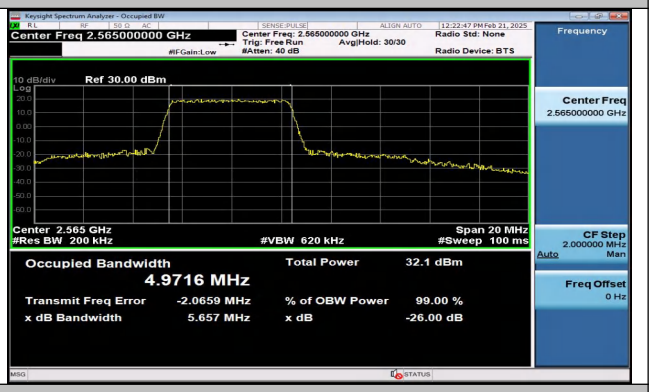

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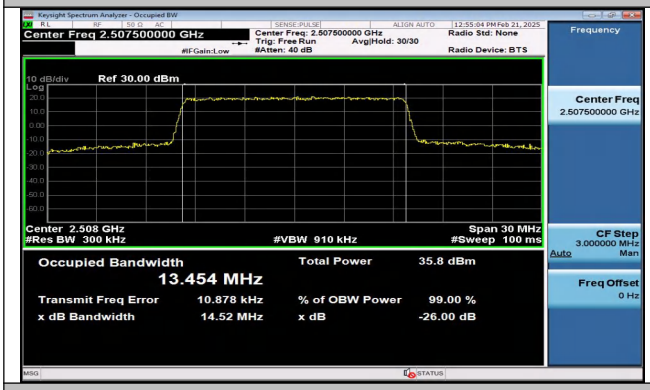
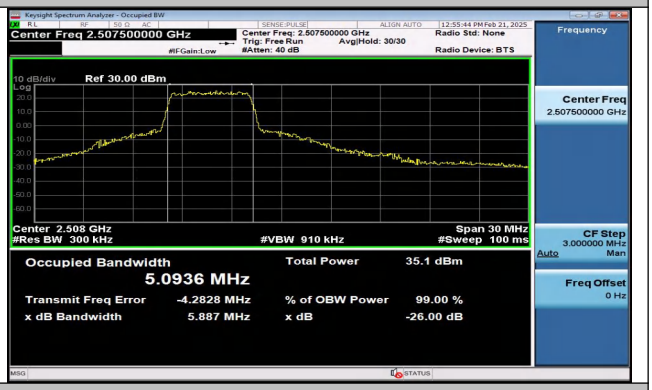
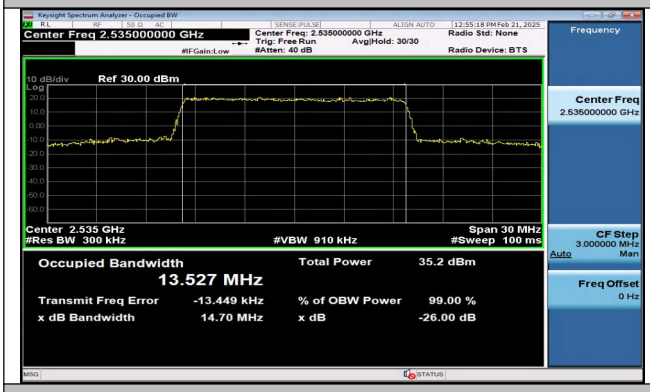


Band7-15MHz-QPSK-20825-75RB#0-PASS



Band7-15MHz-16QAM-20825-27RB#0-PASS



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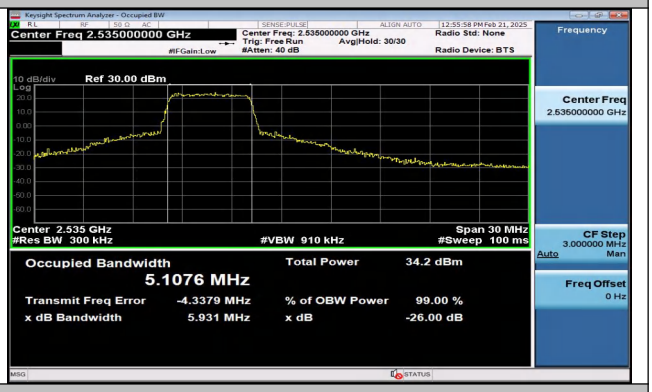

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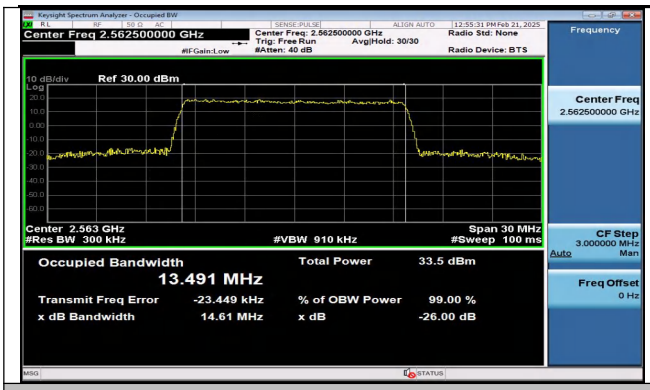

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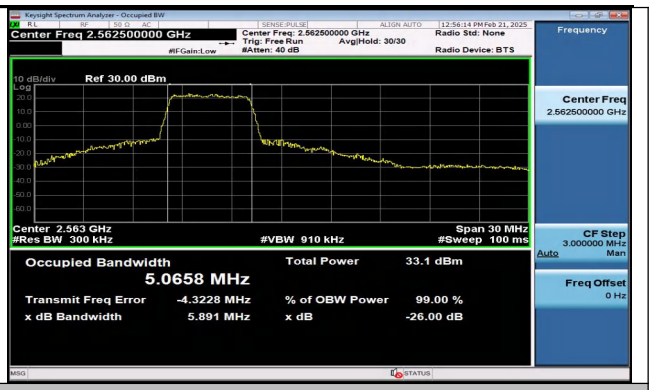

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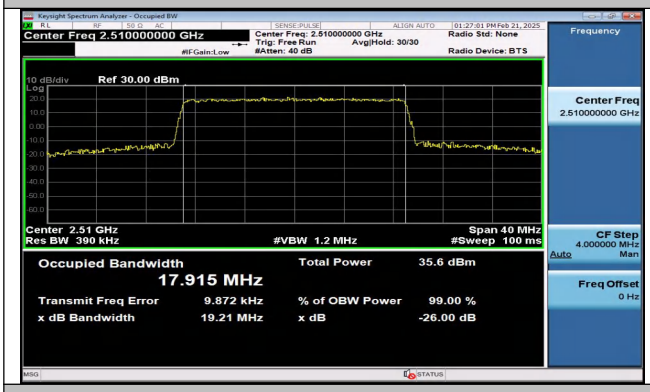
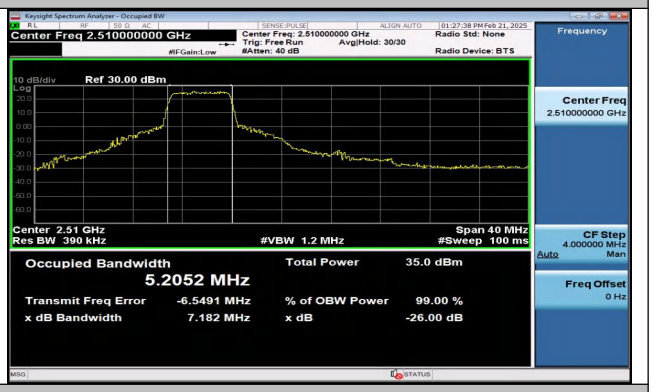
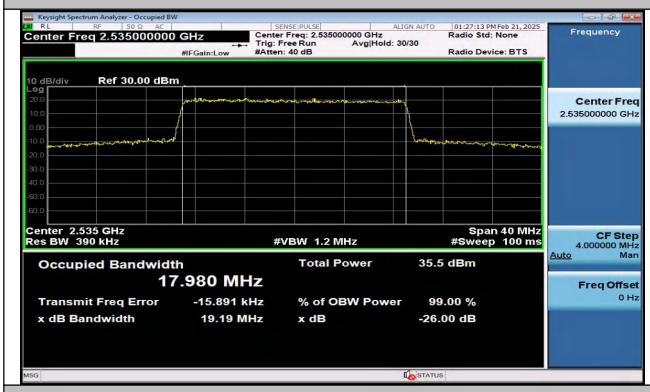


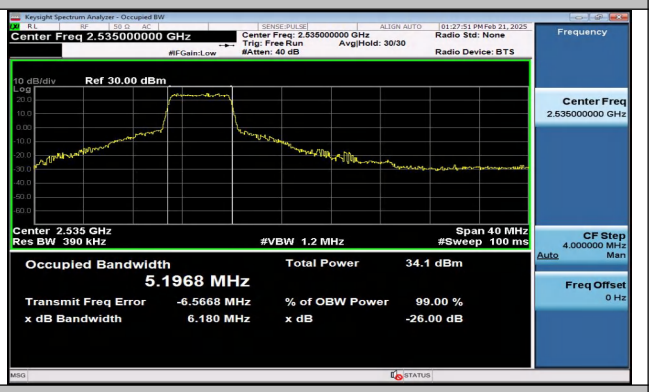
Band7-20MHz-QPSK-20850-100RB#0-PASS



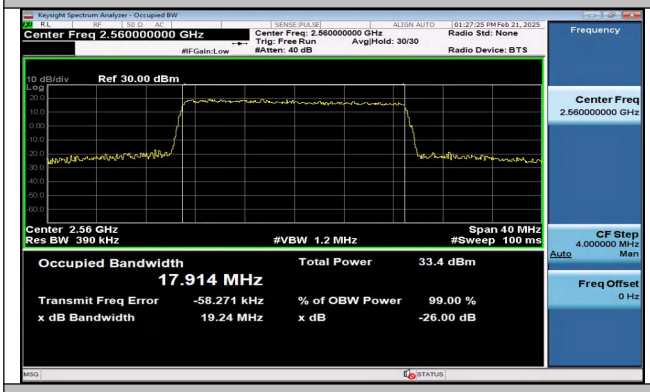
Band7-20MHz-16QAM-20850-27RB#0-PASS



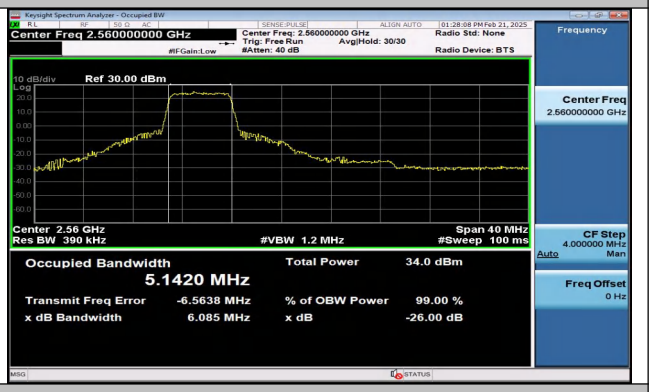
Band7-20MHz-QPSK-21100-100RB#0-PASS



Band7-20MHz-16QAM-21100-27RB#0-PASS



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



Band7-20MHz-16QAM-21350-27RB#0-PASS

Appendix D: Band Edge

Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dBm)	Verdict
Band7	5MHz	QPSK	20775	1RB#0	-18.79	PASS
Band7	5MHz	QPSK	20775	1RB#24	-41.25	PASS
Band7	5MHz	QPSK	20775	25RB#0	-18.87	PASS
Band7	5MHz	16QAM	20775	1RB#0	-20.64	PASS
Band7	5MHz	16QAM	20775	1RB#24	-41.36	PASS
Band7	5MHz	16QAM	20775	25RB#0	-22.07	PASS
Band7	5MHz	QPSK	21425	1RB#0	-40.43	PASS
Band7	5MHz	QPSK	21425	1RB#24	-21.60	PASS
Band7	5MHz	QPSK	21425	25RB#0	-34.45	PASS
Band7	5MHz	16QAM	21425	1RB#0	-40.50	PASS
Band7	5MHz	16QAM	21425	1RB#24	-22.49	PASS
Band7	5MHz	16QAM	21425	25RB#0	-35.07	PASS
Band7	10MHz	QPSK	20800	1RB#0	-39.84	PASS
Band7	10MHz	QPSK	20800	1RB#49	-41.29	PASS
Band7	10MHz	QPSK	20800	50RB#0	-34.64	PASS
Band7	10MHz	16QAM	20800	1RB#0	-40.17	PASS
Band7	10MHz	16QAM	20800	1RB#49	-41.34	PASS
Band7	10MHz	QPSK	21400	1RB#0	-41.64	PASS
Band7	10MHz	QPSK	21400	1RB#49	-40.53	PASS
Band7	10MHz	QPSK	21400	50RB#0	-37.70	PASS
Band7	10MHz	16QAM	21400	1RB#0	-41.66	PASS
Band7	10MHz	16QAM	21400	1RB#49	-40.77	PASS
Band7	15MHz	QPSK	20825	1RB#0	-41.18	PASS
Band7	15MHz	QPSK	20825	1RB#74	-41.51	PASS
Band7	15MHz	QPSK	20825	75RB#0	-34.20	PASS
Band7	15MHz	16QAM	20825	1RB#0	-41.22	PASS
Band7	15MHz	16QAM	20825	1RB#74	-41.45	PASS
Band7	15MHz	QPSK	21375	1RB#0	-41.78	PASS
Band7	15MHz	QPSK	21375	1RB#74	-41.67	PASS
Band7	15MHz	QPSK	21375	75RB#0	-39.11	PASS
Band7	15MHz	16QAM	21375	1RB#0	-41.77	PASS
Band7	15MHz	16QAM	21375	1RB#74	-41.67	PASS
Band7	20MHz	QPSK	20850	1RB#0	-40.70	PASS
Band7	20MHz	QPSK	20850	1RB#99	-41.71	PASS
Band7	20MHz	QPSK	20850	100RB#0	-37.27	PASS
Band7	20MHz	16QAM	20850	1RB#0	-41.07	PASS