



TD-LTE/LTE FDD terminal

M/N:HP-N323

FCC ID:2BN5N-HPN323

Applicant:HPYJ USA LLC

Appendix for LTE Band 13



Appendix A: Conducted Power Output Data

Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dBm)	Verdict
Band13	5MHz	QPSK	23205	1RB#0	22.65	PASS
Band13	5MHz	QPSK	23205	1RB#12	23.63	PASS
Band13	5MHz	QPSK	23205	1RB#24	22.55	PASS
Band13	5MHz	QPSK	23205	12RB#0	22.36	PASS
Band13	5MHz	QPSK	23205	12RB#6	22.39	PASS
Band13	5MHz	QPSK	23205	12RB#13	22.21	PASS
Band13	5MHz	QPSK	23205	25RB#0	22.39	PASS
Band13	5MHz	16QAM	23205	1RB#0	21.62	PASS
Band13	5MHz	16QAM	23205	1RB#12	22.75	PASS
Band13	5MHz	16QAM	23205	1RB#24	21.58	PASS
Band13	5MHz	16QAM	23205	12RB#0	21.52	PASS
Band13	5MHz	16QAM	23205	12RB#6	21.50	PASS
Band13	5MHz	16QAM	23205	12RB#13	21.43	PASS
Band13	5MHz	16QAM	23205	25RB#0	21.45	PASS
Band13	5MHz	QPSK	23230	1RB#0	23.74	PASS
Band13	5MHz	QPSK	23230	1RB#12	22.26	PASS
Band13	5MHz	QPSK	23230	1RB#24	22.12	PASS
Band13	5MHz	QPSK	23230	12RB#0	22.01	PASS
Band13	5MHz	QPSK	23230	12RB#6	22.16	PASS
Band13	5MHz	QPSK	23230	12RB#13	20.83	PASS
Band13	5MHz	QPSK	23230	25RB#0	21.51	PASS
Band13	5MHz	16QAM	23230	1RB#0	22.68	PASS
Band13	5MHz	16QAM	23230	1RB#12	21.09	PASS
Band13	5MHz	16QAM	23230	1RB#24	20.92	PASS
Band13	5MHz	16QAM	23230	12RB#0	21.26	PASS
Band13	5MHz	16QAM	23230	12RB#6	21.27	PASS
Band13	5MHz	16QAM	23230	12RB#13	19.98	PASS
Band13	5MHz	16QAM	23230	25RB#0	20.72	PASS
Band13	5MHz	QPSK	23255	1RB#0	22.10	PASS
Band13	5MHz	QPSK	23255	1RB#12	22.51	PASS
Band13	5MHz	QPSK	23255	1RB#24	23.73	PASS
Band13	5MHz	QPSK	23255	12RB#0	20.78	PASS
Band13	5MHz	QPSK	23255	12RB#6	20.79	PASS
Band13	5MHz	QPSK	23255	12RB#13	21.94	PASS
Band13	5MHz	QPSK	23255	25RB#0	21.40	PASS



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No.:GRCTR250202015-06

Band13	5MHz	16QAM	23255	1RB#0	20.90	PASS
Band13	5MHz	16QAM	23255	1RB#12	21.29	PASS
Band13	5MHz	16QAM	23255	1RB#24	22.60	PASS
Band13	5MHz	16QAM	23255	12RB#0	19.89	PASS
Band13	5MHz	16QAM	23255	12RB#6	19.90	PASS
Band13	5MHz	16QAM	23255	12RB#13	21.15	PASS
Band13	5MHz	16QAM	23255	25RB#0	20.61	PASS
Band13	10MHz	QPSK	23230	1RB#0	22.87	PASS
Band13	10MHz	QPSK	23230	1RB#24	22.34	PASS
Band13	10MHz	QPSK	23230	1RB#49	23.74	PASS
Band13	10MHz	QPSK	23230	25RB#0	22.32	PASS
Band13	10MHz	QPSK	23230	25RB#12	22.34	PASS
Band13	10MHz	QPSK	23230	25RB#25	21.39	PASS
Band13	10MHz	QPSK	23230	50RB#0	21.91	PASS
Band13	10MHz	16QAM	23230	1RB#0	21.87	PASS
Band13	10MHz	16QAM	23230	1RB#24	21.39	PASS
Band13	10MHz	16QAM	23230	1RB#49	22.65	PASS
Band13	10MHz	16QAM	23230	25RB#0	21.40	PASS
Band13	10MHz	16QAM	23230	25RB#12	21.38	PASS
Band13	10MHz	16QAM	23230	25RB#25	20.46	PASS



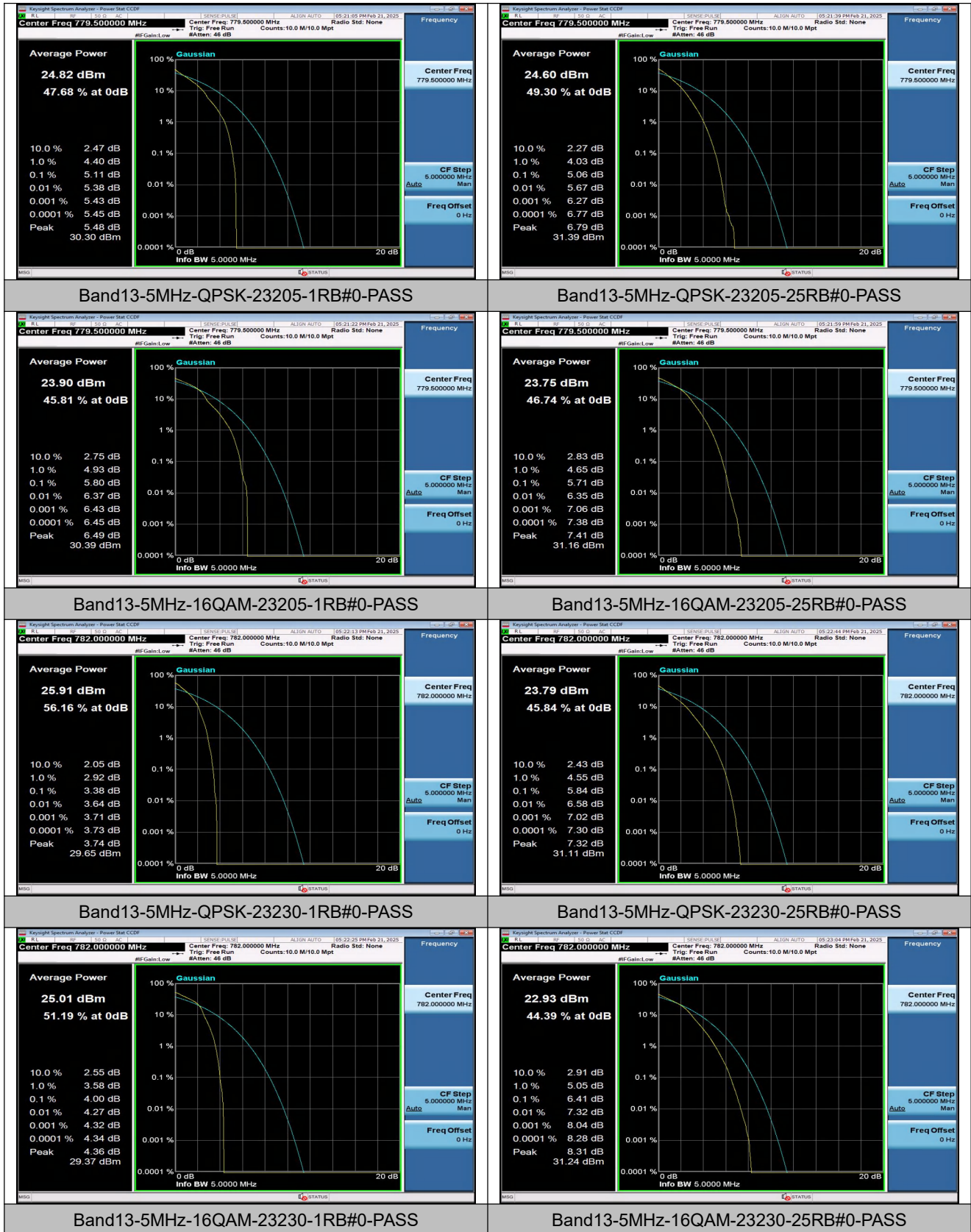
Appendix B: Peak-to-Average Ratio(CCDF)

Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dB)	Limit(dB)	Verdict
Band13	5MHz	QPSK	23205	1RB#0	5.11	13	PASS
Band13	5MHz	QPSK	23205	25RB#0	5.06	13	PASS
Band13	5MHz	16QAM	23205	1RB#0	5.80	13	PASS
Band13	5MHz	16QAM	23205	25RB#0	5.71	13	PASS
Band13	5MHz	QPSK	23230	1RB#0	3.38	13	PASS
Band13	5MHz	QPSK	23230	25RB#0	5.84	13	PASS
Band13	5MHz	16QAM	23230	1RB#0	4.00	13	PASS
Band13	5MHz	16QAM	23230	25RB#0	6.41	13	PASS
Band13	5MHz	QPSK	23255	1RB#0	5.94	13	PASS
Band13	5MHz	QPSK	23255	25RB#0	5.88	13	PASS
Band13	5MHz	16QAM	23255	1RB#0	6.43	13	PASS
Band13	5MHz	16QAM	23255	25RB#0	6.53	13	PASS
Band13	10MHz	QPSK	23230	1RB#0	4.81	13	PASS
Band13	10MHz	QPSK	23230	50RB#0	5.68	13	PASS
Band13	10MHz	16QAM	23230	1RB#0	5.62	13	PASS



Test Graphs







Appendix C: 26dB Bandwidth and Occupied Bandwidth

Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
Band13	5MHz	QPSK	23205	25RB#0	4.4752	4.901	PASS
Band13	5MHz	16QAM	23205	25RB#0	4.4816	4.952	PASS
Band13	5MHz	QPSK	23230	25RB#0	4.5155	4.987	PASS
Band13	5MHz	16QAM	23230	25RB#0	4.5264	4.970	PASS
Band13	5MHz	QPSK	23255	25RB#0	4.5131	4.976	PASS
Band13	5MHz	16QAM	23255	25RB#0	4.5028	4.968	PASS
Band13	10MHz	QPSK	23230	50RB#0	8.9949	9.826	PASS
Band13	10MHz	16QAM	23230	27RB#0	4.9397	5.612	PASS



Test Graphs



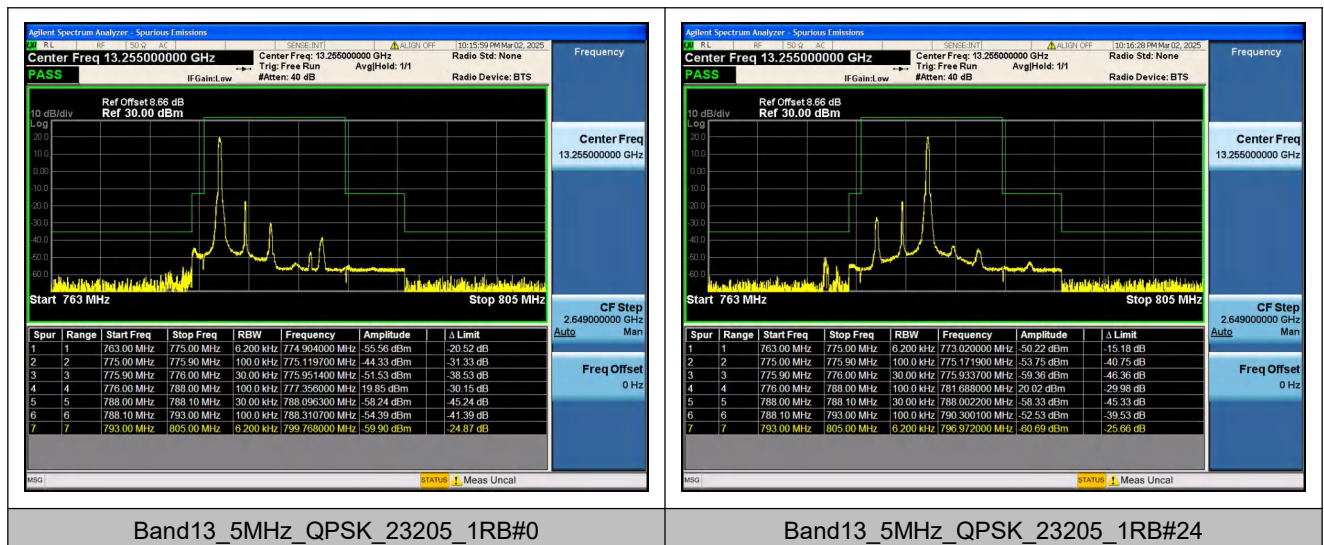


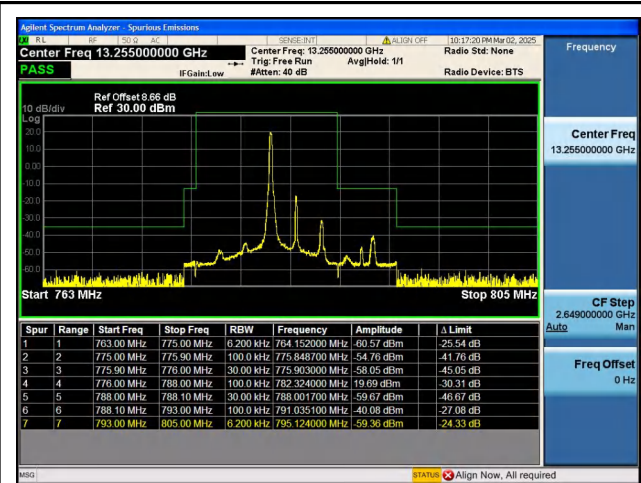
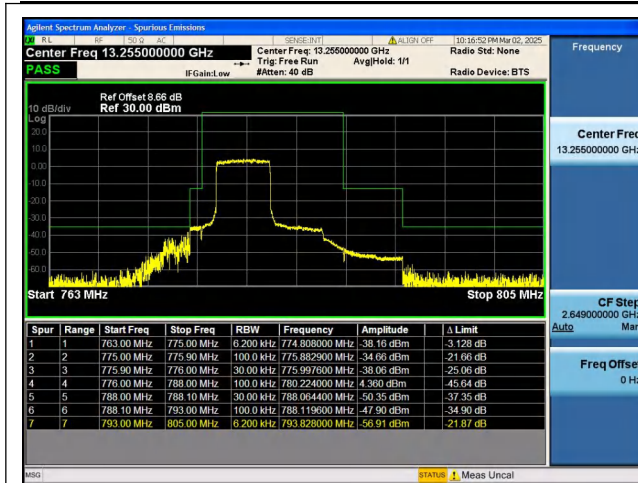
Appendix D: Band Edge

Test Result

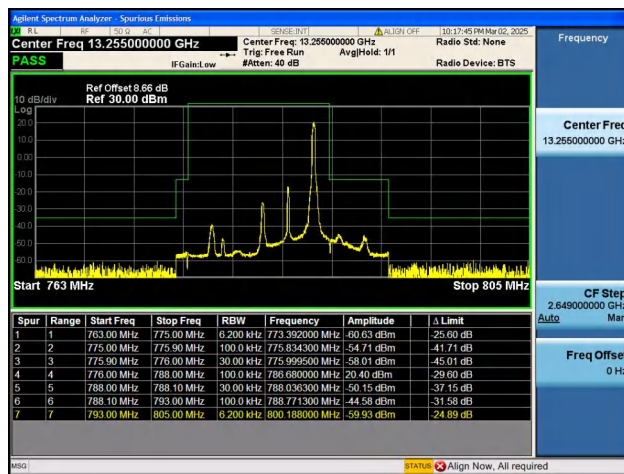
Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dBm)	Verdict
Band13	5MHz	QPSK	23205	1RB#0	-55.56	PASS
Band13	5MHz	QPSK	23205	1RB#24	-50.22	PASS
Band13	5MHz	QPSK	23205	25RB#0	-38.16	PASS
Band13	5MHz	QPSK	23255	1RB#0	-59.36	PASS
Band13	5MHz	QPSK	23255	1RB#24	-59.93	PASS
Band13	5MHz	QPSK	23255	25RB#0	-53.29	PASS
Band13	5MHz	16QAM	23205	1RB#0	-55.92	PASS
Band13	5MHz	16QAM	23205	1RB#24	-48.37	PASS
Band13	5MHz	16QAM	23205	25RB#0	-42.81	PASS
Band13	5MHz	16QAM	23255	1RB#0	-61.29	PASS
Band13	5MHz	16QAM	23255	1RB#24	-60.70	PASS
Band13	5MHz	16QAM	23255	25RB#0	-53.88	PASS
Band13	10MHz	QPSK	23230	1RB#0	-51.67	PASS
Band13	10MHz	QPSK	23230	1RB#49	-51.42	PASS
Band13	10MHz	QPSK	23230	50RB#0	-42.08	PASS
Band13	10MHz	16QAM	23230	1RB#0	-51.86	PASS
Band13	10MHz	16QAM	23230	1RB#49	-54.19	PASS

Test Graphs

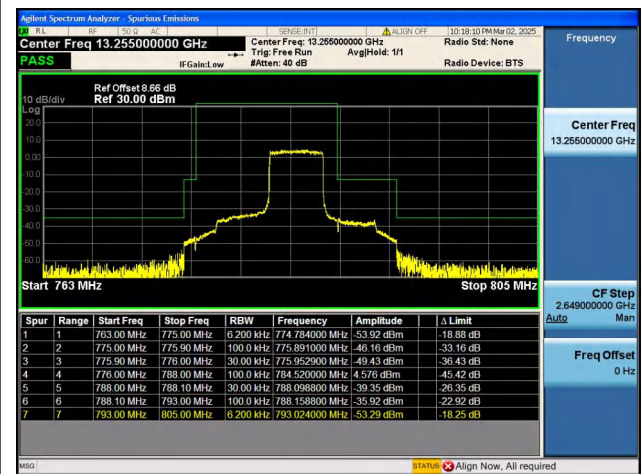




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Band13_5MHz_QPSK_23255_1RB#0



Band13_5MHz_QPSK_23255_1RB#24

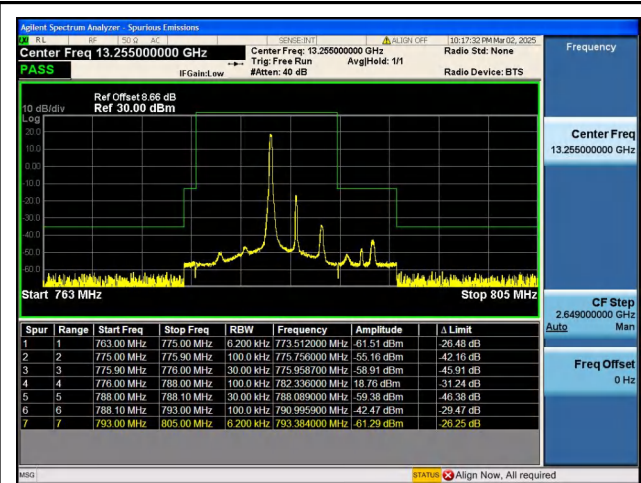
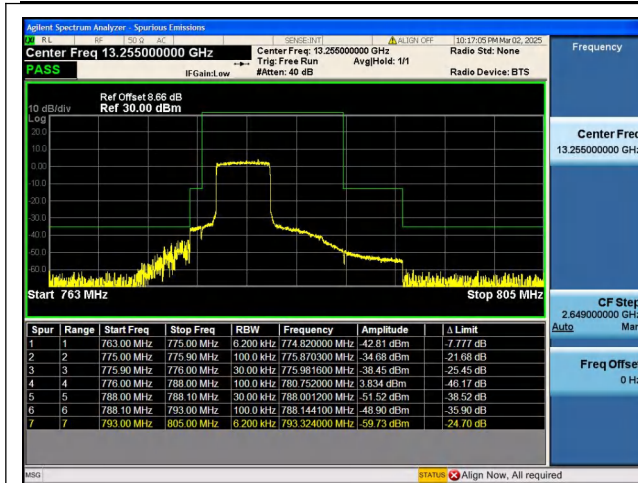


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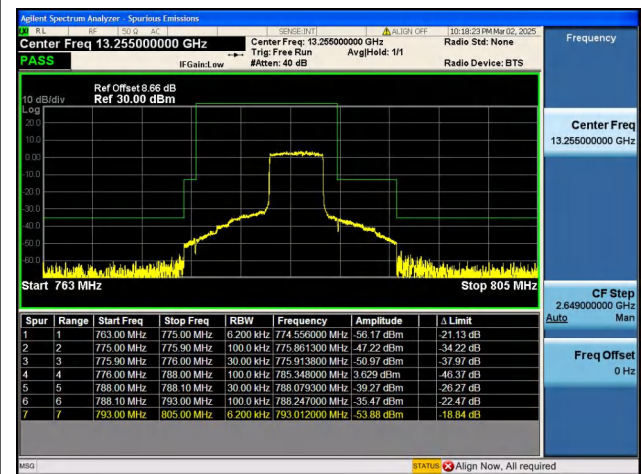
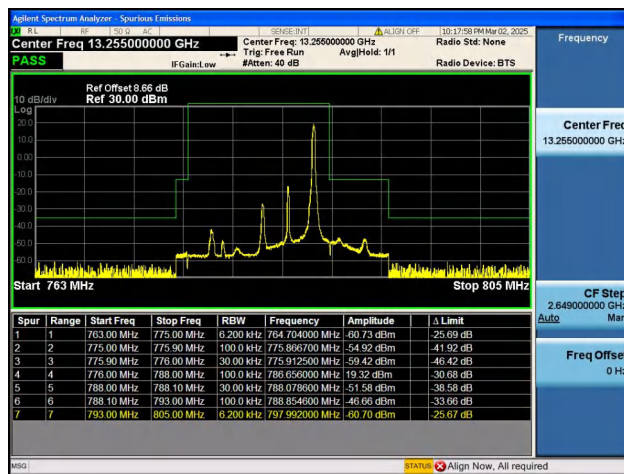


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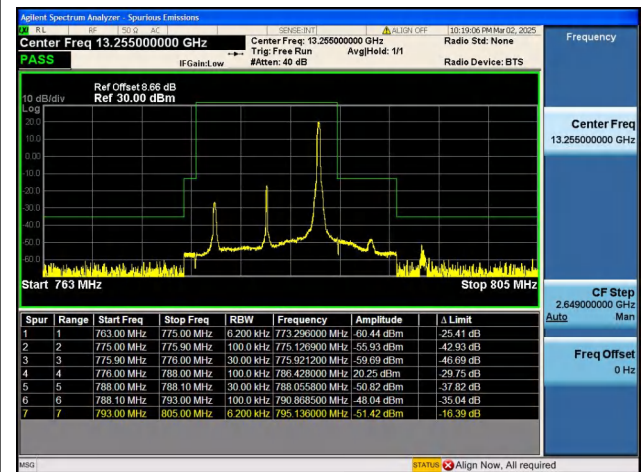
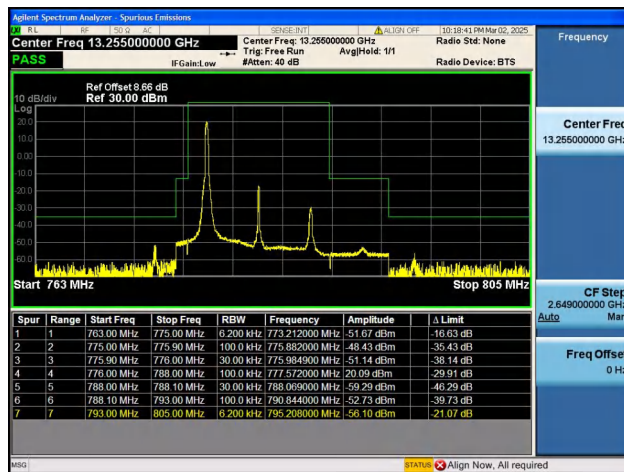
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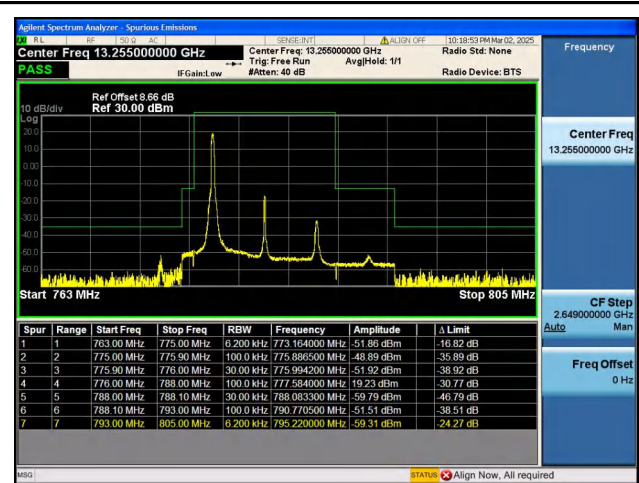
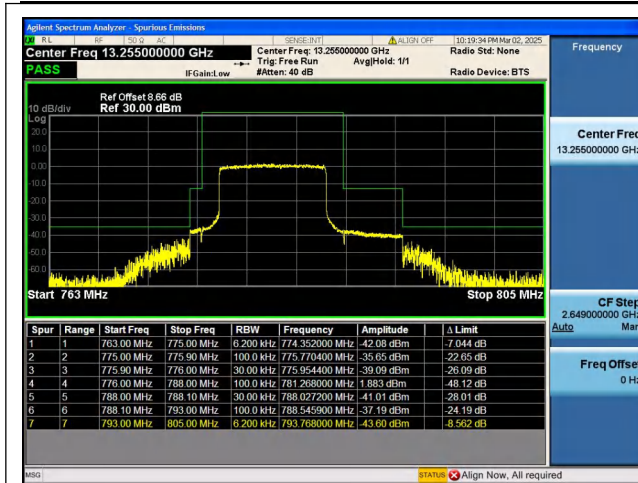


Band13_5MHz_16QAM_23255_1RB#24



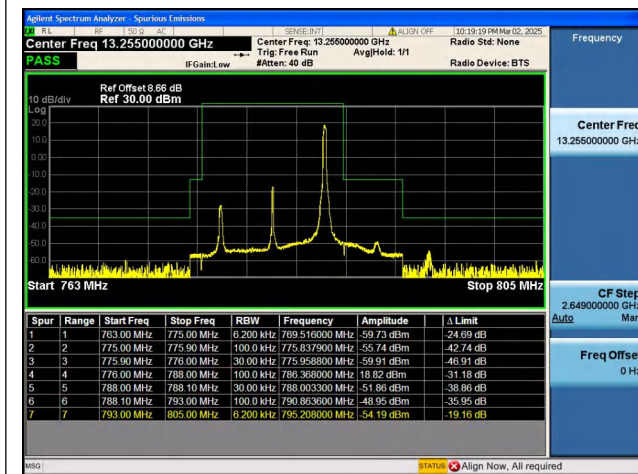
Band13_10MHz_QPSK_23230_1RB#0

Band13_10MHz_QPSK_23230_1RB#49



Band13_10MHz_QPSK_23230_50RB#0

Band13_10MHz_16QAM_23230_1RB#0



Band13_10MHz_16QAM_23230_1RB#49