

FCC LTE Band Test Data

FCC ID : 2BF3H-HF-X05

Company: : CHONGQING HUIFAN TECHNOLOGY CO.,LTD

EUT : HF-X05 Biometric Time Attendance and Access Control Terminal

Model Number : HF-X05

Reviewed By : Eric Wang

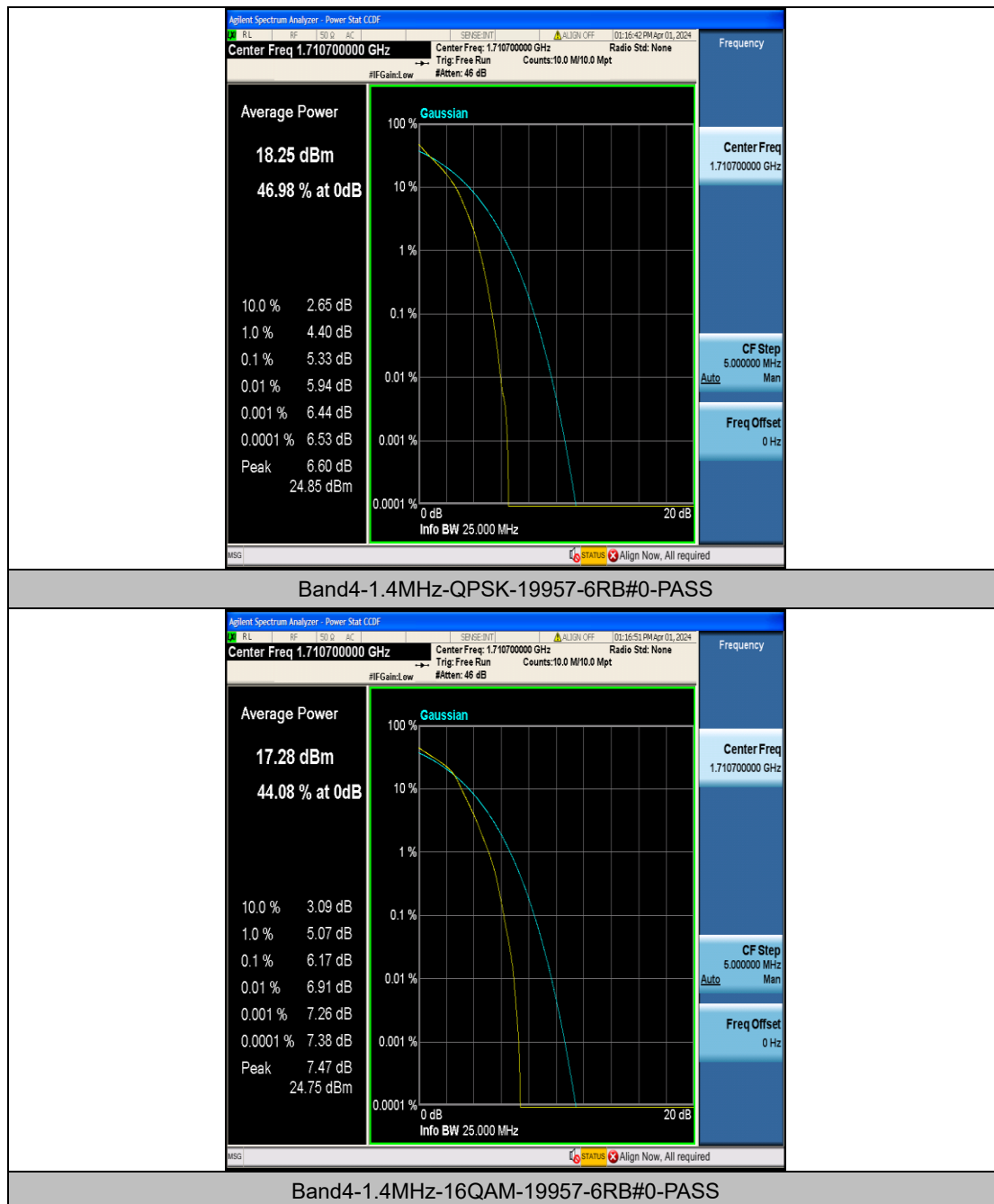
Appendix B: Peak-to-Average Ratio(CCDF)

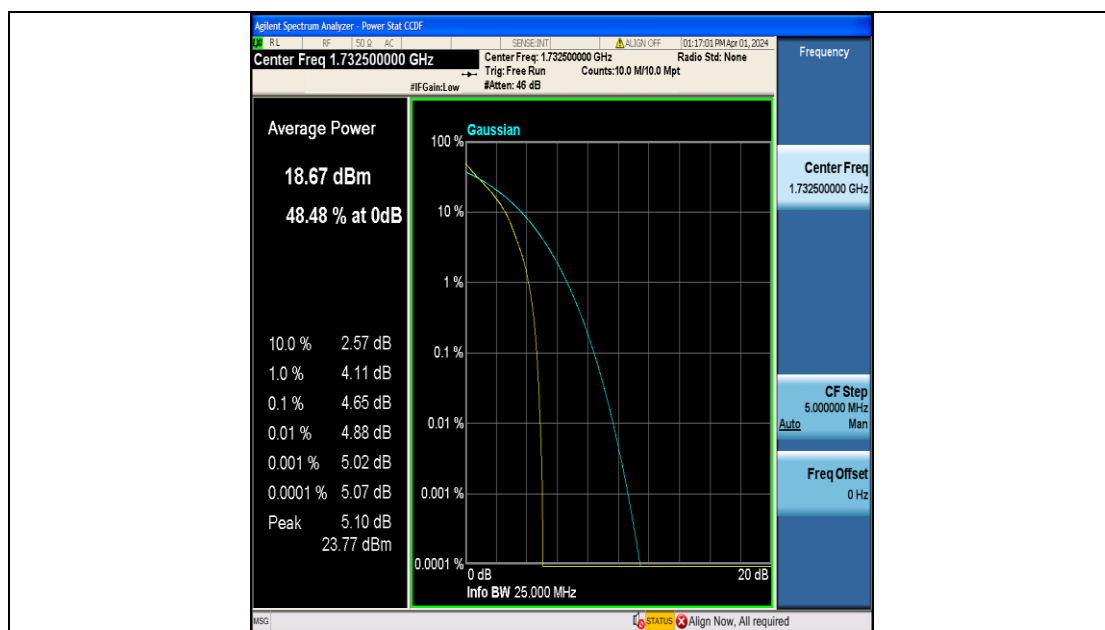
Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dB)	Limit(dB)	Verdict
Band4	1.4MHz	QPSK	19957	6RB#0	5.33	13	PASS
Band4	1.4MHz	16QAM	19957	6RB#0	6.17	13	PASS
Band4	1.4MHz	QPSK	20175	6RB#0	4.65	13	PASS
Band4	1.4MHz	16QAM	20175	6RB#0	5.56	13	PASS
Band4	1.4MHz	QPSK	20393	6RB#0	5.27	13	PASS
Band4	1.4MHz	16QAM	20393	6RB#0	6.10	13	PASS
Band4	3MHz	QPSK	19965	15RB#0	5.38	13	PASS
Band4	3MHz	16QAM	19965	15RB#0	6.21	13	PASS
Band4	3MHz	QPSK	20175	15RB#0	4.82	13	PASS
Band4	3MHz	16QAM	20175	15RB#0	5.72	13	PASS
Band4	3MHz	QPSK	20385	15RB#0	5.46	13	PASS
Band4	3MHz	16QAM	20385	15RB#0	6.28	13	PASS
Band4	5MHz	QPSK	19975	25RB#0	5.43	13	PASS
Band4	5MHz	16QAM	19975	25RB#0	6.19	13	PASS
Band4	5MHz	QPSK	20175	25RB#0	4.86	13	PASS
Band4	5MHz	16QAM	20175	25RB#0	5.71	13	PASS
Band4	5MHz	QPSK	20375	25RB#0	5.52	13	PASS
Band4	5MHz	16QAM	20375	25RB#0	6.24	13	PASS
Band4	10MHz	QPSK	20000	50RB#0	5.31	13	PASS
Band4	10MHz	16QAM	20000	50RB#0	6.16	13	PASS
Band4	10MHz	QPSK	20175	50RB#0	4.90	13	PASS
Band4	10MHz	16QAM	20175	50RB#0	5.77	13	PASS
Band4	10MHz	QPSK	20350	50RB#0	5.49	13	PASS
Band4	10MHz	16QAM	20350	50RB#0	6.27	13	PASS
Band4	15MHz	QPSK	20025	75RB#0	5.55	13	PASS
Band4	15MHz	16QAM	20025	75RB#0	6.22	13	PASS
Band4	15MHz	QPSK	20175	75RB#0	5.26	13	PASS
Band4	15MHz	16QAM	20175	75RB#0	6.01	13	PASS
Band4	15MHz	QPSK	20325	75RB#0	5.77	13	PASS
Band4	15MHz	16QAM	20325	75RB#0	6.37	13	PASS
Band4	20MHz	QPSK	20050	100RB#0	5.40	13	PASS
Band4	20MHz	16QAM	20050	100RB#0	6.22	13	PASS
Band4	20MHz	QPSK	20175	100RB#0	5.25	13	PASS
Band4	20MHz	16QAM	20175	100RB#0	6.08	13	PASS
Band4	20MHz	QPSK	20300	100RB#0	5.49	13	PASS

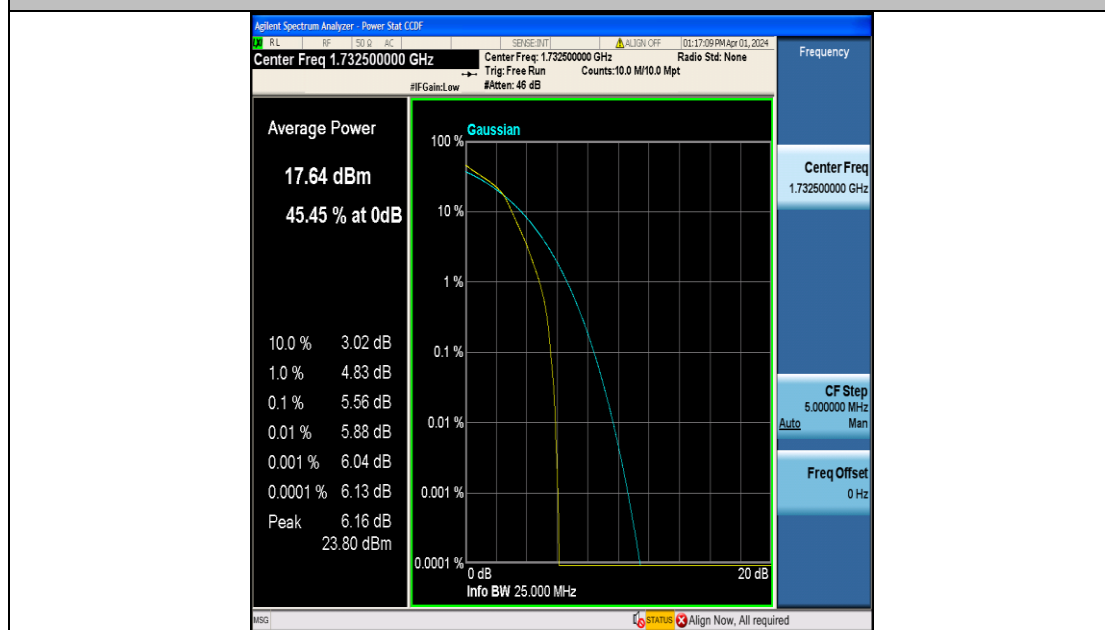
Band4	20MHz	16QAM	20300	100RB#0	6.31	13	PASS
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Test Graphs

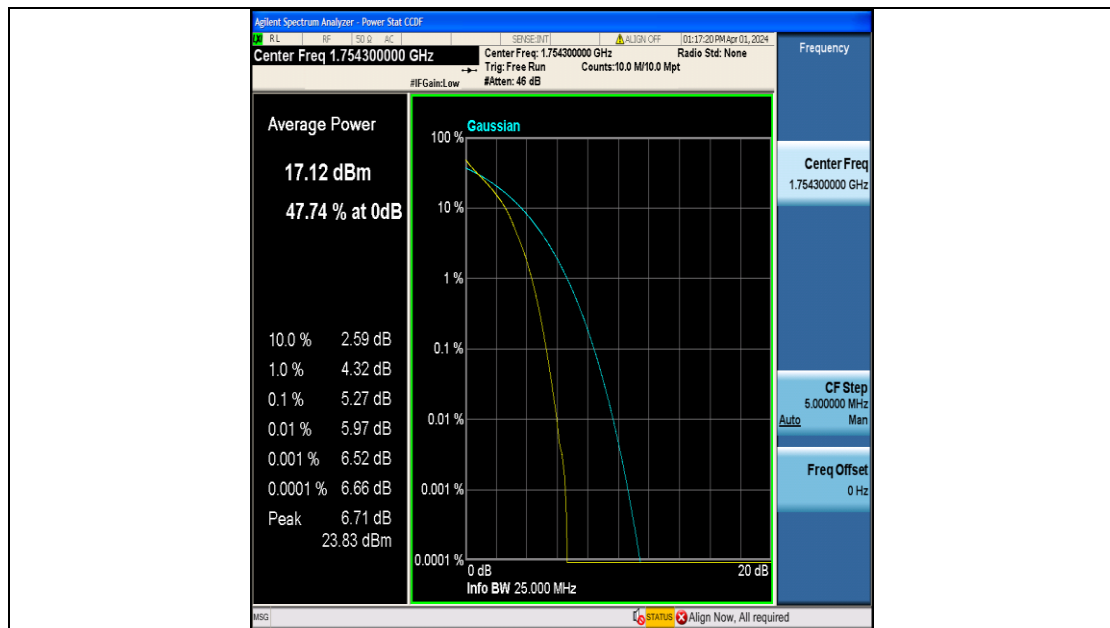




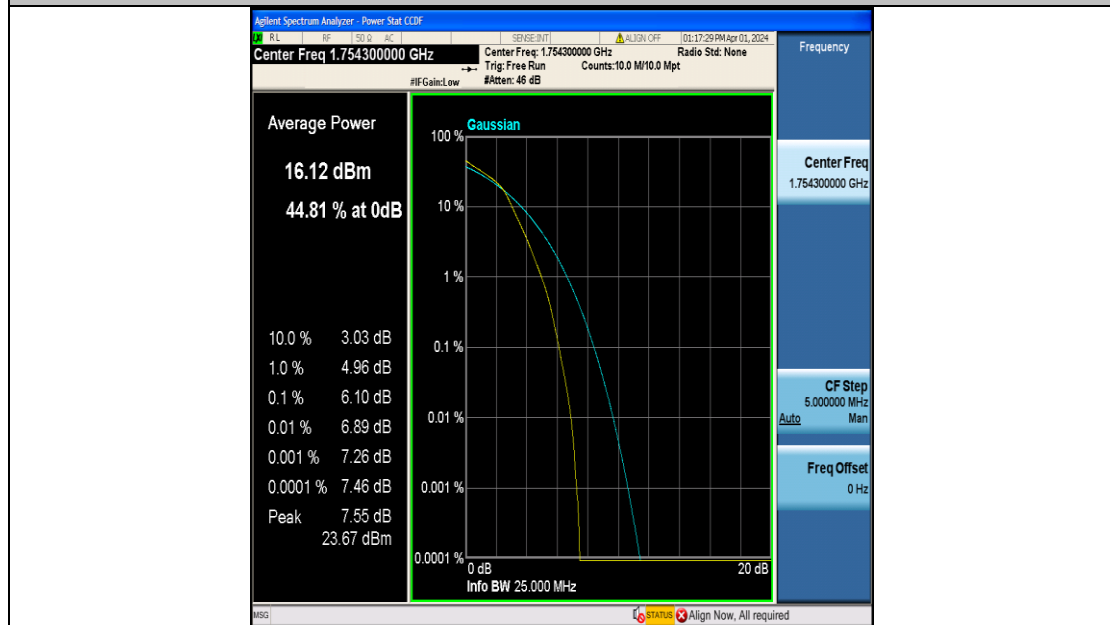
Band4-1.4MHz-QPSK-20175-6RB#0-PASS



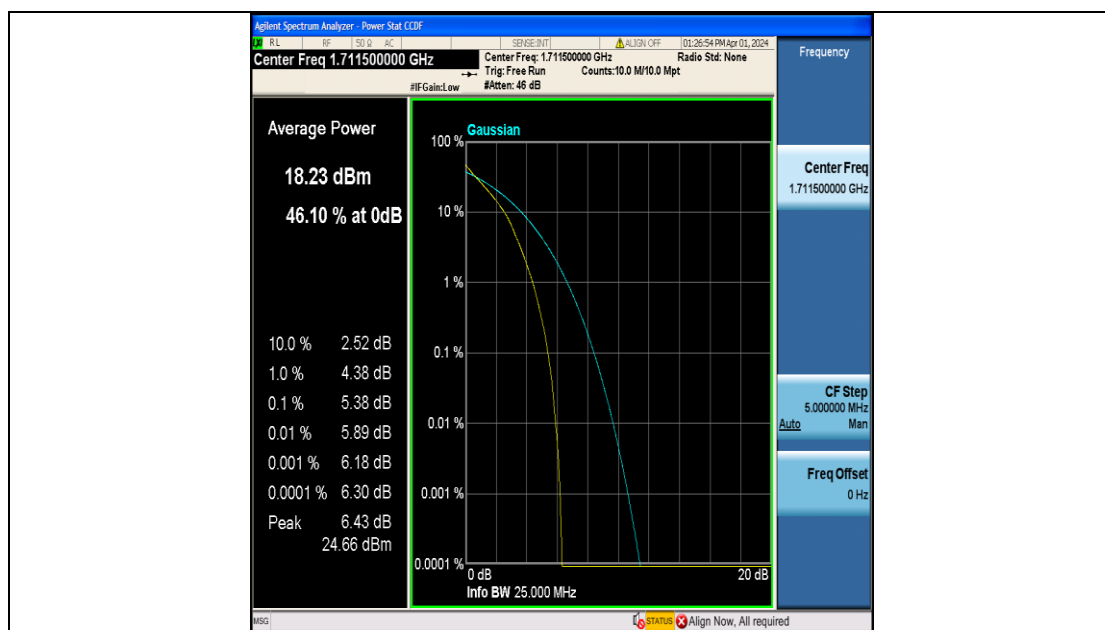
Band4-1.4MHz-16QAM-20175-6RB#0-PASS



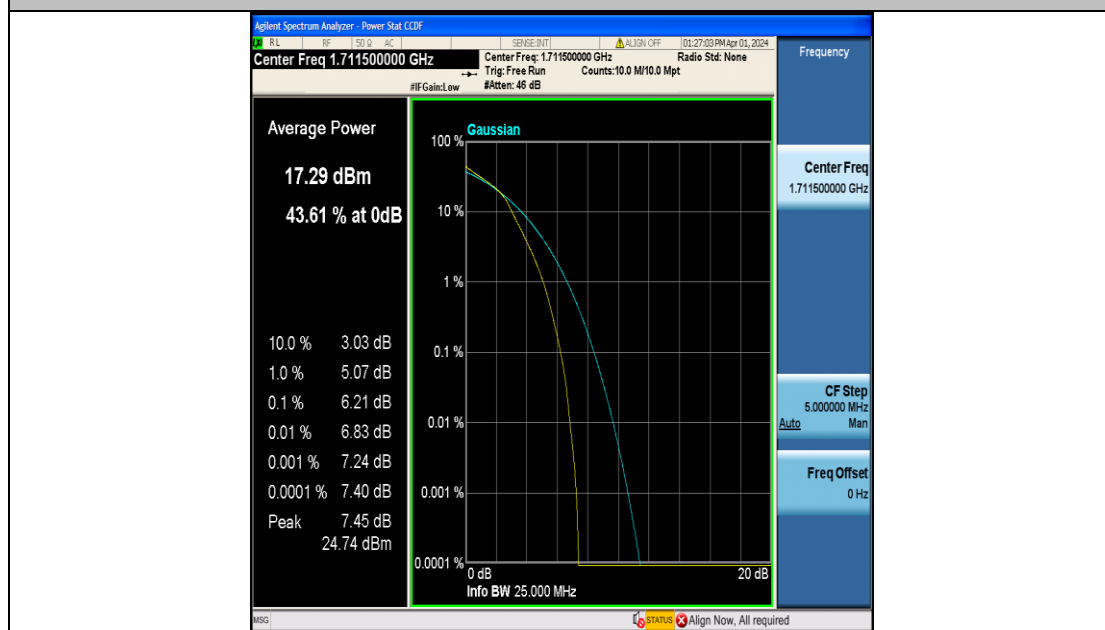
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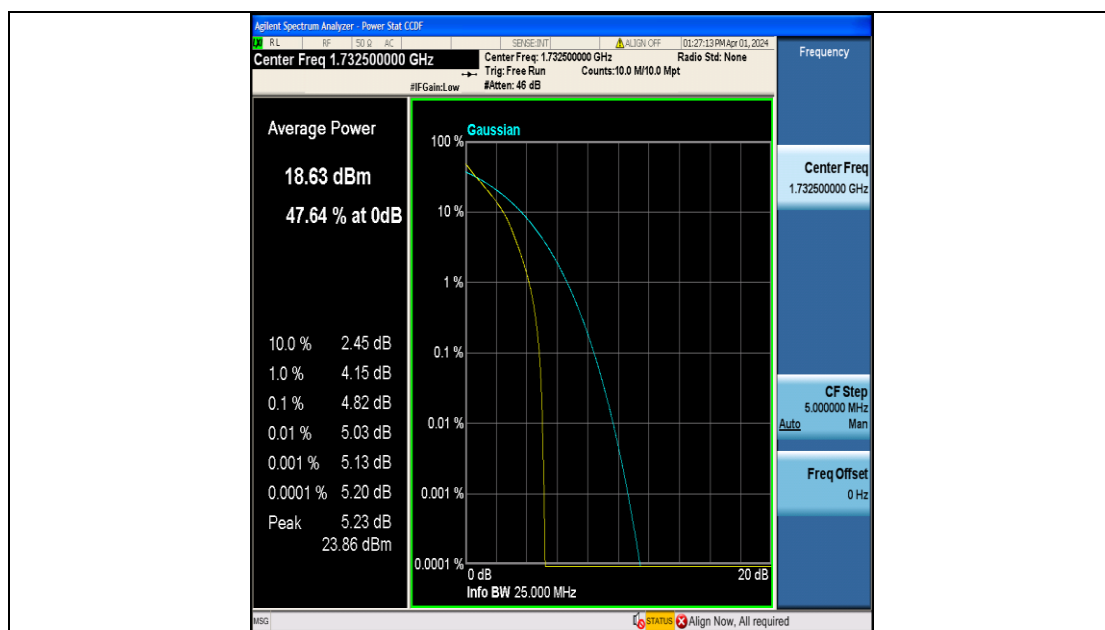
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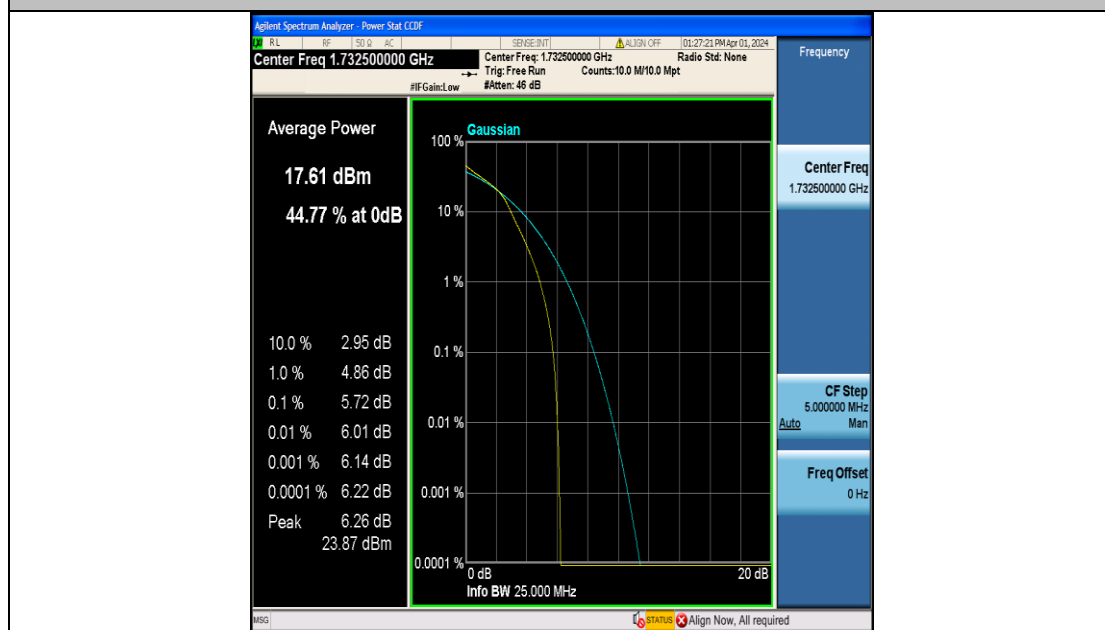
Band4-3MHz-QPSK-19965-15RB#0-PASS



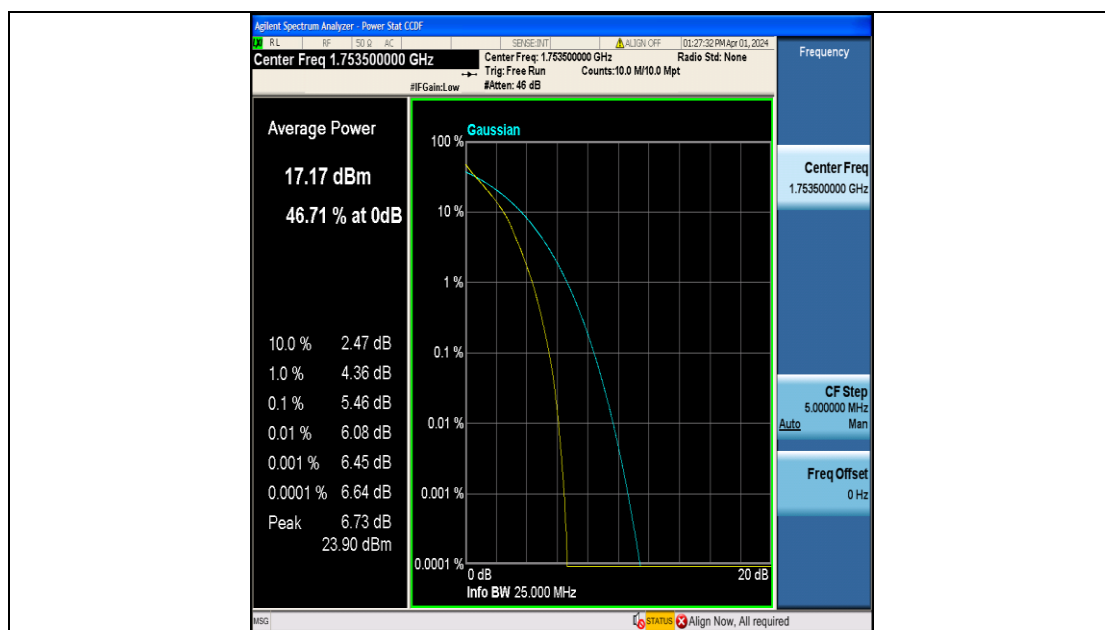
Band4-3MHz-16QAM-19965-15RB#0-PASS



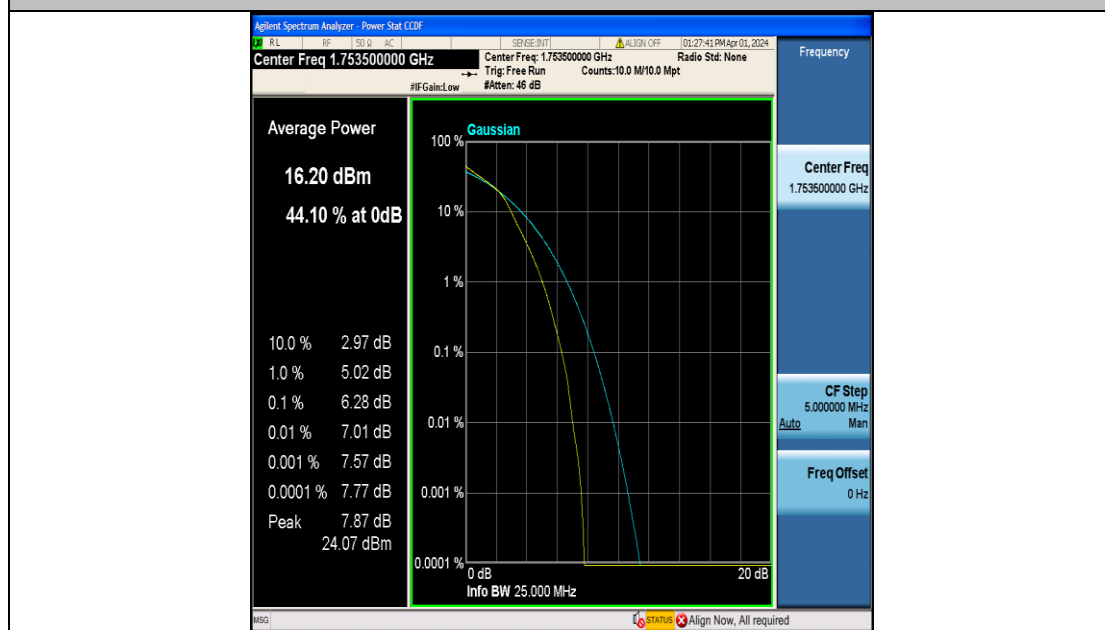
Band4-3MHz-QPSK-20175-15RB#0-PASS



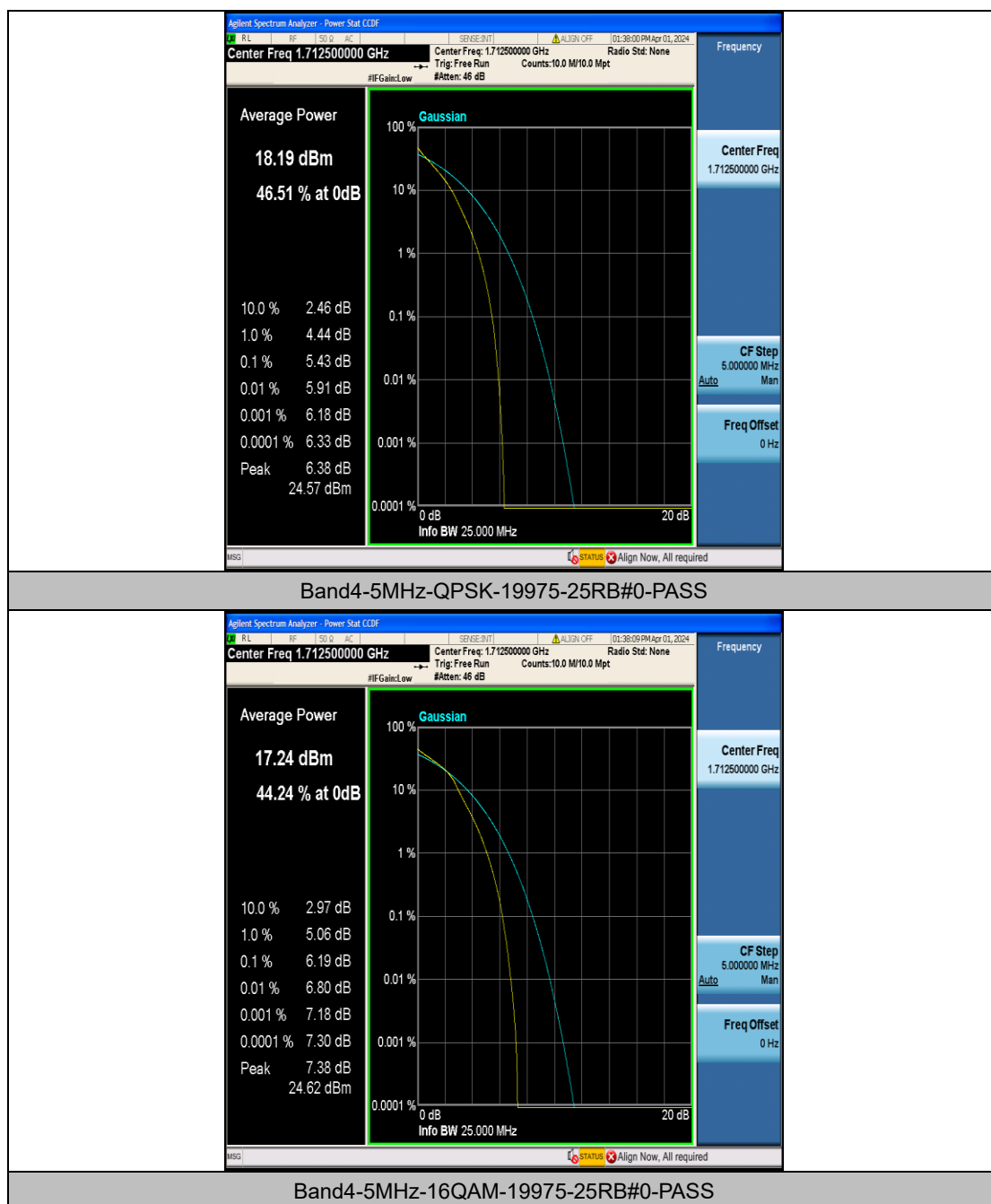
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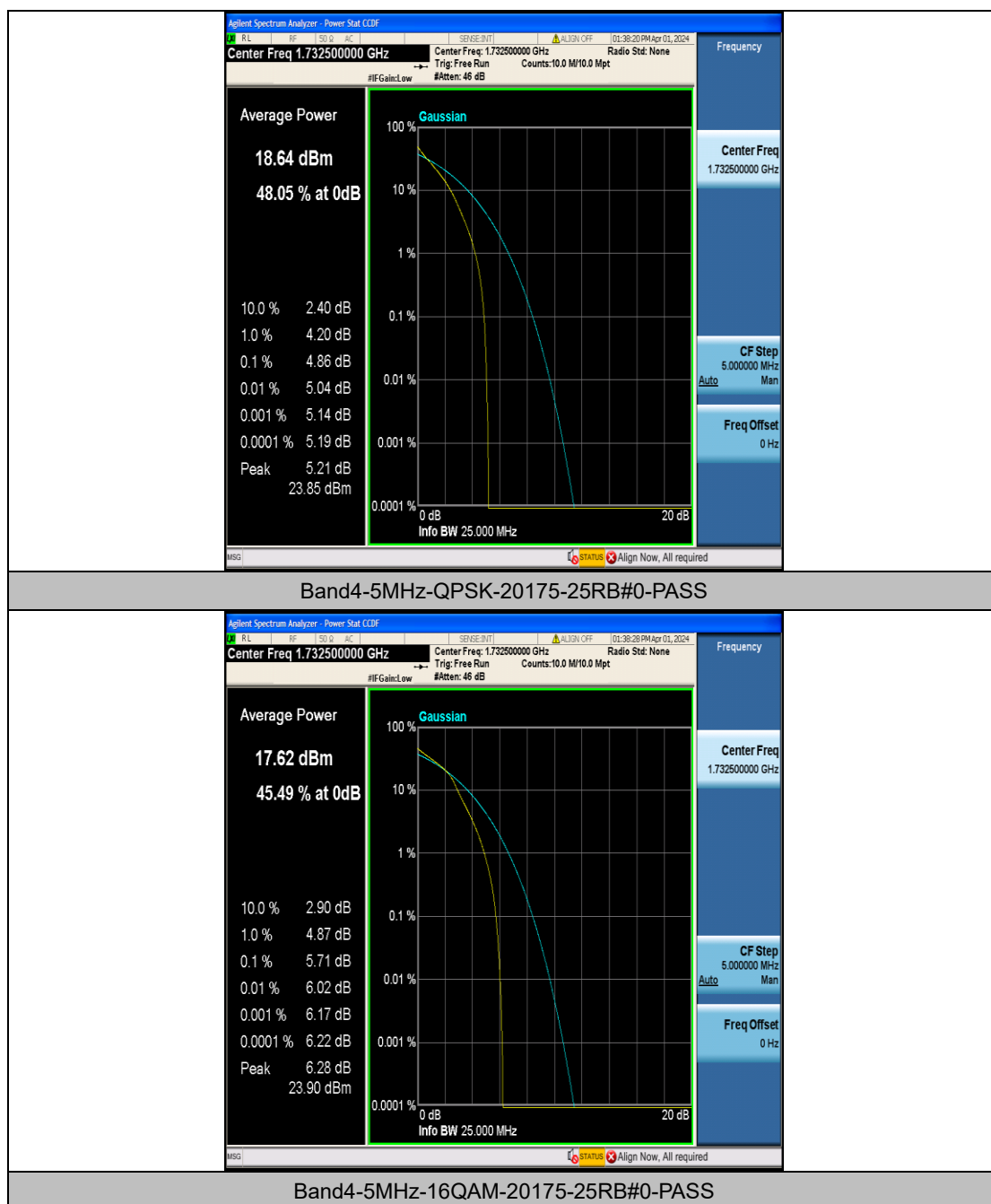


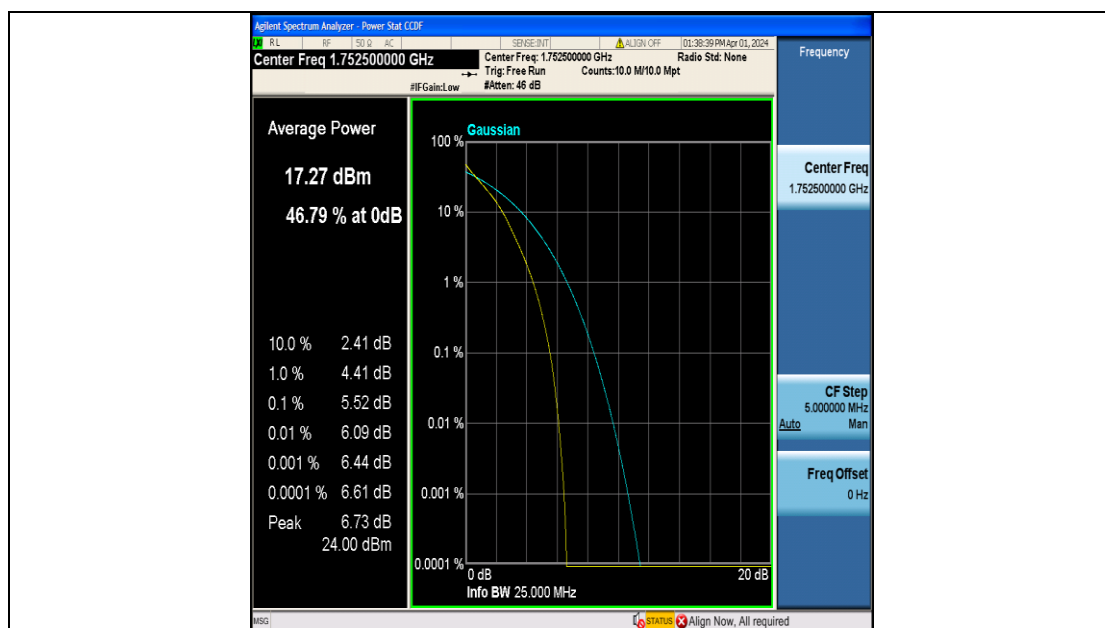
Band4-3MHz-QPSK-20385-15RB#0-PASS



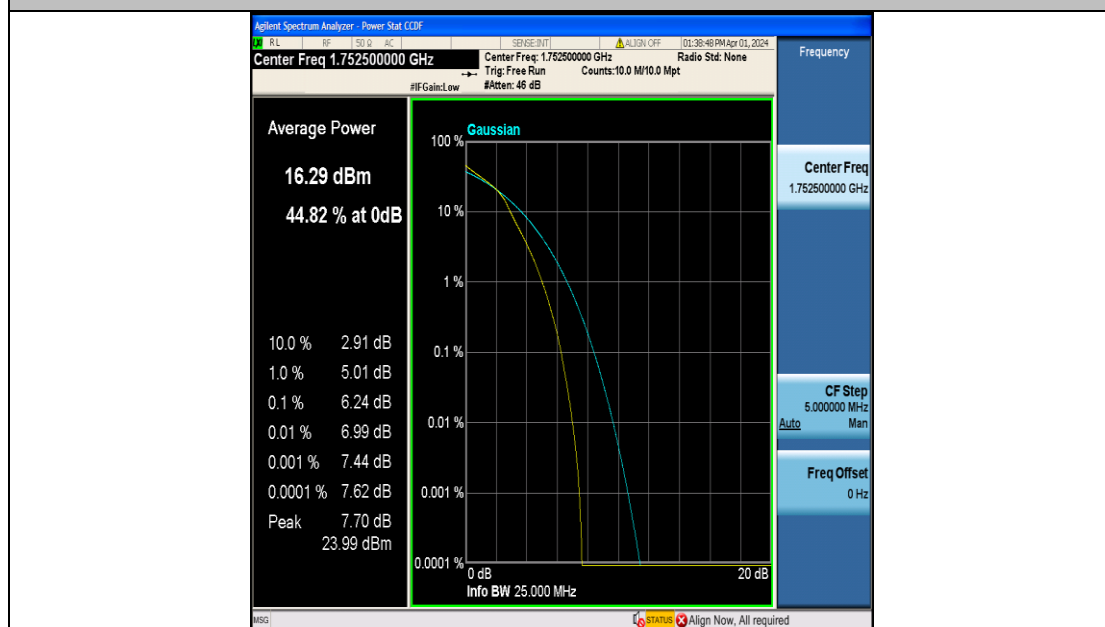
Band4-3MHz-16QAM-20385-15RB#0-PASS



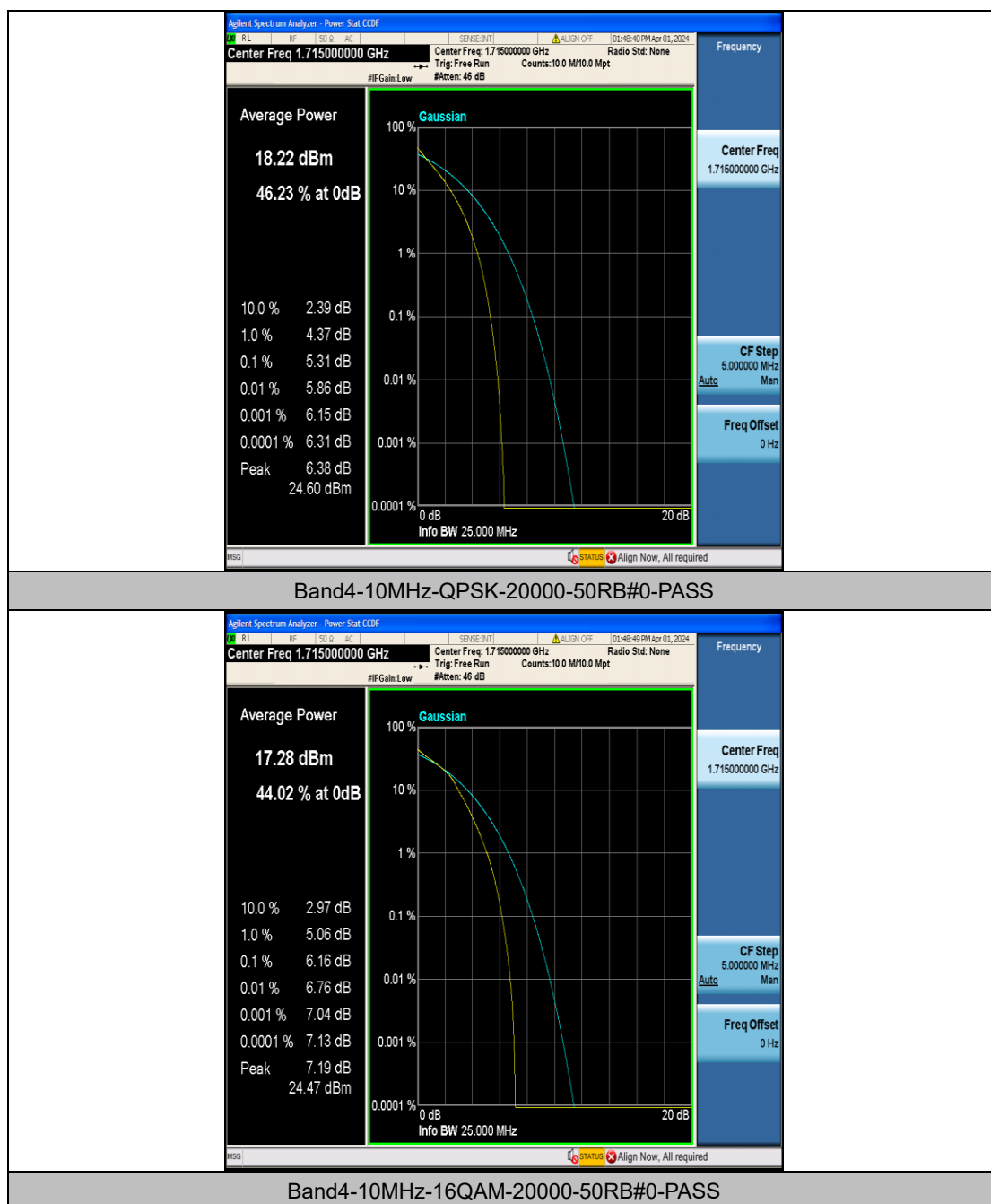


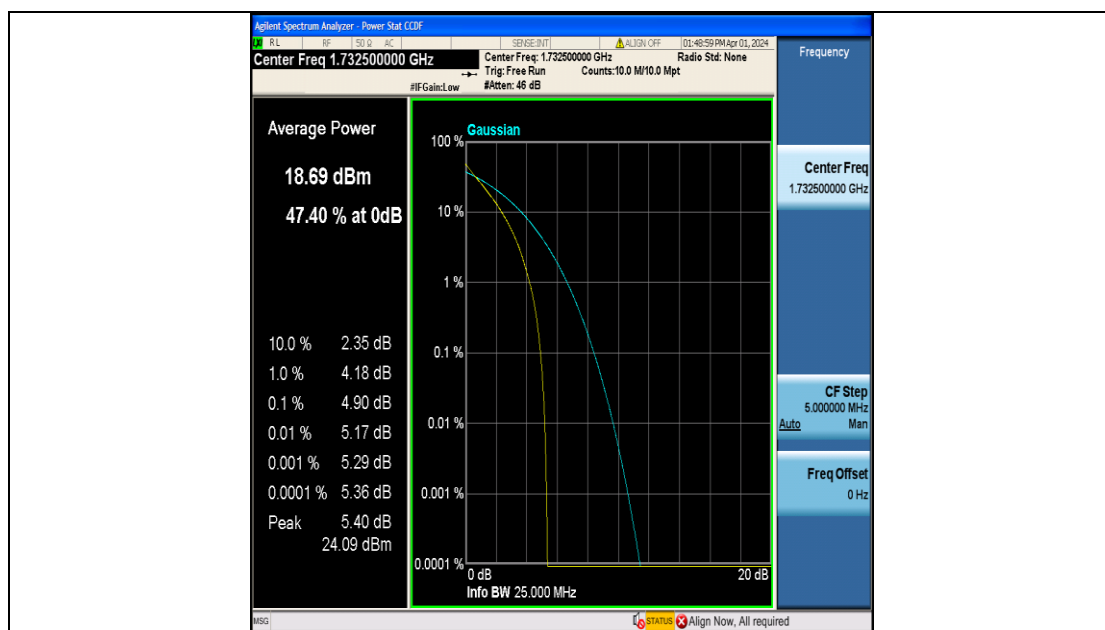


Band4-5MHz-QPSK-20375-25RB#0-PASS

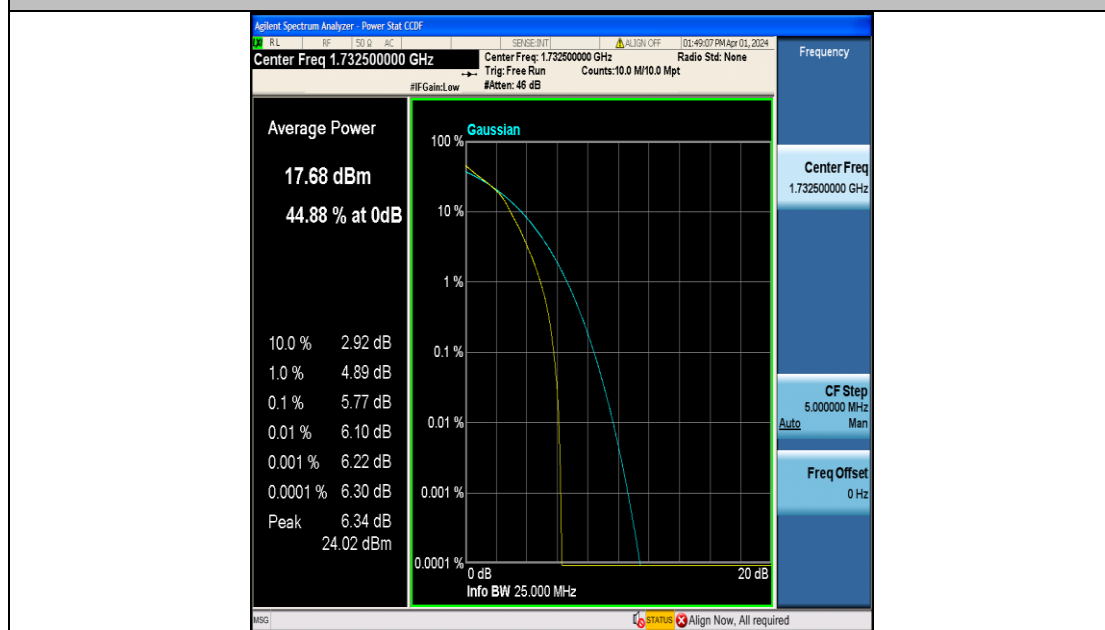


Band4-5MHz-16QAM-20375-25RB#0-PASS

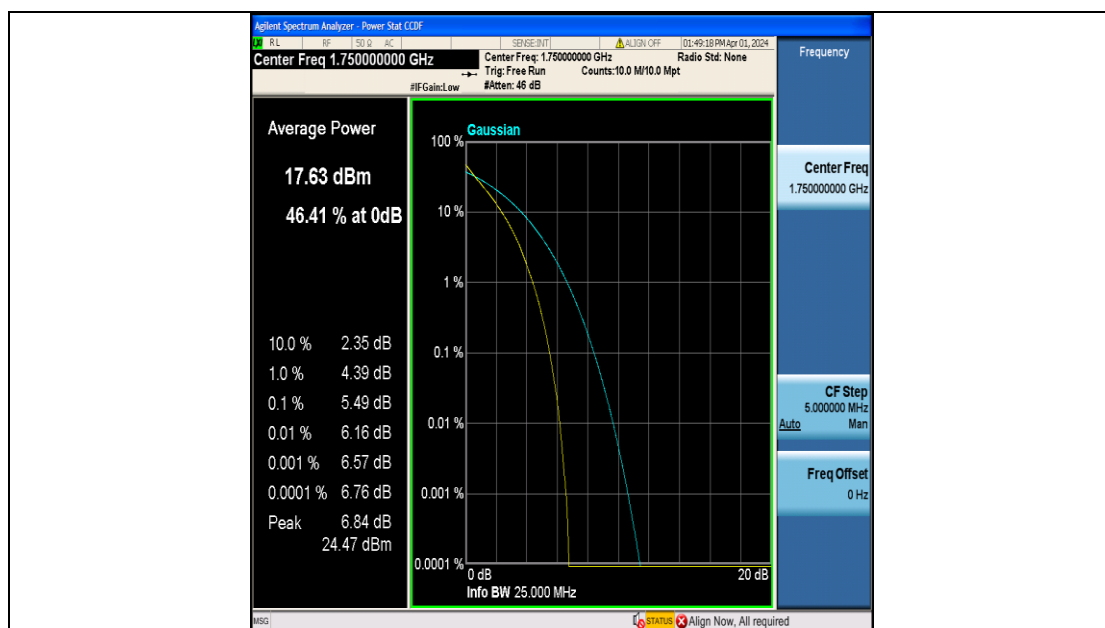




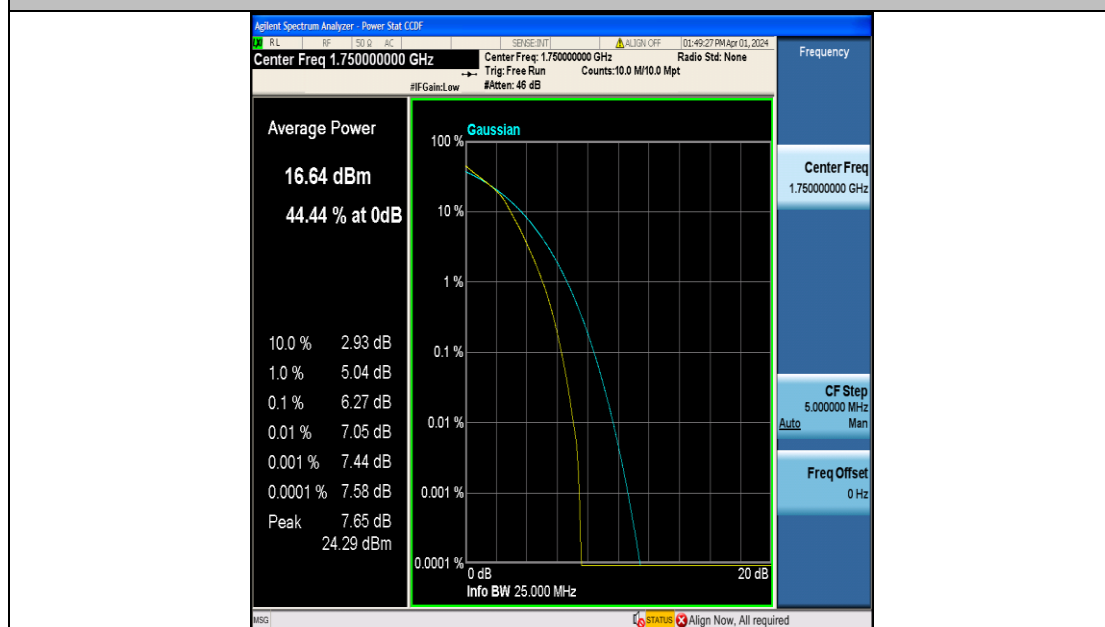
Band4-10MHz-QPSK-20175-50RB#0-PASS



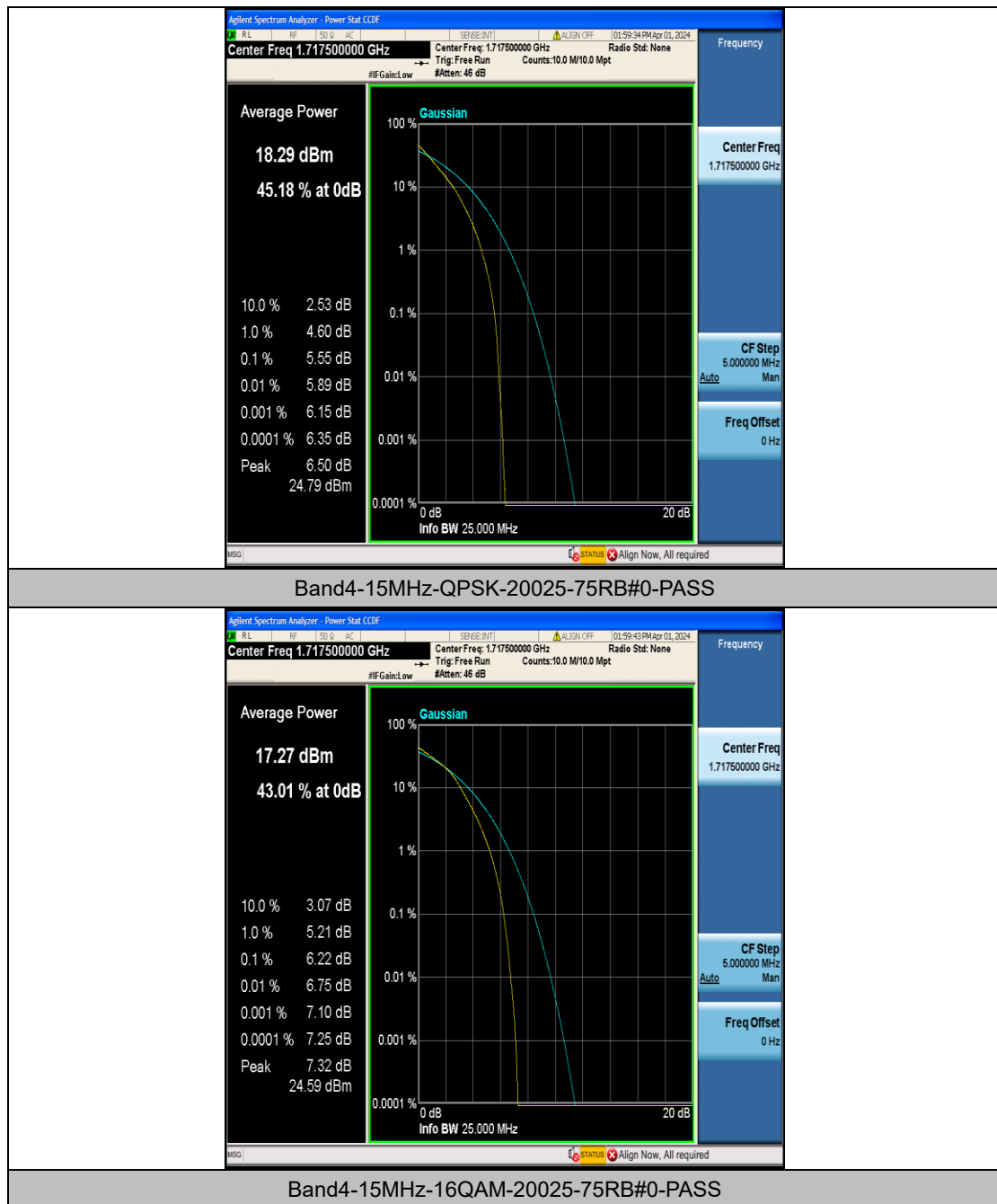
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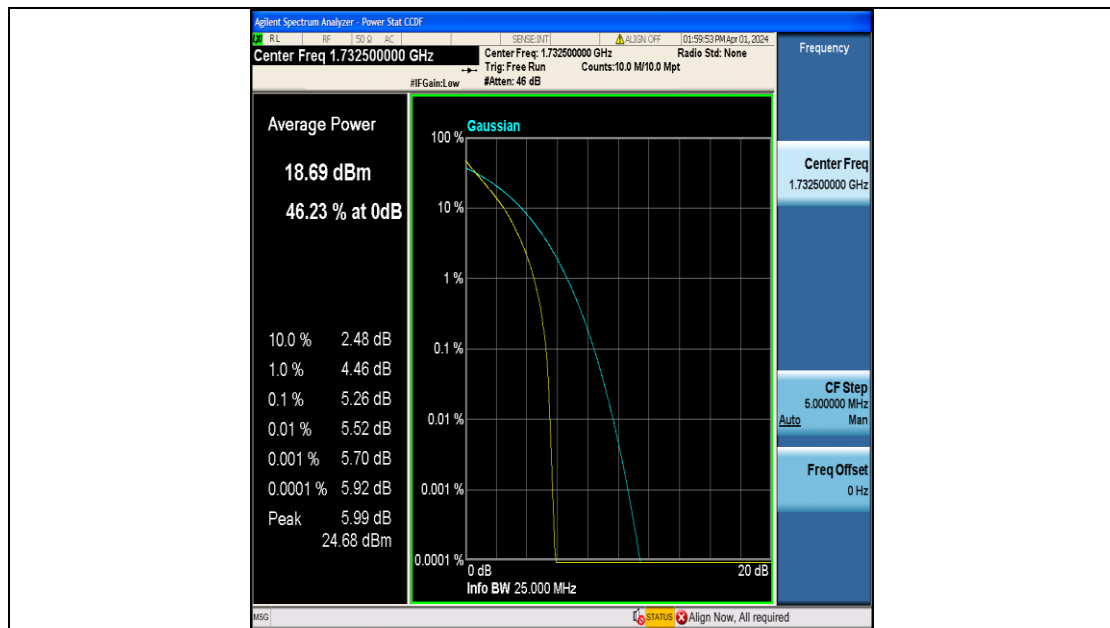


Band4-10MHz-QPSK-20350-50RB#0-PASS

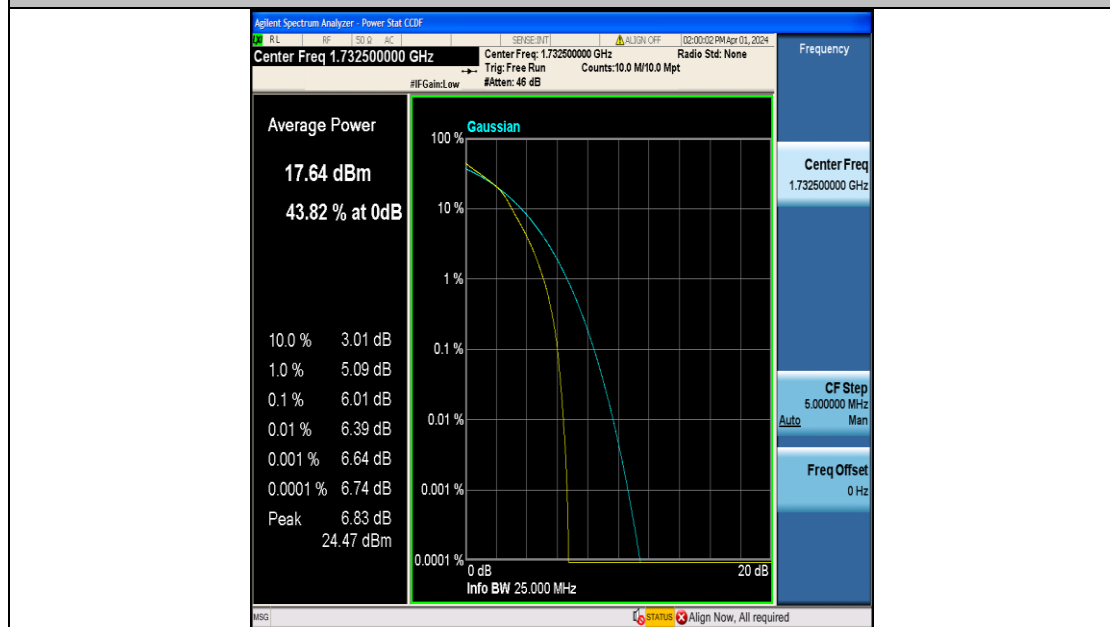


Band4-10MHz-16QAM-20350-50RB#0-PASS

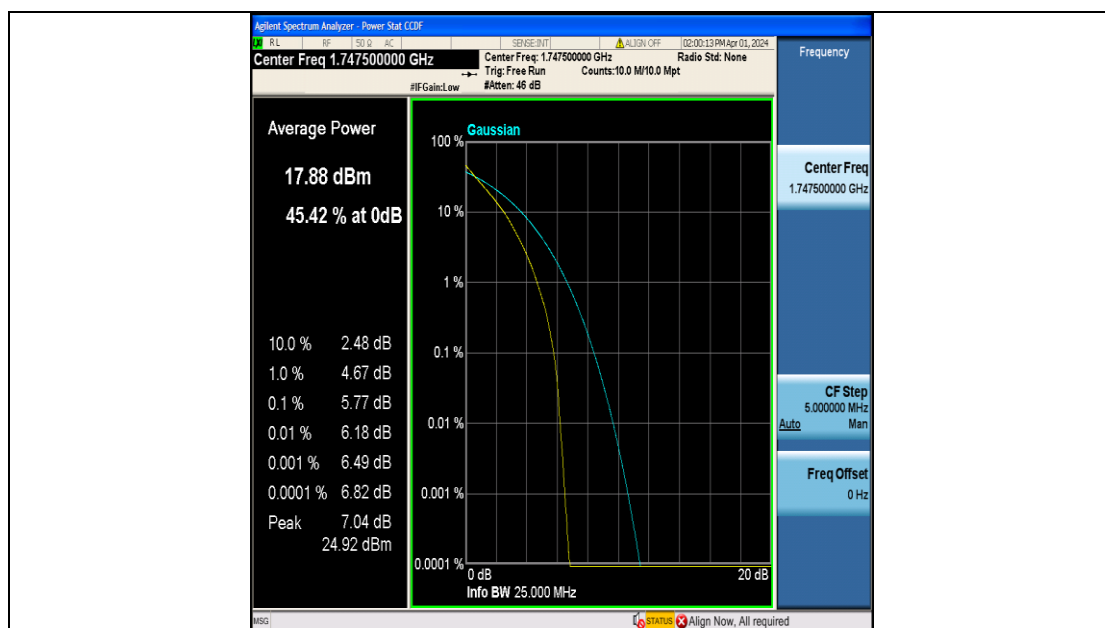




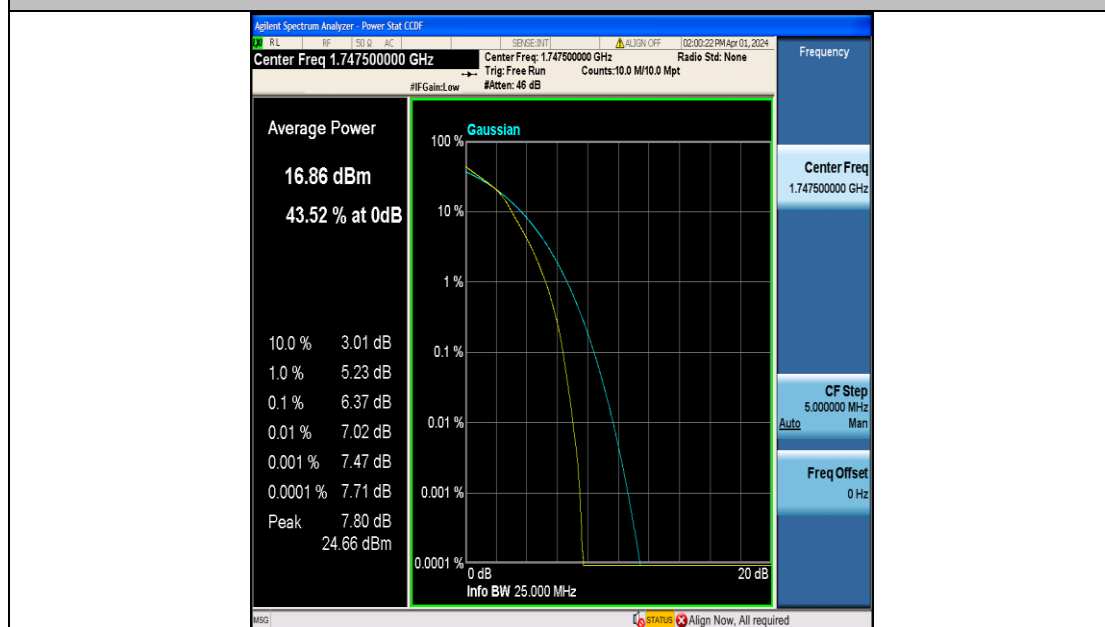
Band4-15MHz-QPSK-20175-75RB#0-PASS



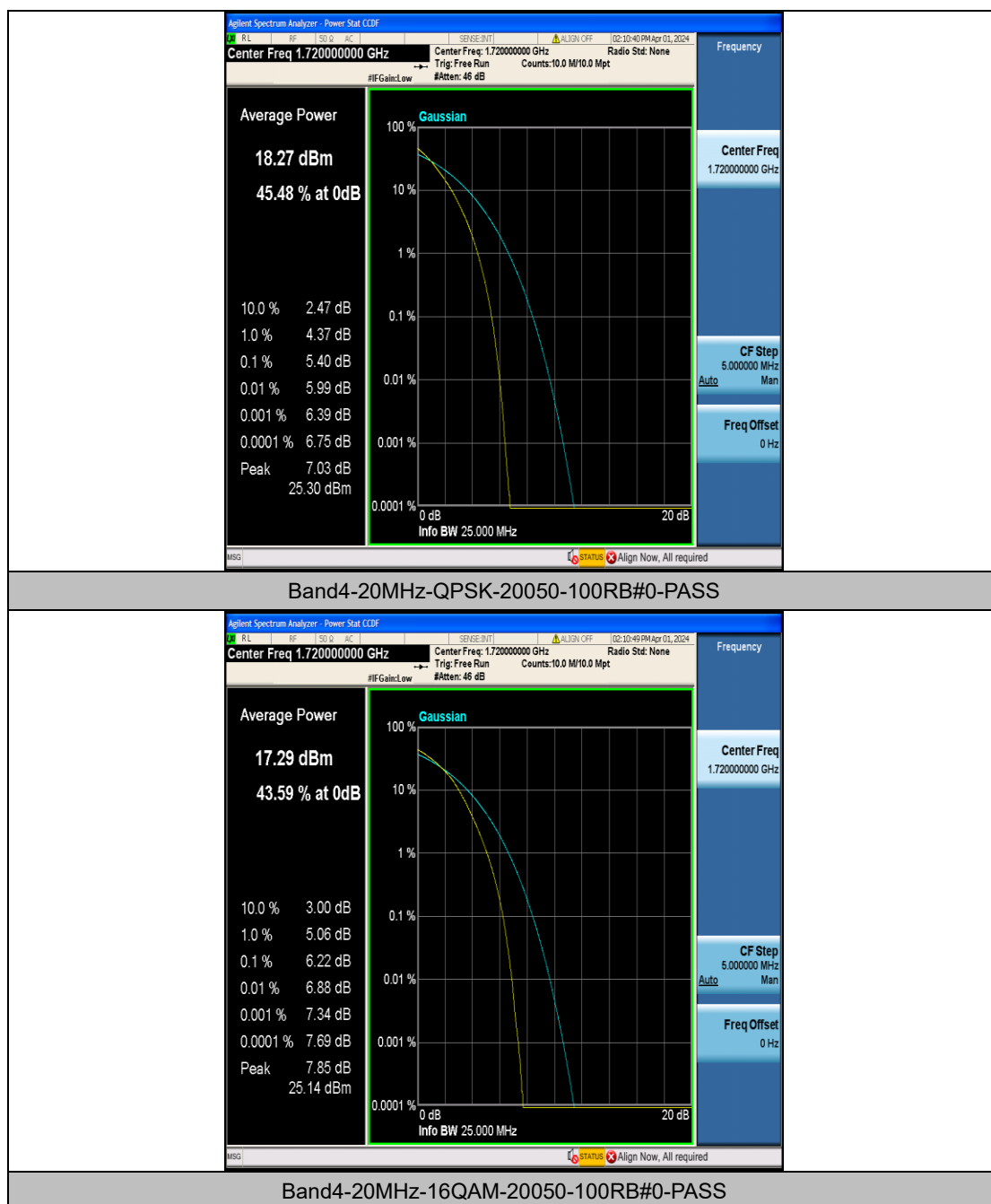
Band4-15MHz-16QAM-20175-75RB#0-PASS

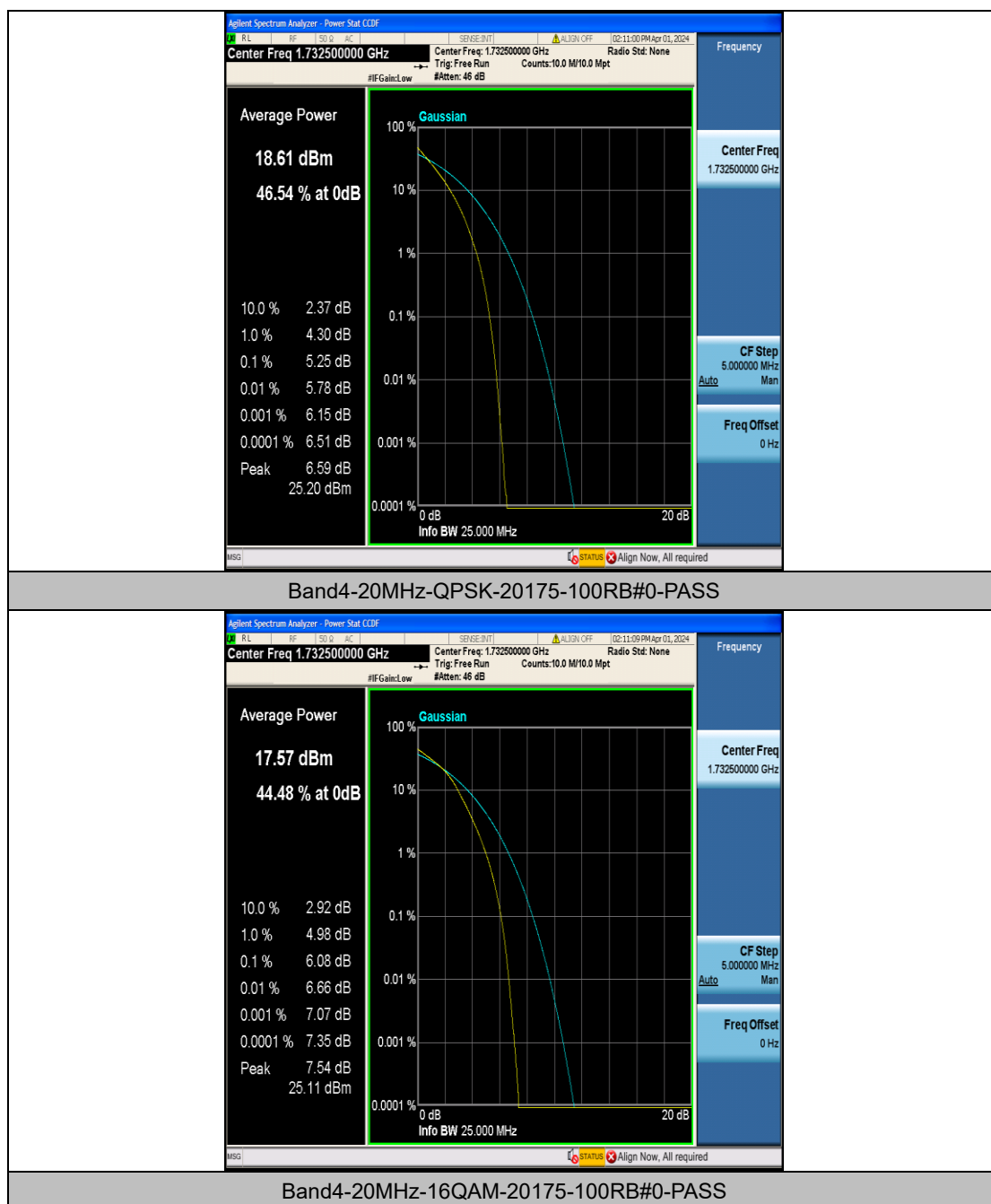


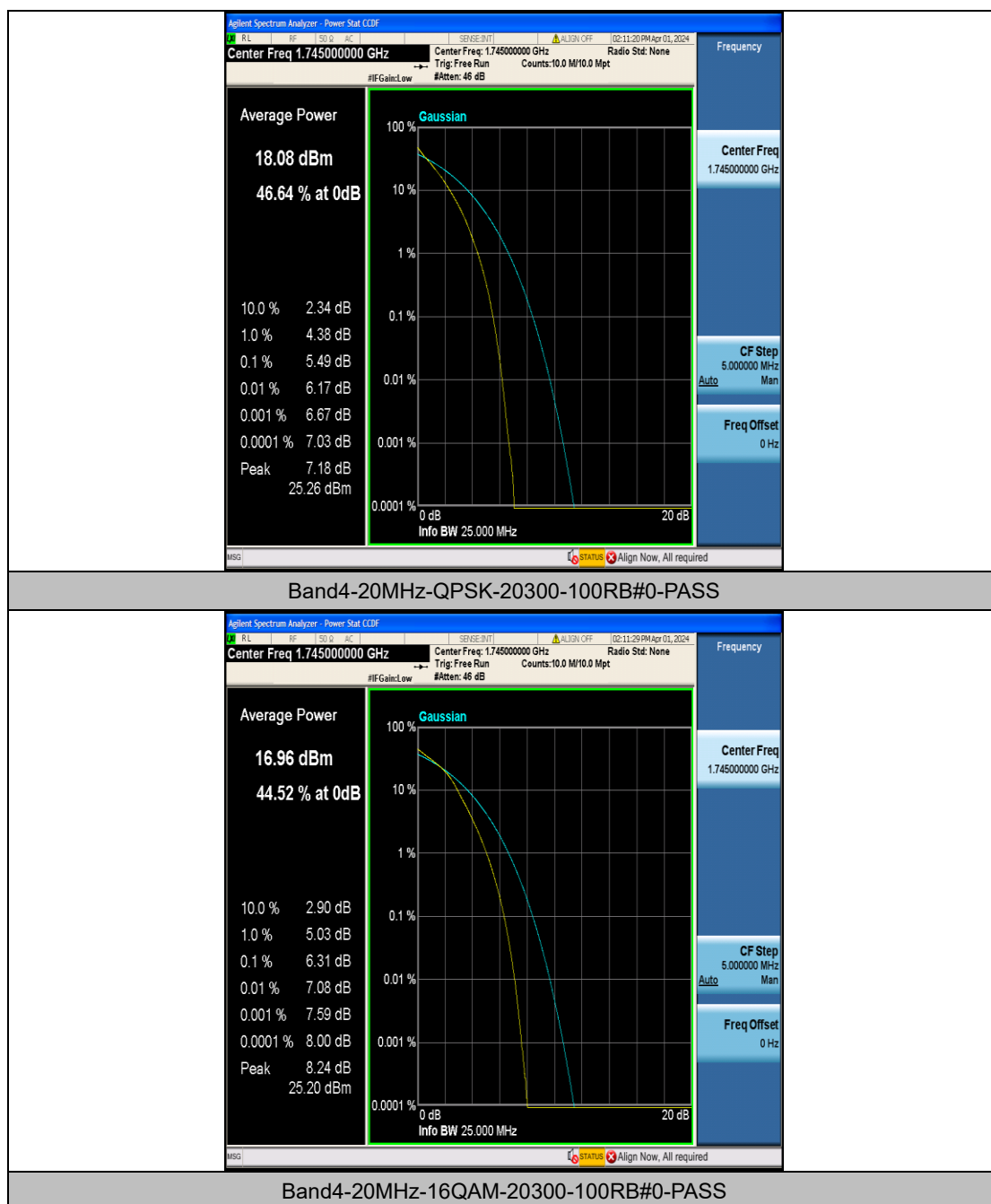
Band4-15MHz-QPSK-20325-75RB#0-PASS



Band4-15MHz-16QAM-20325-75RB#0-PASS







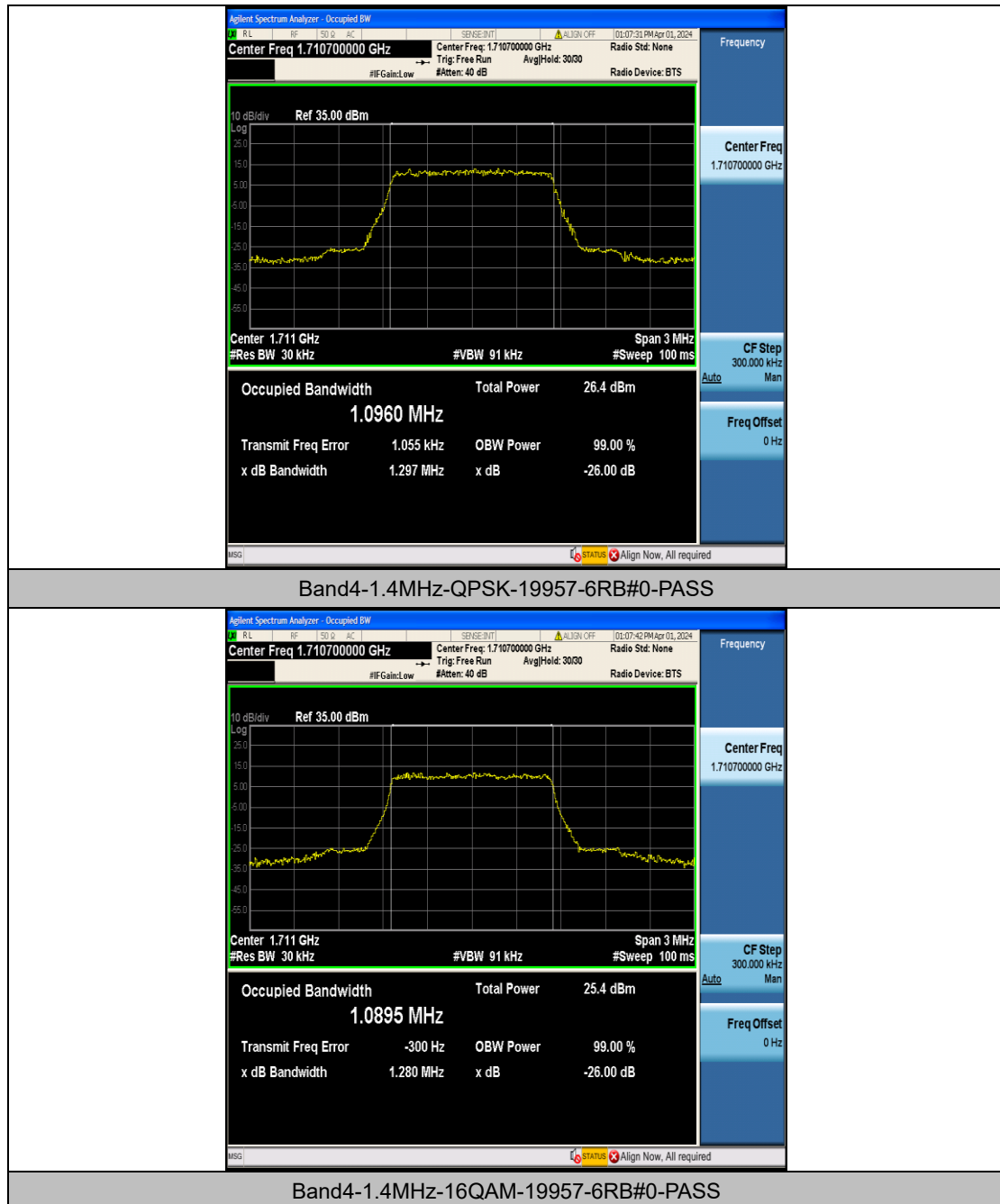
Appendix C: 26dB Bandwidth and Occupied Bandwidth

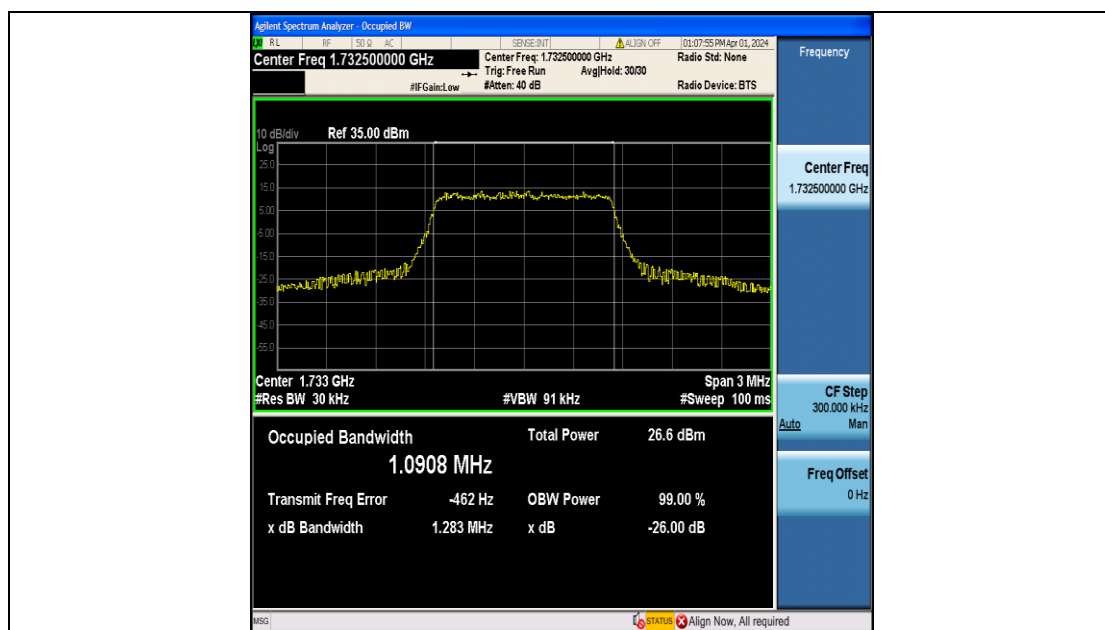
Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
Band4	1.4MHz	QPSK	19957	6RB#0	1.0960	1.297	PASS
Band4	1.4MHz	16QAM	19957	6RB#0	1.0895	1.280	PASS
Band4	1.4MHz	QPSK	20175	6RB#0	1.0908	1.283	PASS
Band4	1.4MHz	16QAM	20175	6RB#0	1.0967	1.293	PASS
Band4	1.4MHz	QPSK	20393	6RB#0	1.0934	1.292	PASS
Band4	1.4MHz	16QAM	20393	6RB#0	1.0972	1.310	PASS
Band4	3MHz	QPSK	19965	15RB#0	2.6904	2.895	PASS
Band4	3MHz	16QAM	19965	15RB#0	2.6789	2.903	PASS
Band4	3MHz	QPSK	20175	15RB#0	2.6865	2.896	PASS
Band4	3MHz	16QAM	20175	15RB#0	2.6778	2.913	PASS
Band4	3MHz	QPSK	20385	15RB#0	2.6935	2.885	PASS
Band4	3MHz	16QAM	20385	15RB#0	2.6816	2.897	PASS
Band4	5MHz	QPSK	19975	25RB#0	4.4924	4.934	PASS
Band4	5MHz	16QAM	19975	25RB#0	4.4869	4.889	PASS
Band4	5MHz	QPSK	20175	25RB#0	4.4947	4.942	PASS
Band4	5MHz	16QAM	20175	25RB#0	4.4900	4.915	PASS
Band4	5MHz	QPSK	20375	25RB#0	4.4936	4.933	PASS
Band4	5MHz	16QAM	20375	25RB#0	4.4886	4.905	PASS
Band4	10MHz	QPSK	20000	50RB#0	8.9744	9.777	PASS
Band4	10MHz	16QAM	20000	50RB#0	8.9635	9.700	PASS
Band4	10MHz	QPSK	20175	50RB#0	8.9837	9.885	PASS
Band4	10MHz	16QAM	20175	50RB#0	8.9848	9.721	PASS
Band4	10MHz	QPSK	20350	50RB#0	8.9715	9.816	PASS
Band4	10MHz	16QAM	20350	50RB#0	8.9774	9.735	PASS
Band4	15MHz	QPSK	20025	75RB#0	13.456	14.60	PASS
Band4	15MHz	16QAM	20025	75RB#0	13.462	14.54	PASS
Band4	15MHz	QPSK	20175	75RB#0	13.492	14.72	PASS
Band4	15MHz	16QAM	20175	75RB#0	13.476	14.62	PASS
Band4	15MHz	QPSK	20325	75RB#0	13.483	14.64	PASS
Band4	15MHz	16QAM	20325	75RB#0	13.505	14.62	PASS
Band4	20MHz	QPSK	20050	100RB#0	17.919	19.29	PASS
Band4	20MHz	16QAM	20050	100RB#0	17.922	19.26	PASS
Band4	20MHz	QPSK	20175	100RB#0	17.969	19.41	PASS
Band4	20MHz	16QAM	20175	100RB#0	17.992	19.24	PASS

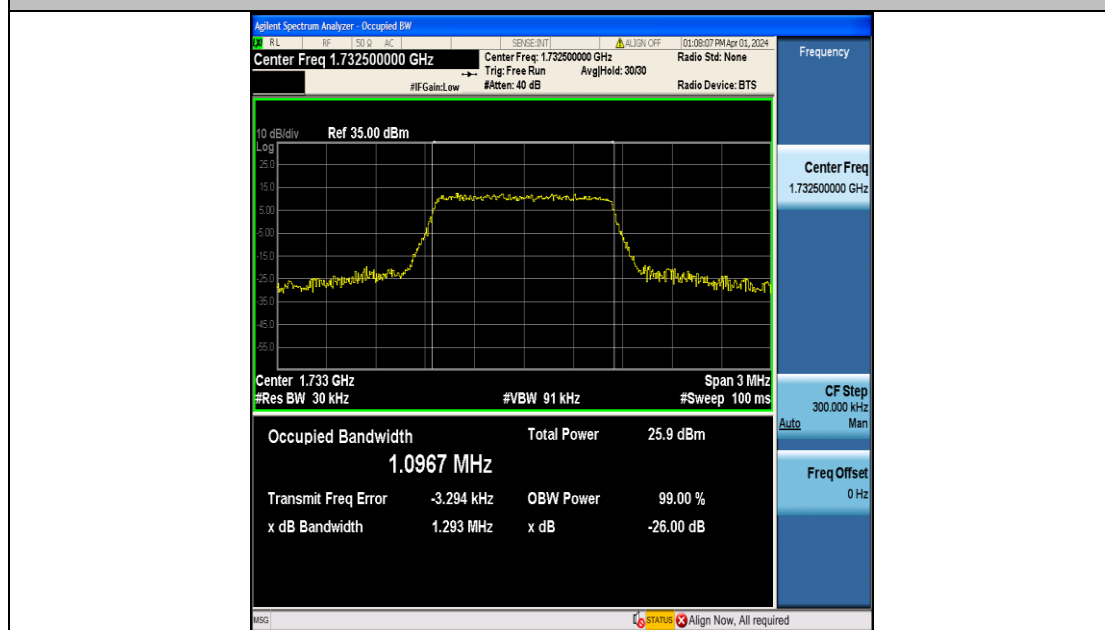
Band4	20MHz	QPSK	20300	100RB#0	17.976	19.44	PASS
Band4	20MHz	16QAM	20300	100RB#0	18.007	19.39	PASS

Test Graphs

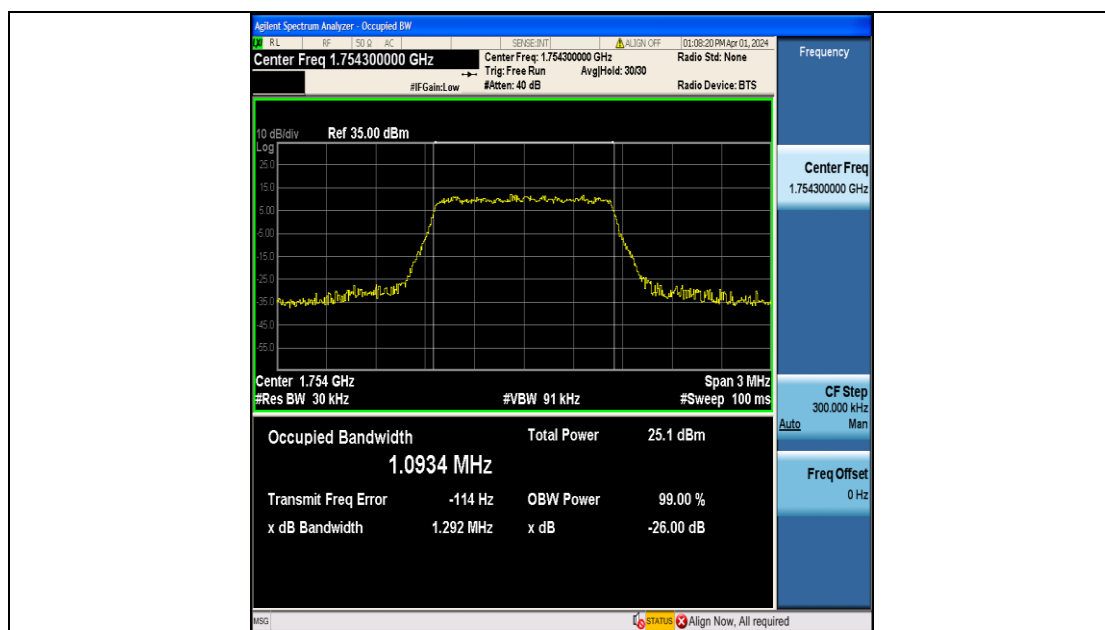




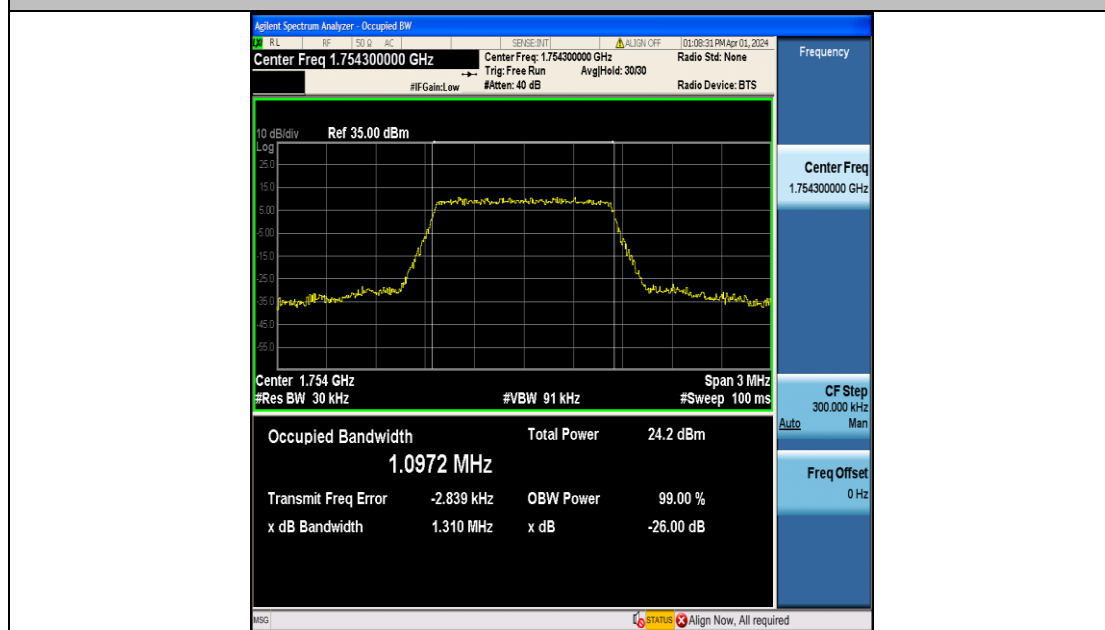
Band4-1.4MHz-QPSK-20175-6RB#0-PASS



Band4-1.4MHz-16QAM-20175-6RB#0-PASS



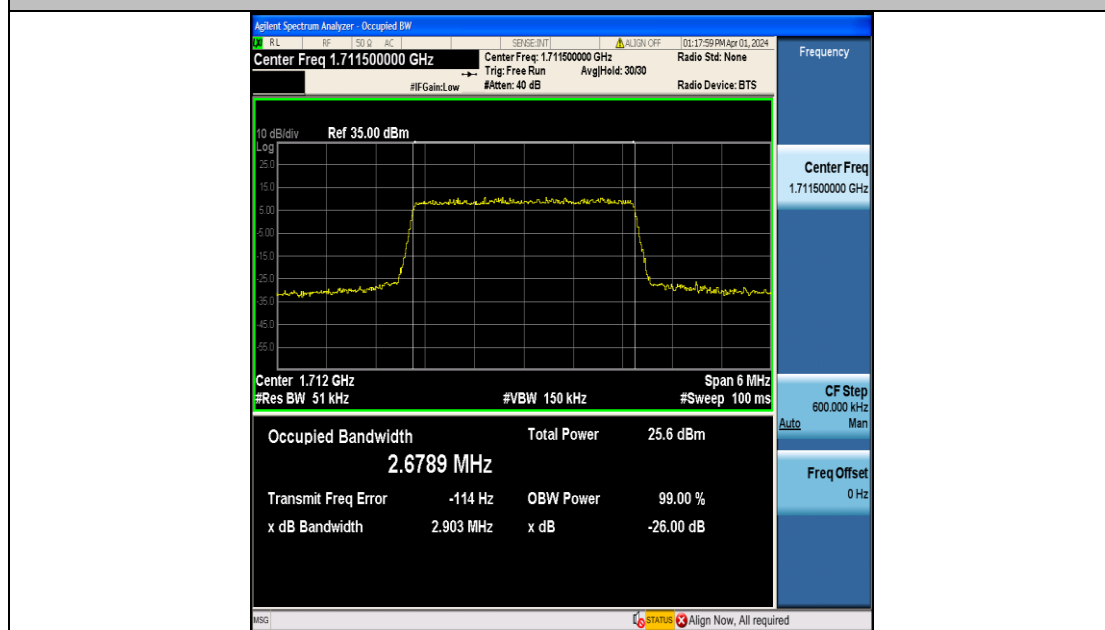
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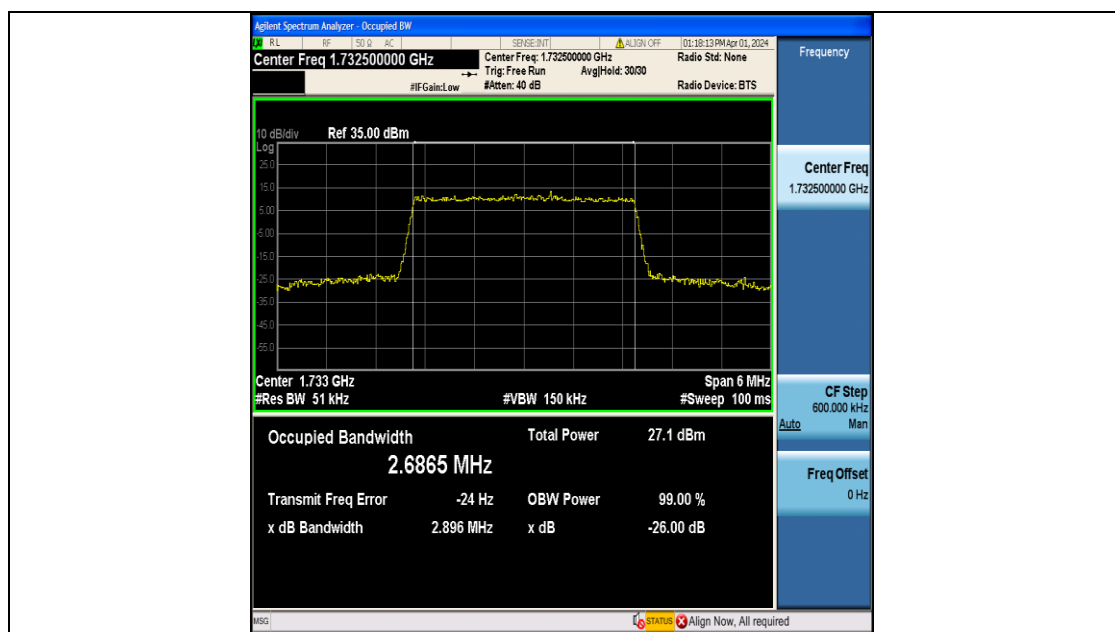
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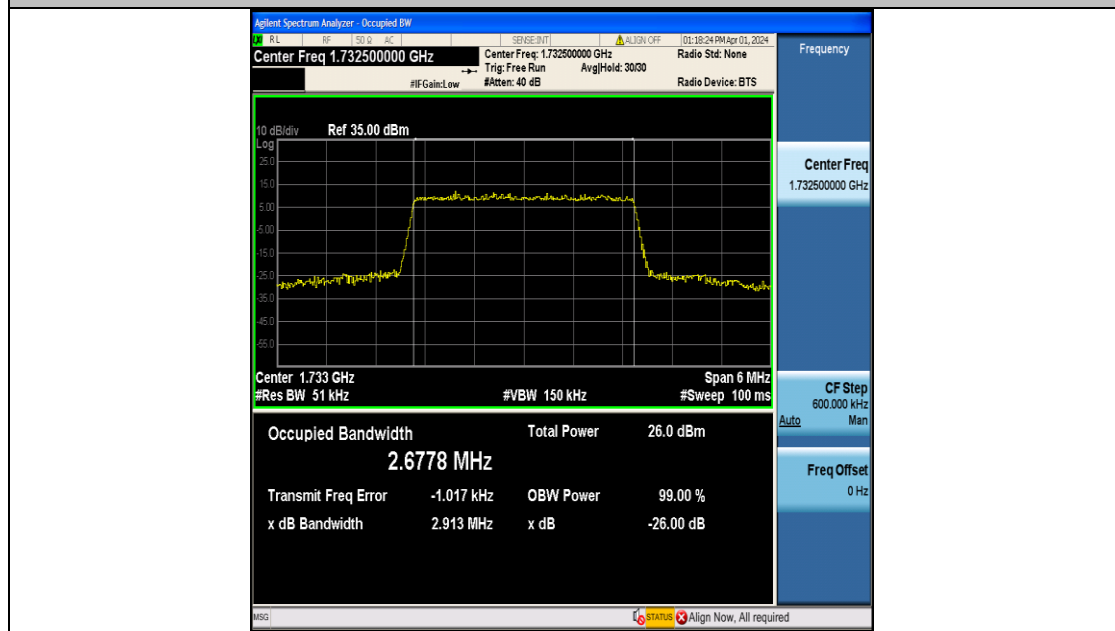
Band4-3MHz-QPSK-19965-15RB#0-PASS



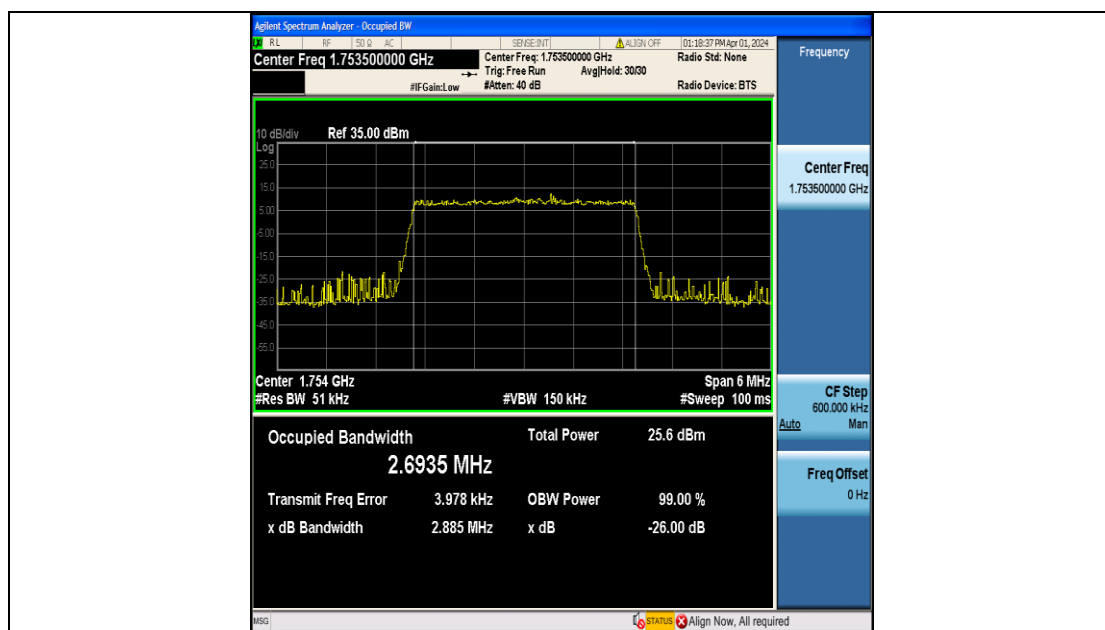
Band4-3MHz-16QAM-19965-15RB#0-PASS



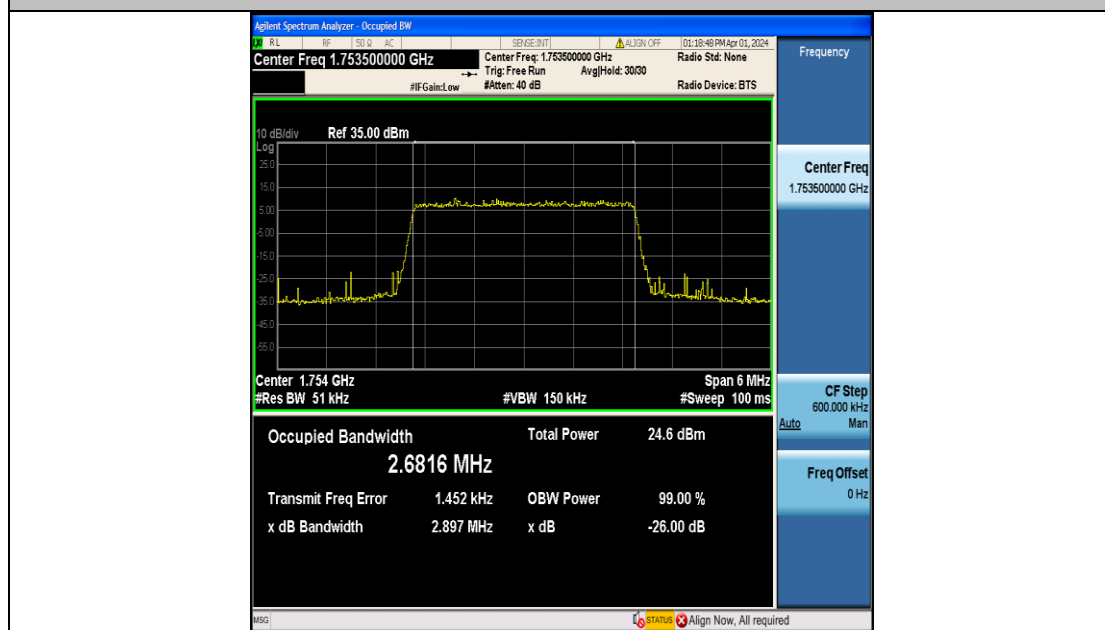
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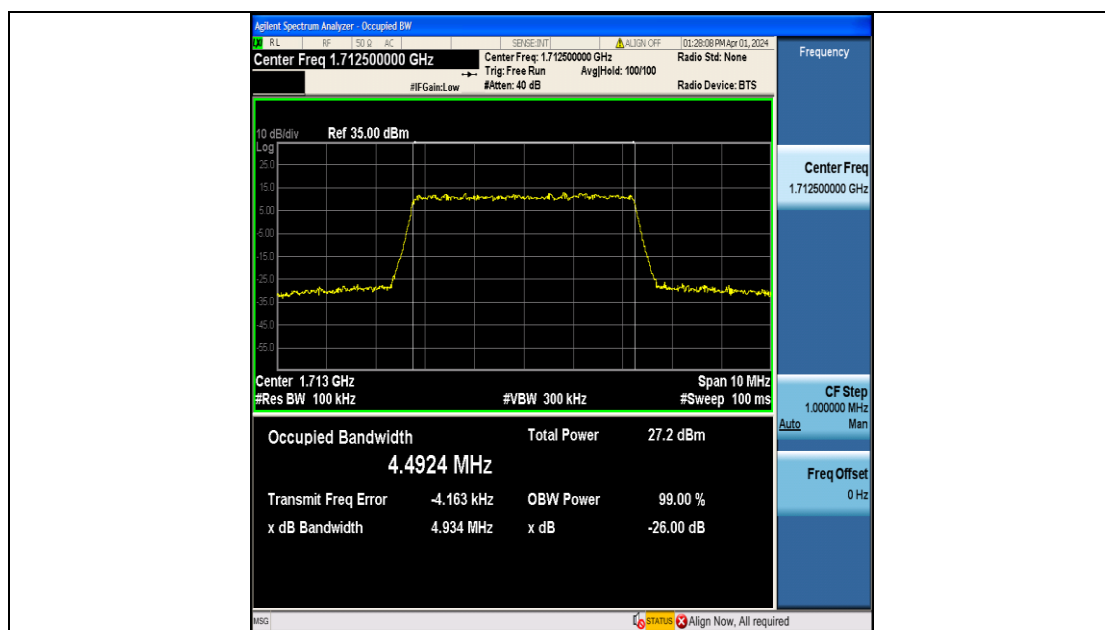
Band4-3MHz-16QAM-20175-15RB#0-PASS



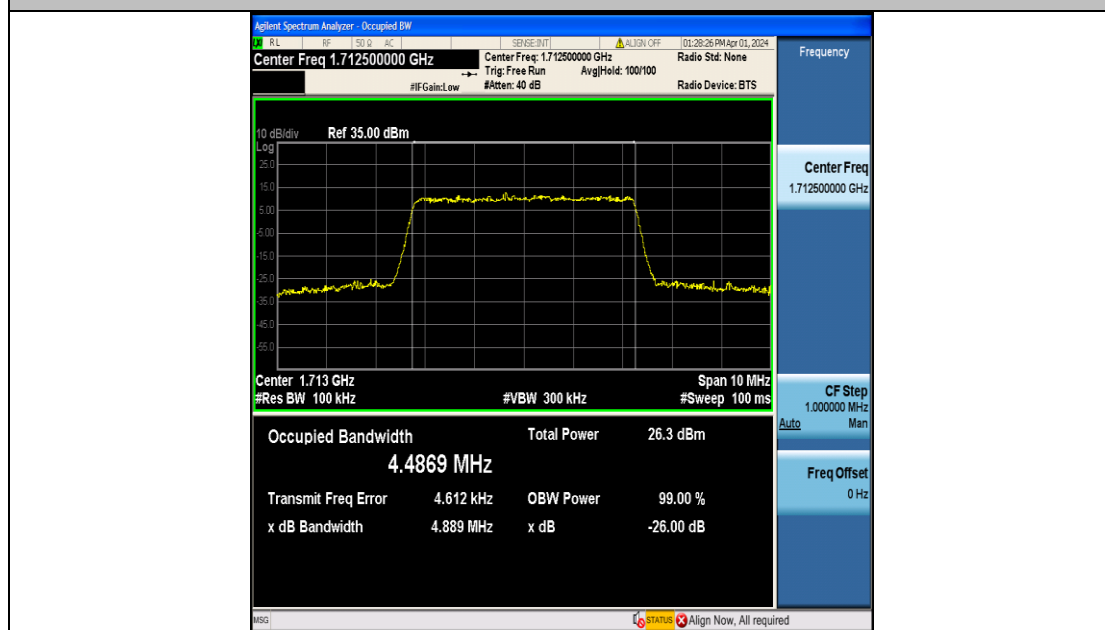
Band4-3MHz-QPSK-20385-15RB#0-PASS



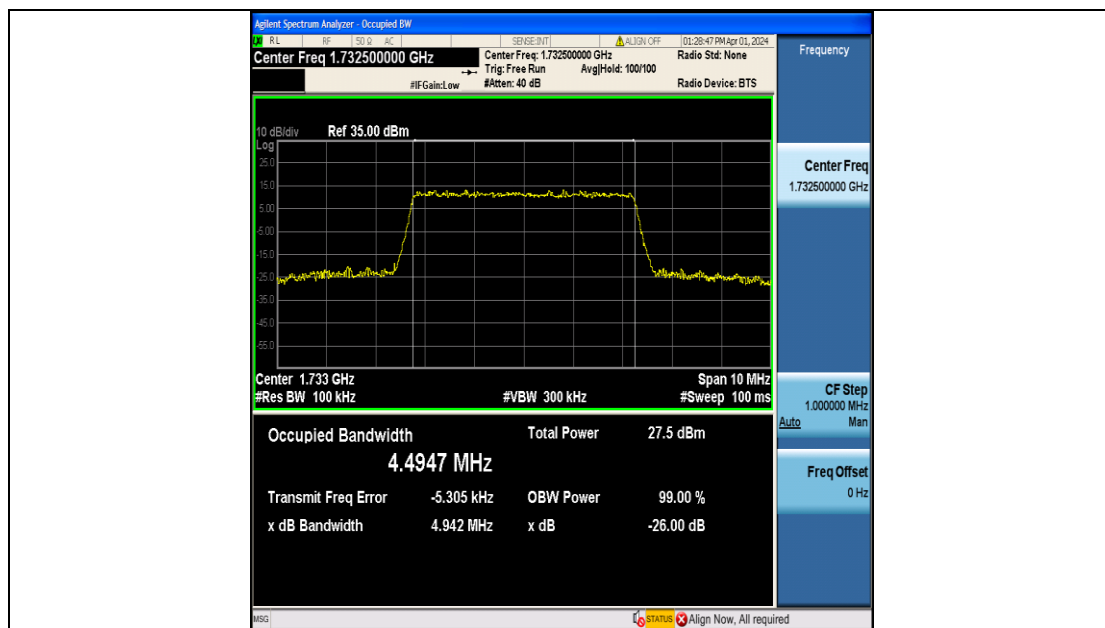
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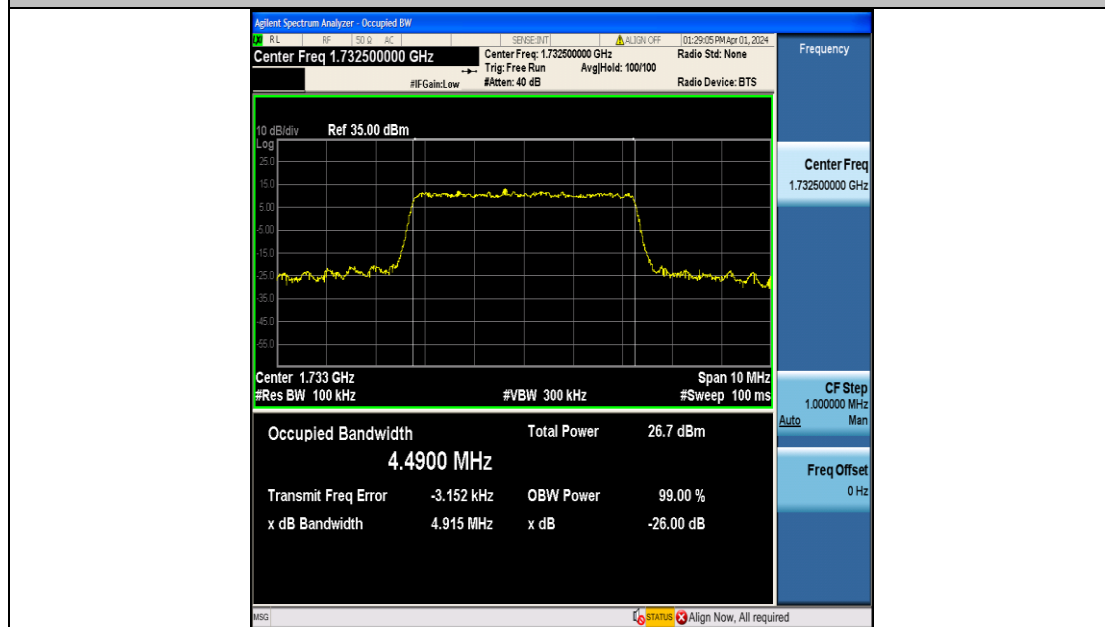
Band4-5MHz-QPSK-19975-25RB#0-PASS



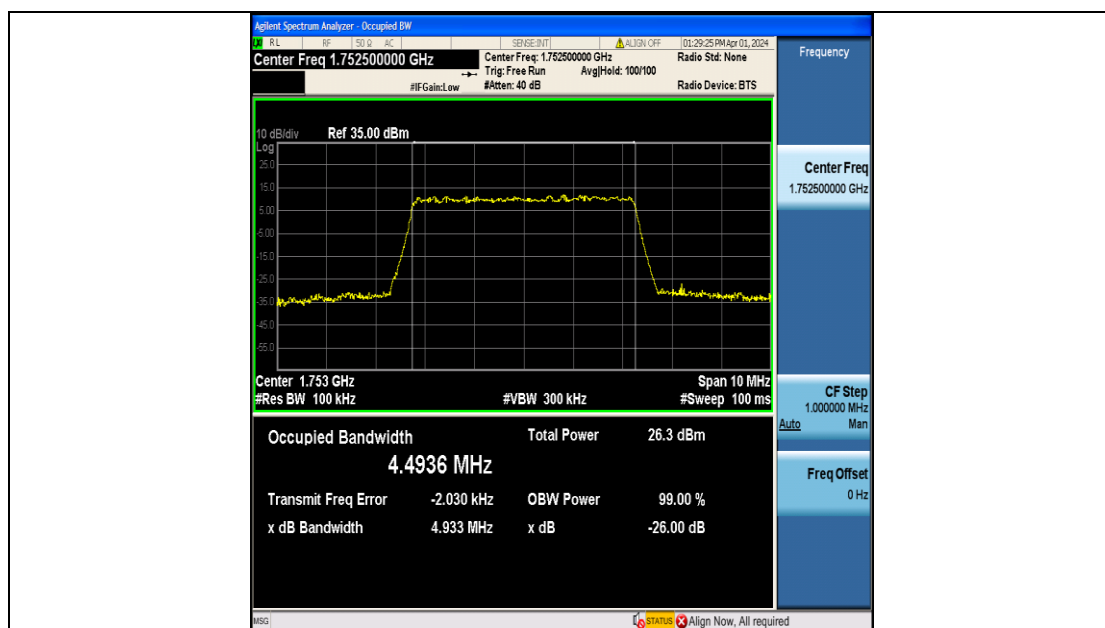
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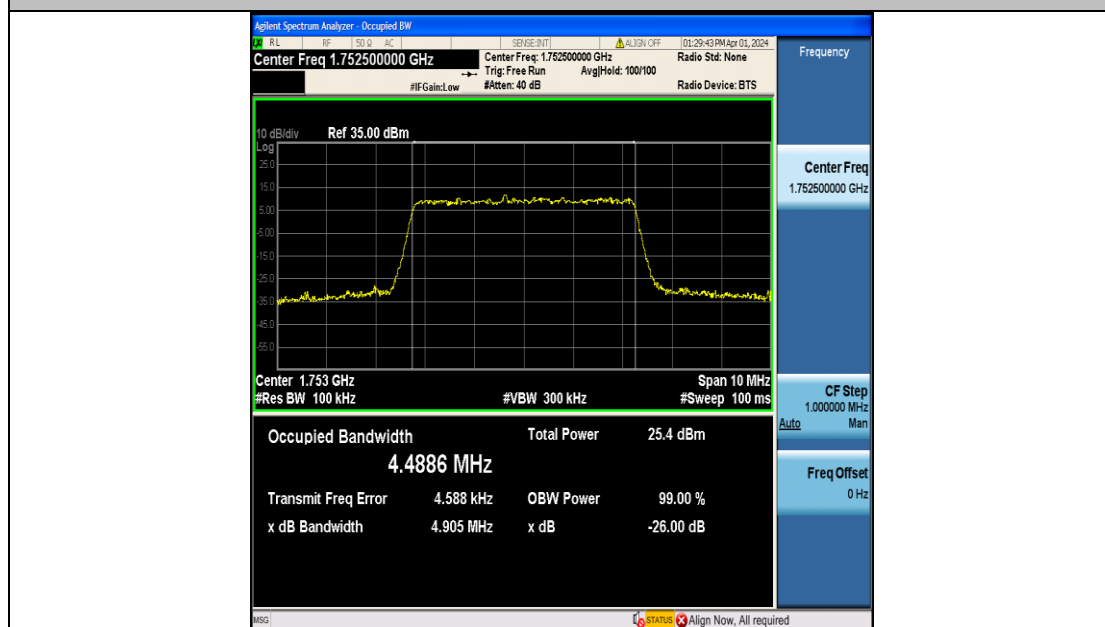
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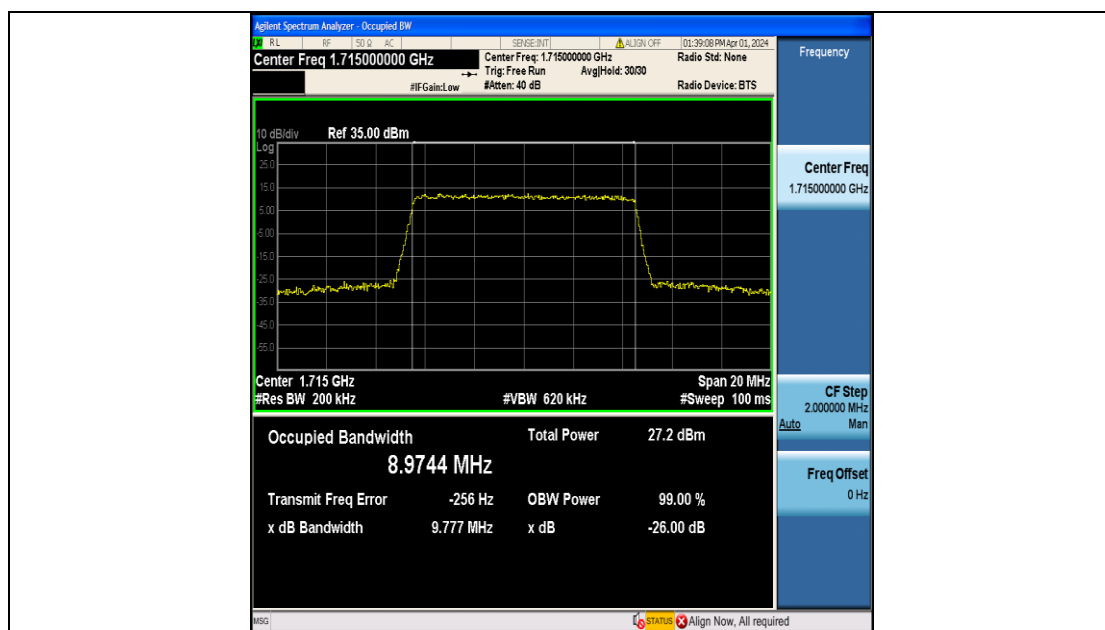
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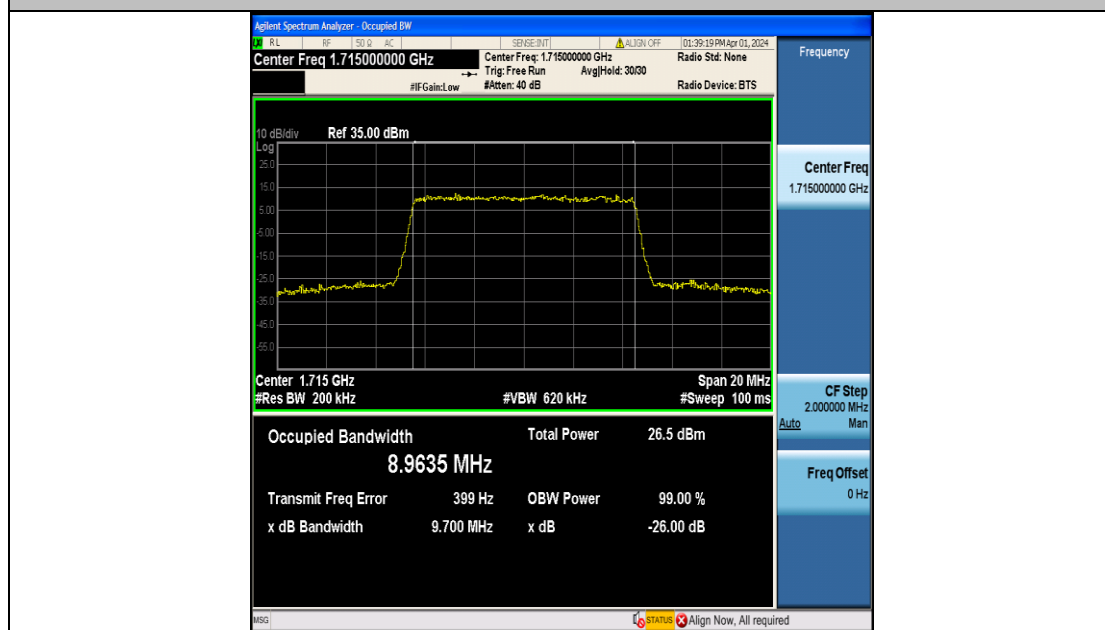
Band4-5MHz-QPSK-20375-25RB#0-PASS



Band4-5MHz-16QAM-20375-25RB#0-PASS



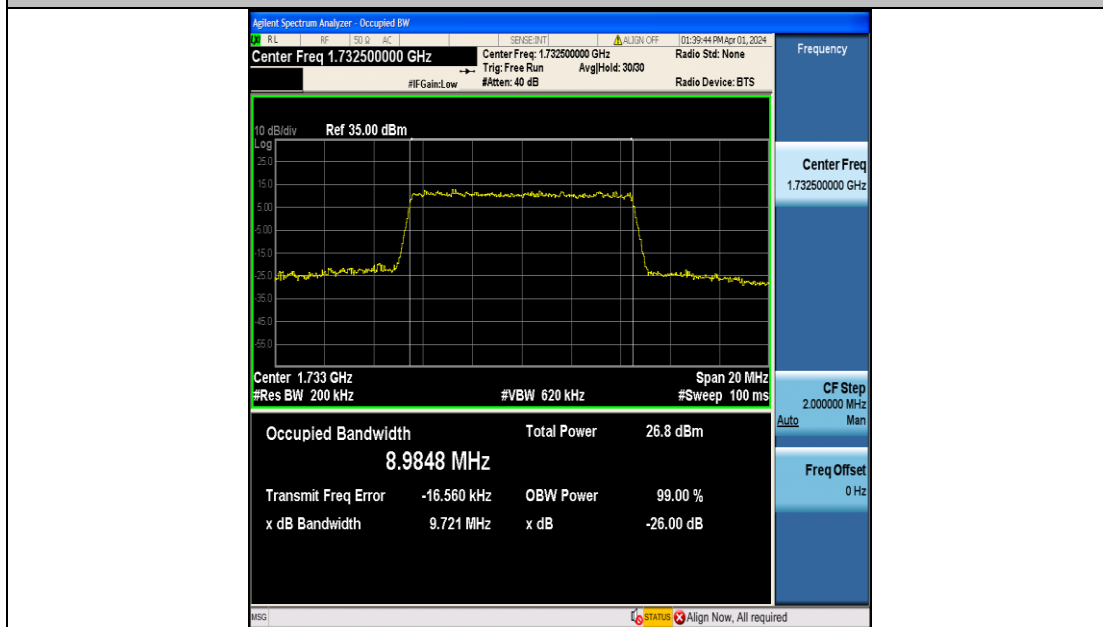
Band4-10MHz-QPSK-20000-50RB#0-PASS



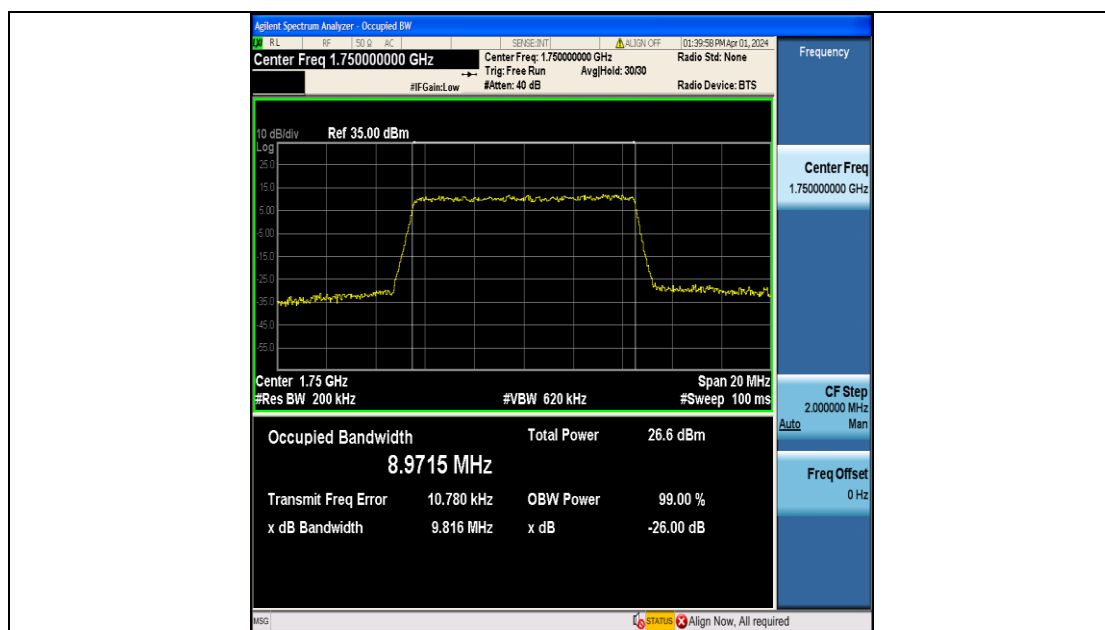
Band4-10MHz-16QAM-20000-50RB#0-PASS



Band4-10MHz-QPSK-20175-50RB#0-PASS



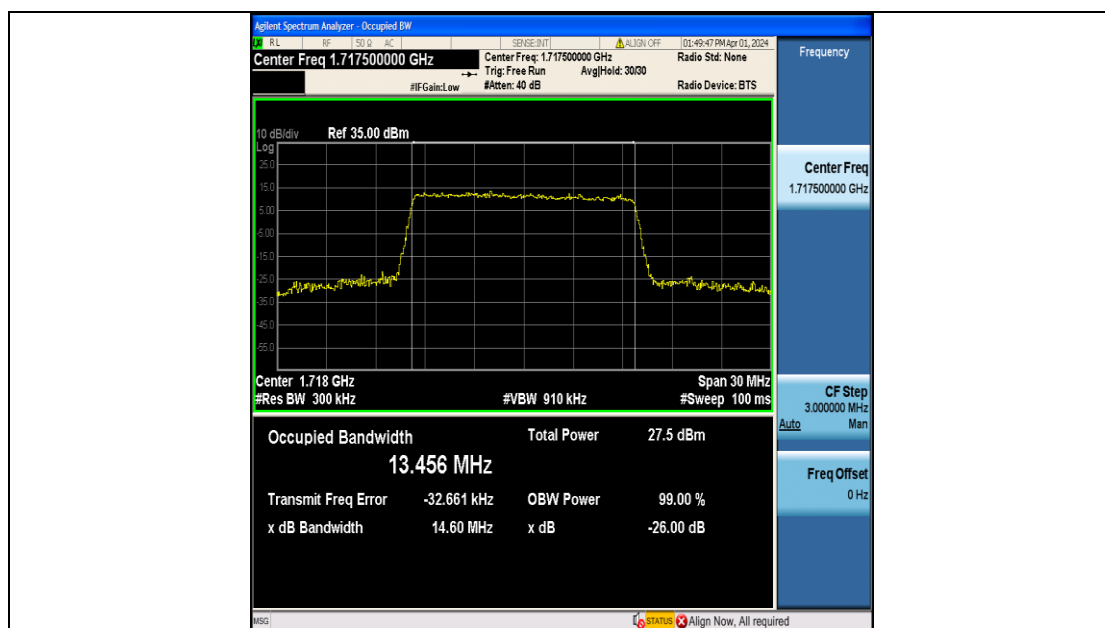
Band4-10MHz-16QAM-20175-50RB#0-PASS



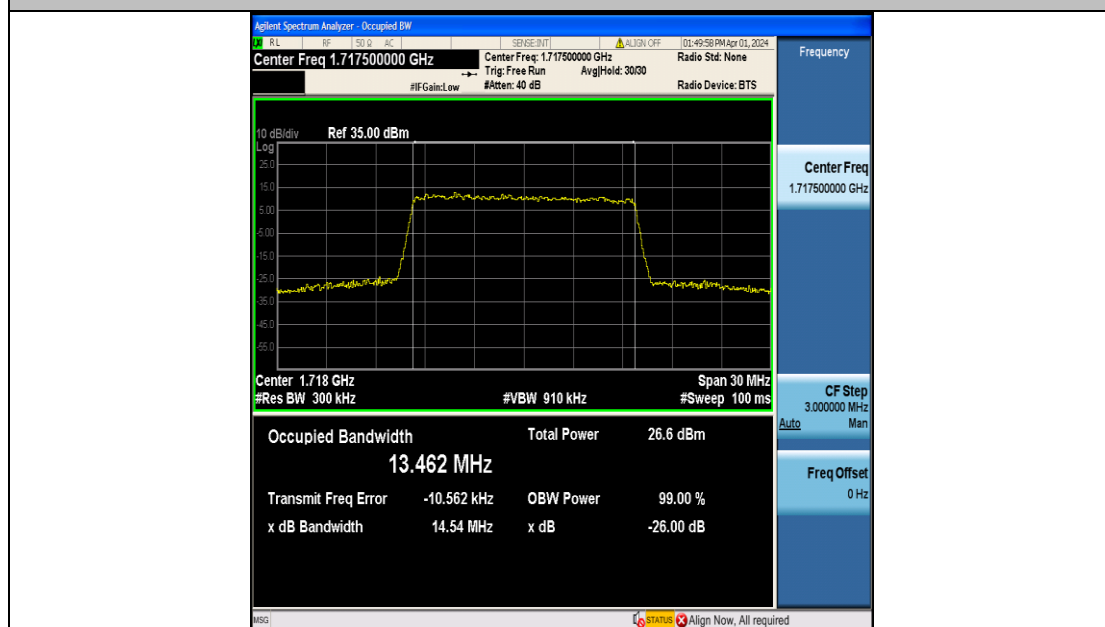
Band4-10MHz-QPSK-20350-50RB#0-PASS



Band4-10MHz-16QAM-20350-50RB#0-PASS



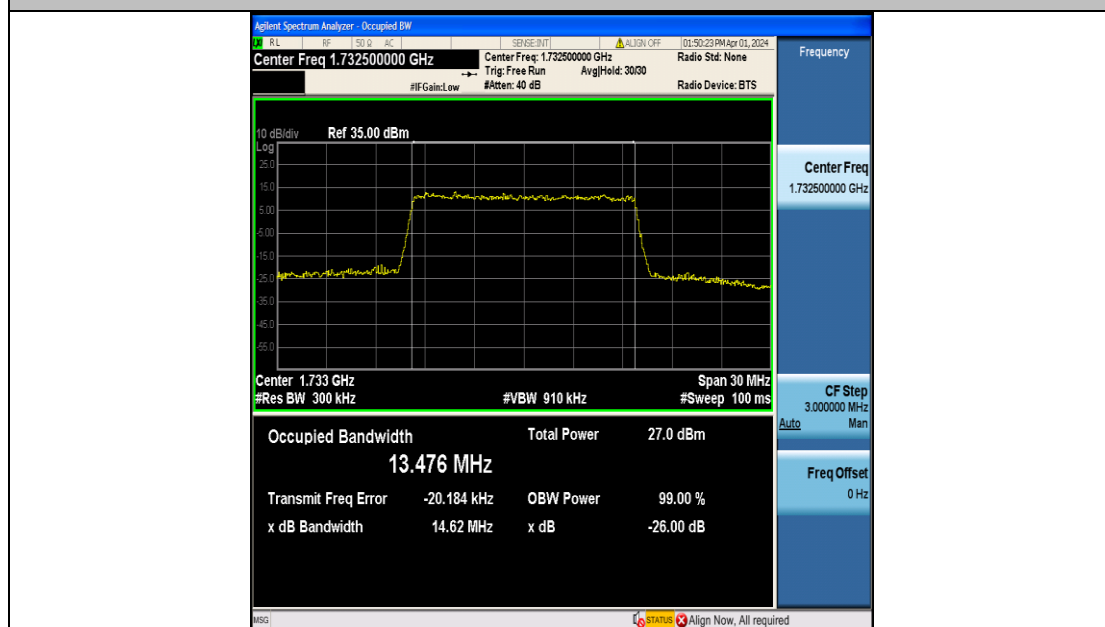
Band4-15MHz-QPSK-20025-75RB#0-PASS



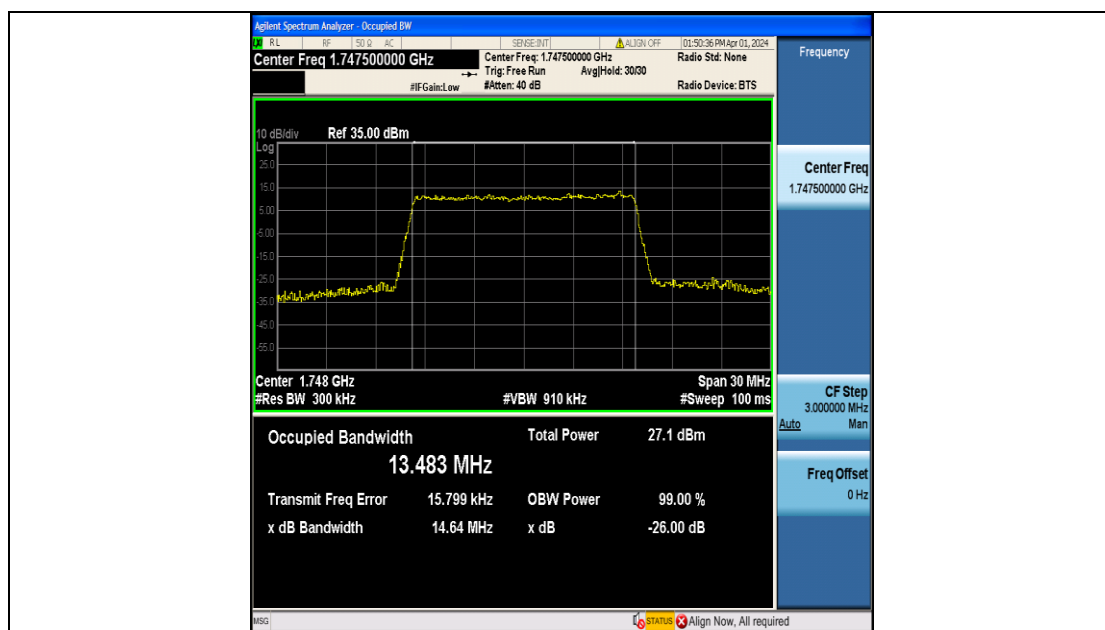
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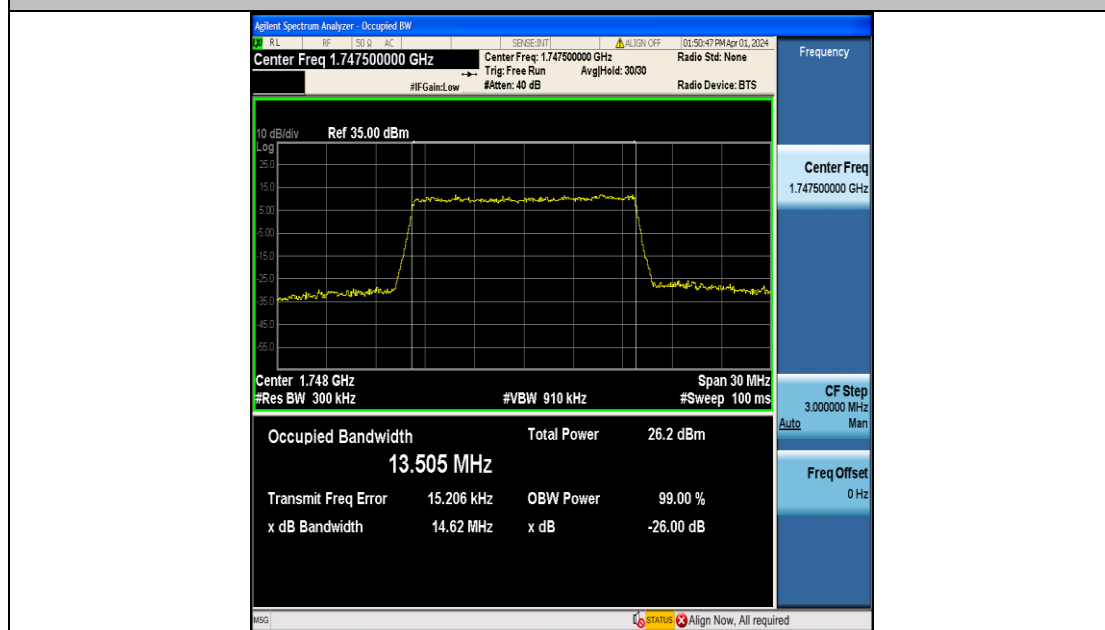
Band4-15MHz-QPSK-20175-75RB#0-PASS



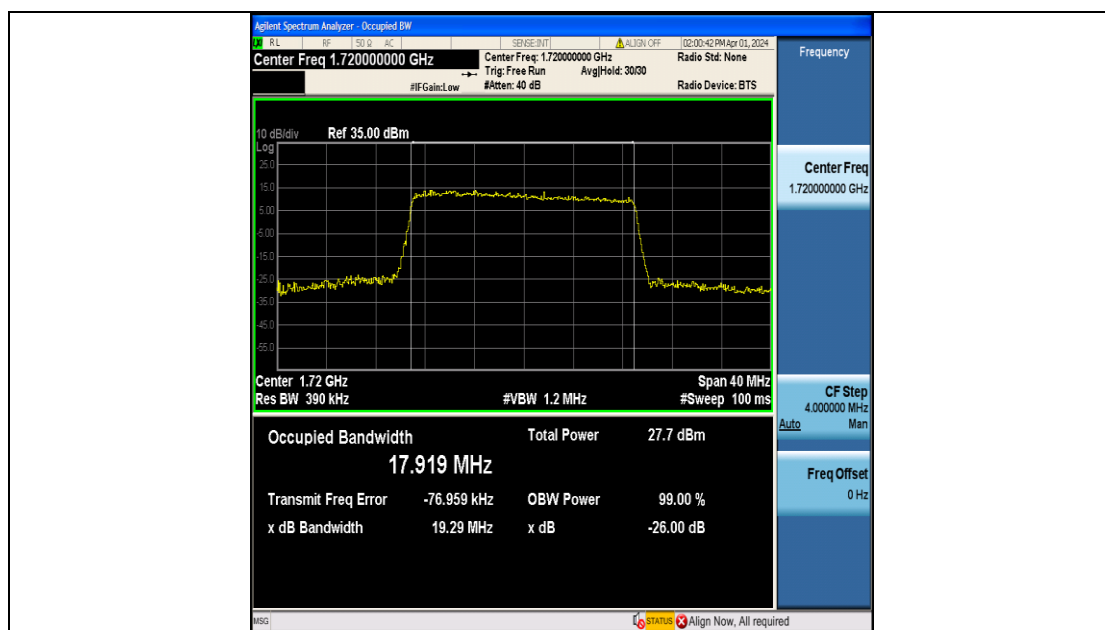
Band4-15MHz-16QAM-20175-75RB#0-PASS



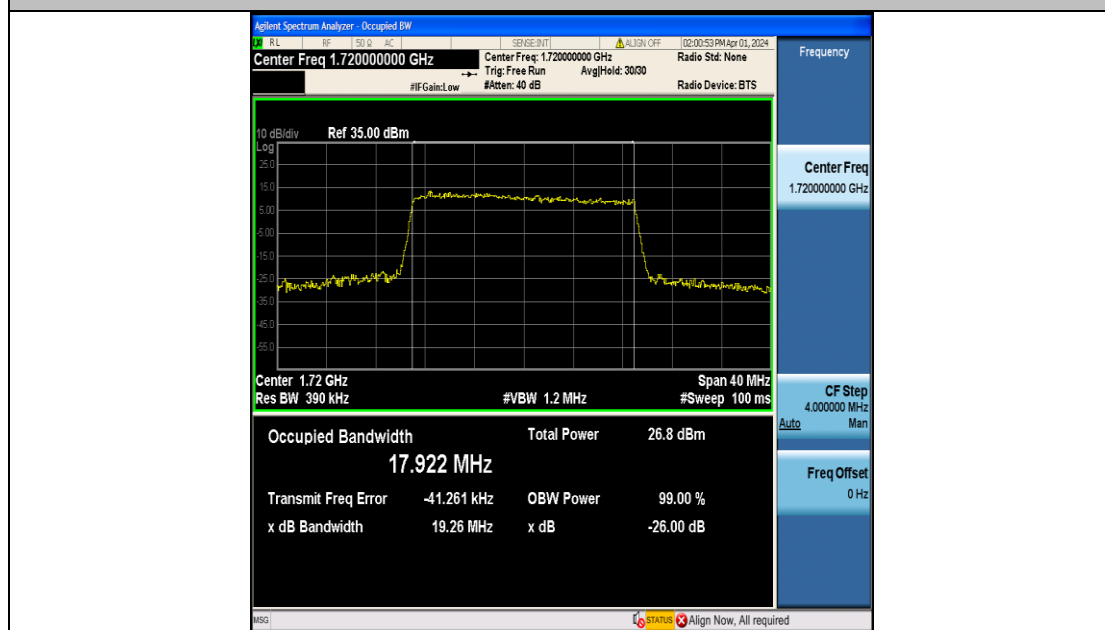
Band4-15MHz-QPSK-20325-75RB#0-PASS



Band4-15MHz-16QAM-20325-75RB#0-PASS



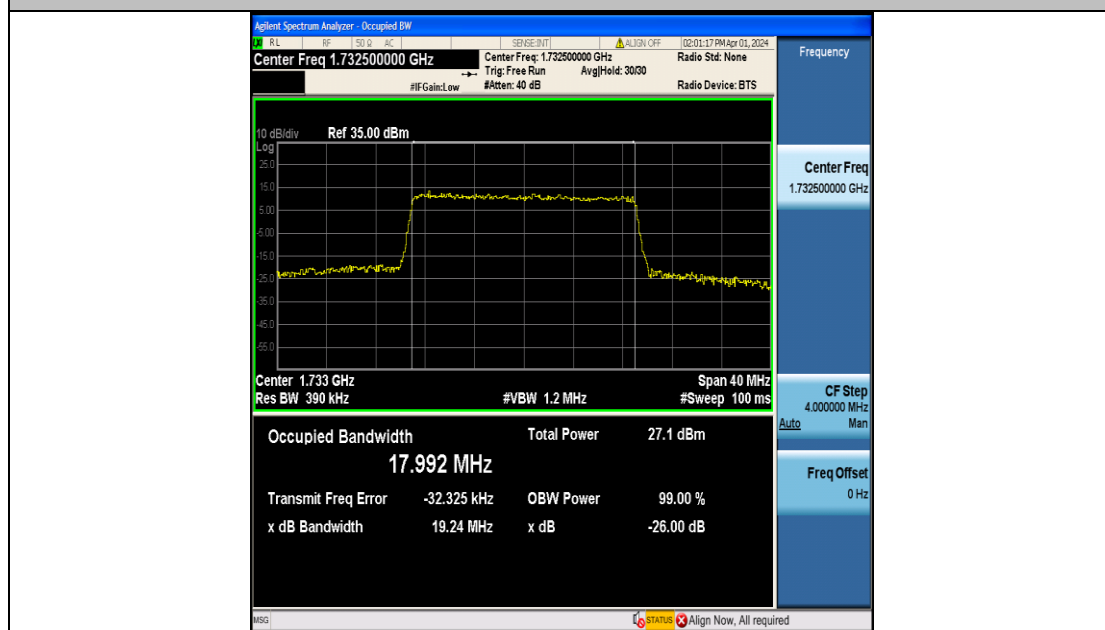
Band4-20MHz-QPSK-20050-100RB#0-PASS



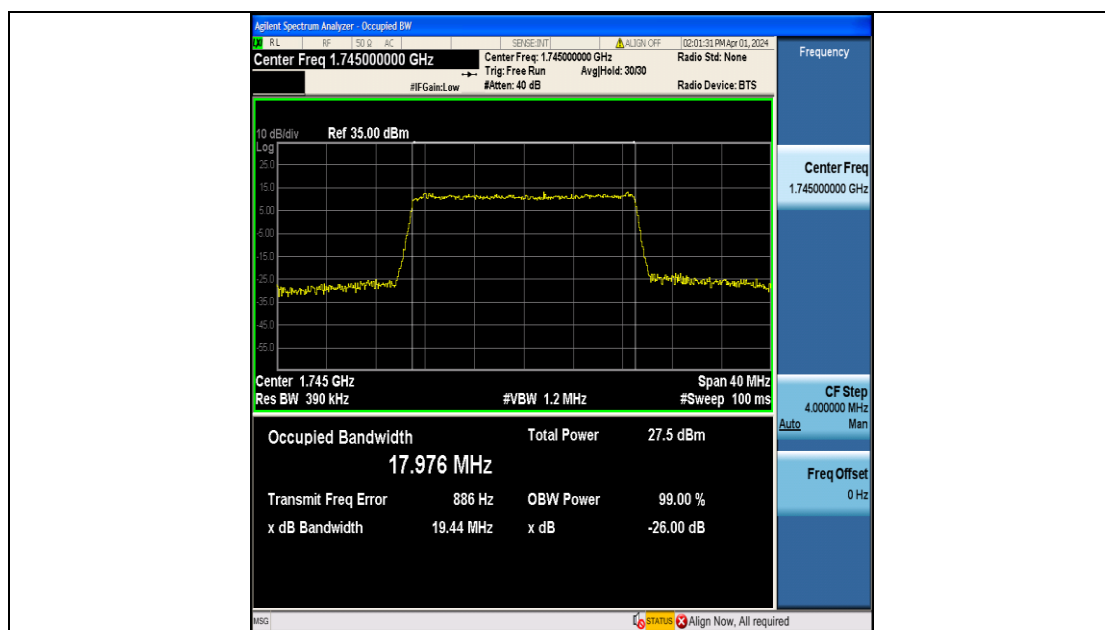
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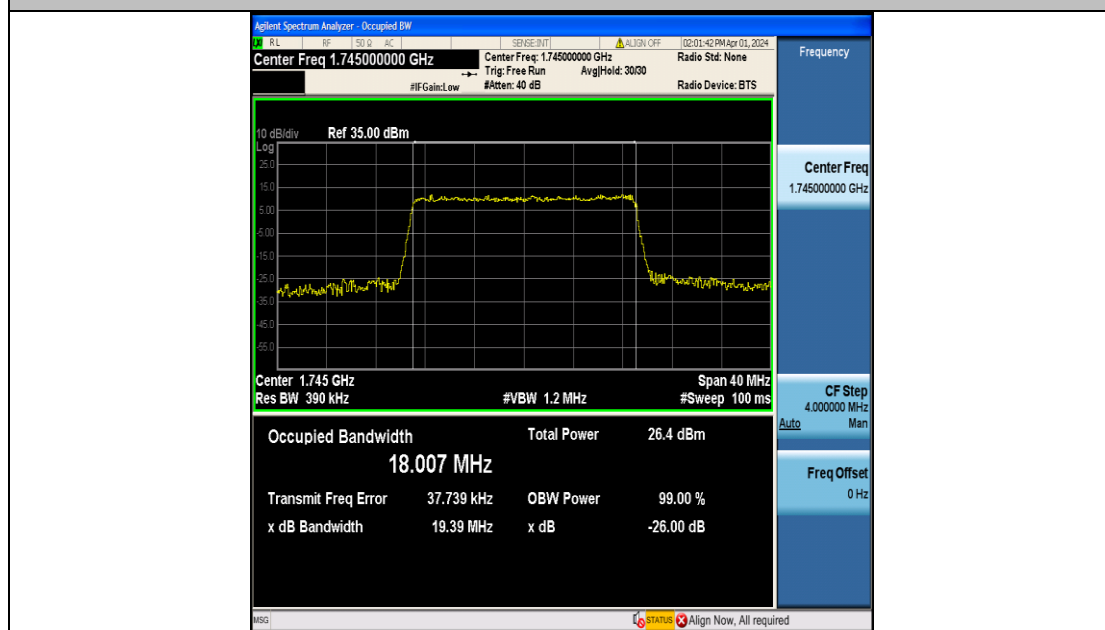
Band4-20MHz-QPSK-20175-100RB#0-PASS



Band4-20MHz-16QAM-20175-100RB#0-PASS



Band4-20MHz-QPSK-20300-100RB#0-PASS



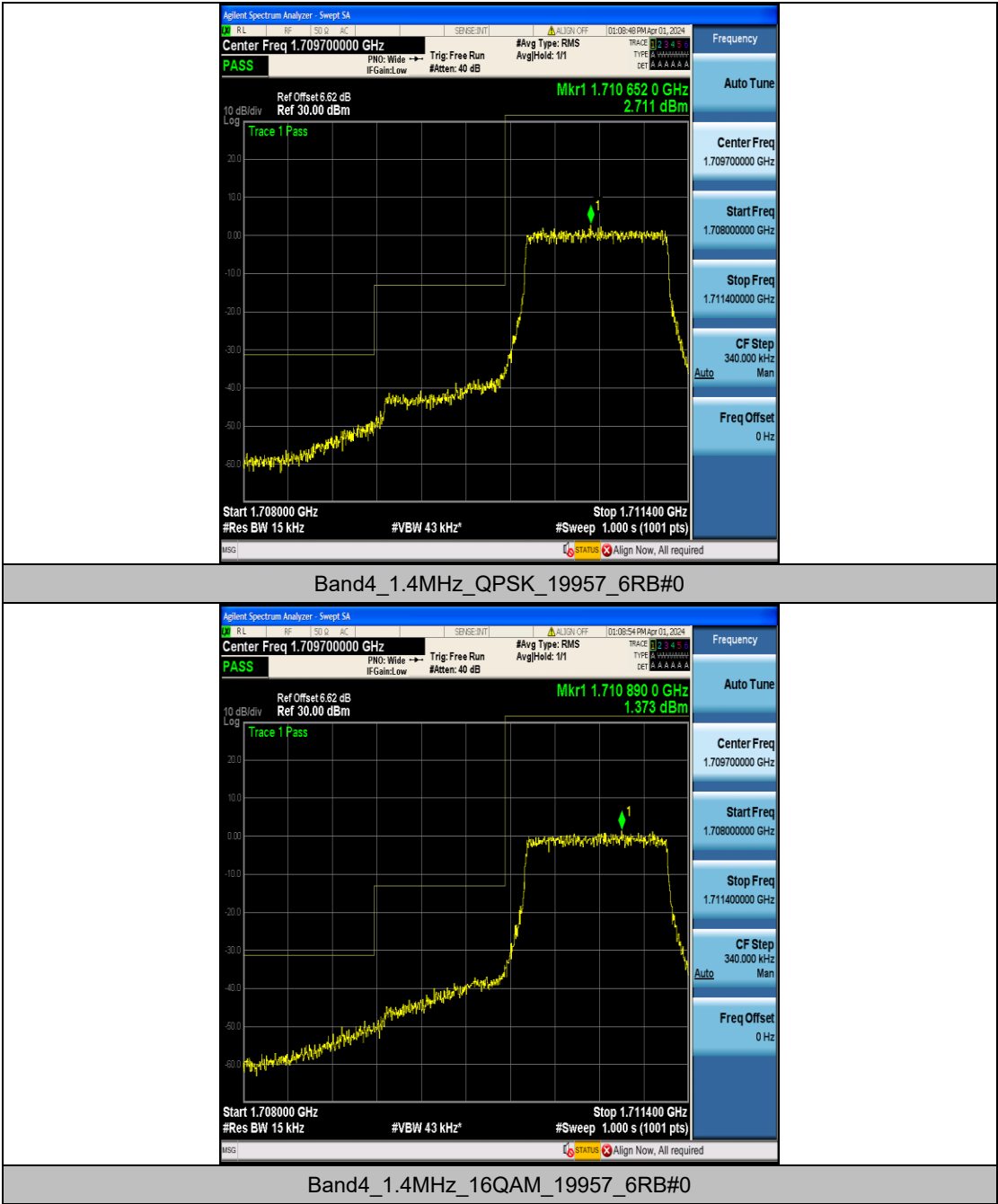
Band4-20MHz-16QAM-20300-100RB#0-PASS

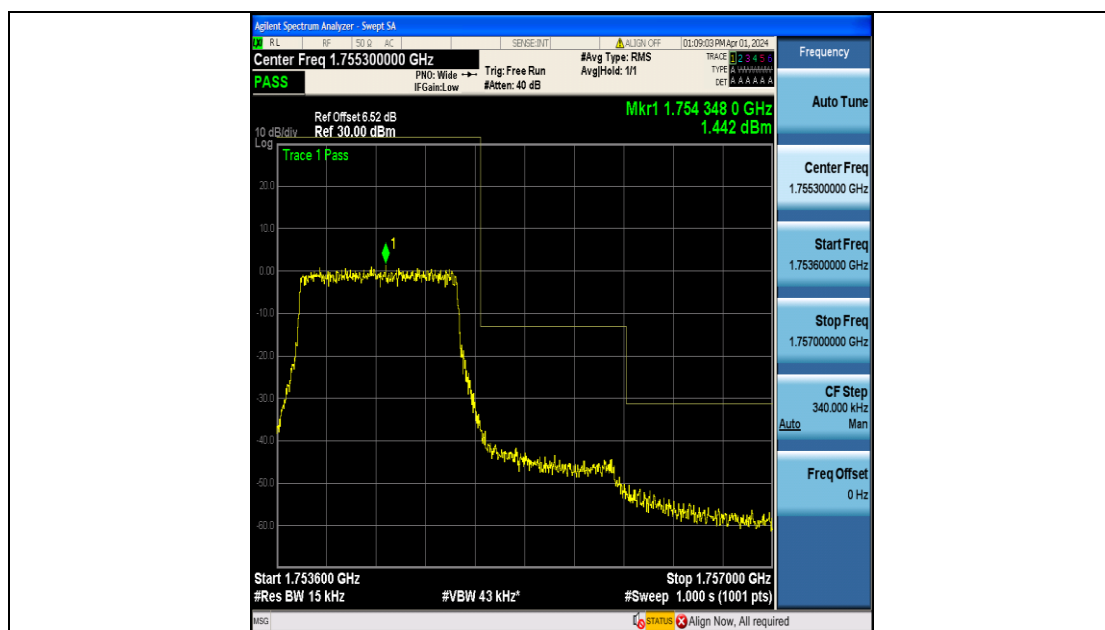
Appendix D: Band Edge

Test Result

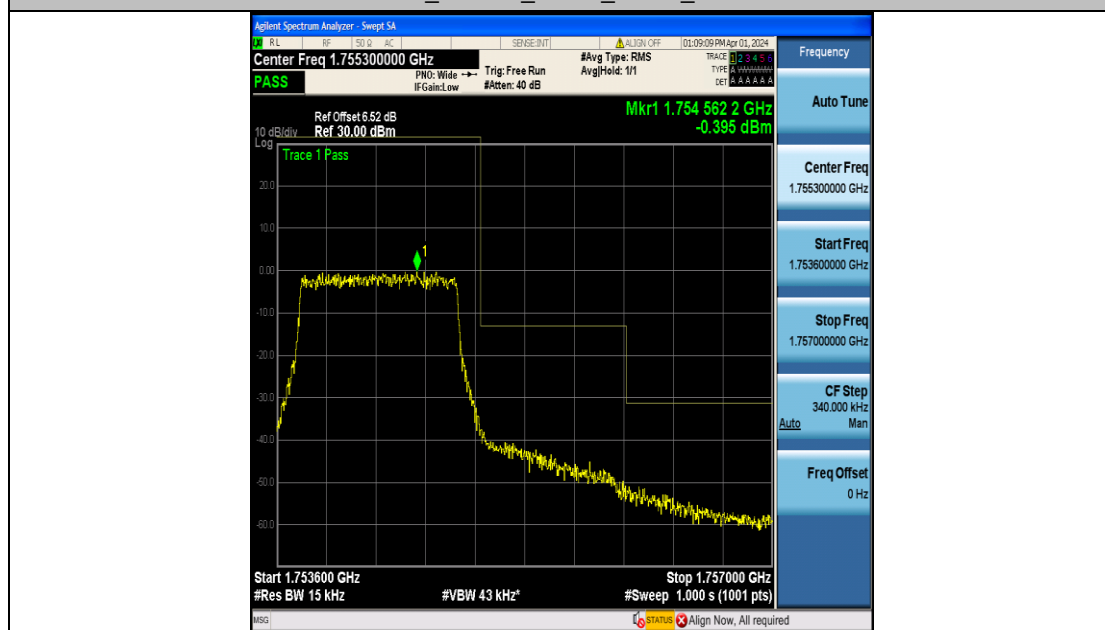
Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dBm)	Verdict
Band4	1.4MHz	QPSK	19957	6RB#0	-48.72	PASS
Band4	1.4MHz	16QAM	19957	6RB#0	-48.59	PASS
Band4	1.4MHz	QPSK	20393	6RB#0	-50.39	PASS
Band4	1.4MHz	16QAM	20393	6RB#0	-50.97	PASS
Band4	3MHz	QPSK	19965	15RB#0	-41.99	PASS
Band4	3MHz	16QAM	19965	15RB#0	-40.97	PASS
Band4	3MHz	QPSK	20385	15RB#0	-43.90	PASS
Band4	3MHz	16QAM	20385	15RB#0	-43.34	PASS
Band4	5MHz	QPSK	19975	25RB#0	-41.34	PASS
Band4	5MHz	16QAM	19975	25RB#0	-39.84	PASS
Band4	5MHz	QPSK	20375	25RB#0	-44.04	PASS
Band4	5MHz	16QAM	20375	25RB#0	-43.06	PASS
Band4	10MHz	QPSK	20000	50RB#0	-41.16	PASS
Band4	10MHz	16QAM	20000	50RB#0	-40.30	PASS
Band4	10MHz	QPSK	20350	50RB#0	-42.82	PASS
Band4	10MHz	16QAM	20350	50RB#0	-42.65	PASS
Band4	15MHz	QPSK	20025	75RB#0	-39.23	PASS
Band4	15MHz	16QAM	20025	75RB#0	-39.41	PASS
Band4	15MHz	QPSK	20325	75RB#0	-40.18	PASS
Band4	15MHz	16QAM	20325	75RB#0	-41.34	PASS
Band4	20MHz	QPSK	20050	100RB#0	-40.12	PASS
Band4	20MHz	16QAM	20050	100RB#0	-38.53	PASS
Band4	20MHz	QPSK	20300	100RB#0	-41.19	PASS
Band4	20MHz	16QAM	20300	100RB#0	-41.23	PASS

Test Graphs

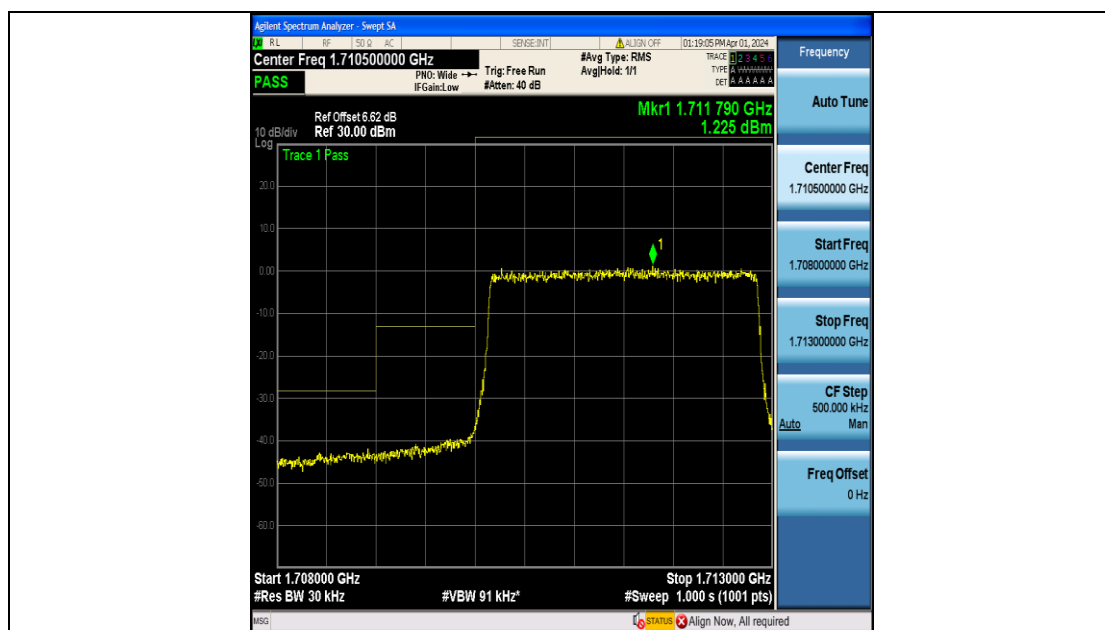




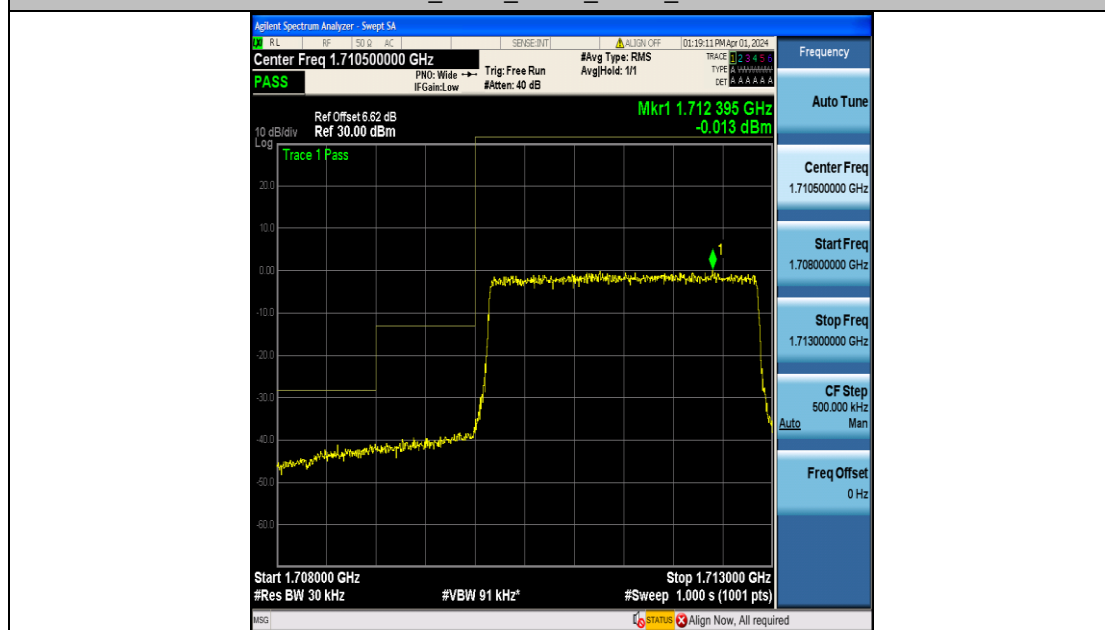
Band4_1.4MHz_QPSK_20393_6RB#0



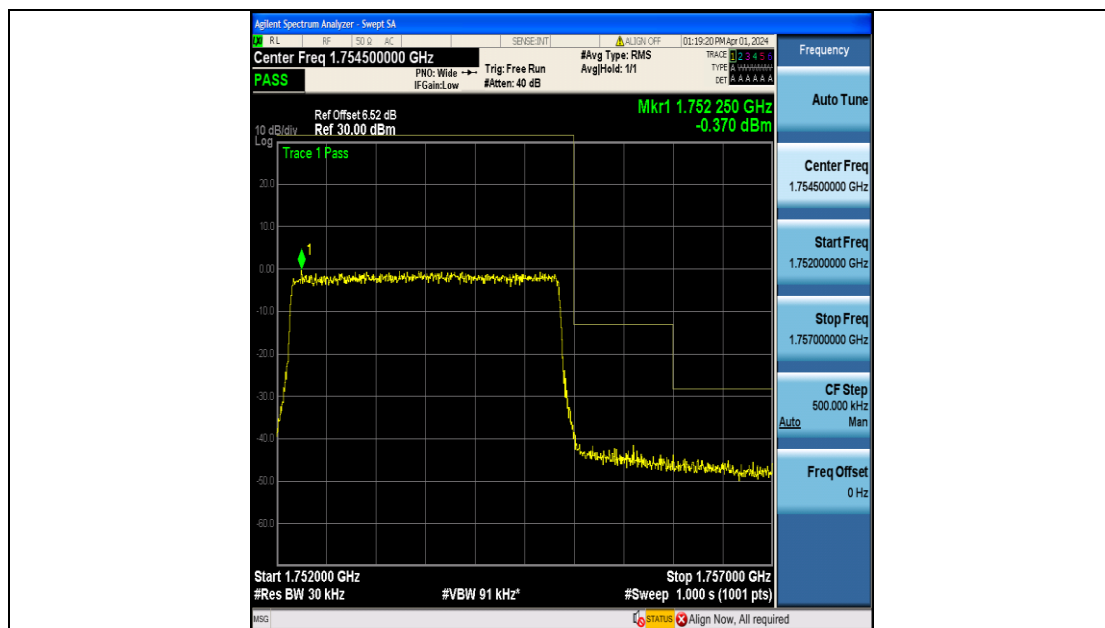
Band4_1.4MHz_16QAM_20393_6RB#0



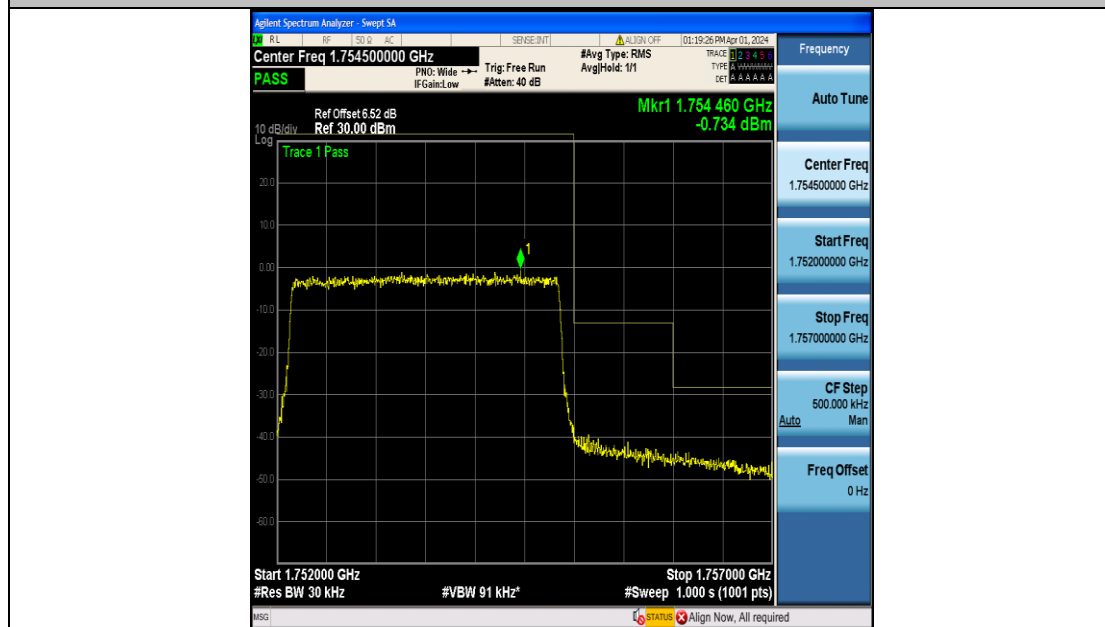
Band4_3MHz_QPSK_19965_15RB#0



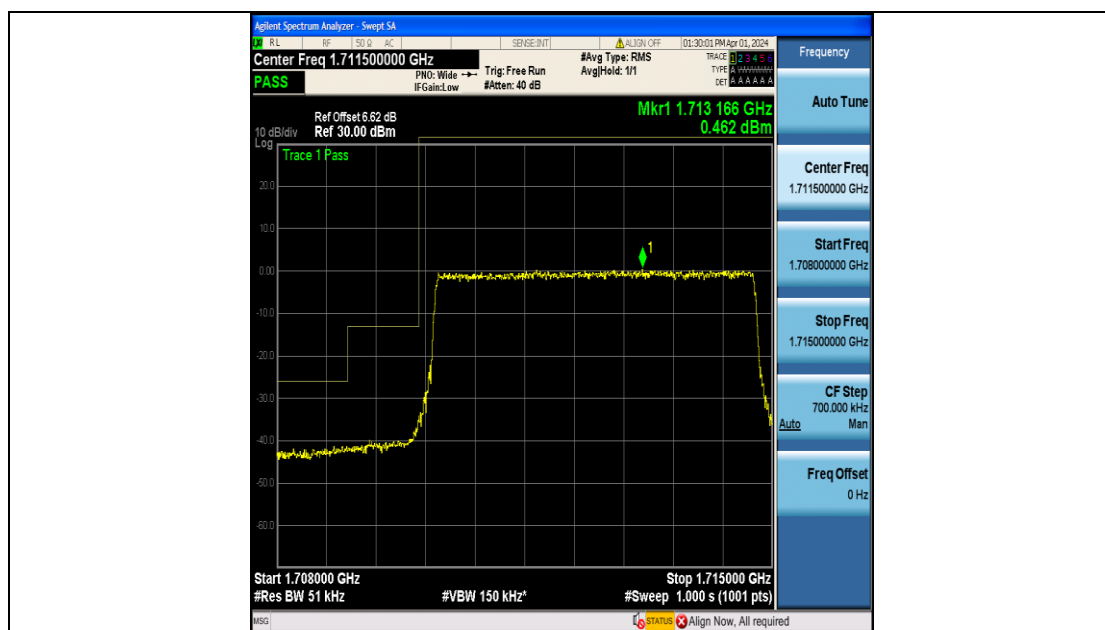
Band4_3MHz_16QAM_19965_15RB#0



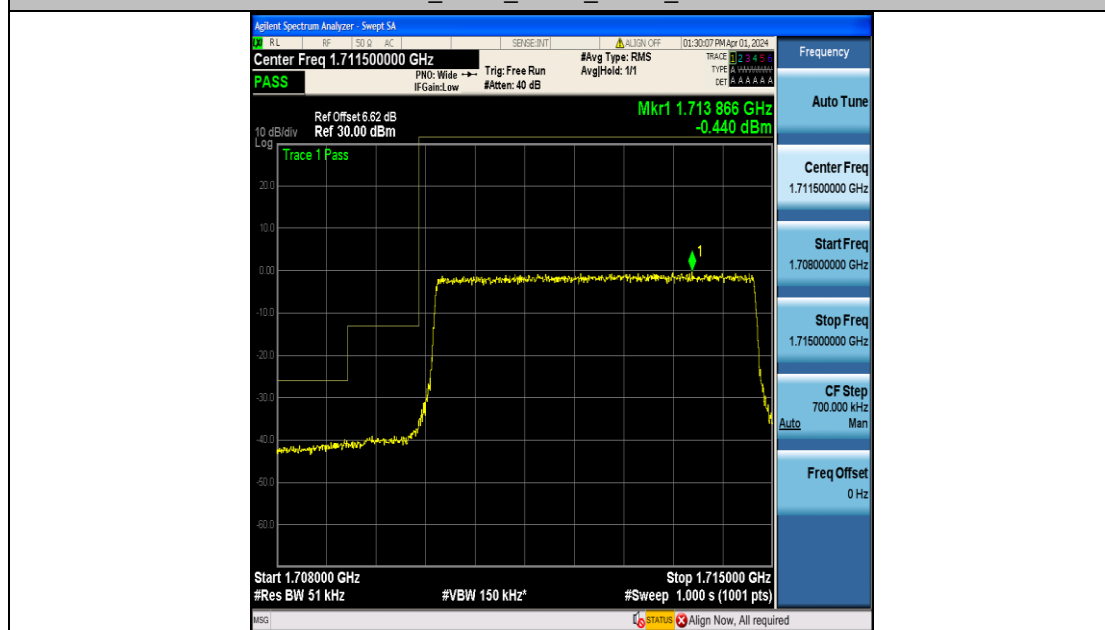
Band4_3MHz_QPSK_20385_15RB#0



Band4_3MHz_16QAM_20385_15RB#0



Band4_5MHz_QPSK_19975_25RB#0



Band4_5MHz_16QAM_19975_25RB#0