

Appendix for Band 5

Product Name: Environmental variable collector for logistics

Model No: ZS-300L

Appendix A: Average Power Output Data

Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dBm)	Verdict
Band5	1.4MHz	QPSK	20407	1RB#0	24.30	PASS
Band5	1.4MHz	QPSK	20407	1RB#2	24.25	PASS
Band5	1.4MHz	QPSK	20407	1RB#5	23.94	PASS
Band5	1.4MHz	QPSK	20407	3RB#0	24.31	PASS
Band5	1.4MHz	QPSK	20407	3RB#1	24.25	PASS
Band5	1.4MHz	QPSK	20407	3RB#3	24.04	PASS
Band5	1.4MHz	QPSK	20407	6RB#0	23.20	PASS
Band5	1.4MHz	QPSK	20525	1RB#0	23.78	PASS
Band5	1.4MHz	QPSK	20525	1RB#2	23.70	PASS
Band5	1.4MHz	QPSK	20525	1RB#5	23.71	PASS
Band5	1.4MHz	QPSK	20525	3RB#0	23.74	PASS
Band5	1.4MHz	QPSK	20525	3RB#1	23.85	PASS
Band5	1.4MHz	QPSK	20525	3RB#3	23.87	PASS
Band5	1.4MHz	QPSK	20525	6RB#0	22.96	PASS
Band5	1.4MHz	QPSK	20643	1RB#0	24.41	PASS
Band5	1.4MHz	QPSK	20643	1RB#2	24.33	PASS
Band5	1.4MHz	QPSK	20643	1RB#5	24.36	PASS
Band5	1.4MHz	QPSK	20643	3RB#0	24.71	PASS
Band5	1.4MHz	QPSK	20643	3RB#1	24.52	PASS
Band5	1.4MHz	QPSK	20643	3RB#3	24.38	PASS
Band5	1.4MHz	QPSK	20643	6RB#0	23.44	PASS
Band5	1.4MHz	16QAM	20407	1RB#0	23.36	PASS
Band5	1.4MHz	16QAM	20407	1RB#2	23.46	PASS
Band5	1.4MHz	16QAM	20407	1RB#5	22.99	PASS
Band5	1.4MHz	16QAM	20407	3RB#0	23.02	PASS
Band5	1.4MHz	16QAM	20407	3RB#1	23.11	PASS
Band5	1.4MHz	16QAM	20407	3RB#3	22.93	PASS
Band5	1.4MHz	16QAM	20407	6RB#0	22.32	PASS
Band5	1.4MHz	16QAM	20525	1RB#0	22.71	PASS
Band5	1.4MHz	16QAM	20525	1RB#2	22.98	PASS
Band5	1.4MHz	16QAM	20525	1RB#5	22.81	PASS

Band5	1.4MHz	16QAM	20525	3RB#0	22.64	PASS
Band5	1.4MHz	16QAM	20525	3RB#1	22.64	PASS
Band5	1.4MHz	16QAM	20525	3RB#3	22.64	PASS
Band5	1.4MHz	16QAM	20525	6RB#0	21.86	PASS
Band5	1.4MHz	16QAM	20643	1RB#0	23.44	PASS
Band5	1.4MHz	16QAM	20643	1RB#2	23.59	PASS
Band5	1.4MHz	16QAM	20643	1RB#5	23.40	PASS
Band5	1.4MHz	16QAM	20643	3RB#0	23.26	PASS
Band5	1.4MHz	16QAM	20643	3RB#1	23.26	PASS
Band5	1.4MHz	16QAM	20643	3RB#3	23.20	PASS
Band5	1.4MHz	16QAM	20643	6RB#0	22.64	PASS
Band5	3MHz	QPSK	20415	1RB#0	24.13	PASS
Band5	3MHz	QPSK	20415	1RB#8	23.56	PASS
Band5	3MHz	QPSK	20415	1RB#14	23.58	PASS
Band5	3MHz	QPSK	20415	8RB#0	23.10	PASS
Band5	3MHz	QPSK	20415	8RB#4	23.02	PASS
Band5	3MHz	QPSK	20415	8RB#7	22.86	PASS
Band5	3MHz	QPSK	20415	15RB#0	22.87	PASS
Band5	3MHz	QPSK	20525	1RB#0	23.53	PASS
Band5	3MHz	QPSK	20525	1RB#8	24.09	PASS
Band5	3MHz	QPSK	20525	1RB#14	24.09	PASS
Band5	3MHz	QPSK	20525	8RB#0	22.79	PASS
Band5	3MHz	QPSK	20525	8RB#4	22.70	PASS
Band5	3MHz	QPSK	20525	8RB#7	22.87	PASS
Band5	3MHz	QPSK	20525	15RB#0	22.84	PASS
Band5	3MHz	QPSK	20635	1RB#0	24.16	PASS
Band5	3MHz	QPSK	20635	1RB#8	24.37	PASS
Band5	3MHz	QPSK	20635	1RB#14	24.26	PASS
Band5	3MHz	QPSK	20635	8RB#0	23.27	PASS
Band5	3MHz	QPSK	20635	8RB#4	23.27	PASS
Band5	3MHz	QPSK	20635	8RB#7	23.45	PASS
Band5	3MHz	QPSK	20635	15RB#0	23.31	PASS
Band5	3MHz	16QAM	20415	1RB#0	23.25	PASS
Band5	3MHz	16QAM	20415	1RB#8	22.69	PASS
Band5	3MHz	16QAM	20415	1RB#14	22.68	PASS
Band5	3MHz	16QAM	20415	8RB#0	21.96	PASS
Band5	3MHz	16QAM	20415	8RB#4	22.21	PASS

Band5	3MHz	16QAM	20415	8RB#7	21.89	PASS
Band5	3MHz	16QAM	20415	15RB#0	21.99	PASS
Band5	3MHz	16QAM	20525	1RB#0	22.60	PASS
Band5	3MHz	16QAM	20525	1RB#8	22.99	PASS
Band5	3MHz	16QAM	20525	1RB#14	22.90	PASS
Band5	3MHz	16QAM	20525	8RB#0	21.86	PASS
Band5	3MHz	16QAM	20525	8RB#4	21.68	PASS
Band5	3MHz	16QAM	20525	8RB#7	22.11	PASS
Band5	3MHz	16QAM	20525	15RB#0	21.71	PASS
Band5	3MHz	16QAM	20635	1RB#0	23.22	PASS
Band5	3MHz	16QAM	20635	1RB#8	23.39	PASS
Band5	3MHz	16QAM	20635	1RB#14	23.39	PASS
Band5	3MHz	16QAM	20635	8RB#0	22.38	PASS
Band5	3MHz	16QAM	20635	8RB#4	22.38	PASS
Band5	3MHz	16QAM	20635	8RB#7	22.65	PASS
Band5	3MHz	16QAM	20635	15RB#0	22.53	PASS
Band5	5MHz	QPSK	20425	1RB#0	23.99	PASS
Band5	5MHz	QPSK	20425	1RB#12	23.66	PASS
Band5	5MHz	QPSK	20425	1RB#24	23.70	PASS
Band5	5MHz	QPSK	20425	12RB#0	22.87	PASS
Band5	5MHz	QPSK	20425	12RB#6	22.88	PASS
Band5	5MHz	QPSK	20425	12RB#13	22.75	PASS
Band5	5MHz	QPSK	20425	25RB#0	22.79	PASS
Band5	5MHz	QPSK	20525	1RB#0	23.59	PASS
Band5	5MHz	QPSK	20525	1RB#12	24.09	PASS
Band5	5MHz	QPSK	20525	1RB#24	23.87	PASS
Band5	5MHz	QPSK	20525	12RB#0	22.76	PASS
Band5	5MHz	QPSK	20525	12RB#6	22.76	PASS
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Band5	5MHz	QPSK	20625	1RB#0	23.90	PASS
Band5	5MHz	QPSK	20625	1RB#12	24.24	PASS
Band5	5MHz	QPSK	20625	1RB#24	24.30	PASS
Band5	5MHz	QPSK	20625	12RB#0	23.12	PASS
Band5	5MHz	QPSK	20625	12RB#6	23.12	PASS
Band5	5MHz	QPSK	20625	12RB#13	23.42	PASS
Band5	5MHz	QPSK	20625	25RB#0	23.31	PASS

Band5	5MHz	16QAM	20425	1RB#0	23.05	PASS
Band5	5MHz	16QAM	20425	1RB#12	22.16	PASS
Band5	5MHz	16QAM	20425	1RB#24	22.53	PASS
Band5	5MHz	16QAM	20425	12RB#0	21.88	PASS
Band5	5MHz	16QAM	20425	12RB#6	21.80	PASS
Band5	5MHz	16QAM	20425	12RB#13	21.73	PASS
Band5	5MHz	16QAM	20425	25RB#0	21.90	PASS
Band5	5MHz	16QAM	20525	1RB#0	22.72	PASS
Band5	5MHz	16QAM	20525	1RB#12	23.05	PASS
Band5	5MHz	16QAM	20525	1RB#24	22.77	PASS
Band5	5MHz	16QAM	20525	12RB#0	21.69	PASS
Band5	5MHz	16QAM	20525	12RB#6	21.78	PASS
Band5	5MHz	16QAM	20525	12RB#13	21.93	PASS
Band5	5MHz	16QAM	20525	25RB#0	21.78	PASS
Band5	5MHz	16QAM	20625	1RB#0	22.98	PASS
Band5	5MHz	16QAM	20625	1RB#12	23.21	PASS
Band5	5MHz	16QAM	20625	1RB#24	23.06	PASS
Band5	5MHz	16QAM	20625	12RB#0	22.20	PASS
Band5	5MHz	16QAM	20625	12RB#6	22.00	PASS
Band5	5MHz	16QAM	20625	12RB#13	22.49	PASS
Band5	5MHz	16QAM	20625	25RB#0	22.42	PASS
Band5	10MHz	QPSK	20450	1RB#0	24.32	PASS
Band5	10MHz	QPSK	20450	1RB#24	24.81	PASS
Band5	10MHz	QPSK	20450	1RB#49	24.33	PASS
Band5	10MHz	QPSK	20450	25RB#0	23.47	PASS
Band5	10MHz	QPSK	20450	25RB#12	23.49	PASS
Band5	10MHz	QPSK	20450	25RB#25	23.50	PASS
Band5	10MHz	QPSK	20450	50RB#0	23.50	PASS
Band5	10MHz	QPSK	20525	1RB#0	24.28	PASS
Band5	10MHz	QPSK	20525	1RB#24	24.38	PASS
Band5	10MHz	QPSK	20525	1RB#49	24.33	PASS
Band5	10MHz	QPSK	20525	25RB#0	23.40	PASS
Band5	10MHz	QPSK	20525	25RB#12	23.38	PASS
Band5	10MHz	QPSK	20525	25RB#25	23.43	PASS
Band5	10MHz	QPSK	20525	50RB#0	23.38	PASS
Band5	10MHz	QPSK	20600	1RB#0	24.41	PASS
Band5	10MHz	QPSK	20600	1RB#24	24.42	PASS

Band5	10MHz	QPSK	20600	1RB#49	24.29	PASS
Band5	10MHz	QPSK	20600	25RB#0	23.55	PASS
Band5	10MHz	QPSK	20600	25RB#12	23.54	PASS
Band5	10MHz	QPSK	20600	25RB#25	23.46	PASS
Band5	10MHz	QPSK	20600	50RB#0	23.53	PASS
Band5	10MHz	16QAM	20450	1RB#0	23.40	PASS
Band5	10MHz	16QAM	20450	1RB#24	23.51	PASS
Band5	10MHz	16QAM	20450	1RB#49	23.42	PASS
Band5	10MHz	16QAM	20450	25RB#0	22.45	PASS
Band5	10MHz	16QAM	20450	25RB#12	22.45	PASS
Band5	10MHz	16QAM	20450	25RB#25	22.47	PASS
Band5	10MHz	16QAM	20450	50RB#0	22.49	PASS
Band5	10MHz	16QAM	20525	1RB#0	23.41	PASS
Band5	10MHz	16QAM	20525	1RB#24	23.47	PASS
Band5	10MHz	16QAM	20525	1RB#49	23.47	PASS
Band5	10MHz	16QAM	20525	25RB#0	22.38	PASS
Band5	10MHz	16QAM	20525	25RB#12	22.36	PASS
Band5	10MHz	16QAM	20525	25RB#25	22.36	PASS
Band5	10MHz	16QAM	20525	50RB#0	22.36	PASS
Band5	10MHz	16QAM	20600	1RB#0	23.52	PASS
Band5	10MHz	16QAM	20600	1RB#24	23.47	PASS
Band5	10MHz	16QAM	20600	1RB#49	23.40	PASS
Band5	10MHz	16QAM	20600	25RB#0	22.51	PASS
Band5	10MHz	16QAM	20600	25RB#12	22.54	PASS
Band5	10MHz	16QAM	20600	25RB#25	22.45	PASS
Band5	10MHz	16QAM	20600	50RB#0	22.46	PASS

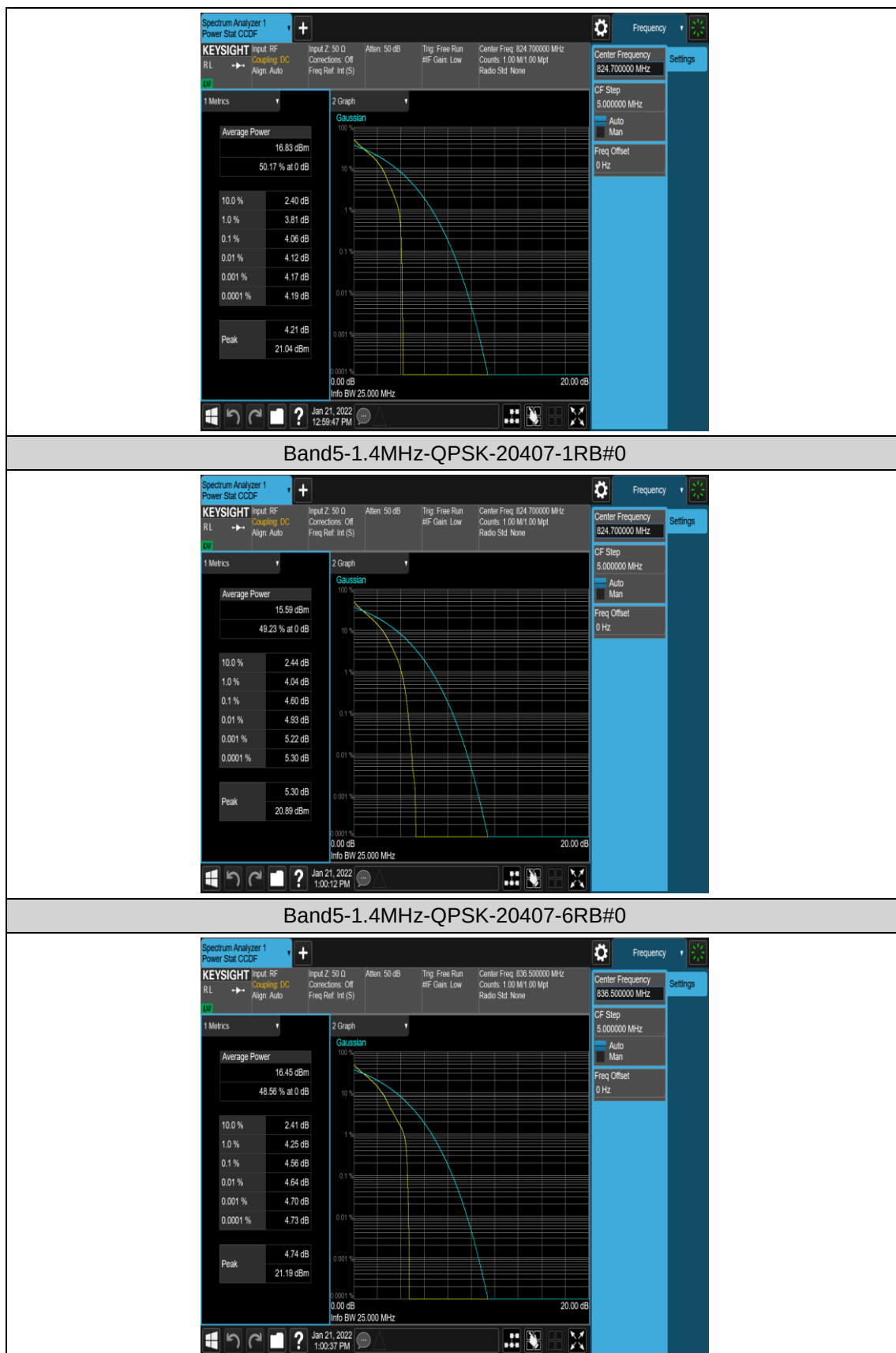
Appendix B: Peak-to-Average Ratio(CCDF)

Test Result

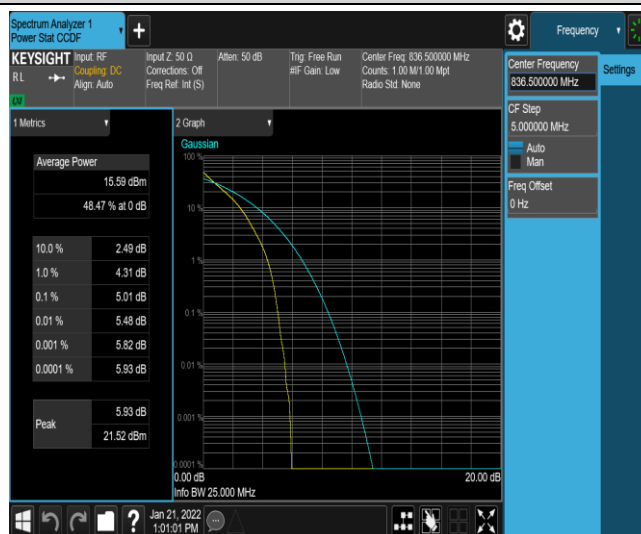
Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dB)	Limit(dB)	Verdict
Band5	1.4MHz	QPSK	20407	1RB#0	4.06	13	PASS
Band5	1.4MHz	QPSK	20407	6RB#0	4.60	13	PASS
Band5	1.4MHz	QPSK	20525	1RB#0	4.56	13	PASS
Band5	1.4MHz	QPSK	20525	6RB#0	5.01	13	PASS
Band5	1.4MHz	QPSK	20643	1RB#0	4.35	13	PASS
Band5	1.4MHz	QPSK	20643	6RB#0	4.71	13	PASS
Band5	1.4MHz	16QAM	20407	1RB#0	5.07	13	PASS
Band5	1.4MHz	16QAM	20407	6RB#0	5.40	13	PASS
Band5	1.4MHz	16QAM	20525	1RB#0	5.63	13	PASS
Band5	1.4MHz	16QAM	20525	6RB#0	5.86	13	PASS
Band5	1.4MHz	16QAM	20643	1RB#0	5.32	13	PASS
Band5	1.4MHz	16QAM	20643	6RB#0	5.66	13	PASS
Band5	3MHz	QPSK	20415	1RB#0	4.11	13	PASS
Band5	3MHz	QPSK	20415	15RB#0	4.75	13	PASS
Band5	3MHz	QPSK	20525	1RB#0	4.76	13	PASS
Band5	3MHz	QPSK	20525	15RB#0	5.05	13	PASS
Band5	3MHz	QPSK	20635	1RB#0	4.60	13	PASS
Band5	3MHz	QPSK	20635	15RB#0	4.89	13	PASS
Band5	3MHz	16QAM	20415	1RB#0	4.89	13	PASS
Band5	3MHz	16QAM	20415	15RB#0	5.51	13	PASS
Band5	3MHz	16QAM	20525	1RB#0	5.64	13	PASS
Band5	3MHz	16QAM	20525	15RB#0	5.78	13	PASS
Band5	3MHz	16QAM	20635	1RB#0	5.61	13	PASS
Band5	3MHz	16QAM	20635	15RB#0	5.73	13	PASS
Band5	5MHz	QPSK	20425	1RB#0	4.13	13	PASS
Band5	5MHz	QPSK	20425	25RB#0	4.99	13	PASS
Band5	5MHz	QPSK	20525	1RB#0	4.74	13	PASS
Band5	5MHz	QPSK	20525	25RB#0	5.01	13	PASS
Band5	5MHz	QPSK	20625	1RB#0	4.46	13	PASS
Band5	5MHz	QPSK	20625	25RB#0	5.07	13	PASS
Band5	5MHz	16QAM	20425	1RB#0	5.00	13	PASS
Band5	5MHz	16QAM	20425	25RB#0	5.77	13	PASS
Band5	5MHz	16QAM	20525	1RB#0	5.63	13	PASS
Band5	5MHz	16QAM	20525	25RB#0	5.79	13	PASS
Band5	5MHz	16QAM	20625	1RB#0	5.27	13	PASS

Band5	5MHz	16QAM	20625	25RB#0	5.86	13	PASS
Band5	10MHz	QPSK	20450	1RB#0	4.23	13	PASS
Band5	10MHz	QPSK	20450	50RB#0	5.00	13	PASS
Band5	10MHz	QPSK	20525	1RB#0	4.75	13	PASS
Band5	10MHz	QPSK	20525	50RB#0	5.30	13	PASS
Band5	10MHz	QPSK	20600	1RB#0	4.43	13	PASS
Band5	10MHz	QPSK	20600	50RB#0	5.30	13	PASS
Band5	10MHz	16QAM	20450	1RB#0	4.94	13	PASS
Band5	10MHz	16QAM	20450	50RB#0	5.82	13	PASS
Band5	10MHz	16QAM	20525	1RB#0	5.62	13	PASS
Band5	10MHz	16QAM	20525	50RB#0	6.14	13	PASS
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Band5	10MHz	16QAM	20600	50RB#0	6.10	13	PASS

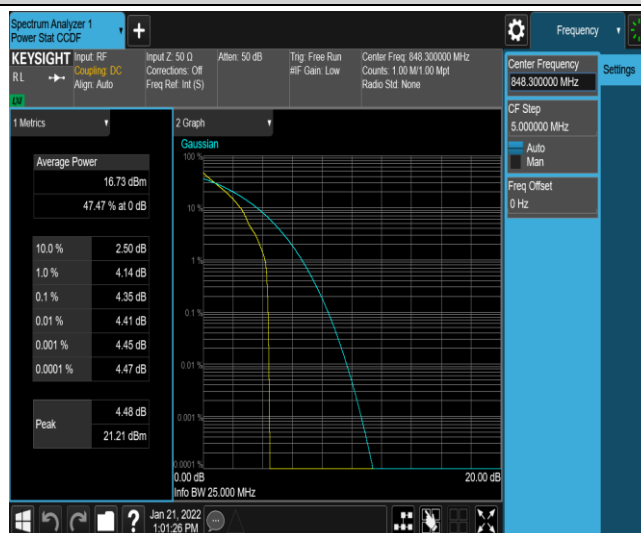
Test Graphs



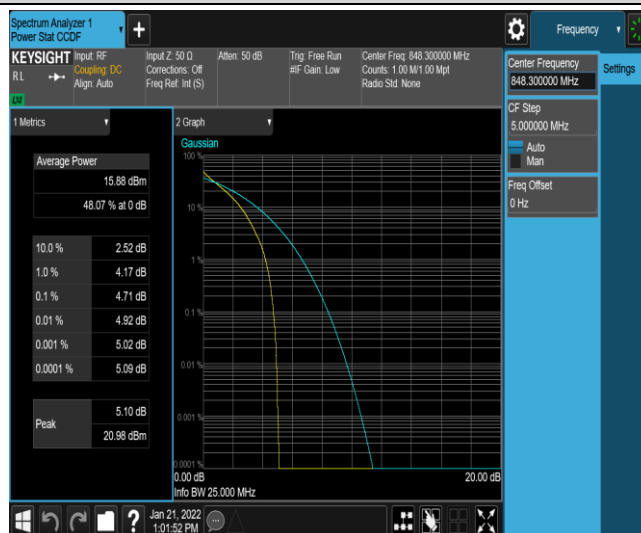
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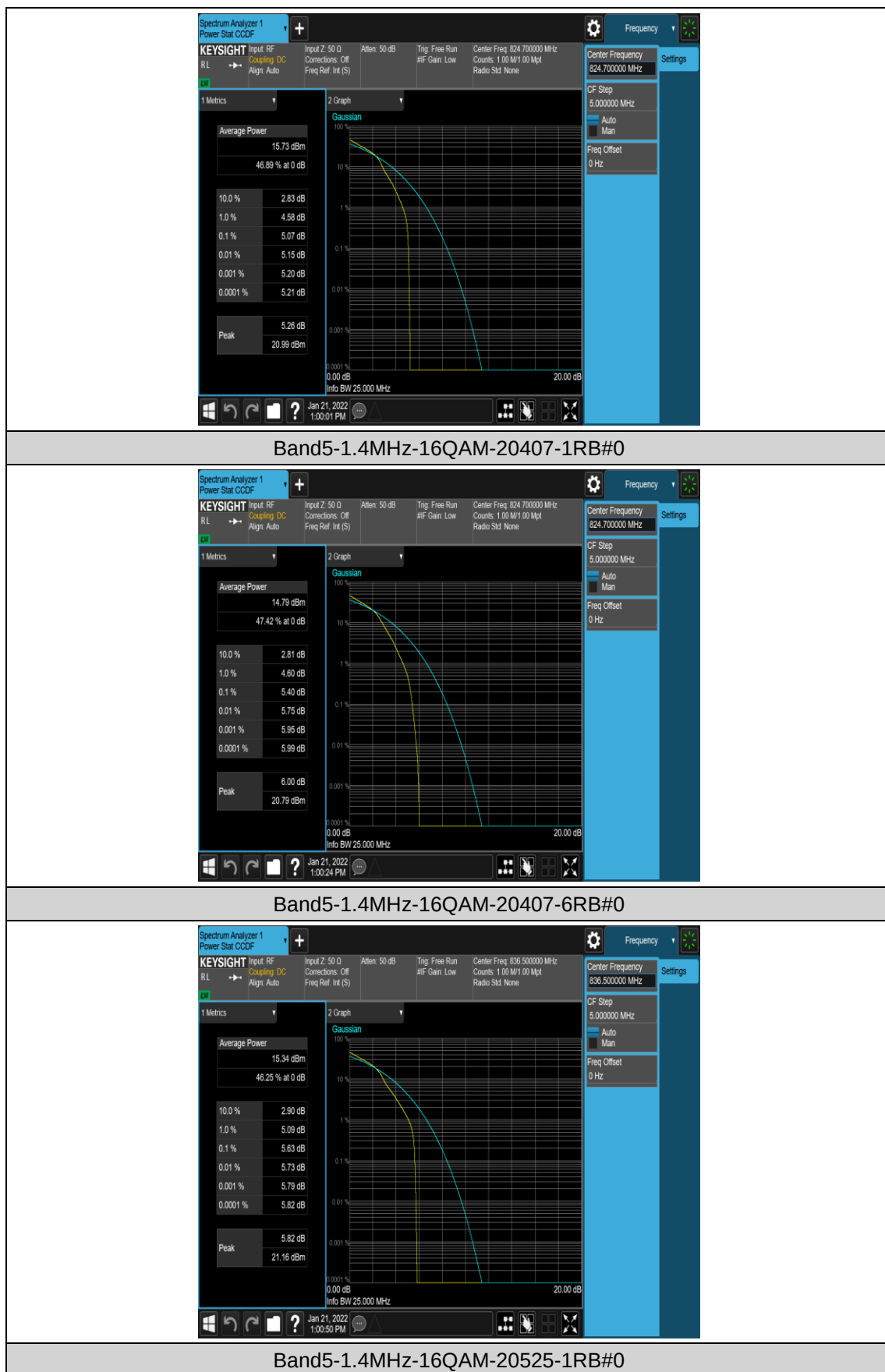
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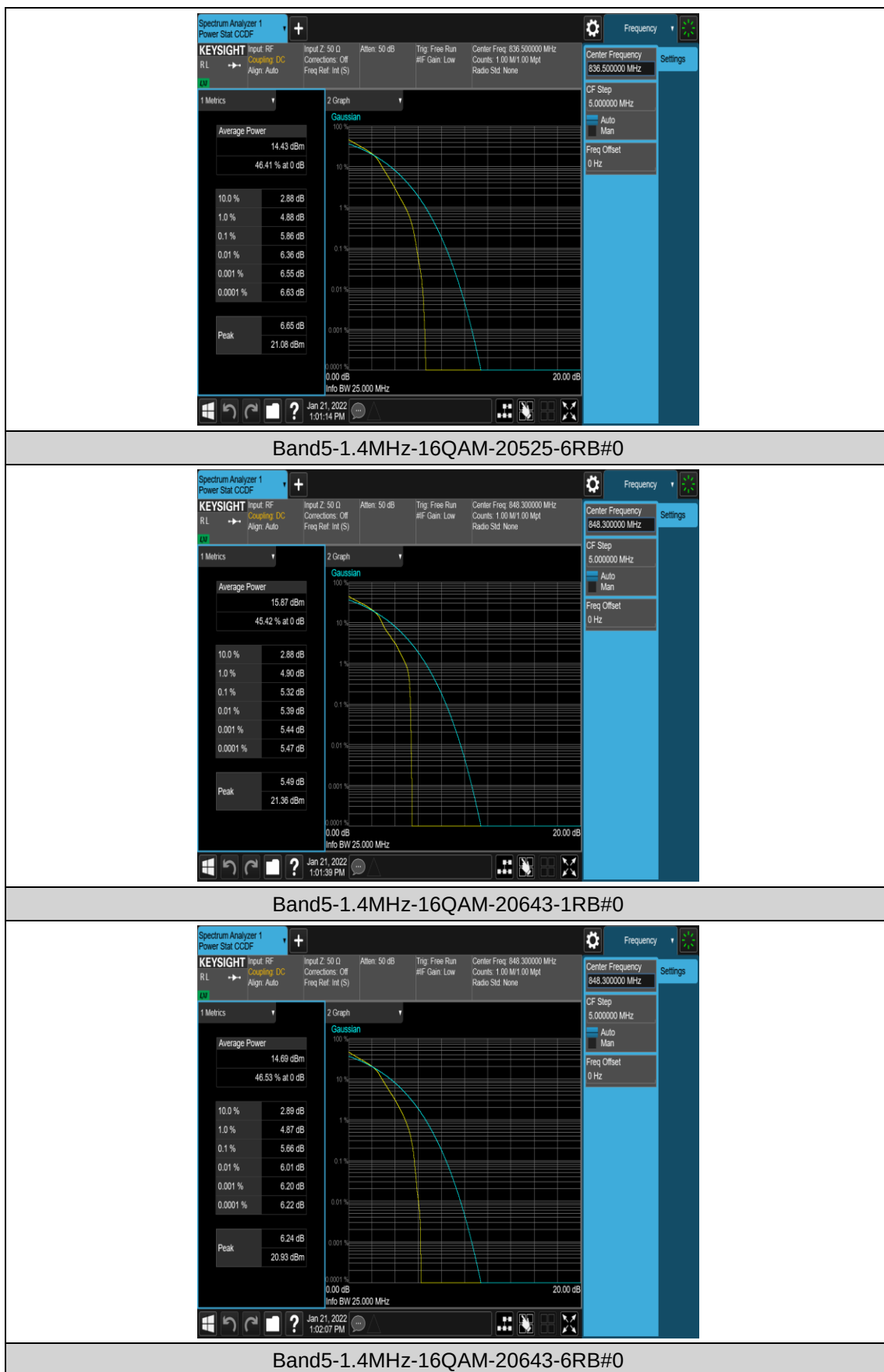


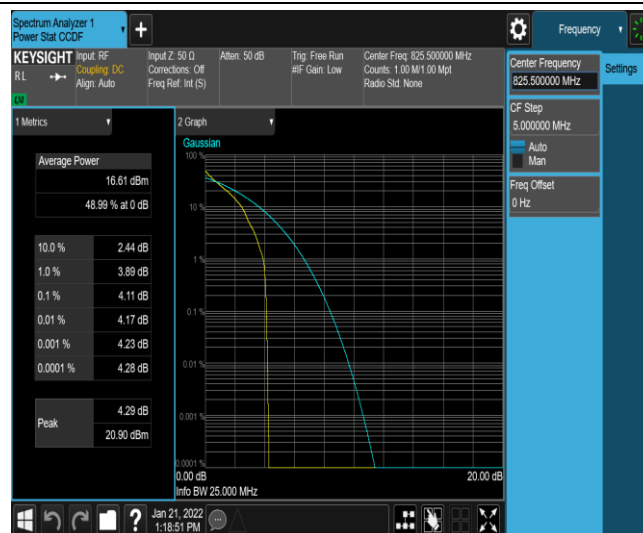
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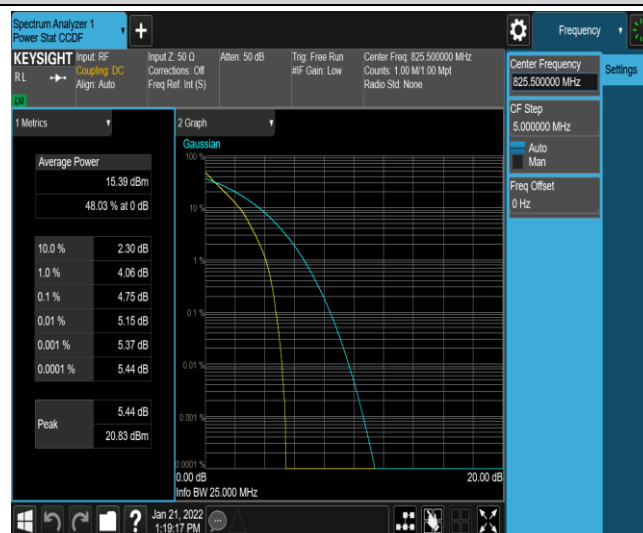
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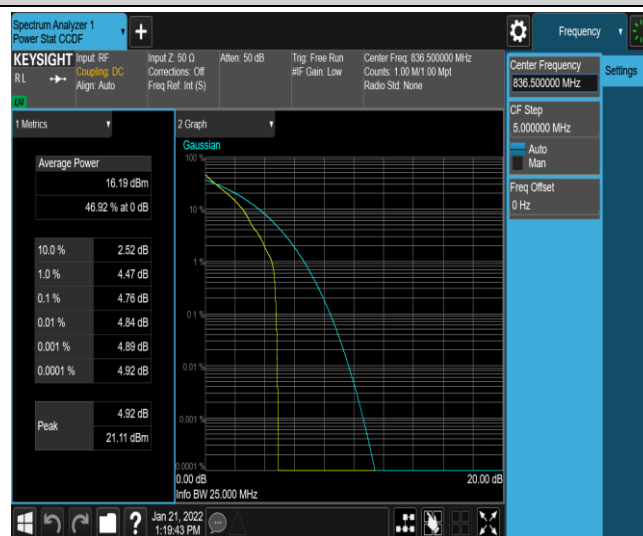




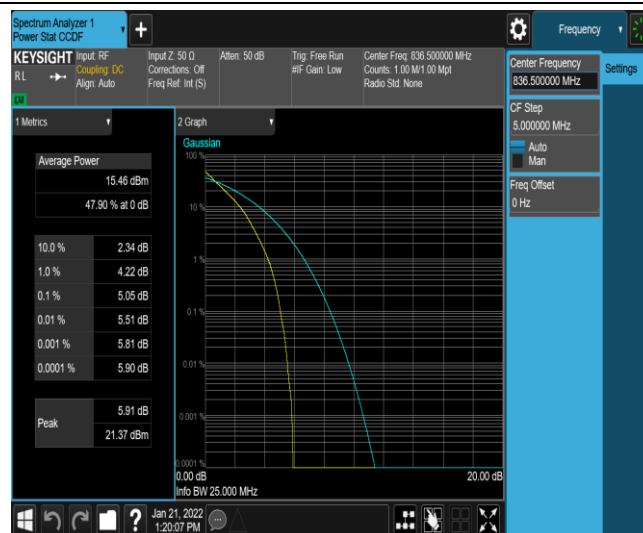
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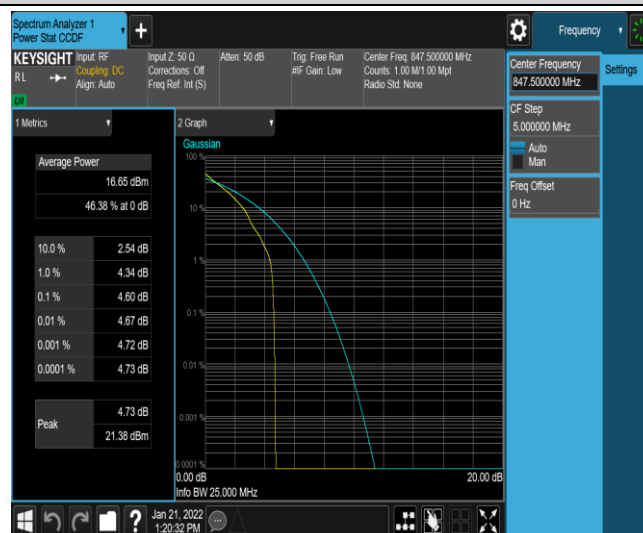
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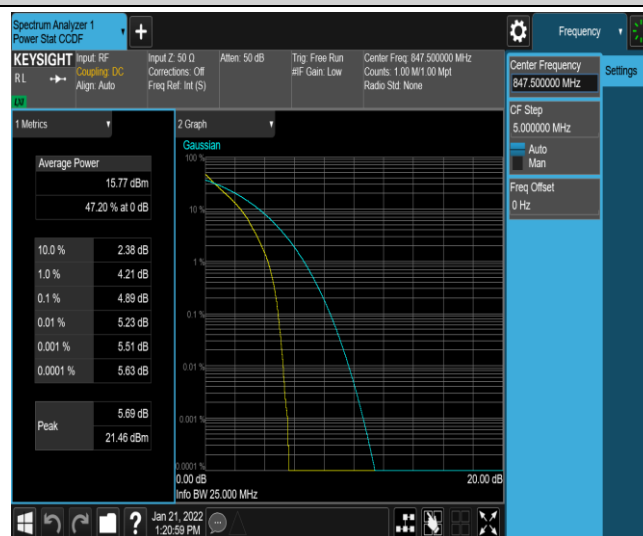
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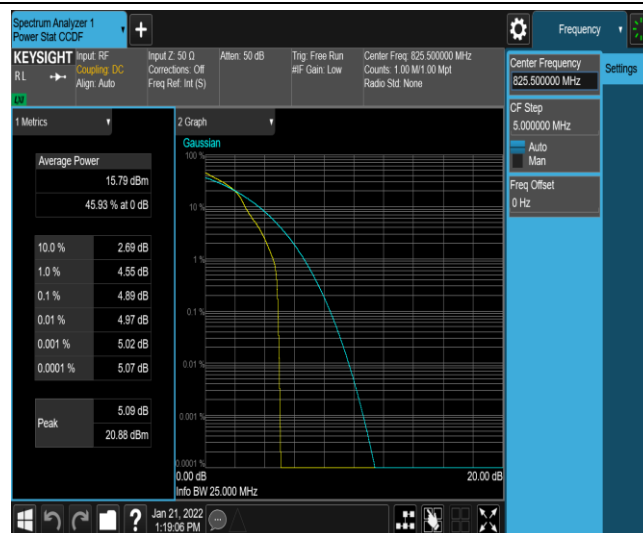
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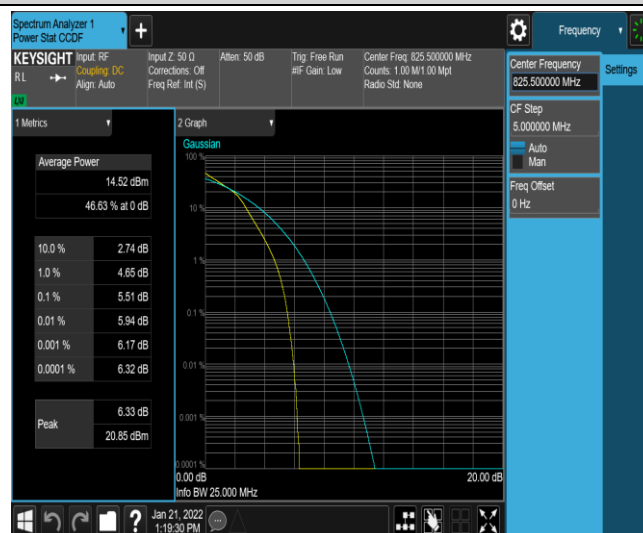
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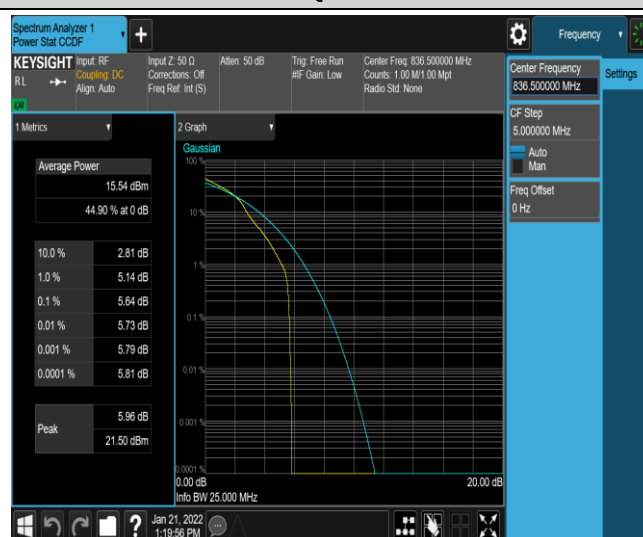
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Band5-3MHz-16QAM-20415-1RB#0



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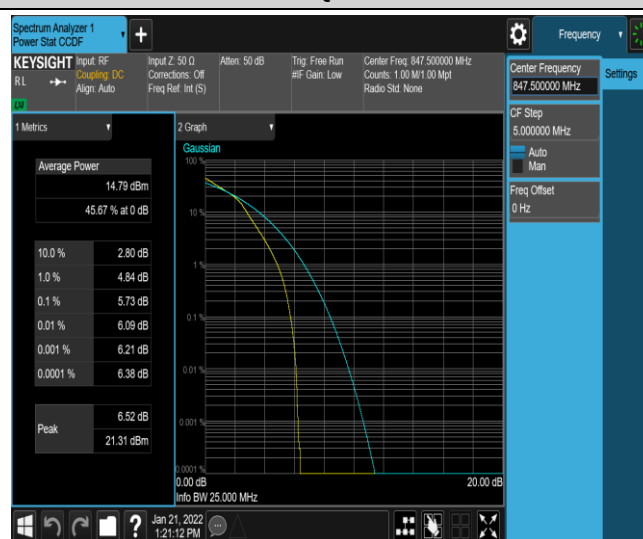
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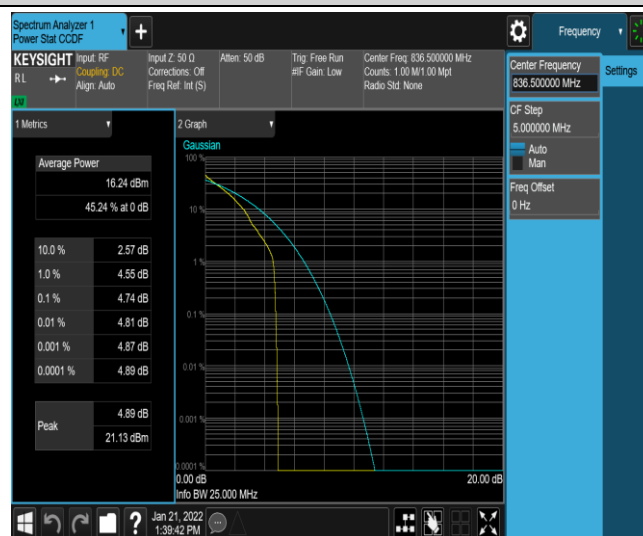
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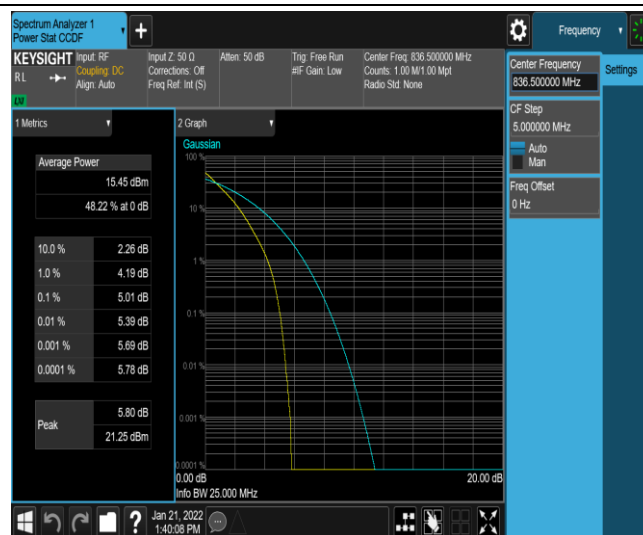
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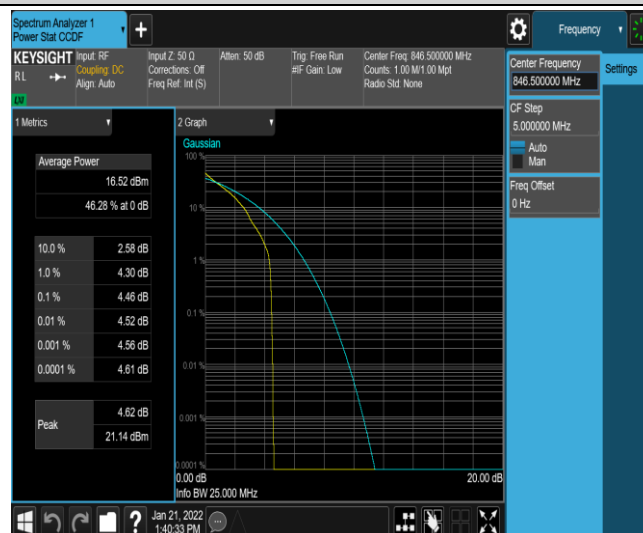
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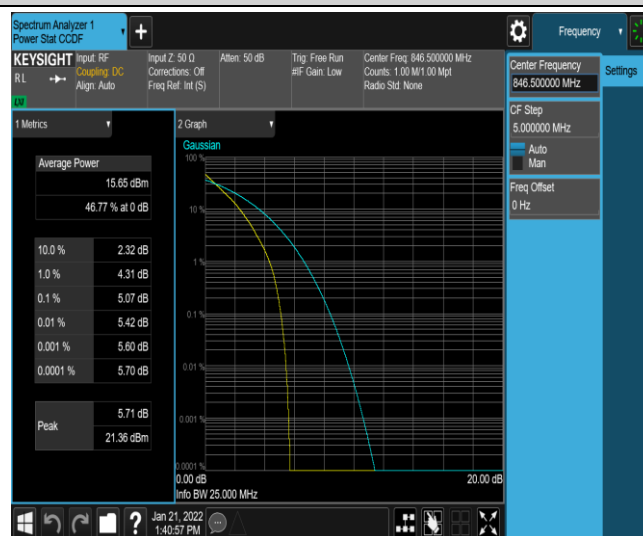
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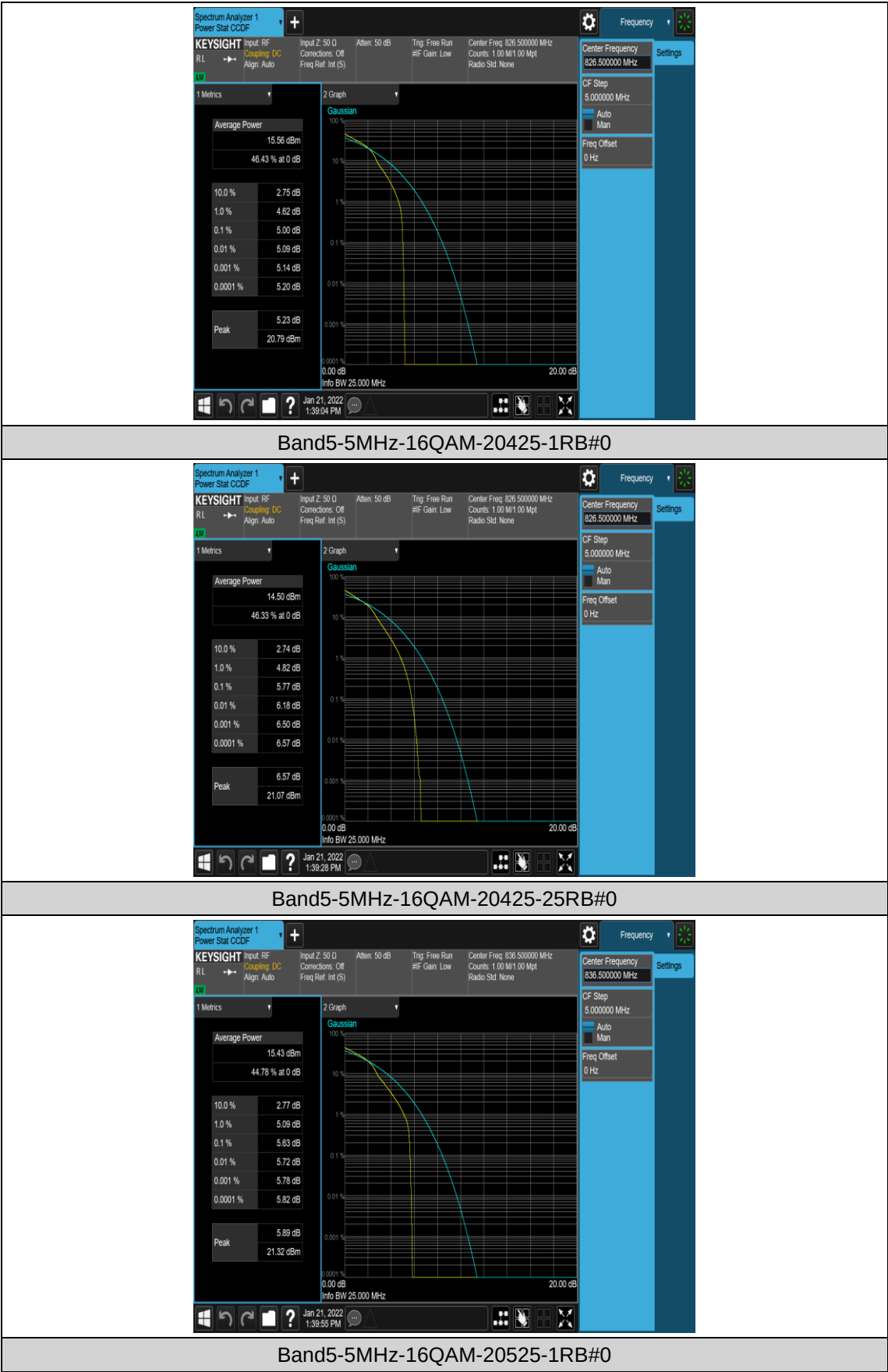
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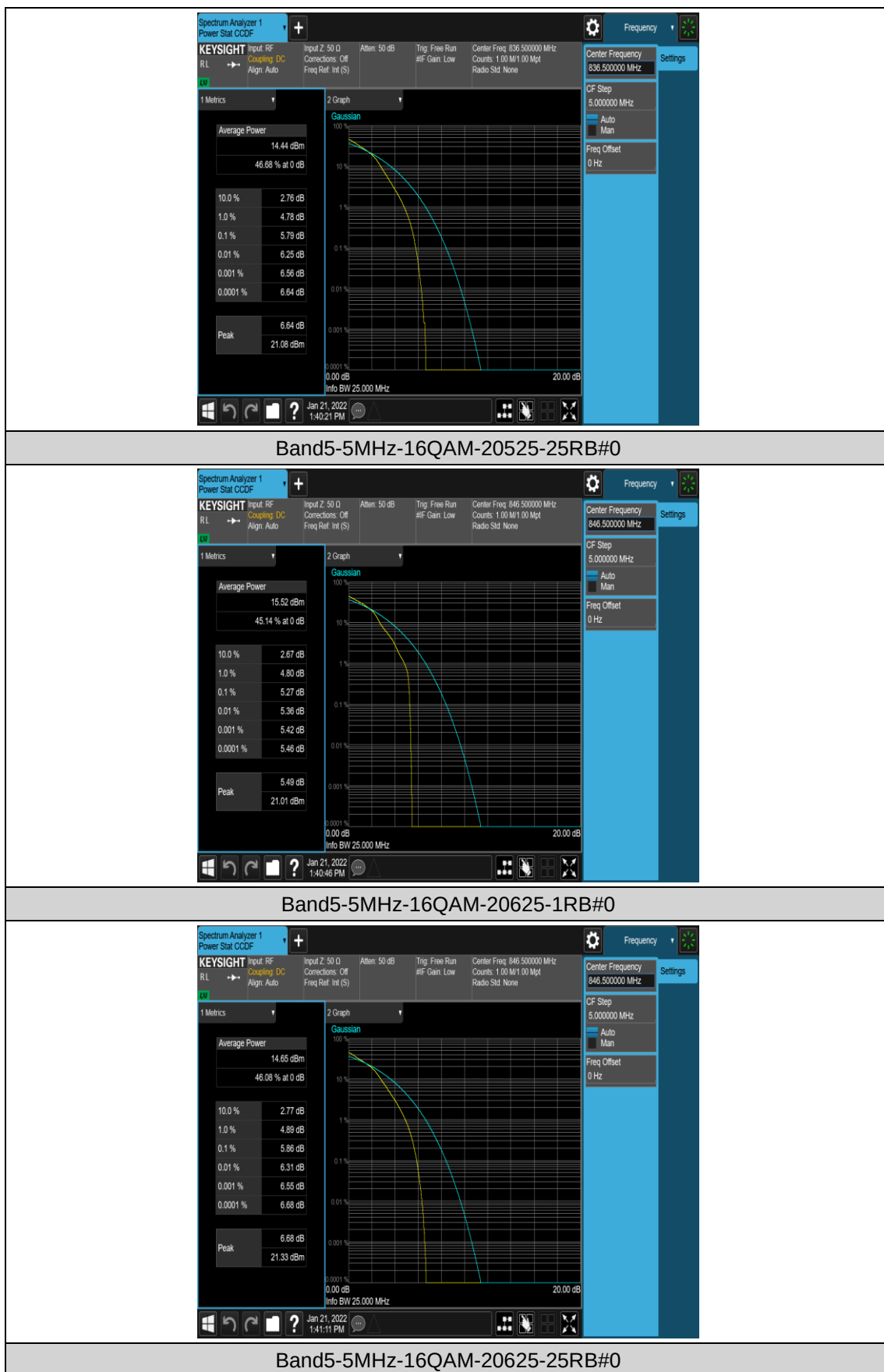


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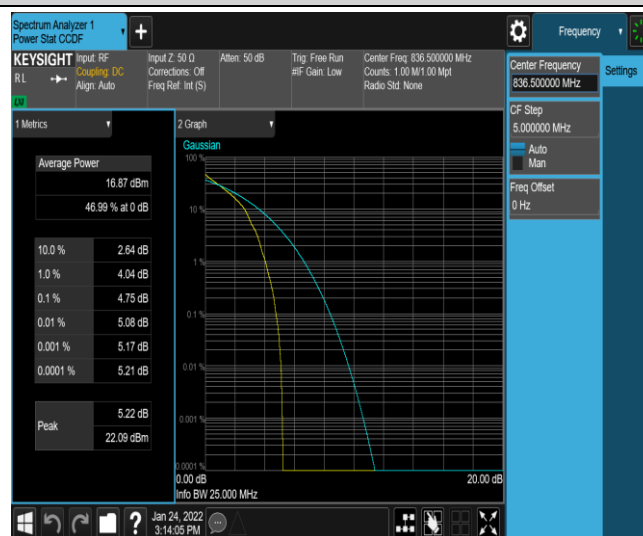




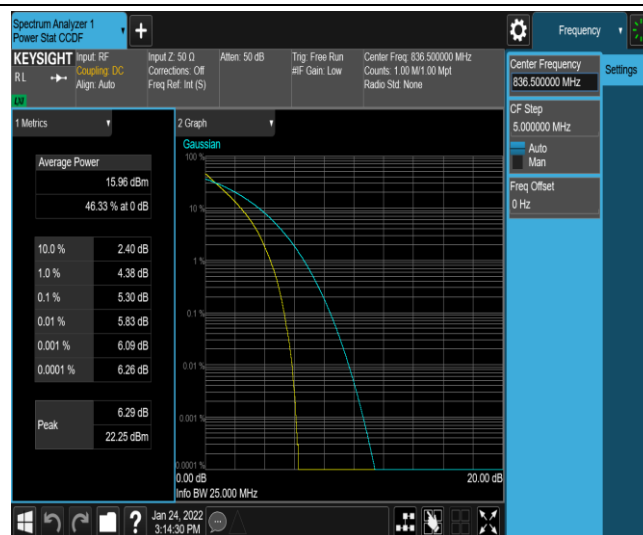
Band5-10MHz-QPSK-20450-1RB#0



Band5-10MHz-QPSK-20450-50RB#0



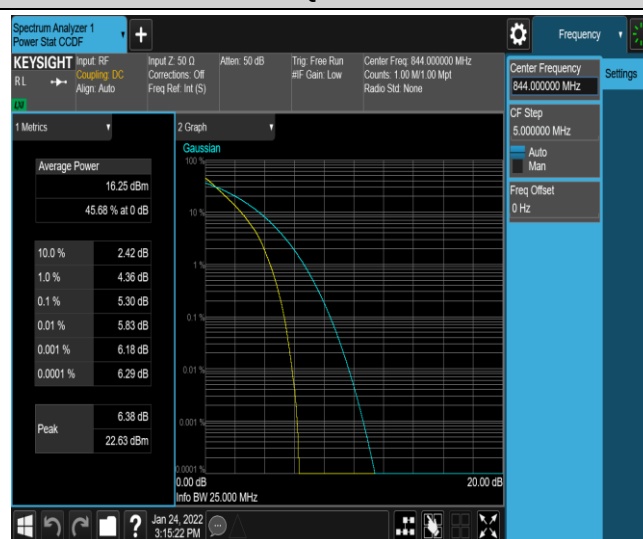
Band5-10MHz-QPSK-20525-1RB#0



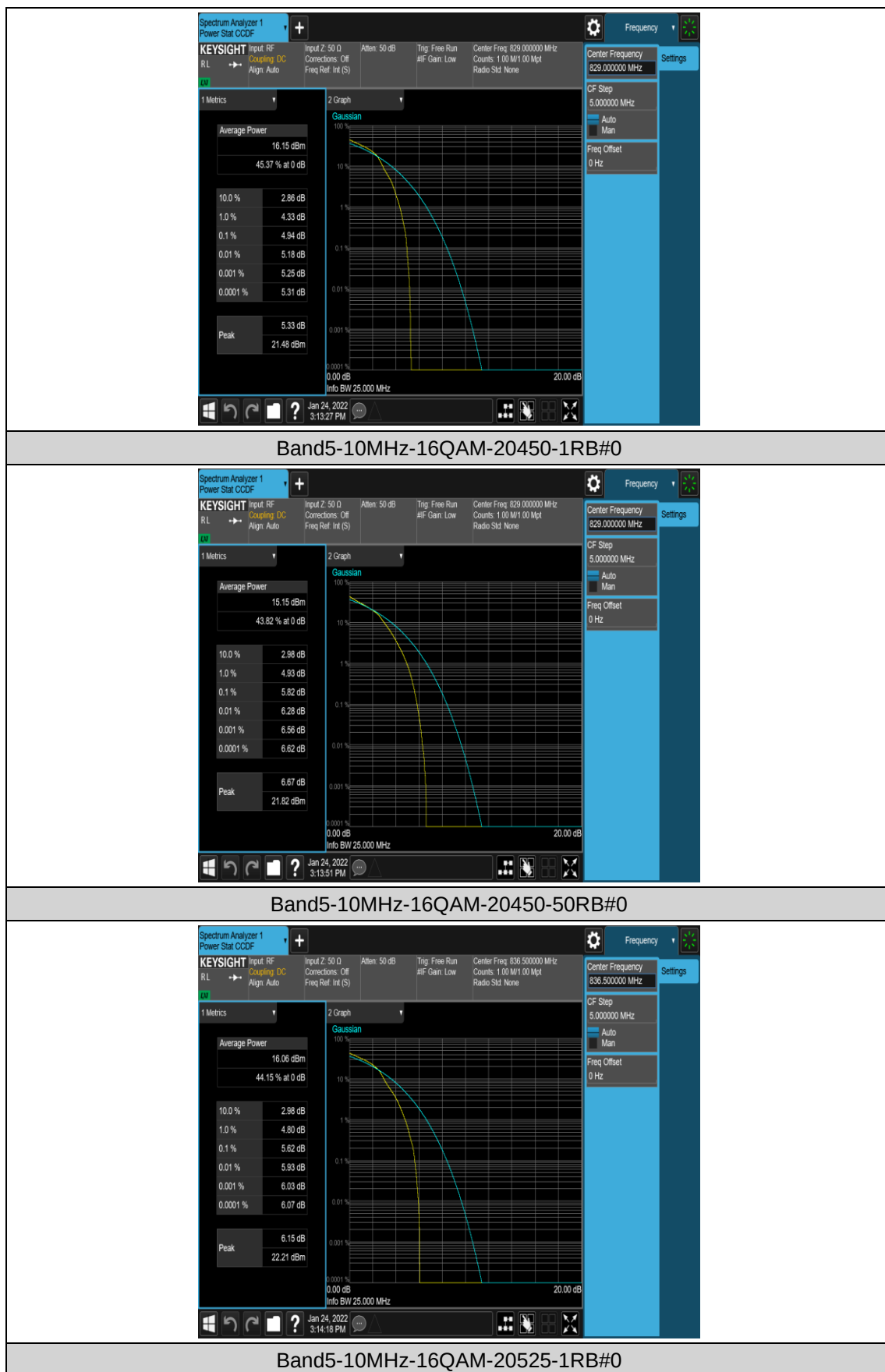
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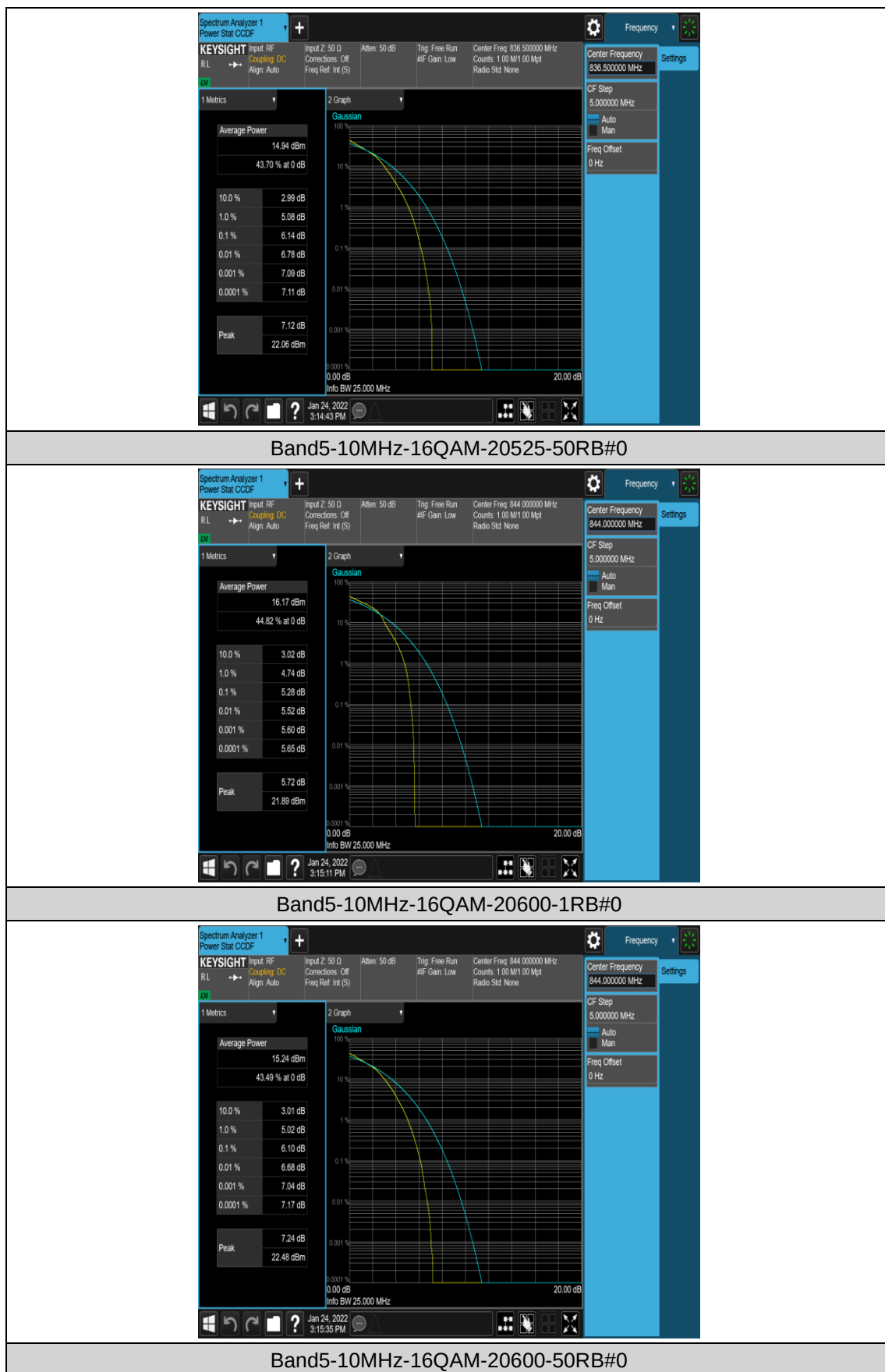


Band5-10MHz-QPSK-20600-1RB#0



Band5-10MHz-QPSK-20600-50RB#0



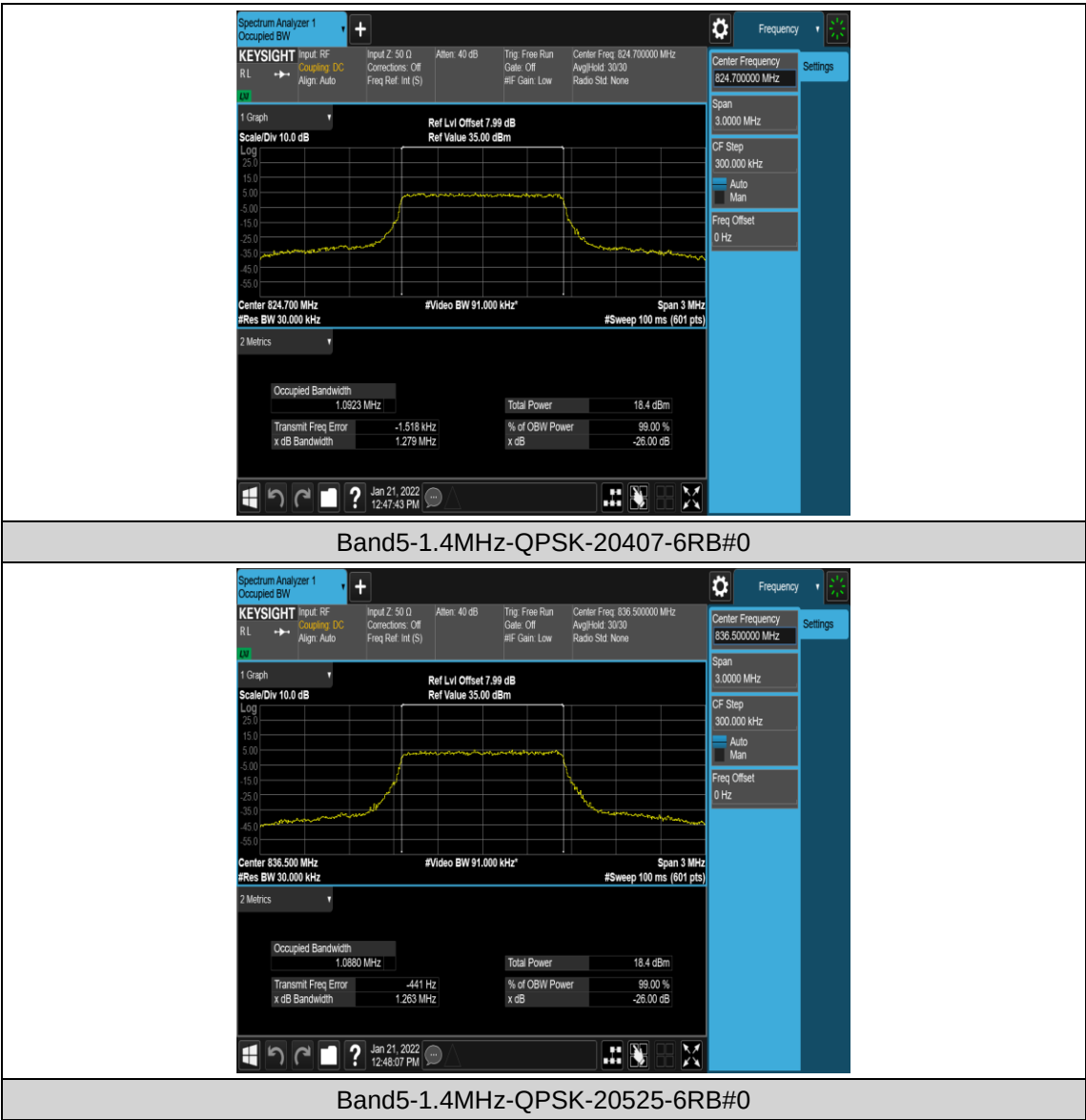


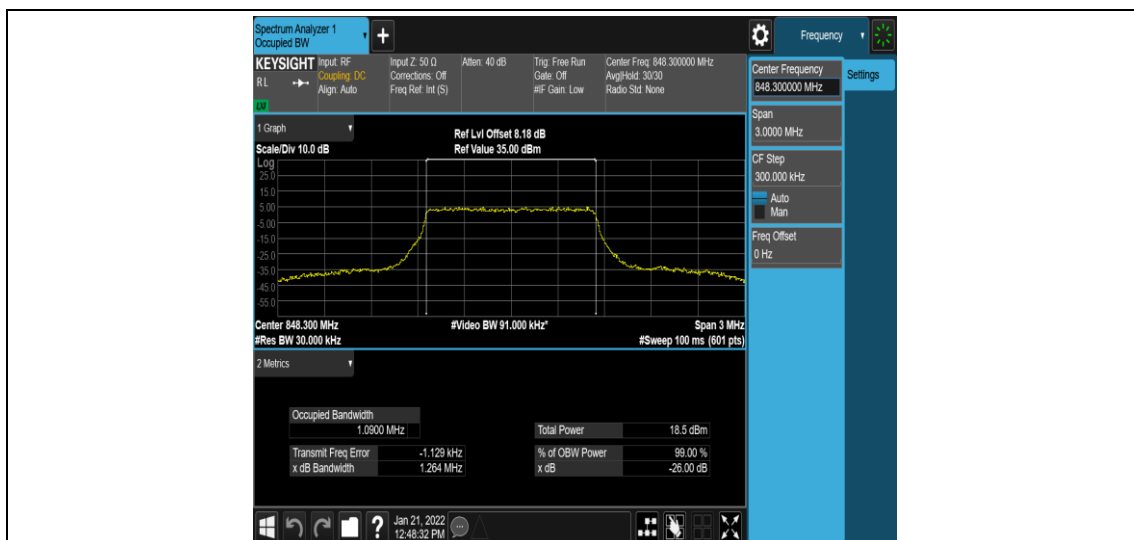
Appendix C: 26dB Bandwidth and Occupied Bandwidth

Test Result

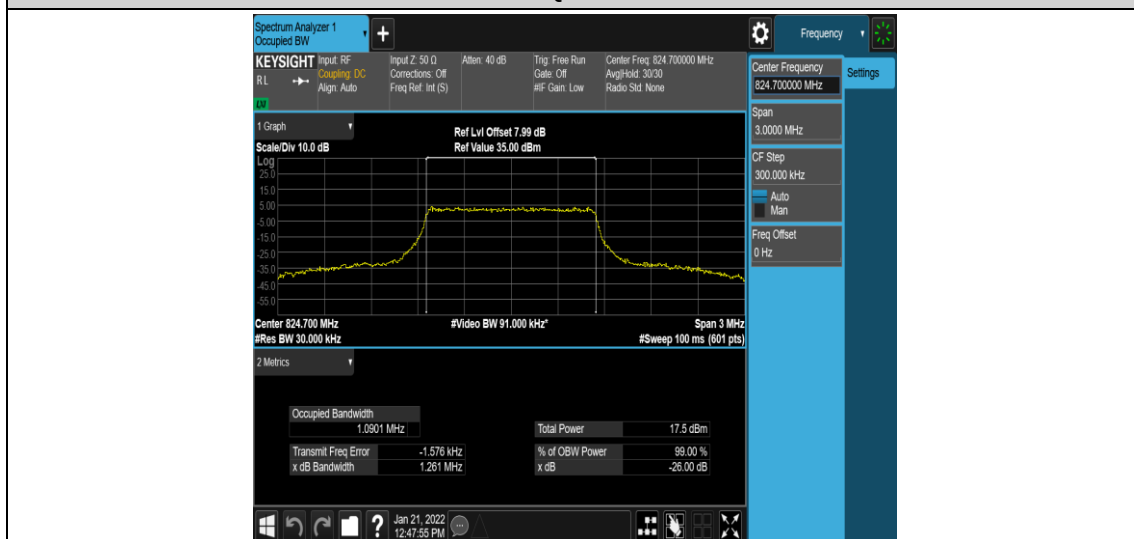
Band	Bandwidth	Modulation	Channel	RB Configuration	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
Band5	1.4MHz	QPSK	20407	6RB#0	1.0923	1.279	PASS
Band5	1.4MHz	QPSK	20525	6RB#0	1.0880	1.263	PASS
Band5	1.4MHz	QPSK	20643	6RB#0	1.0900	1.264	PASS
Band5	1.4MHz	16QAM	20407	6RB#0	1.0901	1.261	PASS
Band5	1.4MHz	16QAM	20525	6RB#0	1.0920	1.259	PASS
Band5	1.4MHz	16QAM	20643	6RB#0	1.0908	1.270	PASS
Band5	3MHz	QPSK	20415	15RB#0	2.6982	2.911	PASS
Band5	3MHz	QPSK	20525	15RB#0	2.6952	2.914	PASS
Band5	3MHz	QPSK	20635	15RB#0	2.6949	2.928	PASS
Band5	3MHz	16QAM	20415	15RB#0	2.6946	2.887	PASS
Band5	3MHz	16QAM	20525	15RB#0	2.6929	2.889	PASS
Band5	3MHz	16QAM	20635	15RB#0	2.6926	2.919	PASS
Band5	5MHz	QPSK	20425	25RB#0	4.4987	4.911	PASS
Band5	5MHz	QPSK	20525	25RB#0	4.4969	4.910	PASS
Band5	5MHz	QPSK	20625	25RB#0	4.5012	4.862	PASS
Band5	5MHz	16QAM	20425	25RB#0	4.5051	4.917	PASS
Band5	5MHz	16QAM	20525	25RB#0	4.4996	4.865	PASS
Band5	5MHz	16QAM	20625	25RB#0	4.5047	4.901	PASS
Band5	10MHz	QPSK	20450	50RB#0	9.0015	9.540	PASS
Band5	10MHz	QPSK	20525	50RB#0	8.9763	9.516	PASS
Band5	10MHz	QPSK	20600	50RB#0	9.0032	9.524	PASS
Band5	10MHz	16QAM	20450	50RB#0	8.9859	9.524	PASS
Band5	10MHz	16QAM	20525	50RB#0	8.9574	9.519	PASS
Band5	10MHz	16QAM	20600	50RB#0	8.9939	9.521	PASS

Test Graphs

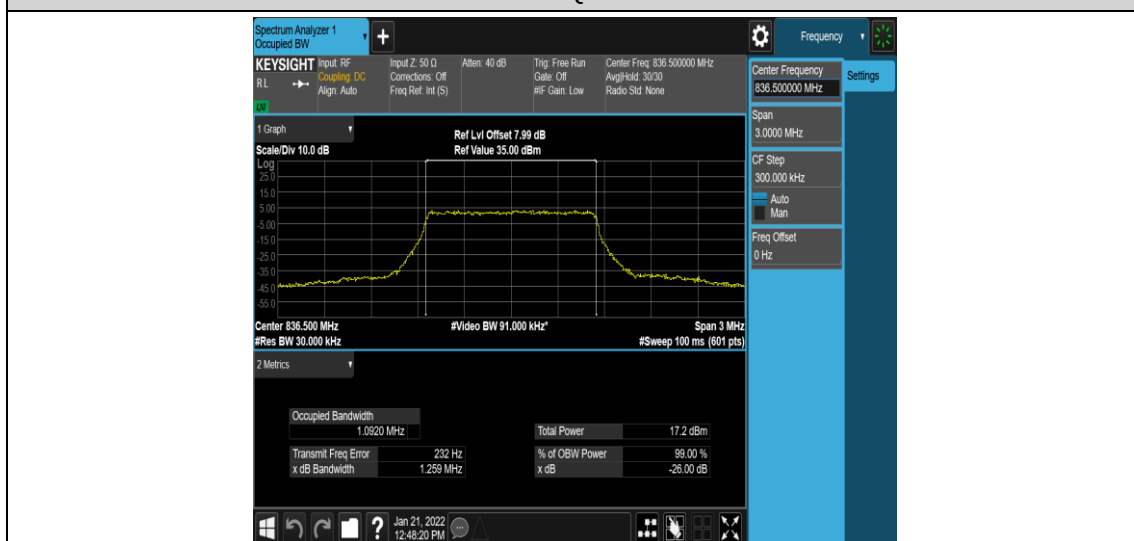




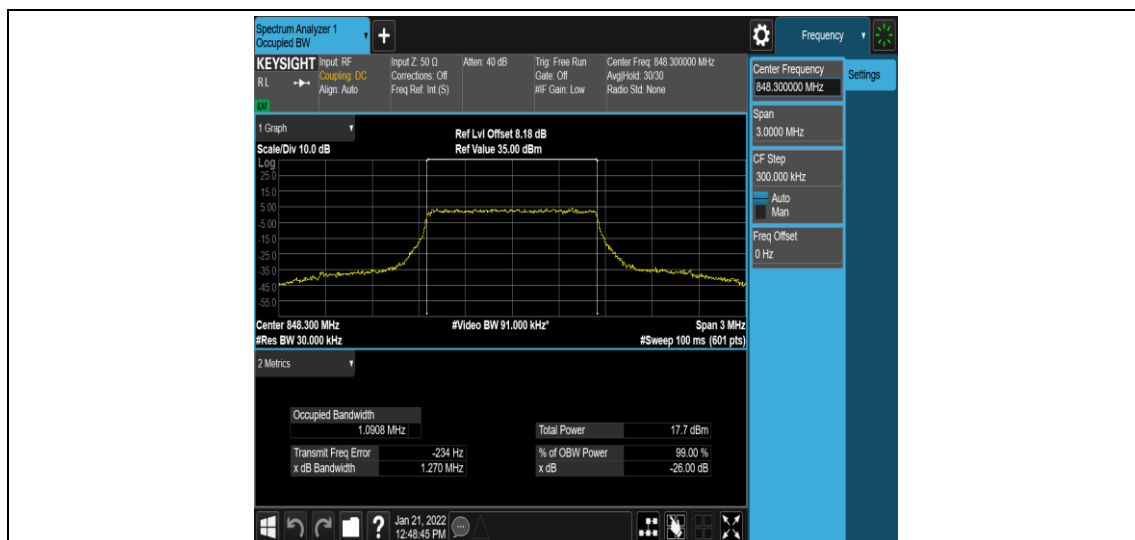
Band5-1.4MHz-QPSK-20643-6RB#0



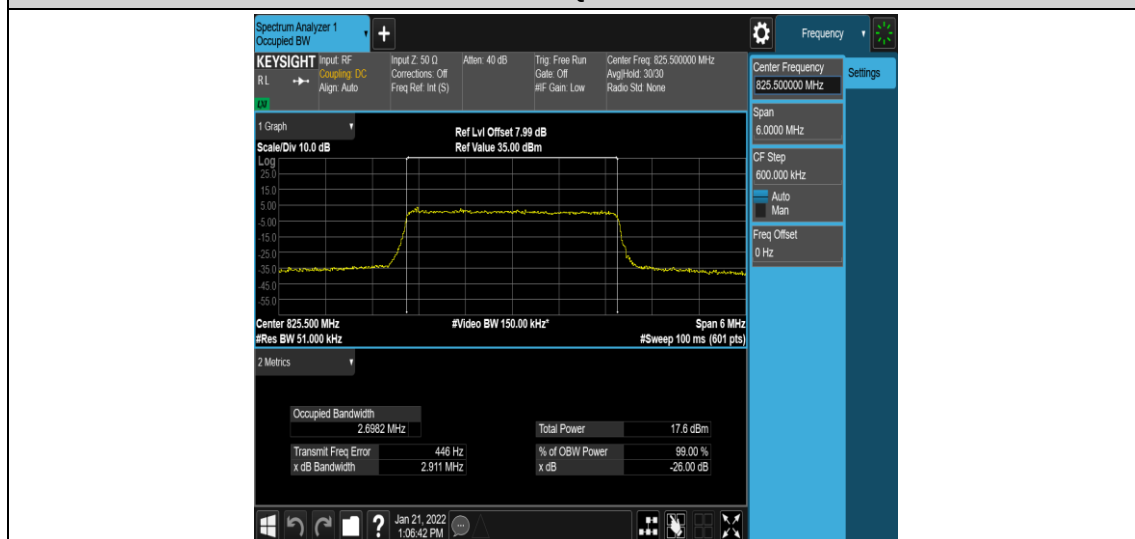
Band5-1.4MHz-16QAM-20407-6RB#0



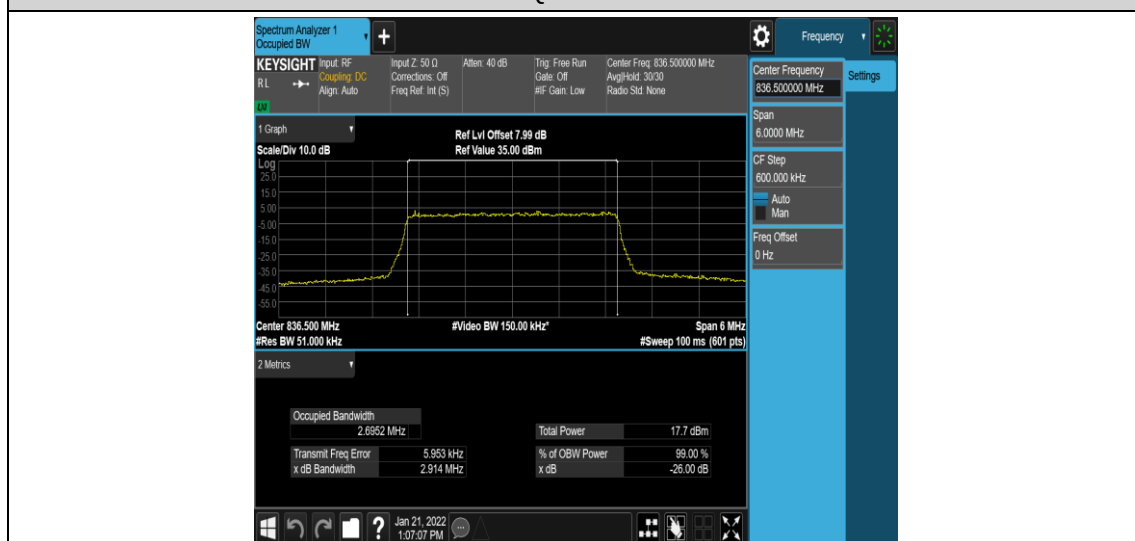
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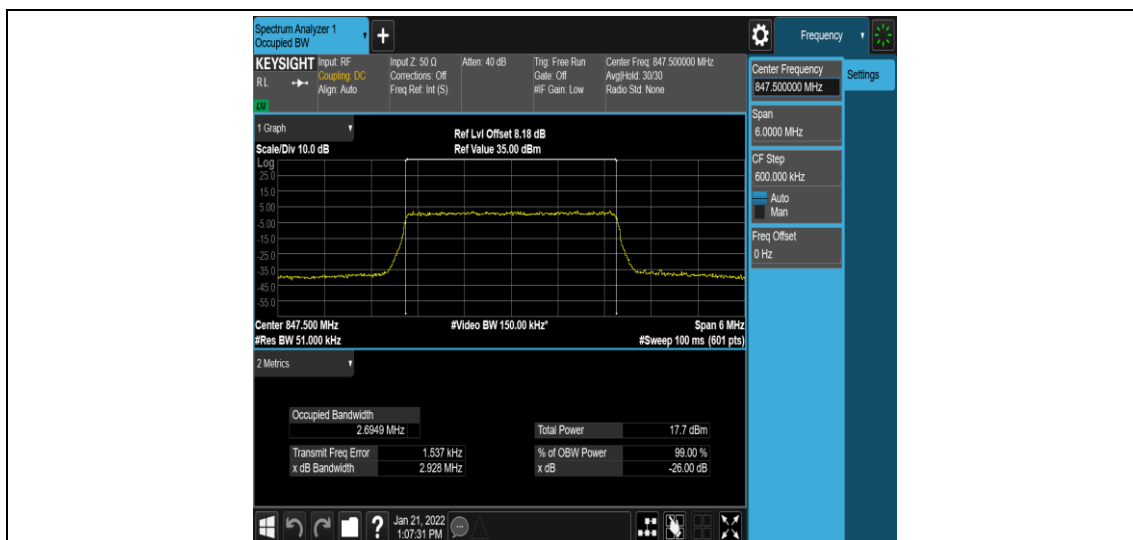
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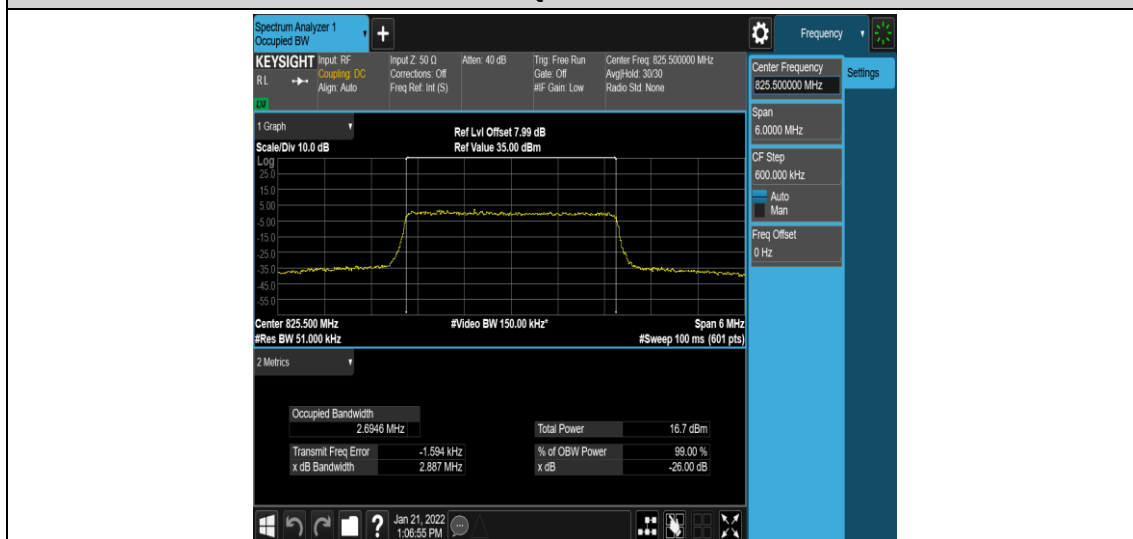
Band5-3MHz-QPSK-20415-15RB#0



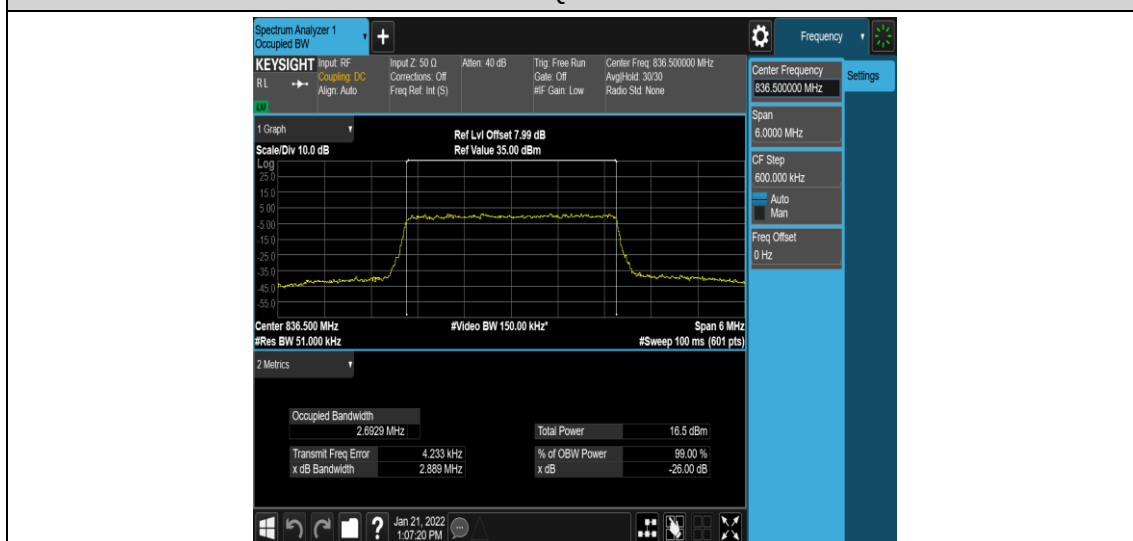
Band5-3MHz-QPSK-20525-15RB#0



Band5-3MHz-QPSK-20635-15RB#0



Band5-3MHz-16QAM-20415-15RB#0



Band5-3MHz-16QAM-20525-15RB#0