

Appendix for Band 4

Product Name: Environmental variable collector for logistics
Model No: ZT-28E

Appendix A: Average Power Output Data

Test Result

Band	Bandwidth	Modulation	Channel	RB Size	RB Start	Result(dBm)	Verdict
Band4	1.4MHz	19957	QPSK	1	0	19.82	PASS
Band4	1.4MHz	19957	QPSK	1	5	19.54	PASS
Band4	1.4MHz	19957	QPSK	6	0	17.69	PASS
Band4	1.4MHz	20175	QPSK	1	0	19.57	PASS
Band4	1.4MHz	20175	QPSK	1	5	19.46	PASS
Band4	1.4MHz	20175	QPSK	6	0	17.53	PASS
Band4	1.4MHz	20393	QPSK	1	0	19.88	PASS
Band4	1.4MHz	20393	QPSK	1	5	19.66	PASS
Band4	1.4MHz	20393	QPSK	6	0	17.80	PASS
Band4	1.4MHz	19957	16QAM	1	0	18.61	PASS
Band4	1.4MHz	19957	16QAM	1	5	18.56	PASS
Band4	1.4MHz	19957	16QAM	6	0	17.59	PASS
Band4	1.4MHz	20175	16QAM	1	0	18.66	PASS
Band4	1.4MHz	20175	16QAM	1	5	18.56	PASS
Band4	1.4MHz	20175	16QAM	6	0	17.54	PASS
Band4	1.4MHz	20393	16QAM	1	0	18.81	PASS
Band4	1.4MHz	20393	16QAM	1	5	18.74	PASS
Band4	1.4MHz	20393	16QAM	6	0	17.79	PASS
Band4	3MHz	19965	QPSK	1	0	19.70	PASS
Band4	3MHz	19965	QPSK	1	14	19.52	PASS
Band4	3MHz	19965	QPSK	15	0	17.52	PASS
Band4	3MHz	20175	QPSK	1	0	19.50	PASS
Band4	3MHz	20175	QPSK	1	14	19.41	PASS
Band4	3MHz	20175	QPSK	15	0	17.39	PASS
Band4	3MHz	20385	QPSK	1	0	20.04	PASS
Band4	3MHz	20385	QPSK	1	14	19.76	PASS
Band4	3MHz	20385	QPSK	15	0	17.97	PASS
Band4	3MHz	19965	16QAM	1	0	18.67	PASS
Band4	3MHz	19965	16QAM	1	14	18.37	PASS
Band4	3MHz	19965	16QAM	15	0	17.58	PASS
Band4	3MHz	20175	16QAM	1	0	18.43	PASS
Band4	3MHz	20175	16QAM	1	14	18.23	PASS
Band4	3MHz	20175	16QAM	15	0	17.40	PASS
Band4	3MHz	20385	16QAM	1	0	19.05	PASS
Band4	3MHz	20385	16QAM	1	14	18.75	PASS

Band4	3MHz	20385	16QAM	15	0	17.88	PASS
Band4	5MHz	19975	QPSK	1	0	19.87	PASS
Band4	5MHz	19975	QPSK	1	24	19.72	PASS
Band4	5MHz	19975	QPSK	25	0	18.58	PASS
Band4	5MHz	20175	QPSK	1	0	19.62	PASS
Band4	5MHz	20175	QPSK	1	24	19.48	PASS
Band4	5MHz	20175	QPSK	25	0	18.54	PASS
Band4	5MHz	20375	QPSK	1	0	19.97	PASS
Band4	5MHz	20375	QPSK	1	24	19.83	PASS
Band4	5MHz	20375	QPSK	25	0	18.79	PASS
Band4	5MHz	19975	16QAM	1	0	19.82	PASS
Band4	5MHz	19975	16QAM	1	24	19.74	PASS
Band4	5MHz	19975	16QAM	25	0	18.58	PASS
Band4	5MHz	20175	16QAM	1	0	19.73	PASS
Band4	5MHz	20175	16QAM	1	24	19.51	PASS
Band4	5MHz	20175	16QAM	25	0	18.39	PASS
Band4	5MHz	20375	16QAM	1	0	19.89	PASS
Band4	5MHz	20375	16QAM	1	24	19.70	PASS
Band4	5MHz	20375	16QAM	25	0	18.79	PASS
Band4	10MHz	20000	QPSK	1	0	19.82	PASS
Band4	10MHz	20000	QPSK	1	49	19.62	PASS
Band4	10MHz	20000	QPSK	50	0	18.55	PASS
Band4	10MHz	20175	QPSK	1	0	19.60	PASS
Band4	10MHz	20175	QPSK	1	49	19.43	PASS
Band4	10MHz	20175	QPSK	50	0	18.49	PASS
Band4	10MHz	20350	QPSK	1	0	19.88	PASS
Band4	10MHz	20350	QPSK	1	49	19.80	PASS
Band4	10MHz	20350	QPSK	50	0	18.79	PASS
Band4	10MHz	20000	16QAM	1	0	19.91	PASS
Band4	10MHz	20000	16QAM	1	49	19.68	PASS
Band4	10MHz	20000	16QAM	50	0	18.55	PASS
Band4	10MHz	20175	16QAM	1	0	19.69	PASS
Band4	10MHz	20175	16QAM	1	49	19.44	PASS
Band4	10MHz	20175	16QAM	50	0	18.42	PASS
Band4	10MHz	20350	16QAM	1	0	19.86	PASS
Band4	10MHz	20350	16QAM	1	49	19.68	PASS
Band4	10MHz	20350	16QAM	50	0	18.78	PASS
Band4	15MHz	20025	QPSK	1	0	19.74	PASS
Band4	15MHz	20025	QPSK	1	74	19.59	PASS
Band4	15MHz	20025	QPSK	75	0	19.62	PASS
Band4	15MHz	20175	QPSK	1	0	19.54	PASS
Band4	15MHz	20175	QPSK	1	74	19.32	PASS

Band4	15MHz	20175	QPSK	75	0	19.45	PASS
Band4	15MHz	20325	QPSK	1	0	19.90	PASS
Band4	15MHz	20325	QPSK	1	74	19.79	PASS
Band4	15MHz	20325	QPSK	75	0	19.73	PASS
Band4	15MHz	20025	16QAM	1	0	19.81	PASS
Band4	15MHz	20025	16QAM	1	74	19.60	PASS
Band4	15MHz	20025	16QAM	75	0	19.67	PASS
Band4	15MHz	20175	16QAM	1	0	19.63	PASS
Band4	15MHz	20175	16QAM	1	74	19.45	PASS
Band4	15MHz	20175	16QAM	75	0	19.49	PASS
Band4	15MHz	20325	16QAM	1	0	19.88	PASS
Band4	15MHz	20325	16QAM	1	74	19.58	PASS
Band4	15MHz	20325	16QAM	75	0	19.79	PASS
Band4	20MHz	20050	QPSK	1	0	20.06	PASS
Band4	20MHz	20050	QPSK	1	99	19.67	PASS
Band4	20MHz	20050	QPSK	100	0	19.65	PASS
Band4	20MHz	20175	QPSK	1	0	19.56	PASS
Band4	20MHz	20175	QPSK	1	99	19.38	PASS
Band4	20MHz	20175	QPSK	100	0	19.42	PASS
Band4	20MHz	20300	QPSK	1	0	19.85	PASS
Band4	20MHz	20300	QPSK	1	99	19.71	PASS
Band4	20MHz	20300	QPSK	100	0	19.79	PASS
Band4	20MHz	20050	16QAM	1	0	19.81	PASS
Band4	20MHz	20050	16QAM	1	99	19.64	PASS
Band4	20MHz	20050	16QAM	100	0	19.64	PASS
Band4	20MHz	20175	16QAM	1	0	19.74	PASS
Band4	20MHz	20175	16QAM	1	99	19.38	PASS
Band4	20MHz	20175	16QAM	100	0	19.49	PASS
Band4	20MHz	20300	16QAM	1	0	19.80	PASS
Band4	20MHz	20300	16QAM	1	99	19.71	PASS
Band4	20MHz	20300	16QAM	100	0	19.79	PASS

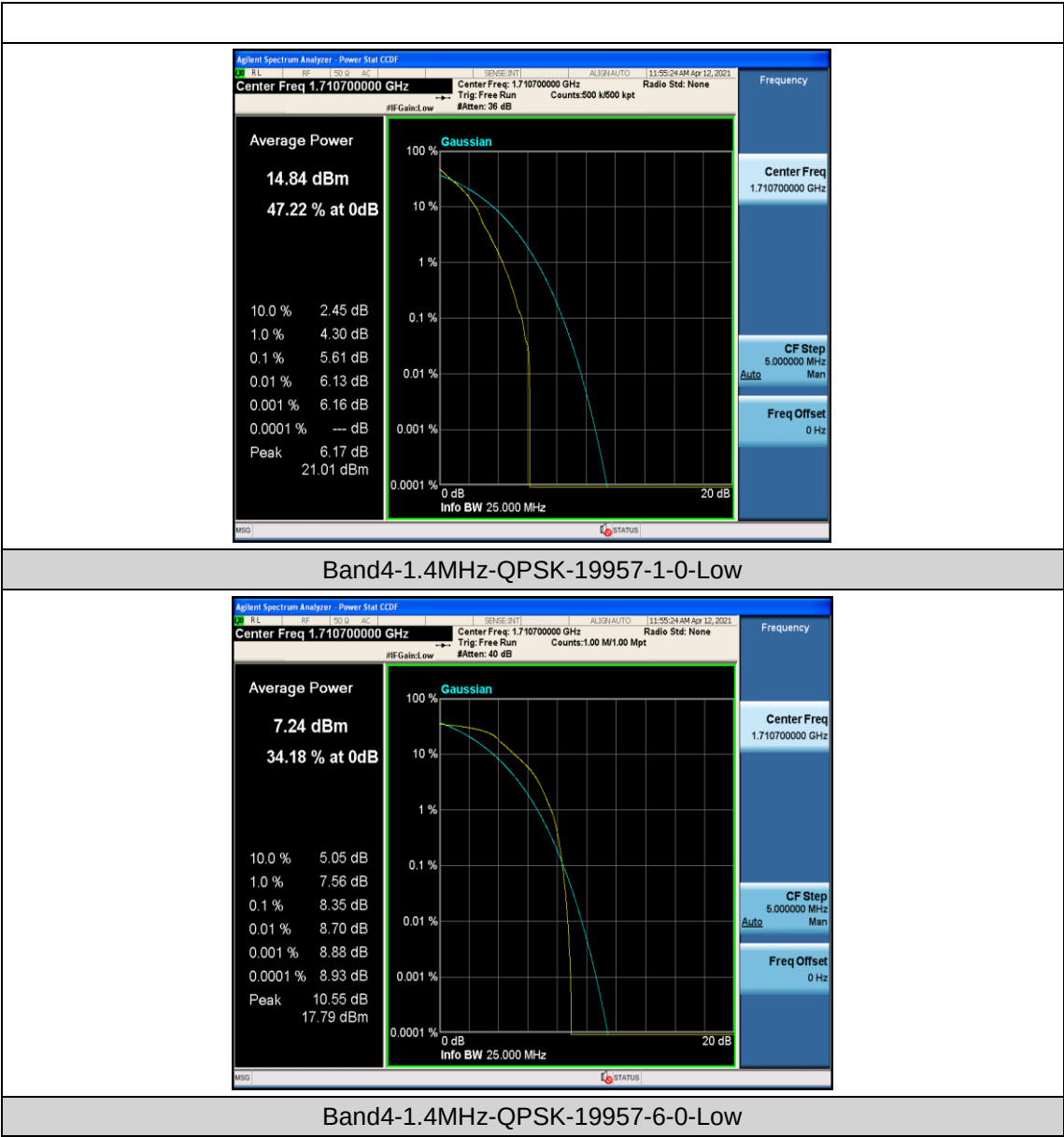
Appendix B: Peak-to-Average Ratio

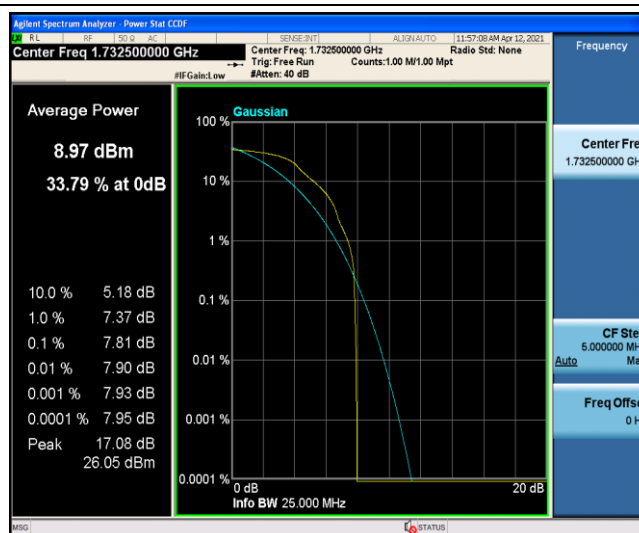
Test Result

Band	Bandwidth	Modulation	Channel	RB Size	RB Start	Result(dB)	Limit(dB)	Verdict
Band4	1.4MHz	19957	QPSK	1	0	5.61	<=13	PASS
Band4	1.4MHz	19957	QPSK	6	0	8.35	<=13	PASS
Band4	1.4MHz	20175	QPSK	1	0	7.81	<=13	PASS
Band4	1.4MHz	20175	QPSK	6	0	9.53	<=13	PASS
Band4	1.4MHz	20393	QPSK	1	0	10.08	<=13	PASS
Band4	1.4MHz	20393	QPSK	6	0	8.60	<=13	PASS
Band4	1.4MHz	19957	16QAM	1	0	7.81	<=13	PASS
Band4	1.4MHz	19957	16QAM	6	0	9.82	<=13	PASS
Band4	1.4MHz	20175	16QAM	1	0	10.60	<=13	PASS
Band4	1.4MHz	20175	16QAM	6	0	8.59	<=13	PASS
Band4	1.4MHz	20393	16QAM	1	0	10.47	<=13	PASS
Band4	1.4MHz	20393	16QAM	6	0	5.23	<=13	PASS
Band4	3MHz	19965	QPSK	1	0	7.81	<=13	PASS
Band4	3MHz	19965	QPSK	15	0	8.98	<=13	PASS
Band4	3MHz	20175	QPSK	1	0	6.16	<=13	PASS
Band4	3MHz	20175	QPSK	15	0	8.10	<=13	PASS
Band4	3MHz	20385	QPSK	1	0	9.86	<=13	PASS
Band4	3MHz	20385	QPSK	15	0	10.71	<=13	PASS
Band4	3MHz	19965	16QAM	1	0	8.41	<=13	PASS
Band4	3MHz	19965	16QAM	15	0	10.67	<=13	PASS
Band4	3MHz	20175	16QAM	1	0	7.88	<=13	PASS
Band4	3MHz	20175	16QAM	15	0	8.73	<=13	PASS
Band4	3MHz	20385	16QAM	1	0	11.31	<=13	PASS
Band4	3MHz	20385	16QAM	15	0	7.70	<=13	PASS
Band4	5MHz	19975	QPSK	1	0	7.26	<=13	PASS
Band4	5MHz	19975	QPSK	25	0	8.51	<=13	PASS
Band4	5MHz	20175	QPSK	1	0	7.96	<=13	PASS
Band4	5MHz	20175	QPSK	25	0	8.22	<=13	PASS
Band4	5MHz	20375	QPSK	1	0	5.33	<=13	PASS
Band4	5MHz	20375	QPSK	25	0	8.49	<=13	PASS
Band4	5MHz	19975	16QAM	1	0	7.70	<=13	PASS
Band4	5MHz	19975	16QAM	25	0	6.74	<=13	PASS
Band4	5MHz	20175	16QAM	1	0	7.71	<=13	PASS
Band4	5MHz	20175	16QAM	25	0	7.00	<=13	PASS
Band4	5MHz	20375	16QAM	1	0	7.99	<=13	PASS

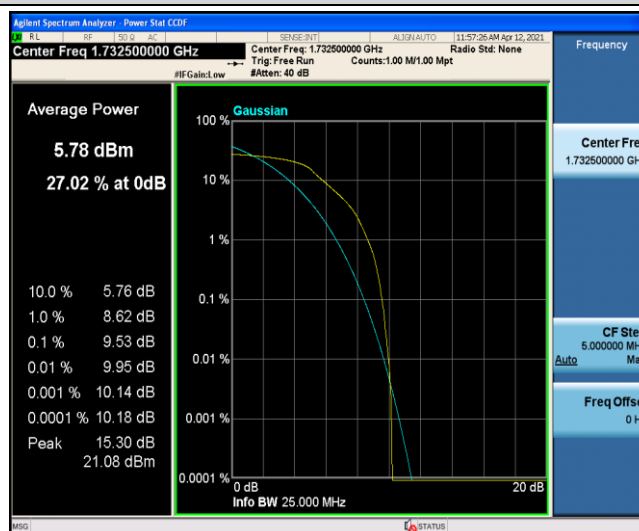
Band4	5MHz	20375	16QAM	25	0	6.75	<=13	PASS
Band4	10MHz	20000	QPSK	1	0	8.06	<=13	PASS
Band4	10MHz	20000	QPSK	50	0	8.04	<=13	PASS
Band4	10MHz	20175	QPSK	1	0	8.12	<=13	PASS
Band4	10MHz	20175	QPSK	50	0	8.32	<=13	PASS
Band4	10MHz	20350	QPSK	1	0	7.01	<=13	PASS
Band4	10MHz	20350	QPSK	50	0	9.76	<=13	PASS
Band4	10MHz	20000	16QAM	1	0	7.69	<=13	PASS
Band4	10MHz	20000	16QAM	50	0	9.98	<=13	PASS
Band4	10MHz	20175	16QAM	1	0	7.47	<=13	PASS
Band4	10MHz	20175	16QAM	50	0	8.84	<=13	PASS
Band4	10MHz	20350	16QAM	1	0	7.34	<=13	PASS
Band4	10MHz	20350	16QAM	50	0	6.71	<=13	PASS
Band4	15MHz	20025	QPSK	1	0	6.58	<=13	PASS
Band4	15MHz	20025	QPSK	75	0	7.42	<=13	PASS
Band4	15MHz	20175	QPSK	1	0	7.88	<=13	PASS
Band4	15MHz	20175	QPSK	75	0	8.62	<=13	PASS
Band4	15MHz	20325	QPSK	1	0	5.90	<=13	PASS
Band4	15MHz	20325	QPSK	75	0	7.86	<=13	PASS
Band4	15MHz	20025	16QAM	1	0	9.57	<=13	PASS
Band4	15MHz	20025	16QAM	75	0	7.56	<=13	PASS
Band4	15MHz	20175	16QAM	1	0	9.98	<=13	PASS
Band4	15MHz	20175	16QAM	75	0	9.04	<=13	PASS
Band4	15MHz	20325	16QAM	1	0	9.92	<=13	PASS
Band4	15MHz	20325	16QAM	75	0	8.38	<=13	PASS
Band4	20MHz	20050	QPSK	1	0	6.74	<=13	PASS
Band4	20MHz	20050	QPSK	100	0	5.49	<=13	PASS
Band4	20MHz	20175	QPSK	1	0	7.55	<=13	PASS
Band4	20MHz	20175	QPSK	100	0	8.30	<=13	PASS
Band4	20MHz	20300	QPSK	1	0	7.13	<=13	PASS
Band4	20MHz	20300	QPSK	100	0	10.56	<=13	PASS
Band4	20MHz	20050	16QAM	1	0	7.65	<=13	PASS
Band4	20MHz	20050	16QAM	100	0	7.78	<=13	PASS
Band4	20MHz	20175	16QAM	1	0	8.25	<=13	PASS
Band4	20MHz	20175	16QAM	100	0	6.53	<=13	PASS
Band4	20MHz	20300	16QAM	1	0	9.46	<=13	PASS
Band4	20MHz	20300	16QAM	100	0	8.52	<=13	PASS

Test Graphs

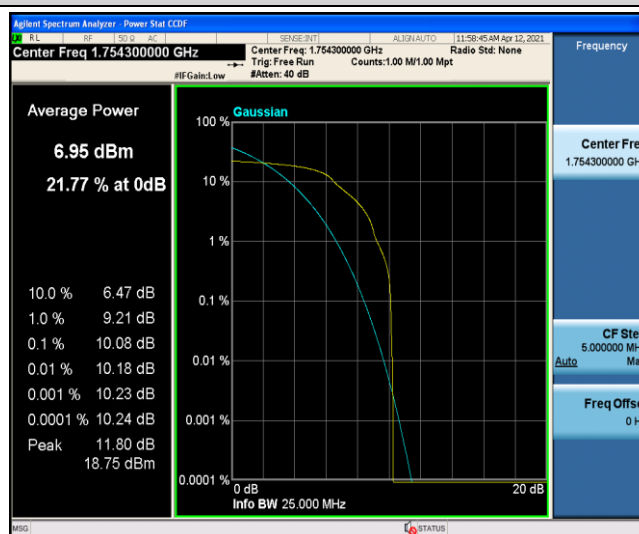




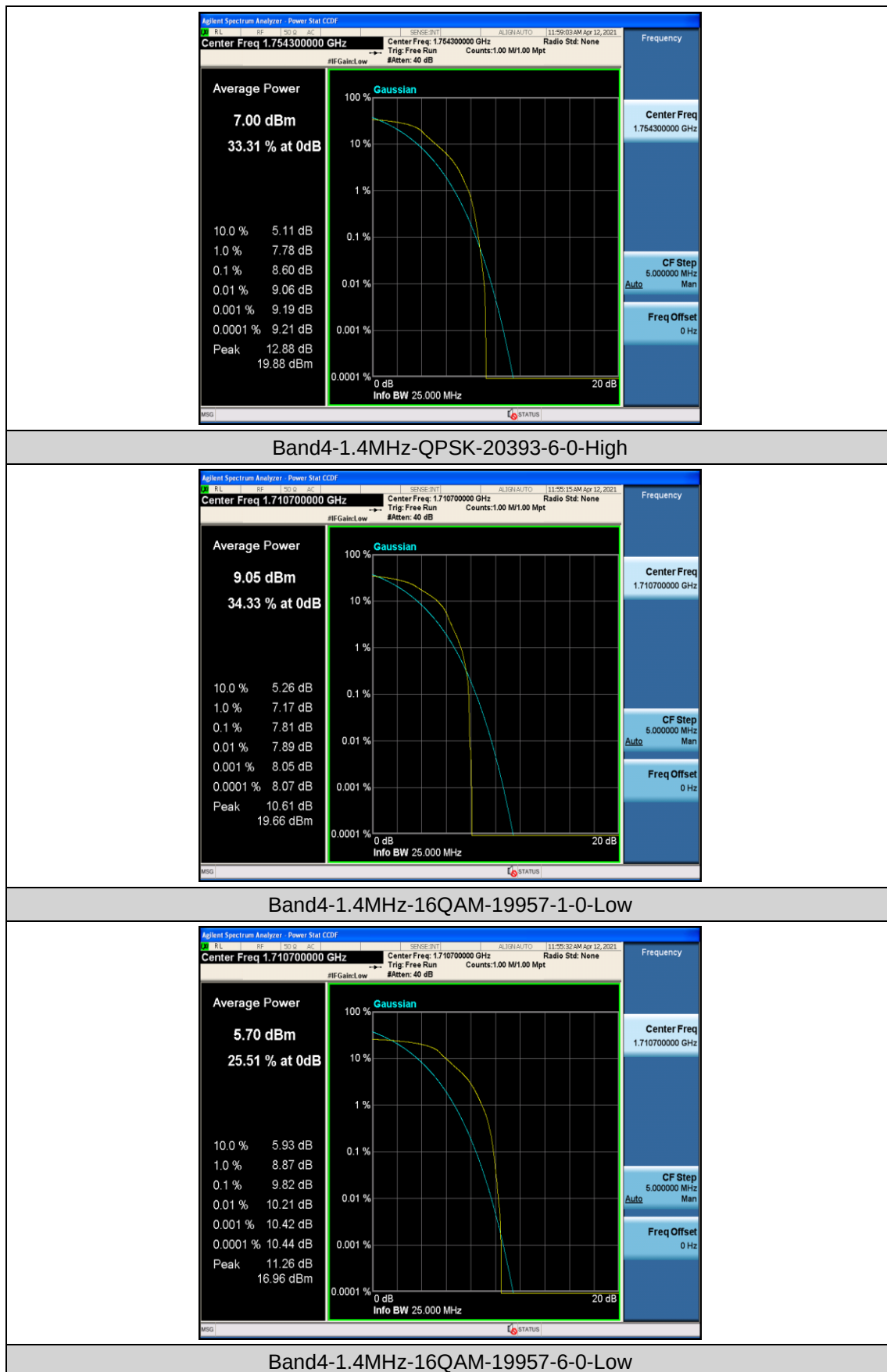
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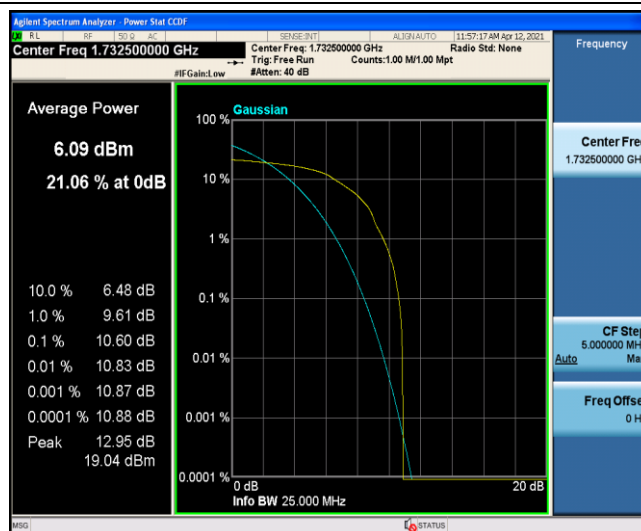


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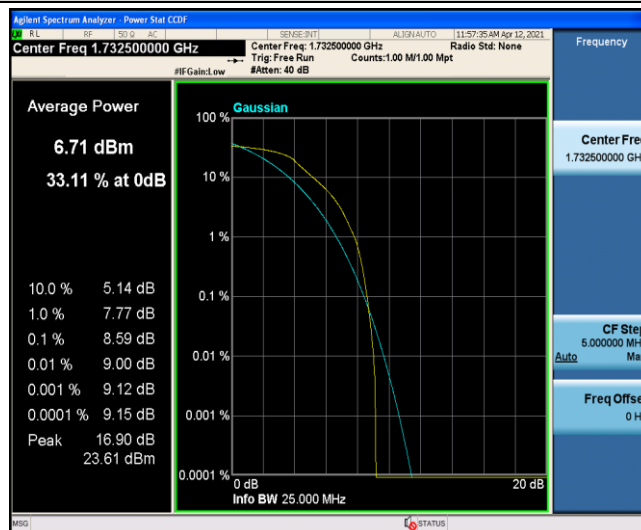


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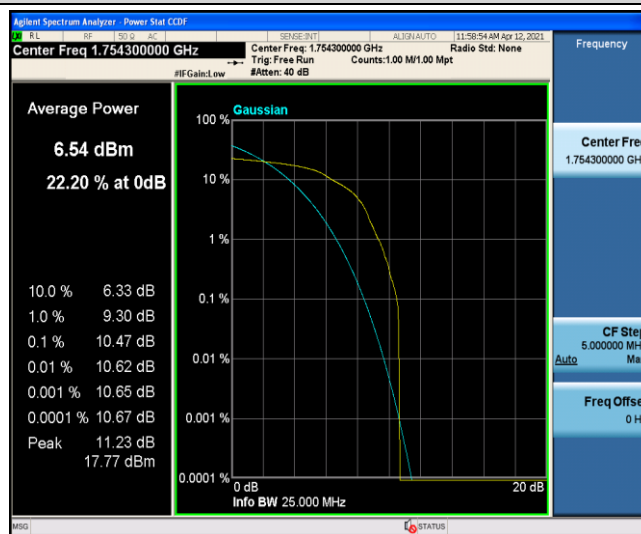




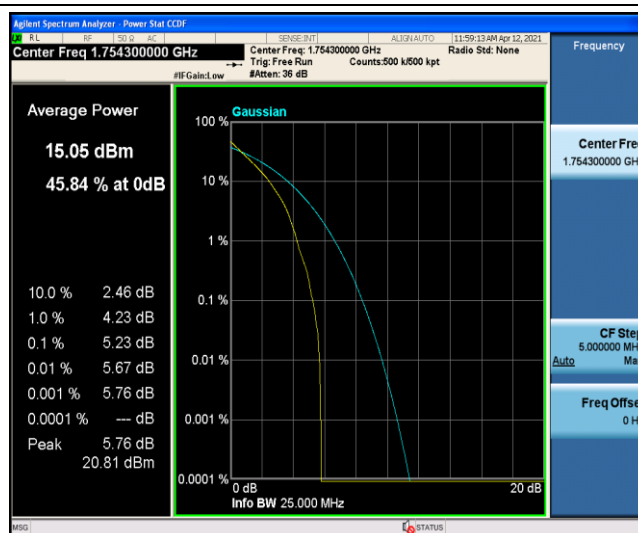
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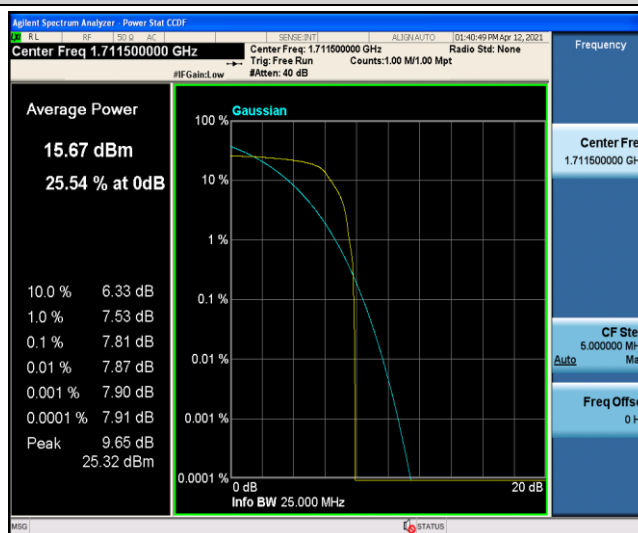
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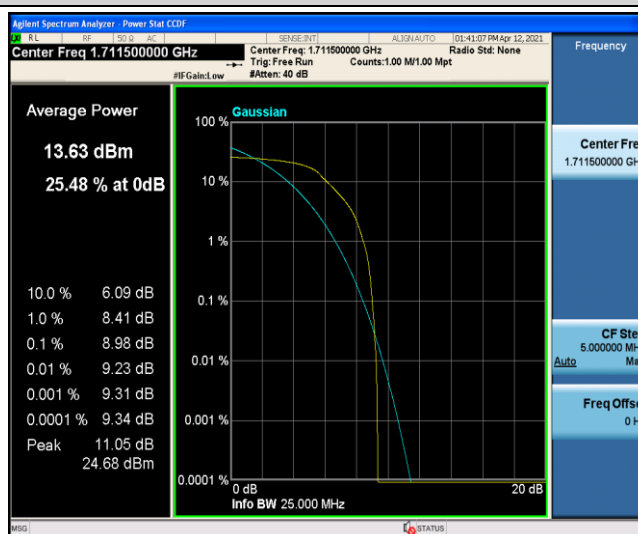
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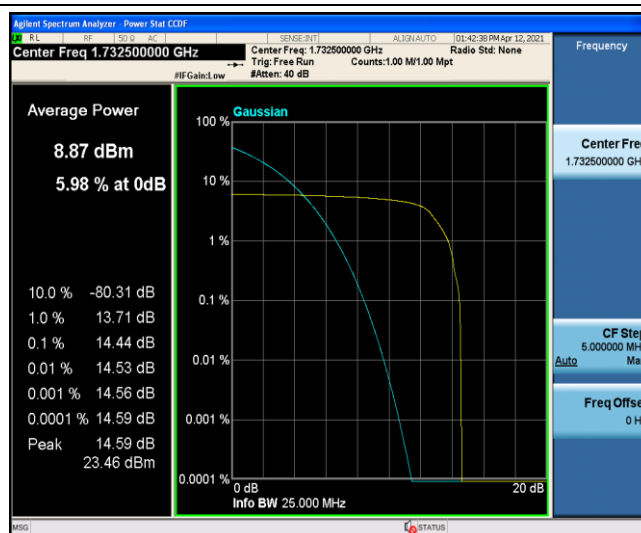
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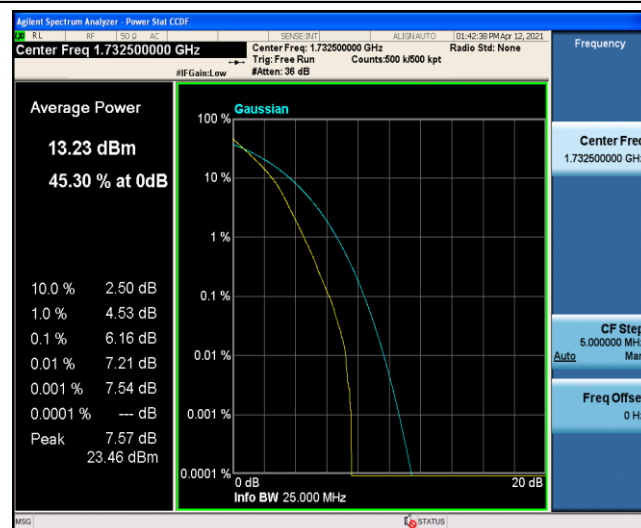
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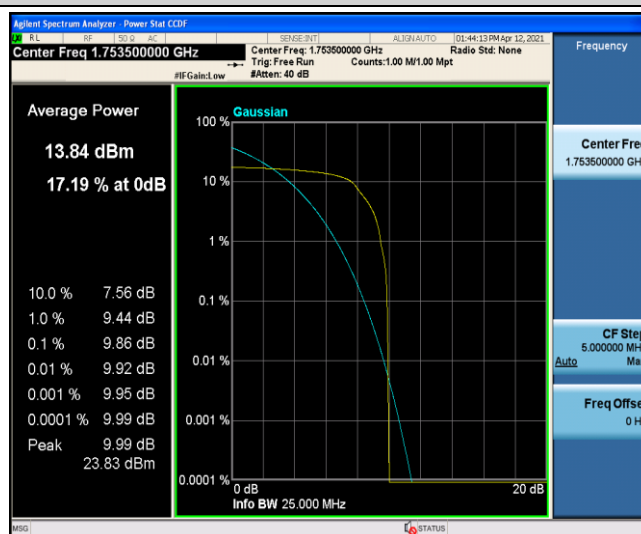
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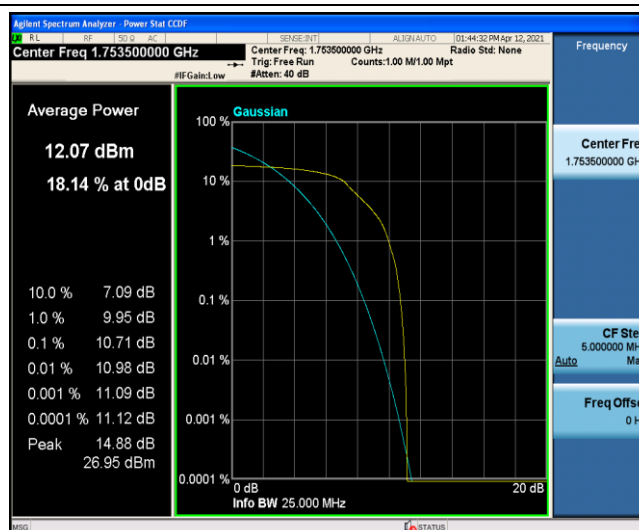
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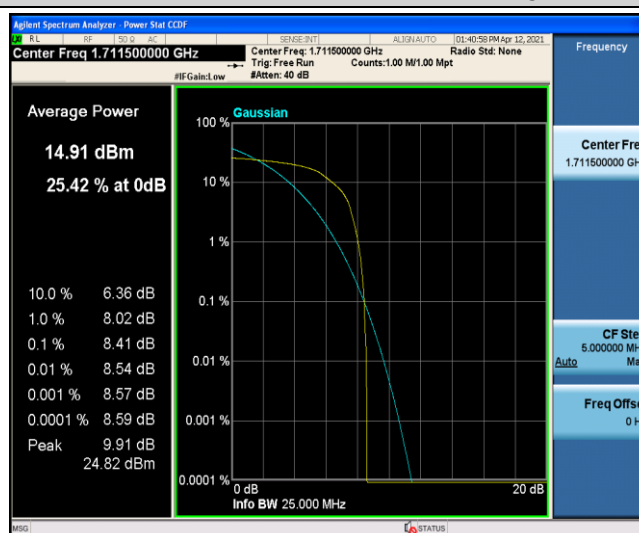
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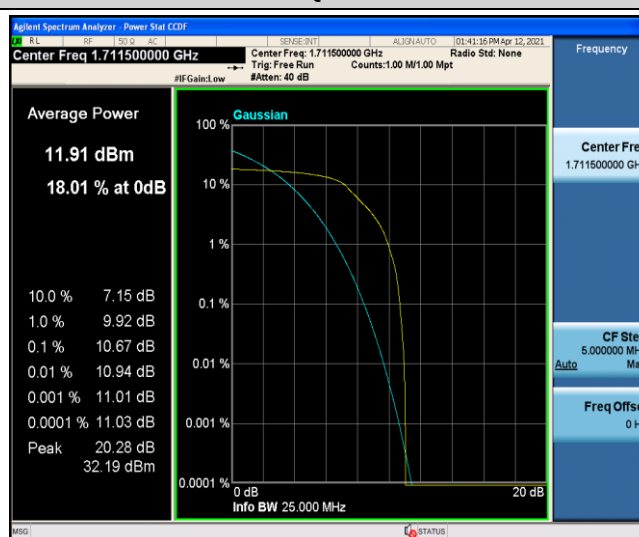
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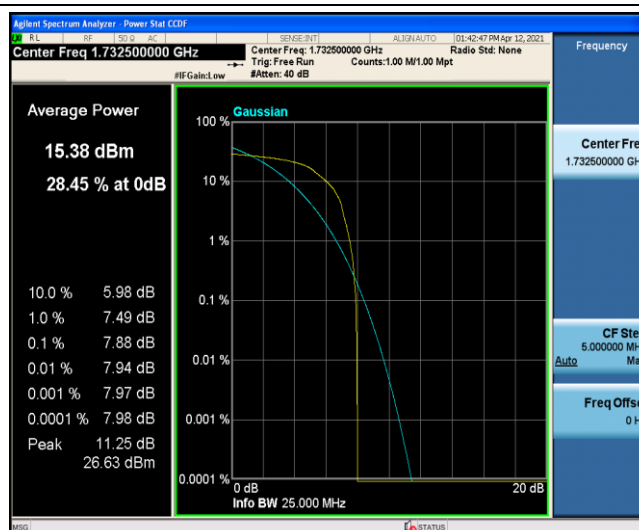
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Band4-3MHz-16QAM-19965-1-0-Low



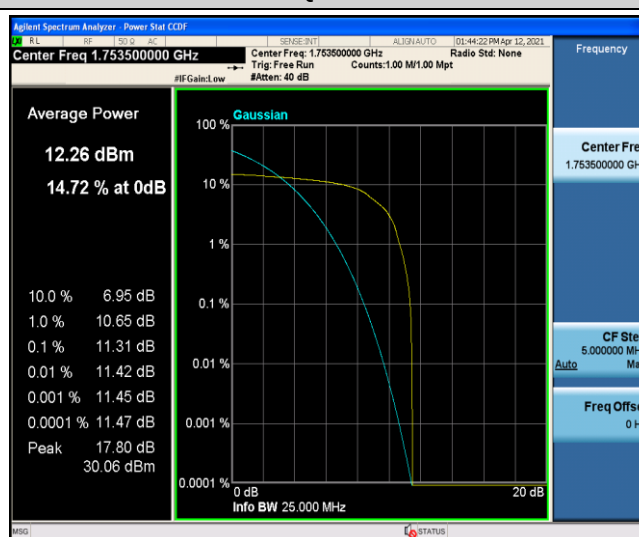
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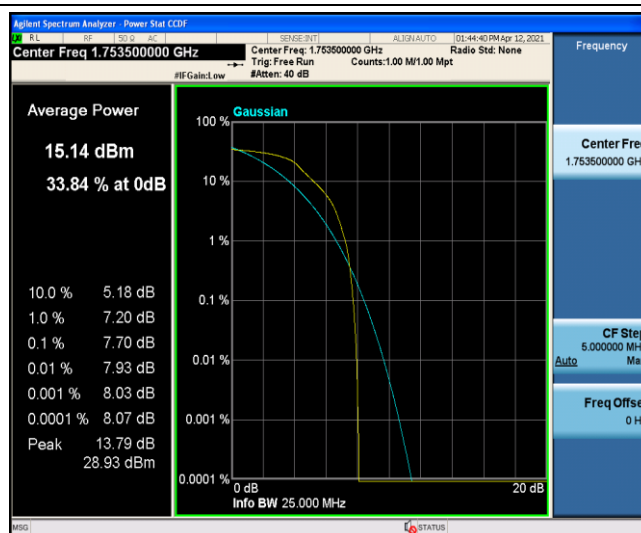
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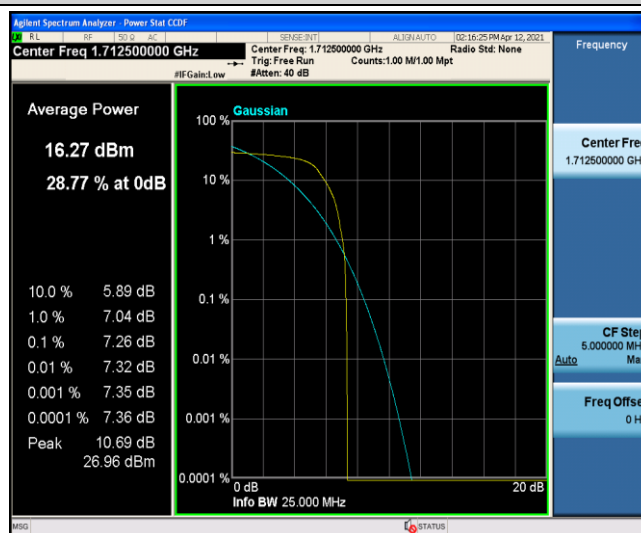
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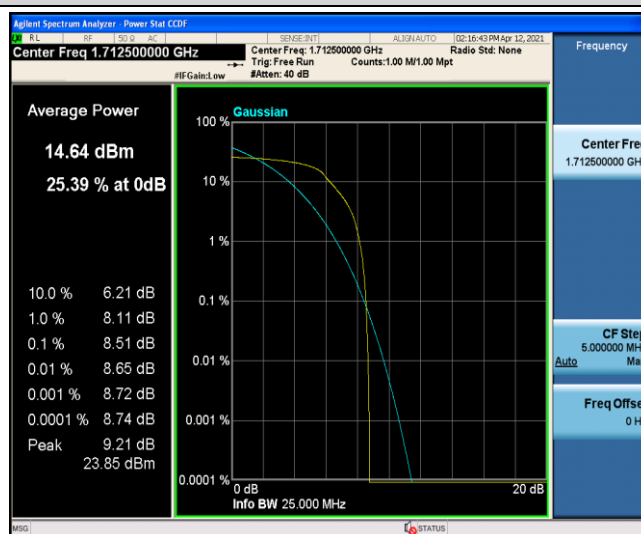
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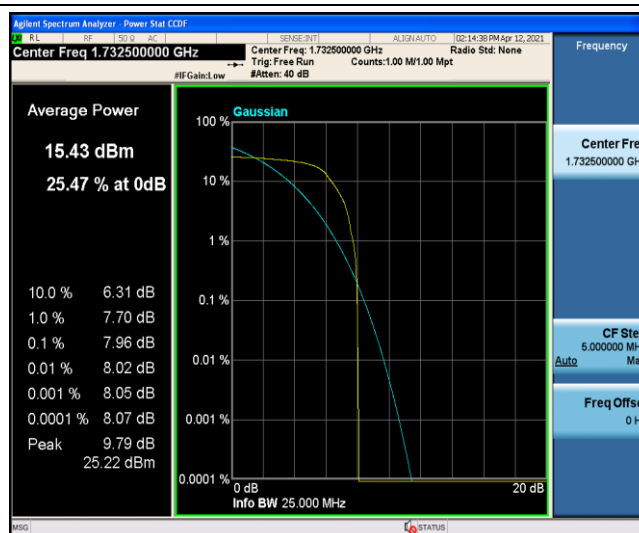
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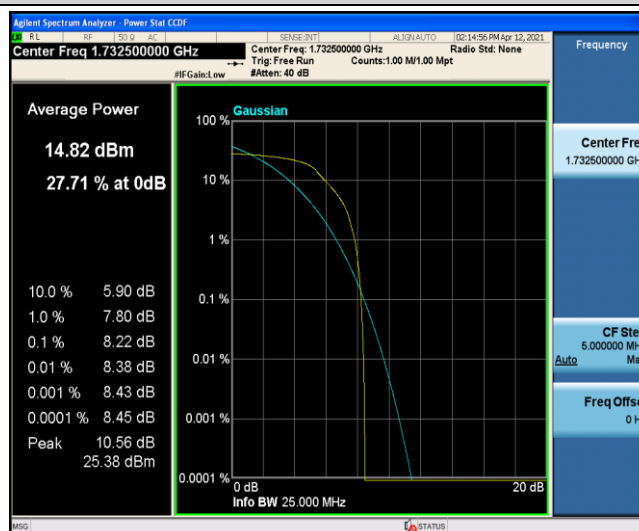
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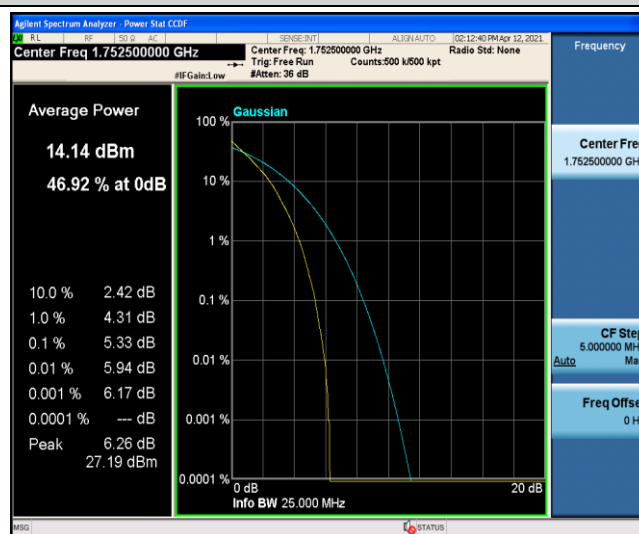
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Band4-5MHz-QPSK-20175-1-0-Low



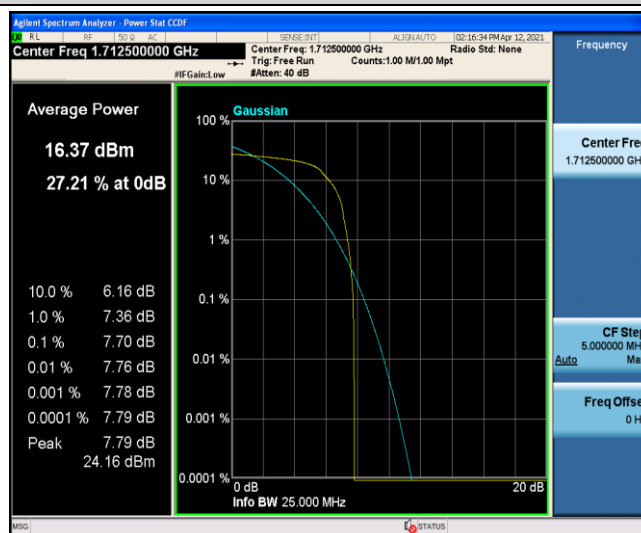
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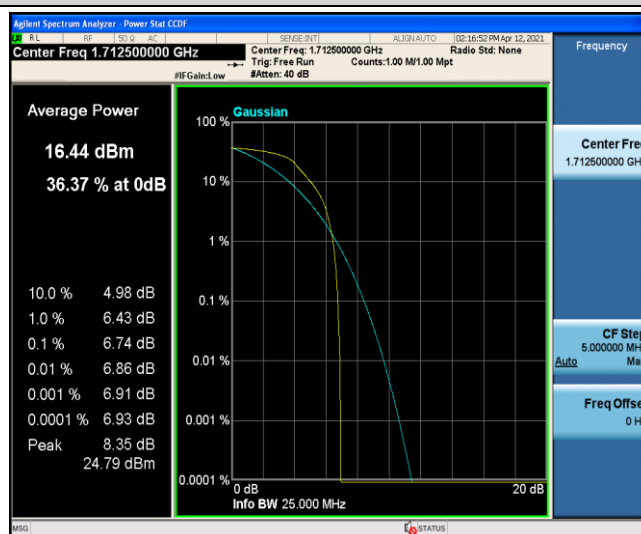
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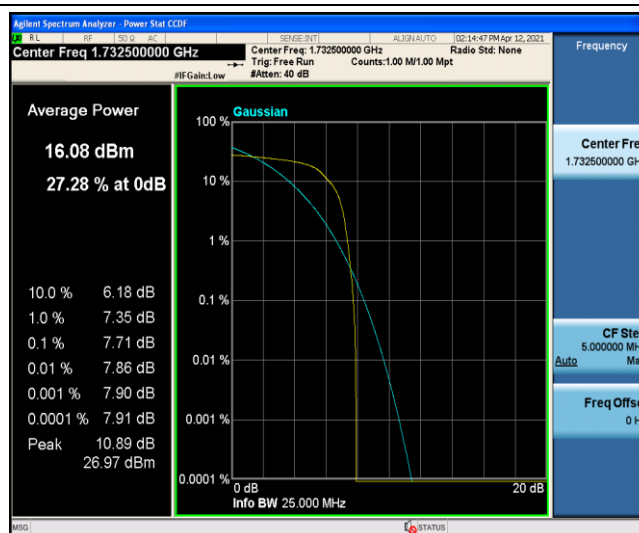
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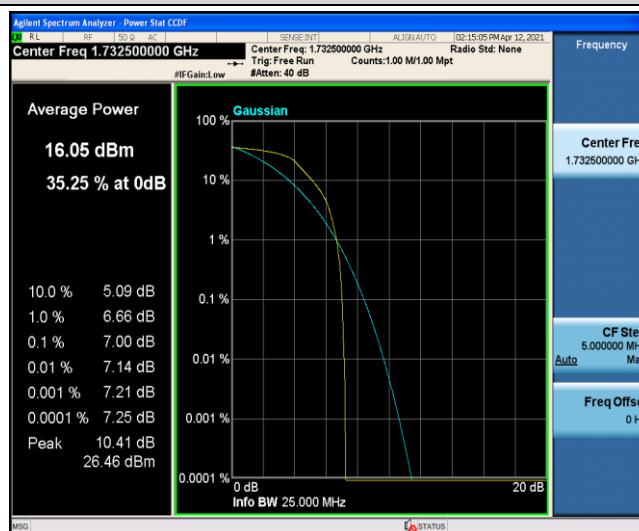
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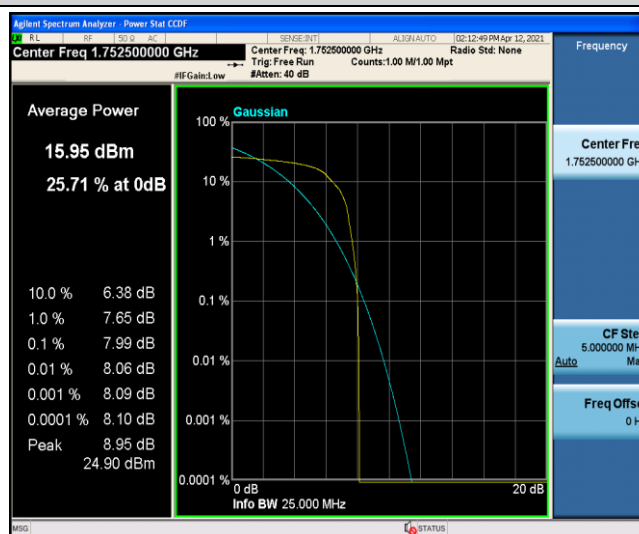
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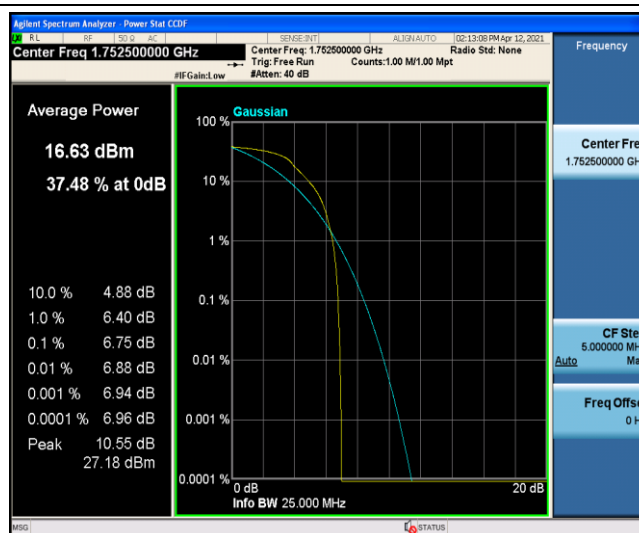
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Band4-5MHz-16QAM-20175-25-0-Low



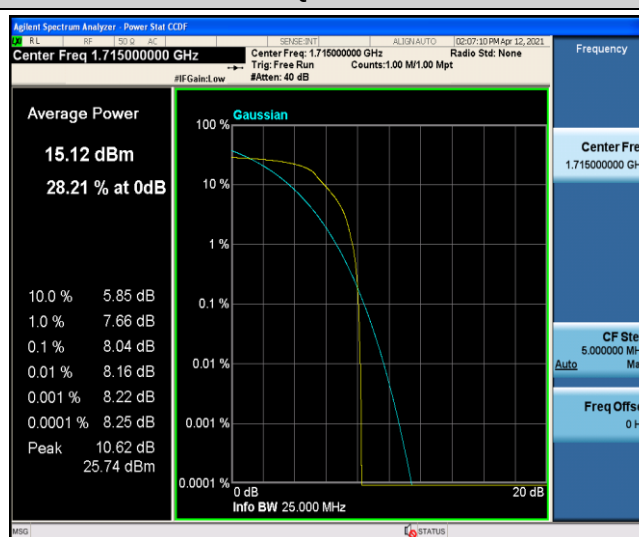
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Band4-5MHz-16QAM-20375-25-0-High



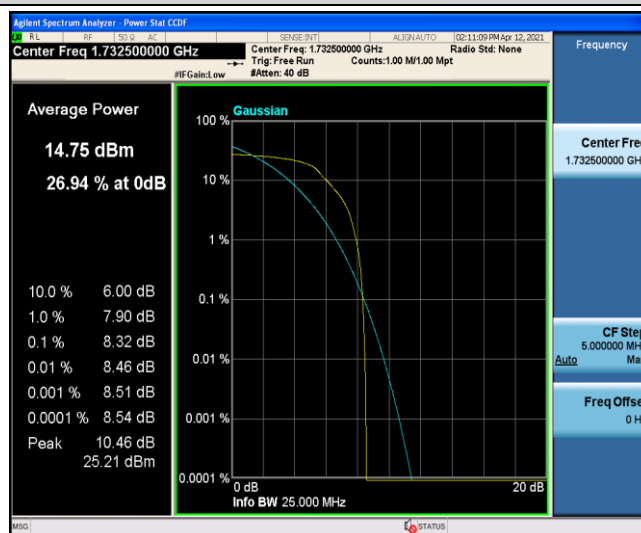
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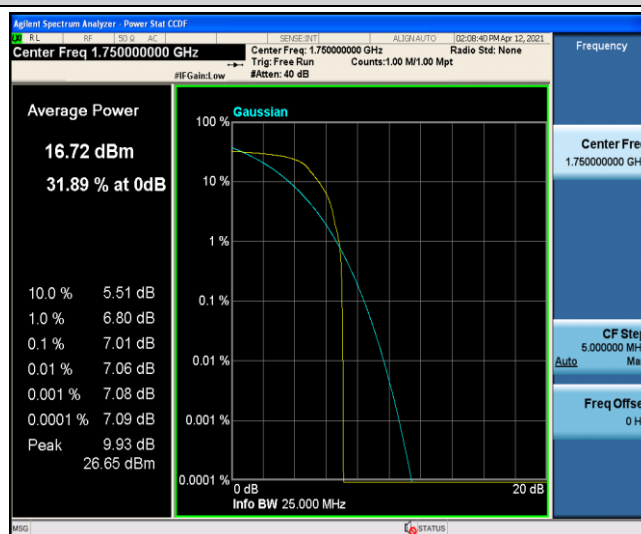
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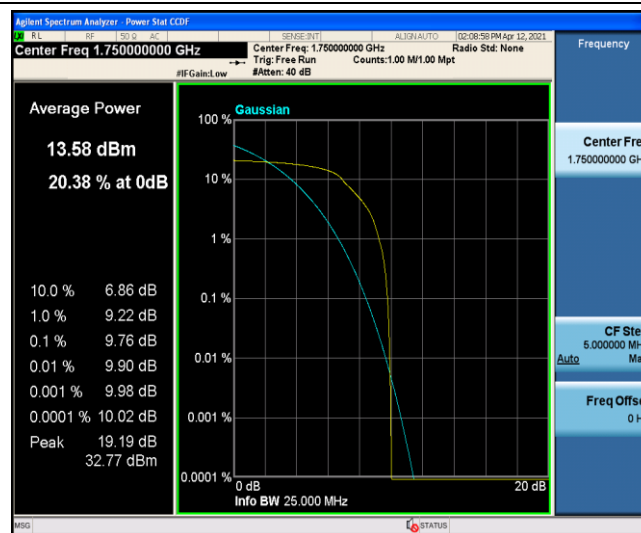
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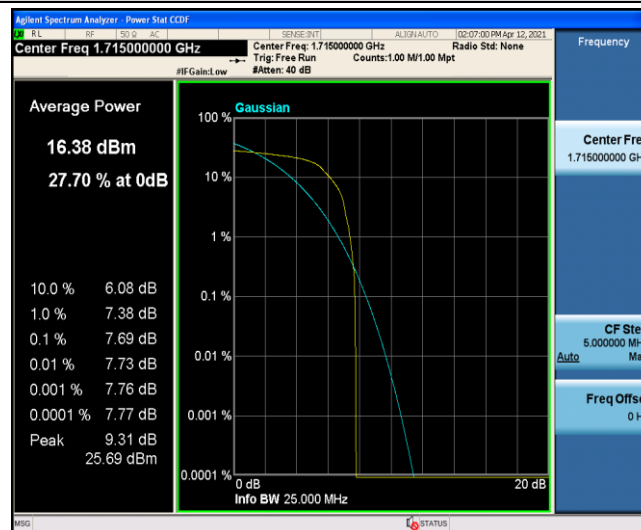
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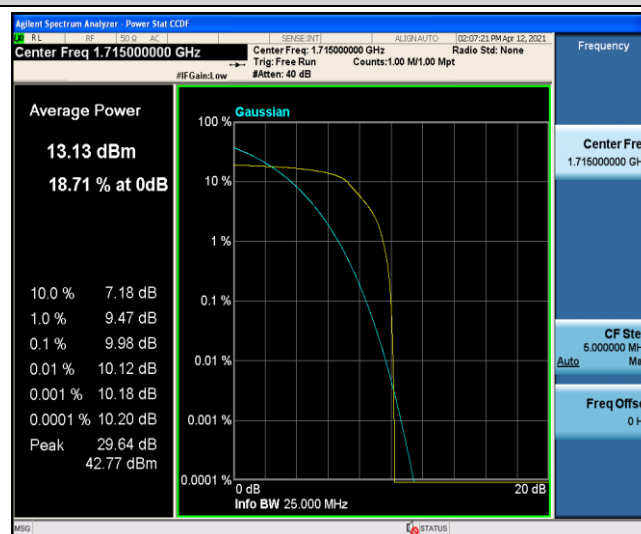
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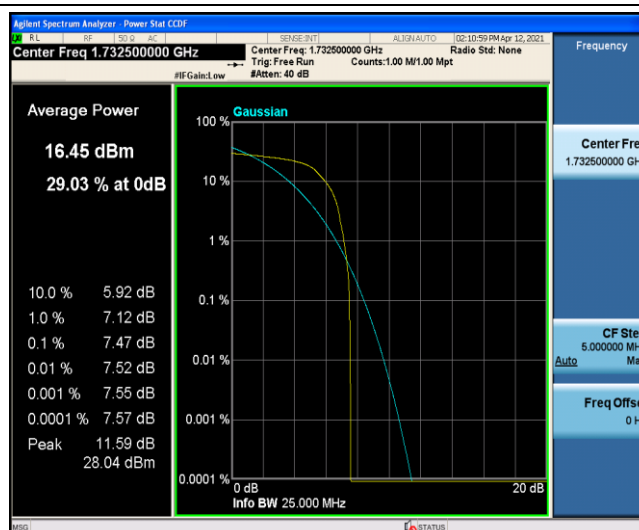
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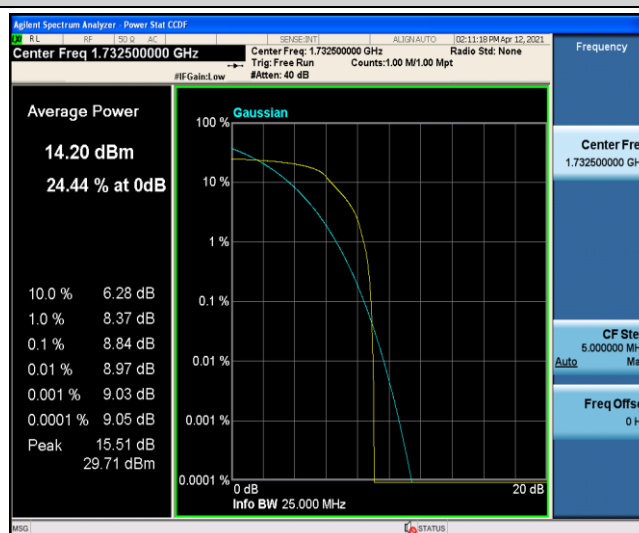
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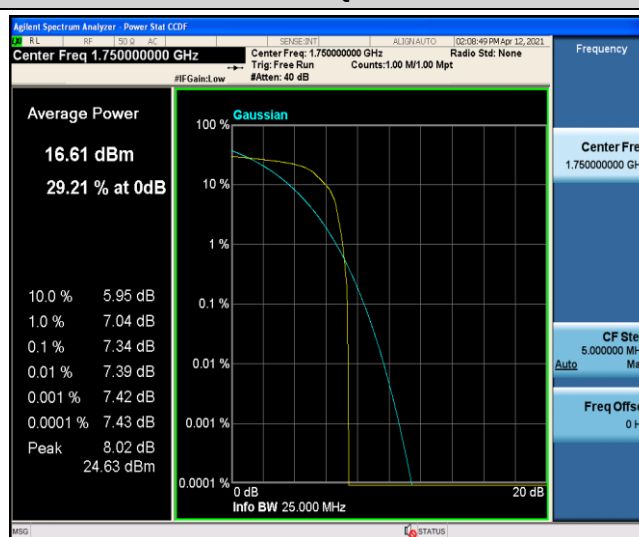
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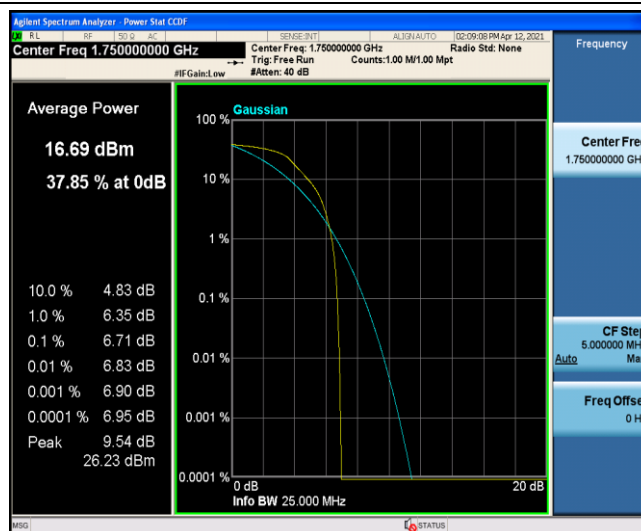
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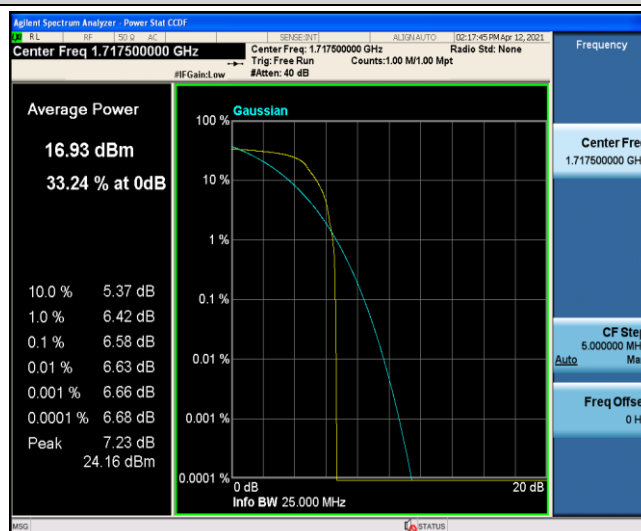
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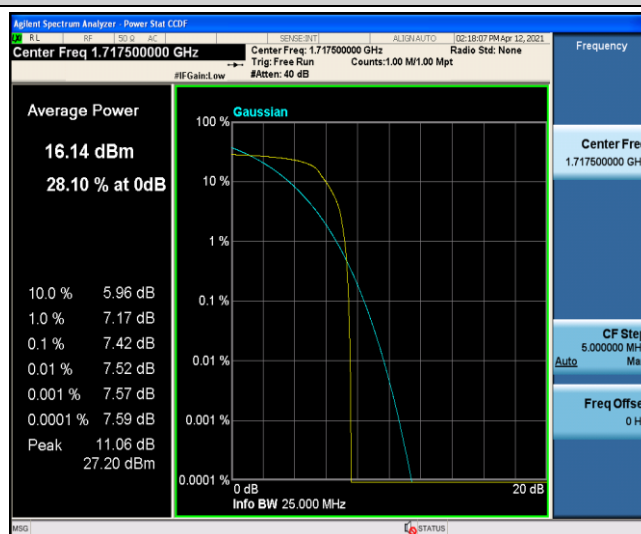
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Band4-10MHz-16QAM-20350-50-0



Band4-15MHz-QPSK-20025-1-0



Band4-15MHz-QPSK-20025-75-0