

Appendix for N66

Product Name: Rugged handheld

Model No: UA60

Appendix A: Average Power Output Data for SA

Test Result

Band	SCS	Bandwidth	Modulation	Channel	RB Config	Power (dBm)	Power Class	Verdict
N66	15	5	DFT-QPSK	L	Outer_Full	22.40	PC3	PASS
N66	15	5	DFT-QPSK	L	Inner_Full	23.37	PC3	PASS
N66	15	5	DFT-QPSK	L	Edge_1RB_Left	22.45	PC3	PASS
N66	15	5	DFT-QPSK	L	Edge_1RB_Right	22.42	PC3	PASS
N66	15	5	DFT-16QAM	L	Outer_Full	21.47	PC3	PASS
N66	15	5	DFT-16QAM	L	Inner_Full	22.39	PC3	PASS
N66	15	5	DFT-16QAM	L	Edge_1RB_Left	21.46	PC3	PASS
N66	15	5	DFT-16QAM	L	Edge_1RB_Right	21.47	PC3	PASS
N66	15	5	DFT-QPSK	M	Outer_Full	22.64	PC3	PASS
N66	15	5	DFT-QPSK	M	Inner_Full	23.59	PC3	PASS
N66	15	5	DFT-QPSK	M	Edge_1RB_Left	22.55	PC3	PASS
N66	15	5	DFT-QPSK	M	Edge_1RB_Right	22.64	PC3	PASS
N66	15	5	DFT-16QAM	M	Outer_Full	21.63	PC3	PASS
N66	15	5	DFT-16QAM	M	Inner_Full	22.68	PC3	PASS
N66	15	5	DFT-16QAM	M	Edge_1RB_Left	21.59	PC3	PASS
N66	15	5	DFT-16QAM	M	Edge_1RB_Right	21.54	PC3	PASS
N66	15	5	DFT-QPSK	H	Outer_Full	22.28	PC3	PASS
N66	15	5	DFT-QPSK	H	Inner_Full	23.25	PC3	PASS
N66	15	5	DFT-QPSK	H	Edge_1RB_Left	22.20	PC3	PASS
N66	15	5	DFT-QPSK	H	Edge_1RB_Right	22.20	PC3	PASS
N66	15	5	DFT-16QAM	H	Outer_Full	21.41	PC3	PASS
N66	15	5	DFT-16QAM	H	Inner_Full	22.29	PC3	PASS
N66	15	5	DFT-16QAM	H	Edge_1RB_Left	21.29	PC3	PASS
N66	15	5	DFT-16QAM	H	Edge_1RB_Right	21.19	PC3	PASS
N66	15	10	DFT-QPSK	L	Outer_Full	22.50	PC3	PASS
N66	15	10	DFT-QPSK	L	Inner_Full	23.39	PC3	PASS
N66	15	10	DFT-QPSK	L	Edge_1RB_Left	22.34	PC3	PASS
N66	15	10	DFT-QPSK	L	Edge_1RB_Right	22.44	PC3	PASS
N66	15	10	DFT-16QAM	L	Outer_Full	21.72	PC3	PASS
N66	15	10	DFT-16QAM	L	Inner_Full	22.60	PC3	PASS
N66	15	10	DFT-16QAM	L	Edge_1RB_Left	21.20	PC3	PASS
N66	15	10	DFT-16QAM	L	Edge_1RB_Right	21.27	PC3	PASS
N66	15	10	DFT-QPSK	M	Outer_Full	22.59	PC3	PASS
N66	15	10	DFT-QPSK	M	Inner_Full	23.47	PC3	PASS
N66	15	10	DFT-QPSK	M	Edge_1RB_Left	22.52	PC3	PASS
N66	15	10	DFT-QPSK	M	Edge_1RB_Right	22.57	PC3	PASS

N66	15	10	DFT-16QAM	M	Outer_Full	21.60	PC3	PASS
N66	15	10	DFT-16QAM	M	Inner_Full	22.61	PC3	PASS
N66	15	10	DFT-16QAM	M	Edge_1RB_Left	21.66	PC3	PASS
N66	15	10	DFT-16QAM	M	Edge_1RB_Right	21.63	PC3	PASS
N66	15	10	DFT-QPSK	H	Outer_Full	22.36	PC3	PASS
N66	15	10	DFT-QPSK	H	Inner_Full	23.26	PC3	PASS
N66	15	10	DFT-QPSK	H	Edge_1RB_Left	22.00	PC3	PASS
N66	15	10	DFT-QPSK	H	Edge_1RB_Right	21.98	PC3	PASS
N66	15	10	DFT-16QAM	H	Outer_Full	21.40	PC3	PASS
N66	15	10	DFT-16QAM	H	Inner_Full	22.35	PC3	PASS
N66	15	10	DFT-16QAM	H	Edge_1RB_Left	21.50	PC3	PASS
N66	15	10	DFT-16QAM	H	Edge_1RB_Right	21.37	PC3	PASS
N66	15	15	DFT-QPSK	L	Outer_Full	22.63	PC3	PASS
N66	15	15	DFT-QPSK	L	Inner_Full	23.52	PC3	PASS
N66	15	15	DFT-QPSK	L	Edge_1RB_Left	22.18	PC3	PASS
N66	15	15	DFT-QPSK	L	Edge_1RB_Right	22.34	PC3	PASS
N66	15	15	DFT-16QAM	L	Outer_Full	21.56	PC3	PASS
N66	15	15	DFT-16QAM	L	Inner_Full	22.54	PC3	PASS
N66	15	15	DFT-16QAM	L	Edge_1RB_Left	21.62	PC3	PASS
N66	15	15	DFT-16QAM	L	Edge_1RB_Right	21.64	PC3	PASS
N66	15	15	DFT-QPSK	M	Outer_Full	22.72	PC3	PASS
N66	15	15	DFT-QPSK	M	Inner_Full	23.56	PC3	PASS
N66	15	15	DFT-QPSK	M	Edge_1RB_Left	22.51	PC3	PASS
N66	15	15	DFT-QPSK	M	Edge_1RB_Right	22.56	PC3	PASS
N66	15	15	DFT-16QAM	M	Outer_Full	21.68	PC3	PASS
N66	15	15	DFT-16QAM	M	Inner_Full	22.63	PC3	PASS
N66	15	15	DFT-16QAM	M	Edge_1RB_Left	21.71	PC3	PASS
N66	15	15	DFT-16QAM	M	Edge_1RB_Right	21.75	PC3	PASS
N66	15	15	DFT-QPSK	H	Outer_Full	22.43	PC3	PASS
N66	15	15	DFT-QPSK	H	Inner_Full	23.21	PC3	PASS
N66	15	15	DFT-QPSK	H	Edge_1RB_Left	22.53	PC3	PASS
N66	15	15	DFT-QPSK	H	Edge_1RB_Right	22.44	PC3	PASS
N66	15	15	DFT-16QAM	H	Outer_Full	21.46	PC3	PASS
N66	15	15	DFT-16QAM	H	Inner_Full	22.41	PC3	PASS
N66	15	15	DFT-16QAM	H	Edge_1RB_Left	21.79	PC3	PASS
N66	15	15	DFT-16QAM	H	Edge_1RB_Right	21.78	PC3	PASS
N66	15	20	DFT-QPSK	L	Outer_Full	22.59	PC3	PASS
N66	15	20	DFT-QPSK	L	Inner_Full	23.50	PC3	PASS
N66	15	20	DFT-QPSK	L	Edge_1RB_Left	22.47	PC3	PASS
N66	15	20	DFT-QPSK	L	Edge_1RB_Right	22.52	PC3	PASS
N66	15	20	DFT-16QAM	L	Outer_Full	21.51	PC3	PASS
N66	15	20	DFT-16QAM	L	Inner_Full	22.55	PC3	PASS

N66	15	20	DFT-16QAM	L	Edge_1RB_Left	21.65	PC3	PASS
N66	15	20	DFT-16QAM	L	Edge_1RB_Right	21.80	PC3	PASS
N66	15	20	DFT-QPSK	M	Outer_Full	22.67	PC3	PASS
N66	15	20	DFT-QPSK	M	Inner_Full	23.57	PC3	PASS
N66	15	20	DFT-QPSK	M	Edge_1RB_Left	22.81	PC3	PASS
N66	15	20	DFT-QPSK	M	Edge_1RB_Right	22.74	PC3	PASS
N66	15	20	DFT-16QAM	M	Outer_Full	21.63	PC3	PASS
N66	15	20	DFT-16QAM	M	Inner_Full	22.68	PC3	PASS
N66	15	20	DFT-16QAM	M	Edge_1RB_Left	21.74	PC3	PASS
N66	15	20	DFT-16QAM	M	Edge_1RB_Right	21.70	PC3	PASS
N66	15	20	DFT-QPSK	H	Outer_Full	22.43	PC3	PASS
N66	15	20	DFT-QPSK	H	Inner_Full	23.39	PC3	PASS
N66	15	20	DFT-QPSK	H	Edge_1RB_Left	22.58	PC3	PASS
N66	15	20	DFT-QPSK	H	Edge_1RB_Right	22.44	PC3	PASS
N66	15	20	DFT-16QAM	H	Outer_Full	21.54	PC3	PASS
N66	15	20	DFT-16QAM	H	Inner_Full	22.43	PC3	PASS
N66	15	20	DFT-16QAM	H	Edge_1RB_Left	21.48	PC3	PASS
N66	15	20	DFT-16QAM	H	Edge_1RB_Right	21.28	PC3	PASS
N66	15	30	DFT-QPSK	L	Outer_Full	22.60	PC3	PASS
N66	15	30	DFT-QPSK	L	Inner_Full	23.50	PC3	PASS
N66	15	30	DFT-QPSK	L	Edge_1RB_Left	22.51	PC3	PASS
N66	15	30	DFT-QPSK	L	Edge_1RB_Right	22.54	PC3	PASS
N66	15	30	DFT-16QAM	L	Outer_Full	21.67	PC3	PASS
N66	15	30	DFT-16QAM	L	Inner_Full	22.60	PC3	PASS
N66	15	30	DFT-16QAM	L	Edge_1RB_Left	21.51	PC3	PASS
N66	15	30	DFT-16QAM	L	Edge_1RB_Right	21.53	PC3	PASS
N66	15	30	DFT-QPSK	M	Outer_Full	22.75	PC3	PASS
N66	15	30	DFT-QPSK	M	Inner_Full	23.60	PC3	PASS
N66	15	30	DFT-QPSK	M	Edge_1RB_Left	22.58	PC3	PASS
N66	15	30	DFT-QPSK	M	Edge_1RB_Right	22.50	PC3	PASS
N66	15	30	DFT-16QAM	M	Outer_Full	21.74	PC3	PASS
N66	15	30	DFT-16QAM	M	Inner_Full	22.63	PC3	PASS
N66	15	30	DFT-16QAM	M	Edge_1RB_Left	21.86	PC3	PASS
N66	15	30	DFT-16QAM	M	Edge_1RB_Right	21.79	PC3	PASS
N66	15	30	DFT-QPSK	H	Outer_Full	22.53	PC3	PASS
N66	15	30	DFT-QPSK	H	Inner_Full	23.34	PC3	PASS
N66	15	30	DFT-QPSK	H	Edge_1RB_Left	22.42	PC3	PASS
N66	15	30	DFT-QPSK	H	Edge_1RB_Right	22.21	PC3	PASS
N66	15	30	DFT-16QAM	H	Outer_Full	21.48	PC3	PASS
N66	15	30	DFT-16QAM	H	Inner_Full	22.45	PC3	PASS
N66	15	30	DFT-16QAM	H	Edge_1RB_Left	21.41	PC3	PASS
N66	15	30	DFT-16QAM	H	Edge_1RB_Right	21.19	PC3	PASS

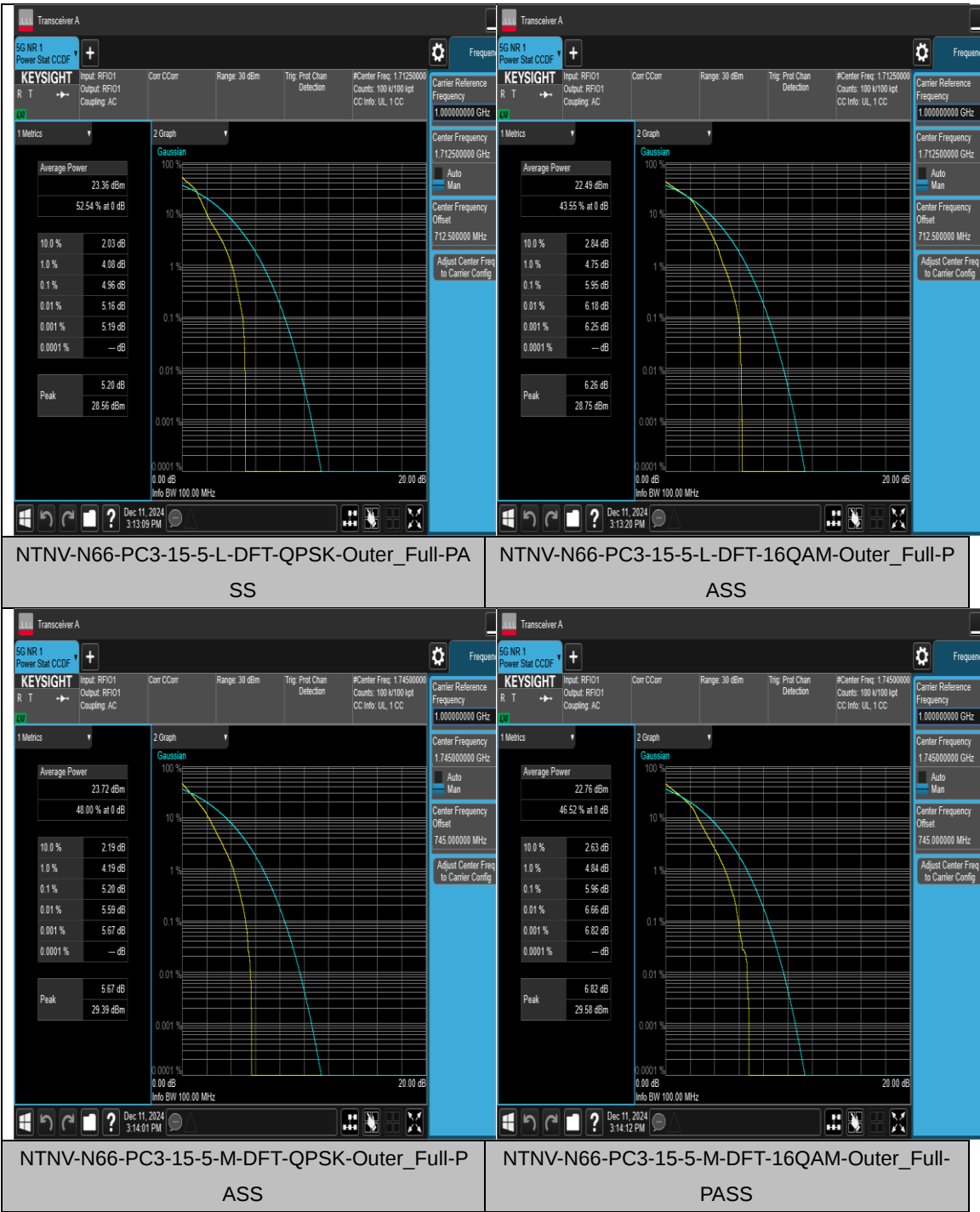
Appendix B: Peak-to-Average Ratio for SA

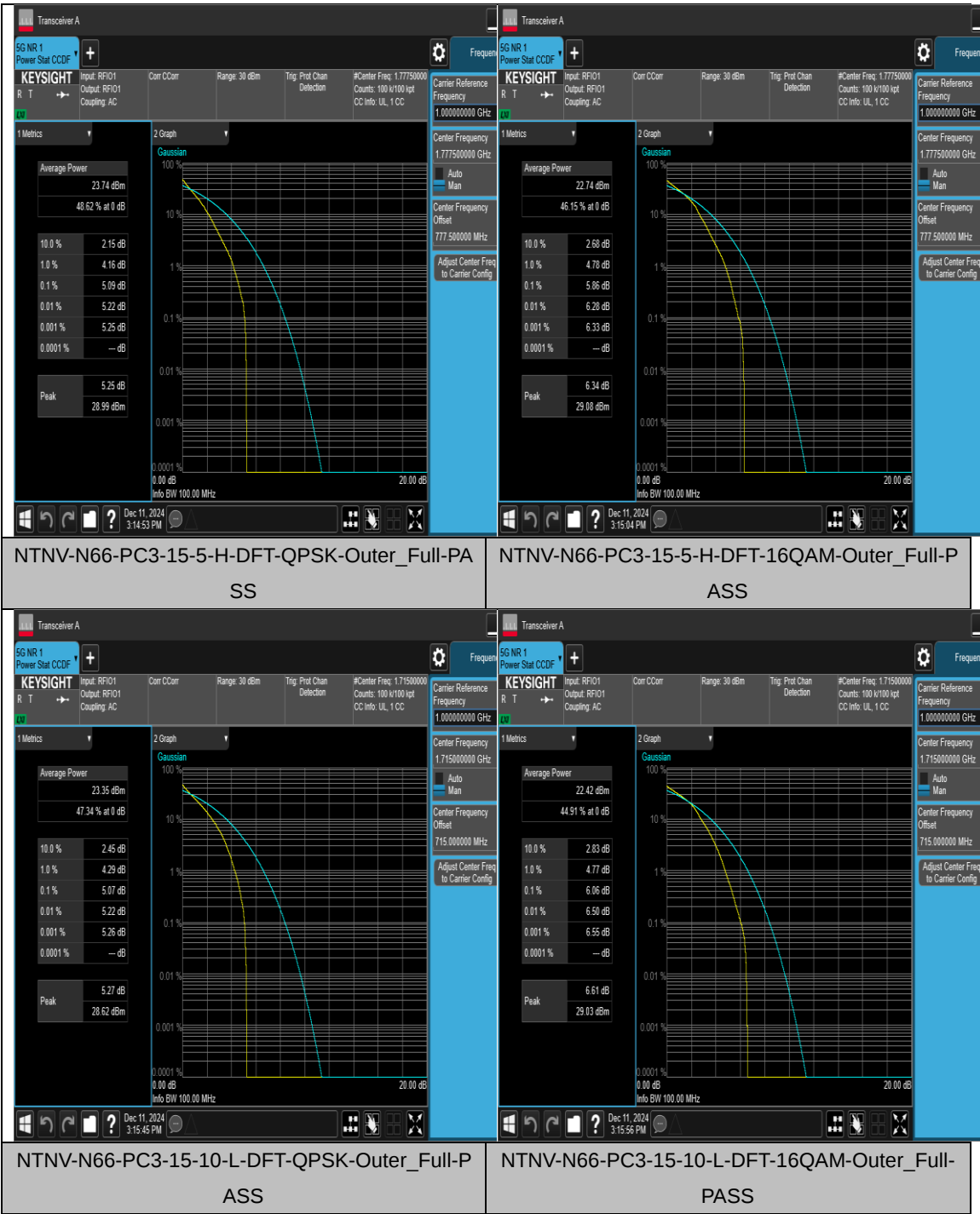
Peak-to-Average Ratio(CCDF)

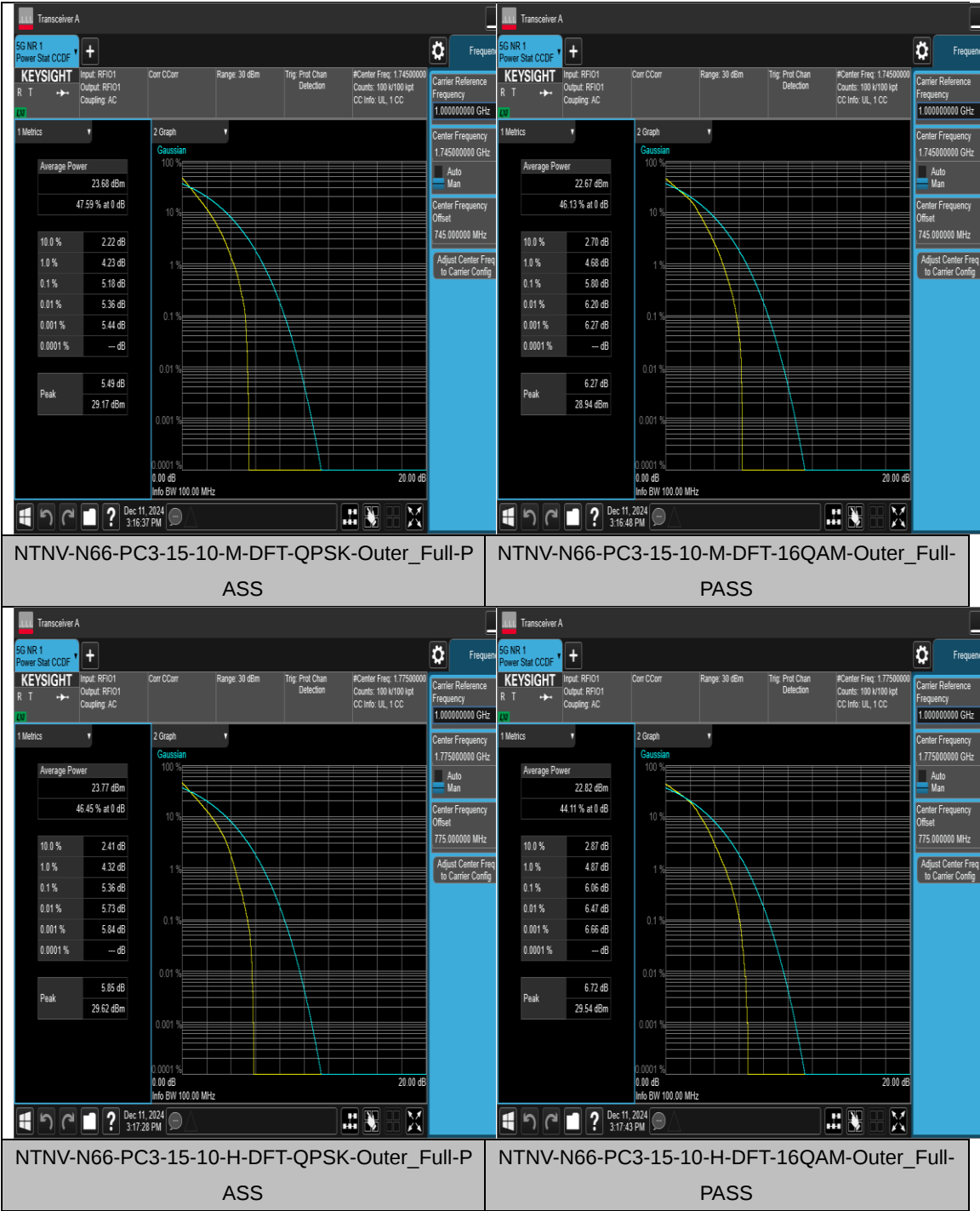
Test Result

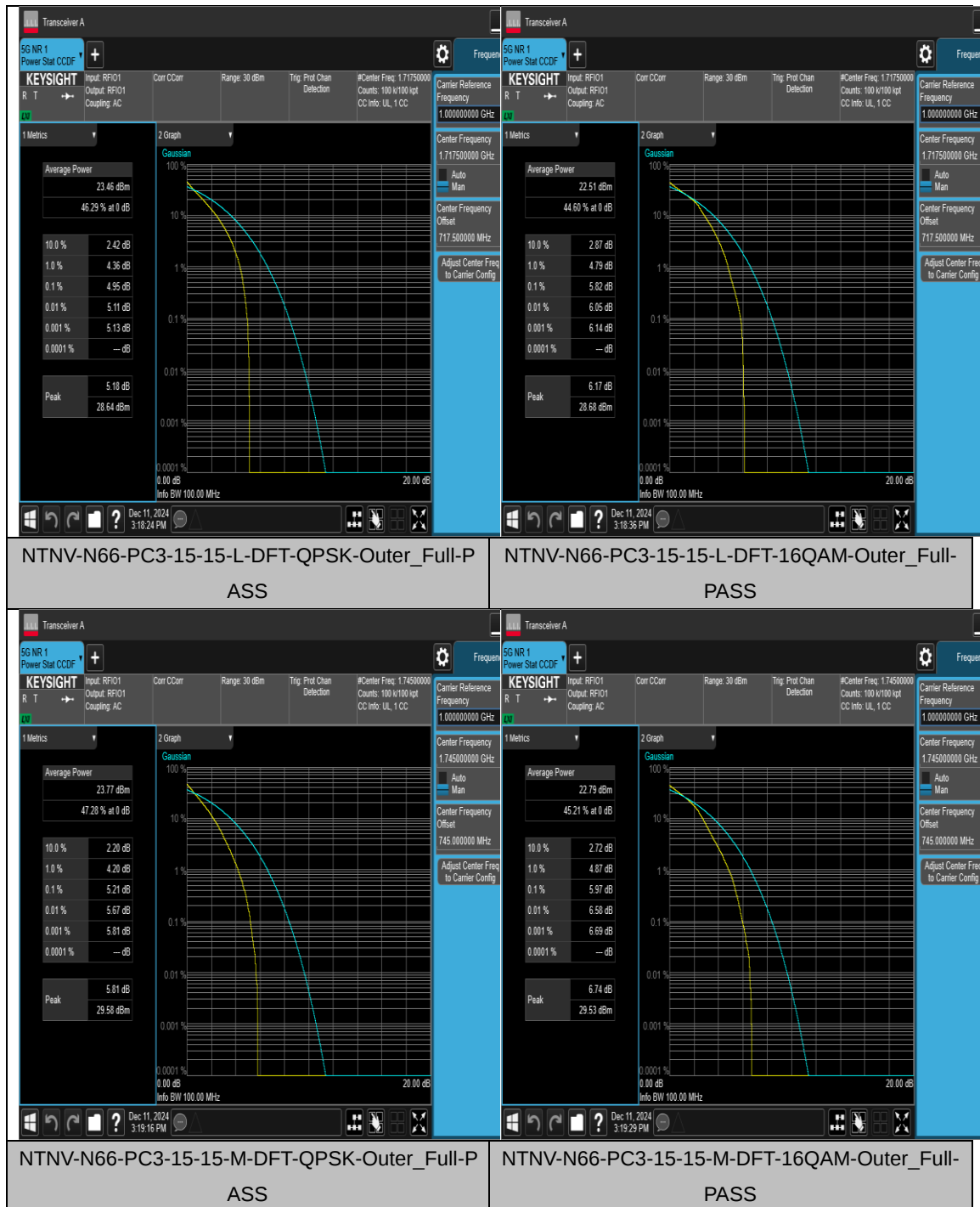
Band	SCS	Bandwidth	Modulation	Channel	RB Config	Result	Limit	Verdict
N66	15	5	DFT-QPSK	L	Outer_Full	4.96	≤13	PASS
N66	15	5	DFT-16QAM	L	Outer_Full	5.95	≤13	PASS
N66	15	5	DFT-QPSK	M	Outer_Full	5.20	≤13	PASS
N66	15	5	DFT-16QAM	M	Outer_Full	5.96	≤13	PASS
N66	15	5	DFT-QPSK	H	Outer_Full	5.09	≤13	PASS
N66	15	5	DFT-16QAM	H	Outer_Full	5.86	≤13	PASS
N66	15	10	DFT-QPSK	L	Outer_Full	5.07	≤13	PASS
N66	15	10	DFT-16QAM	L	Outer_Full	6.06	≤13	PASS
N66	15	10	DFT-QPSK	M	Outer_Full	5.18	≤13	PASS
N66	15	10	DFT-16QAM	M	Outer_Full	5.80	≤13	PASS
N66	15	10	DFT-QPSK	H	Outer_Full	5.36	≤13	PASS
N66	15	10	DFT-16QAM	H	Outer_Full	6.06	≤13	PASS
N66	15	15	DFT-QPSK	L	Outer_Full	4.95	≤13	PASS
N66	15	15	DFT-16QAM	L	Outer_Full	5.82	≤13	PASS
N66	15	15	DFT-QPSK	M	Outer_Full	5.21	≤13	PASS
N66	15	15	DFT-16QAM	M	Outer_Full	5.97	≤13	PASS
N66	15	15	DFT-QPSK	H	Outer_Full	5.18	≤13	PASS
N66	15	15	DFT-16QAM	H	Outer_Full	5.81	≤13	PASS
N66	15	20	DFT-QPSK	L	Outer_Full	5.09	≤13	PASS
N66	15	20	DFT-16QAM	L	Outer_Full	5.83	≤13	PASS
N66	15	20	DFT-QPSK	M	Outer_Full	5.02	≤13	PASS
N66	15	20	DFT-16QAM	M	Outer_Full	5.95	≤13	PASS
N66	15	20	DFT-QPSK	H	Outer_Full	5.13	≤13	PASS
N66	15	20	DFT-16QAM	H	Outer_Full	5.93	≤13	PASS
N66	15	30	DFT-QPSK	L	Outer_Full	5.12	≤13	PASS
N66	15	30	DFT-16QAM	L	Outer_Full	5.84	≤13	PASS
N66	15	30	DFT-QPSK	M	Outer_Full	5.05	≤13	PASS
N66	15	30	DFT-16QAM	M	Outer_Full	5.82	≤13	PASS
N66	15	30	DFT-QPSK	H	Outer_Full	4.85	≤13	PASS
N66	15	30	DFT-16QAM	H	Outer_Full	5.81	≤13	PASS

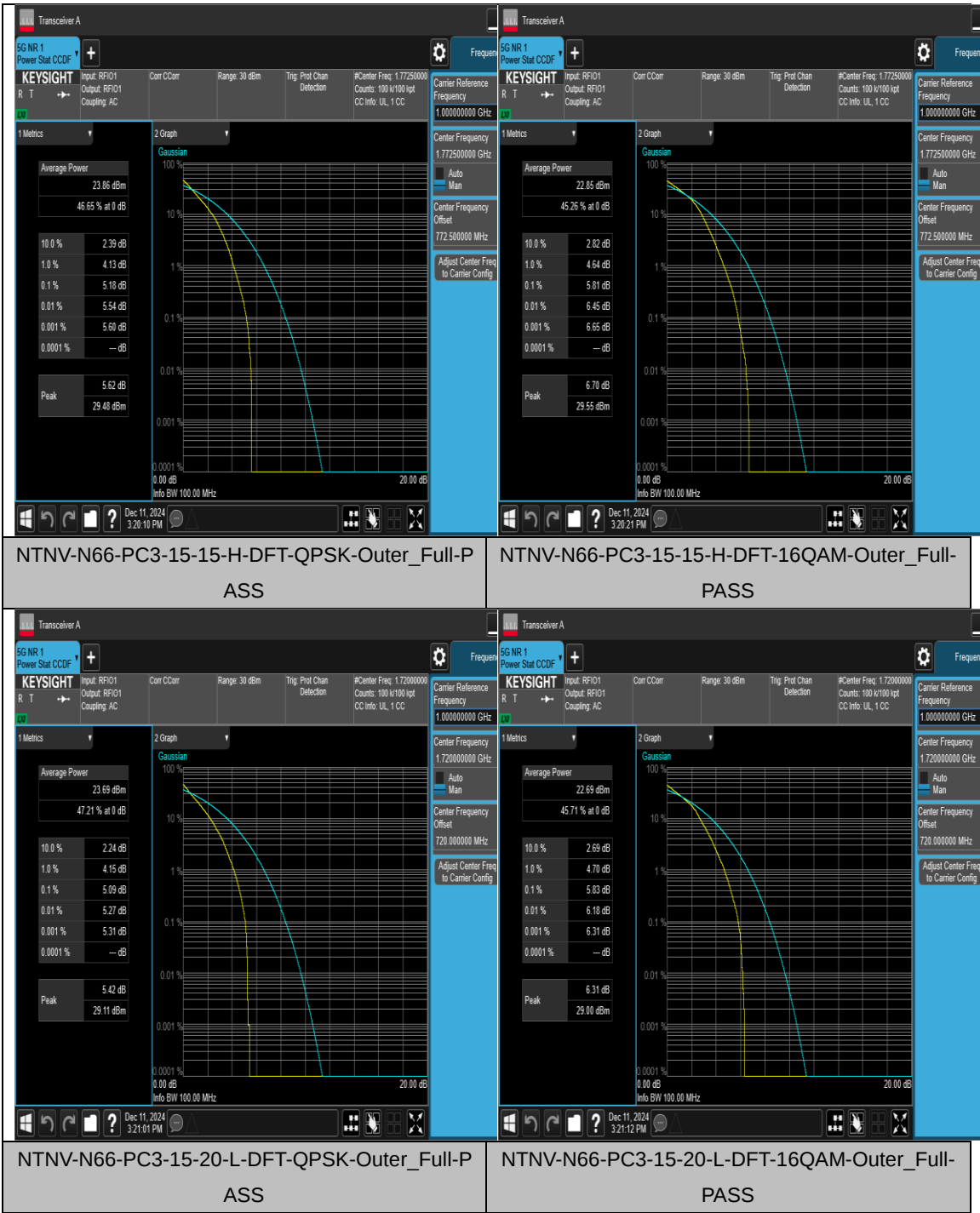
Test Graphs

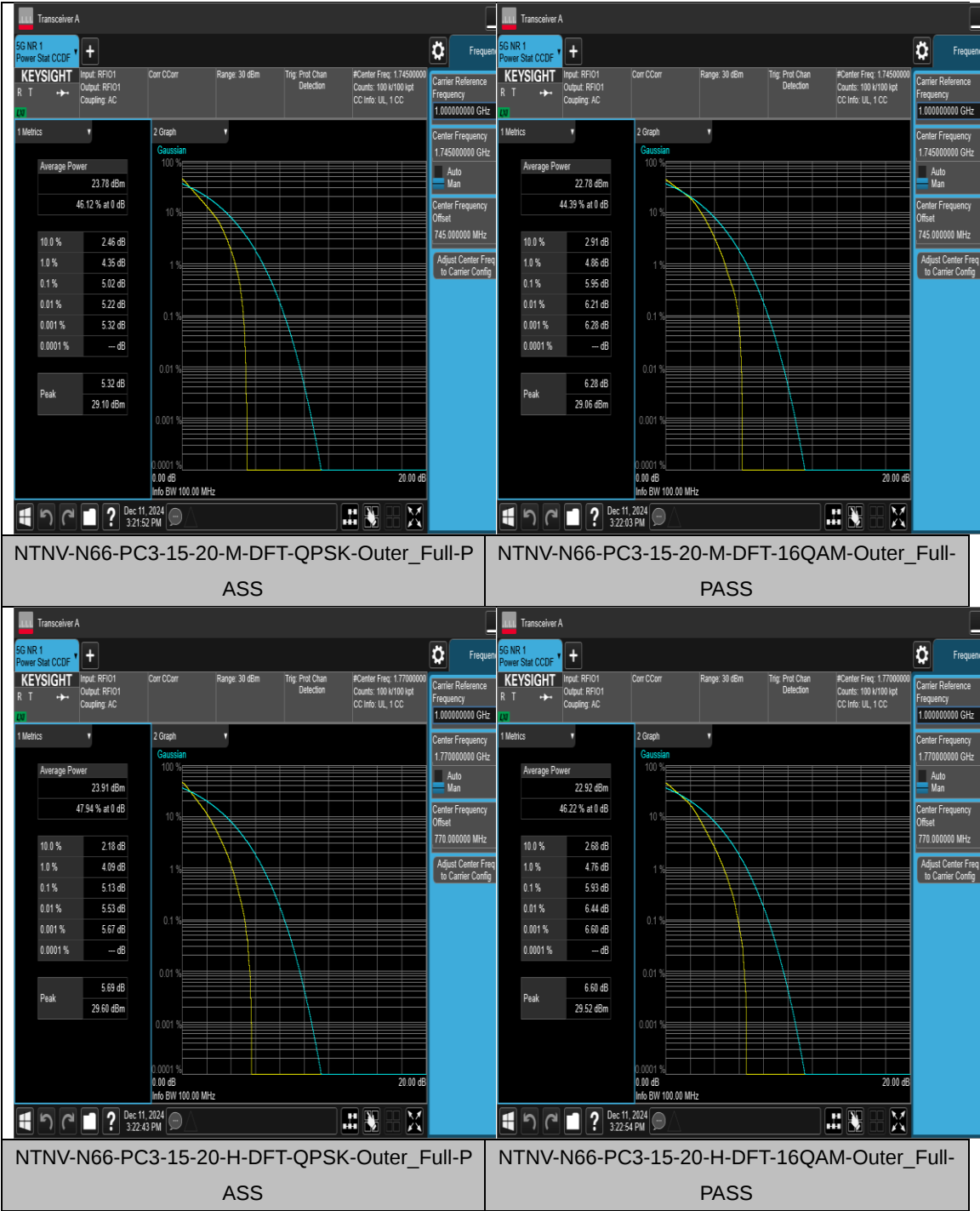


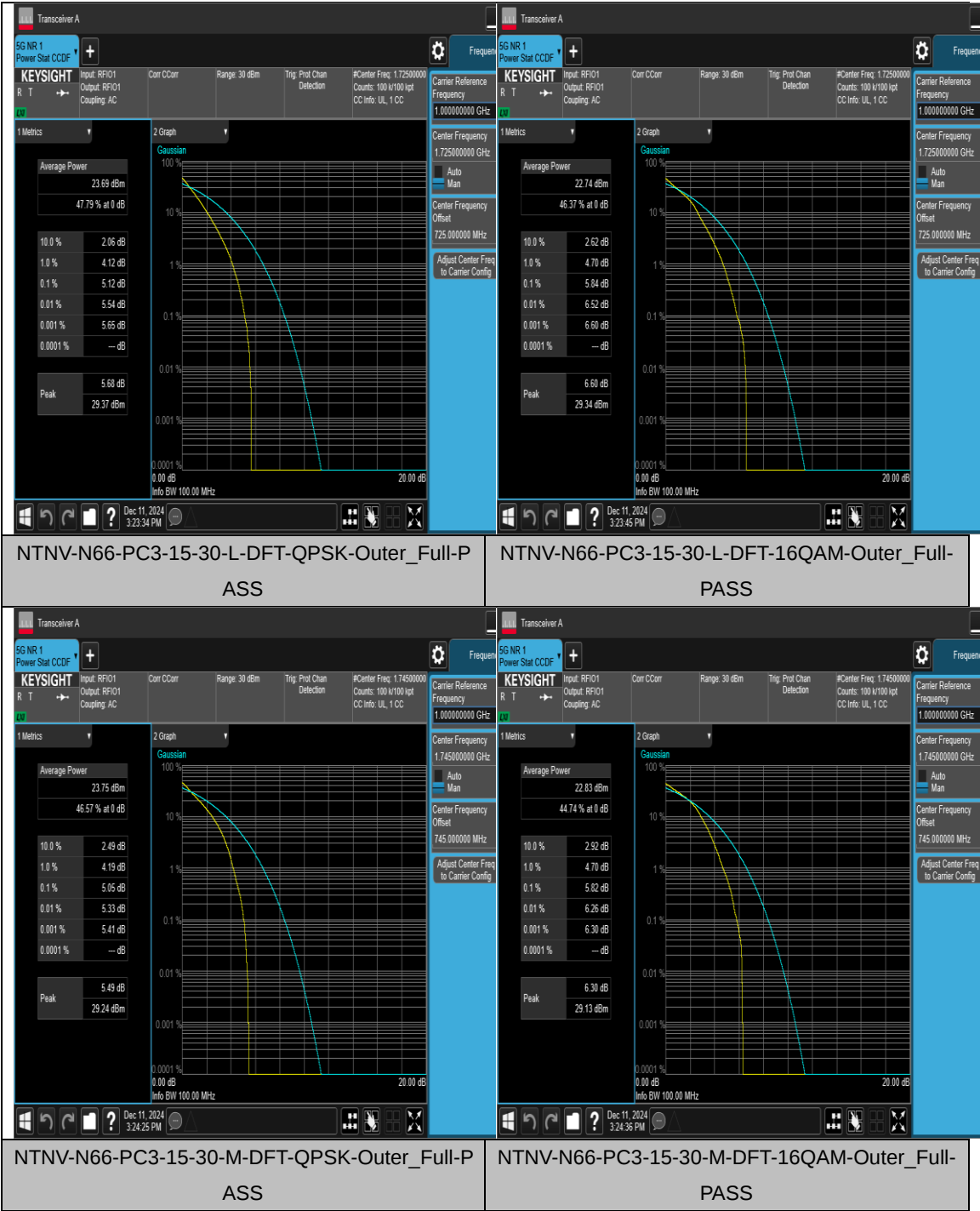


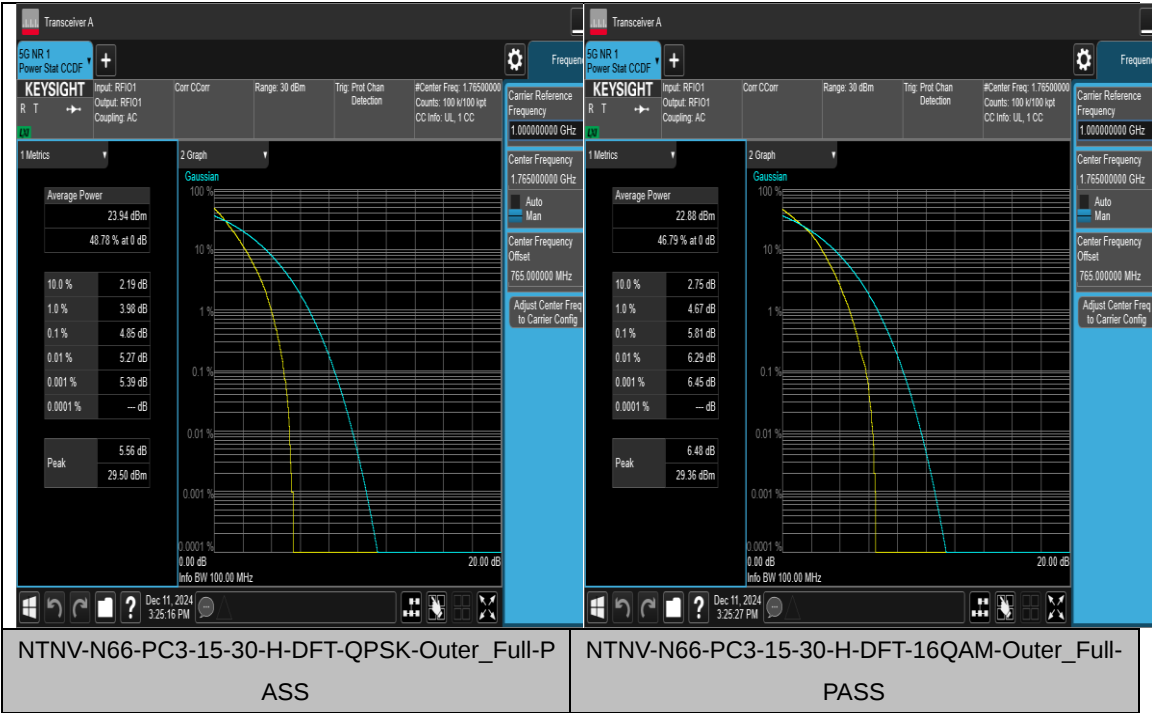










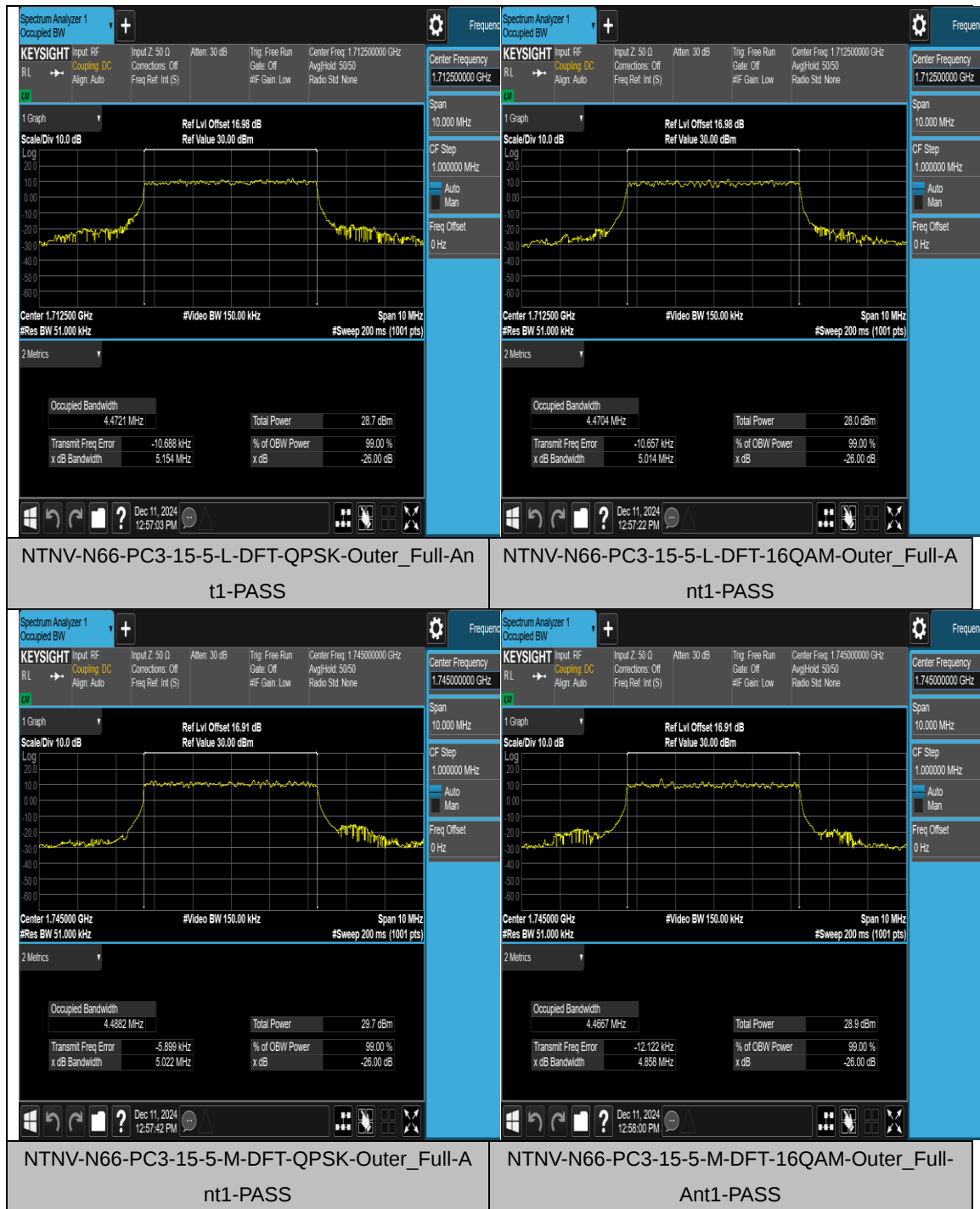


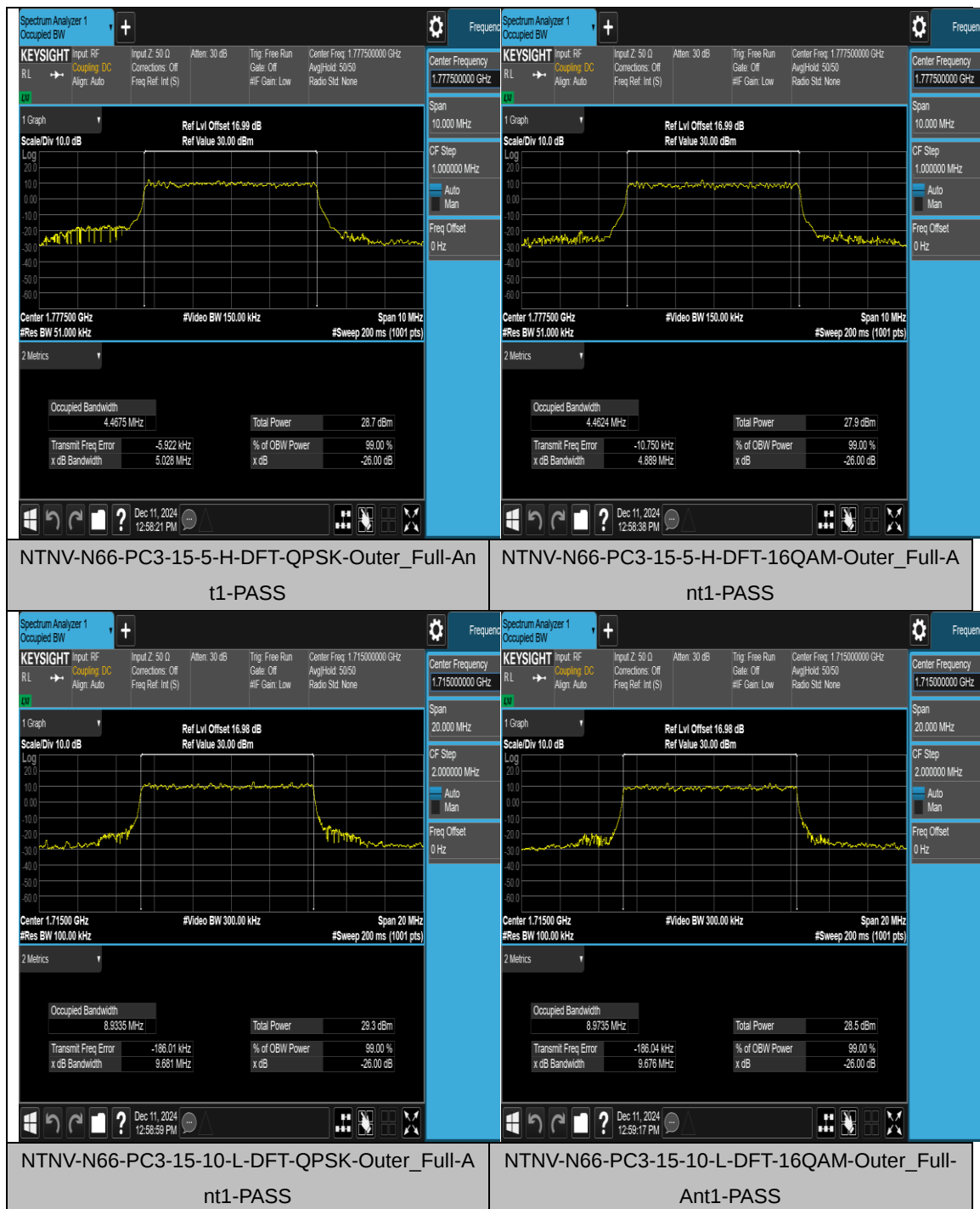
Appendix C: 26dB Bandwidth and Occupied Bandwidth for SA

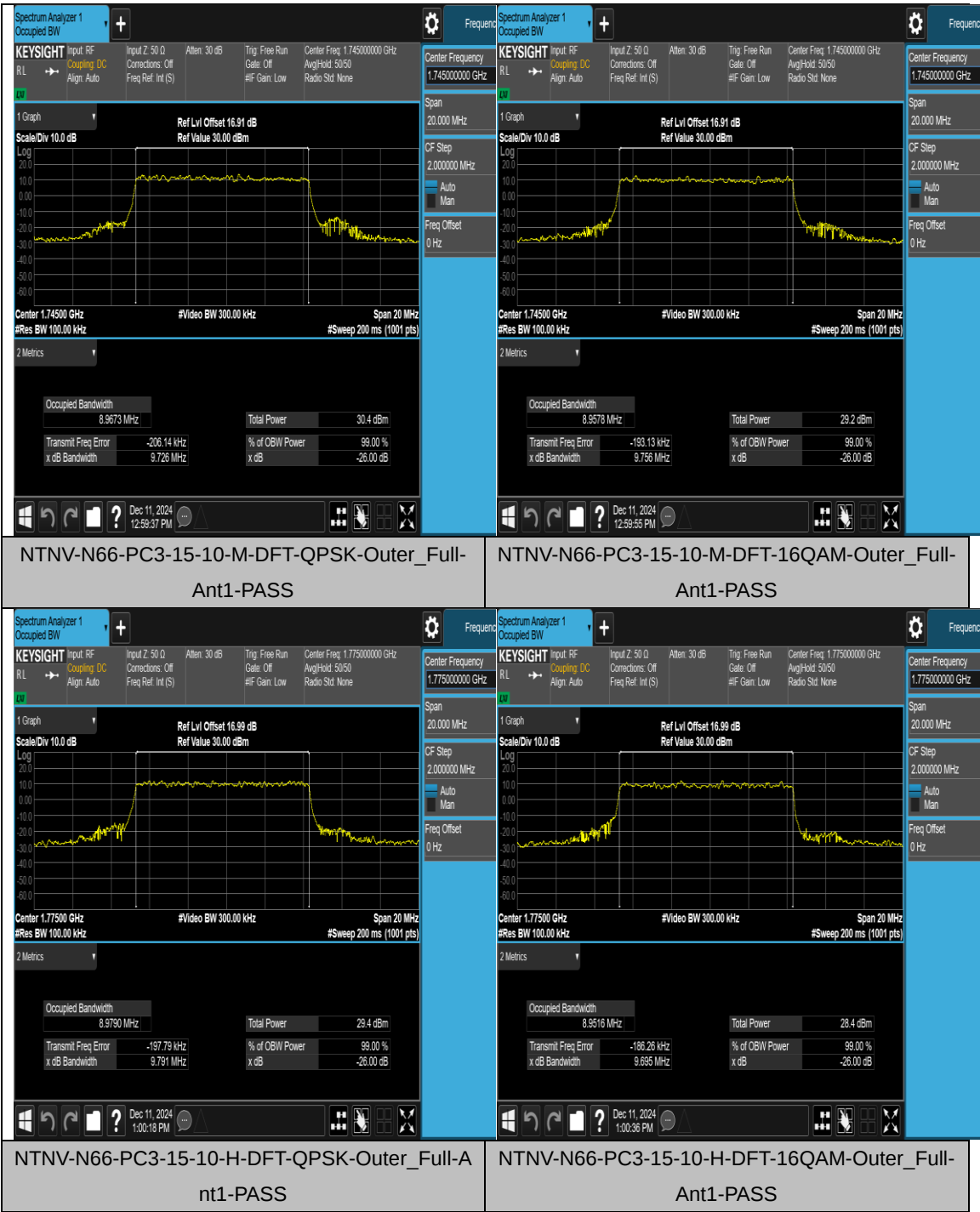
Test Result

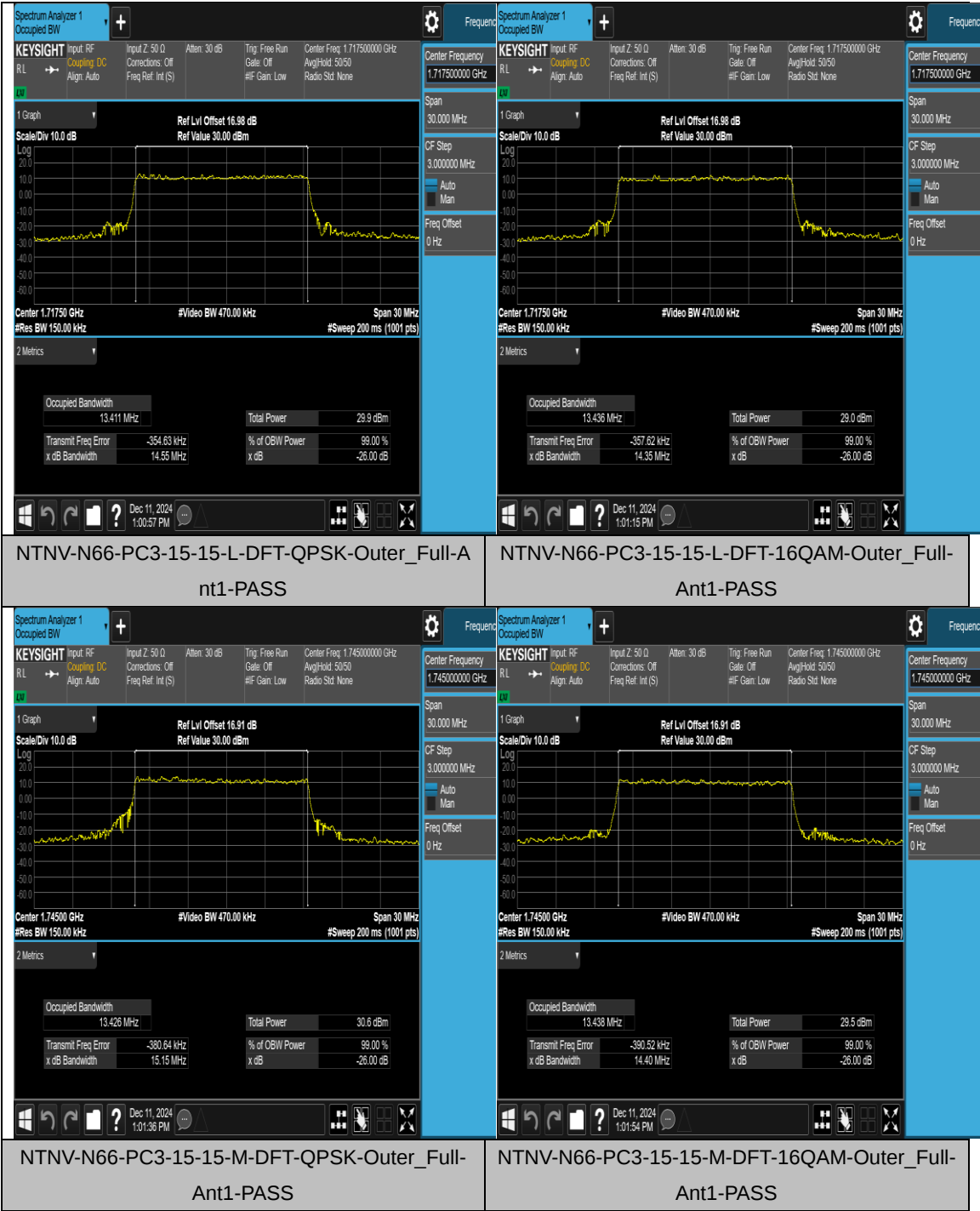
Band	SCS	Bandwidth	Modulation	Channel	RB Config	Result (99%)	Result (26dB)	Verdict
N66	15	5	DFT-QPSK	L	Outer_Full	4.4721	5.154	PASS
N66	15	5	DFT-16QAM	L	Outer_Full	4.4704	5.014	PASS
N66	15	5	DFT-QPSK	M	Outer_Full	4.4882	5.022	PASS
N66	15	5	DFT-16QAM	M	Outer_Full	4.4667	4.858	PASS
N66	15	5	DFT-QPSK	H	Outer_Full	4.4675	5.028	PASS
N66	15	5	DFT-16QAM	H	Outer_Full	4.4624	4.889	PASS
N66	15	10	DFT-QPSK	L	Outer_Full	8.9335	9.681	PASS
N66	15	10	DFT-16QAM	L	Outer_Full	8.9735	9.676	PASS
N66	15	10	DFT-QPSK	M	Outer_Full	8.9673	9.726	PASS
N66	15	10	DFT-16QAM	M	Outer_Full	8.9578	9.756	PASS
N66	15	10	DFT-QPSK	H	Outer_Full	8.9790	9.791	PASS
N66	15	10	DFT-16QAM	H	Outer_Full	8.9516	9.695	PASS
N66	15	15	DFT-QPSK	L	Outer_Full	13.411	14.55	PASS
N66	15	15	DFT-16QAM	L	Outer_Full	13.436	14.35	PASS
N66	15	15	DFT-QPSK	M	Outer_Full	13.426	15.15	PASS
N66	15	15	DFT-16QAM	M	Outer_Full	13.438	14.40	PASS
N66	15	15	DFT-QPSK	H	Outer_Full	13.438	14.83	PASS
N66	15	15	DFT-16QAM	H	Outer_Full	13.430	14.29	PASS
N66	15	20	DFT-QPSK	L	Outer_Full	17.883	19.14	PASS
N66	15	20	DFT-16QAM	L	Outer_Full	17.883	19.74	PASS
N66	15	20	DFT-QPSK	M	Outer_Full	17.928	19.75	PASS
N66	15	20	DFT-16QAM	M	Outer_Full	17.916	18.88	PASS
N66	15	20	DFT-QPSK	H	Outer_Full	17.873	19.20	PASS
N66	15	20	DFT-16QAM	H	Outer_Full	17.874	20.18	PASS
N66	15	30	DFT-QPSK	L	Outer_Full	28.522	29.96	PASS
N66	15	30	DFT-16QAM	L	Outer_Full	28.559	29.87	PASS
N66	15	30	DFT-QPSK	M	Outer_Full	28.611	31.63	PASS
N66	15	30	DFT-16QAM	M	Outer_Full	28.616	31.45	PASS
N66	15	30	DFT-QPSK	H	Outer_Full	28.600	31.42	PASS
N66	15	30	DFT-16QAM	H	Outer_Full	28.504	29.85	PASS

Test Graphs









Spectrum Analyzer 1

Occupied BW

KEYSIGHT

Input: RF

Input Z: 50 Ω

Atten: 30 dB

Trig: Free Run

Gate: Off

Center Freq: 1.717500000 GHz

Avg/Hold: 50/50

Radio Std: None

Ref Lvl Offset 16.98 dB

Ref Value 30.00 dBm

1 Graph

Scale/Div 10.0 dB

Log

Span 30.000 MHz

CF Step 3.000000 MHz

Auto

Man

Freq Offset 0 Hz

Center 1.71750 GHz

#Video BW 470.00 kHz

Span 30 MHz

#Res BW 150.00 kHz

#Sweep 200 ms (1001 pts)

2 Metrics

Occupied Bandwidth

13.436 MHz

Total Power

29.0 dBm

Transmit Freq Error

-367.62 kHz

% of OBW Power

99.00 %

x dB Bandwidth

14.35 MHz

x dB

-26.00 dB

Dec 11, 2024

1:01:15 PM

NTNV-N66-PC3-15-15-L-DFT-16QAM-Outer_Full-

Ant1-PASS

Spectrum Analyzer 1

Occupied BW

KEYSIGHT

Input: RF

Input Z: 50 Ω

Atten: 30 dB

Trig: Free Run

Gate: Off

Center Freq: 1.745000000 GHz

Avg/Hold: 50/50

Radio Std: None

Ref Lvl Offset 16.91 dB

Ref Value 30.00 dBm

1 Graph

Scale/Div 10.0 dB

Log

Span 30.000 MHz

CF Step 3.000000 MHz

Auto

Man

Freq Offset 0 Hz

Center 1.74500 GHz

#Video BW 470.00 kHz

Span 30 MHz

#Res BW 150.00 kHz

#Sweep 200 ms (1001 pts)

2 Metrics

Occupied Bandwidth

13.426 MHz

Total Power

30.6 dBm

Transmit Freq Error

-380.64 kHz

% of OBW Power

99.00 %

x dB Bandwidth

15.15 MHz

x dB

-26.00 dB

Dec 11, 2024

1:01:36 PM

NTNV-N66-PC3-15-15-M-DFT-QPSK-Outer_Full-

Ant1-PASS

Spectrum Analyzer 1

Occupied BW

KEYSIGHT

Input: RF

Input Z: 50 Ω

Atten: 30 dB

Trig: Free Run

Gate: Off

Center Freq: 1.745000000 GHz

Avg/Hold: 50/50

Radio Std: None

Ref Lvl Offset 16.91 dB

Ref Value 30.00 dBm

1 Graph

Scale/Div 10.0 dB

Log

Span 30.000 MHz

CF Step 3.000000 MHz

Auto

Man

Freq Offset 0 Hz

Center 1.74500 GHz

#Video BW 470.00 kHz

Span 30 MHz

#Res BW 150.00 kHz

#Sweep 200 ms (1001 pts)

2 Metrics

Occupied Bandwidth

13.438 MHz

Total Power

29.5 dBm

Transmit Freq Error

-390.52 kHz

% of OBW Power

99.00 %

x dB Bandwidth

14.40 MHz

x dB

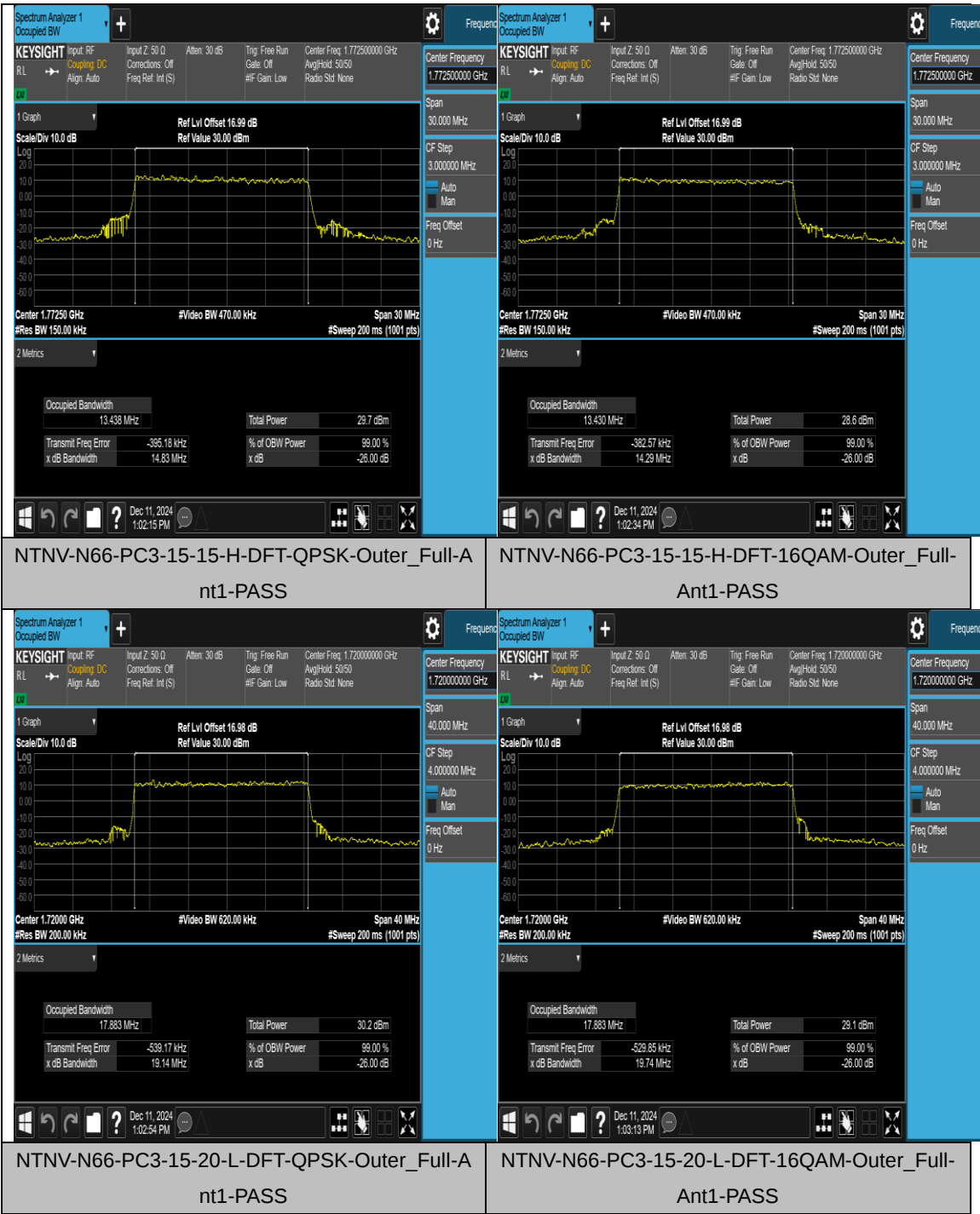
-26.00 dB

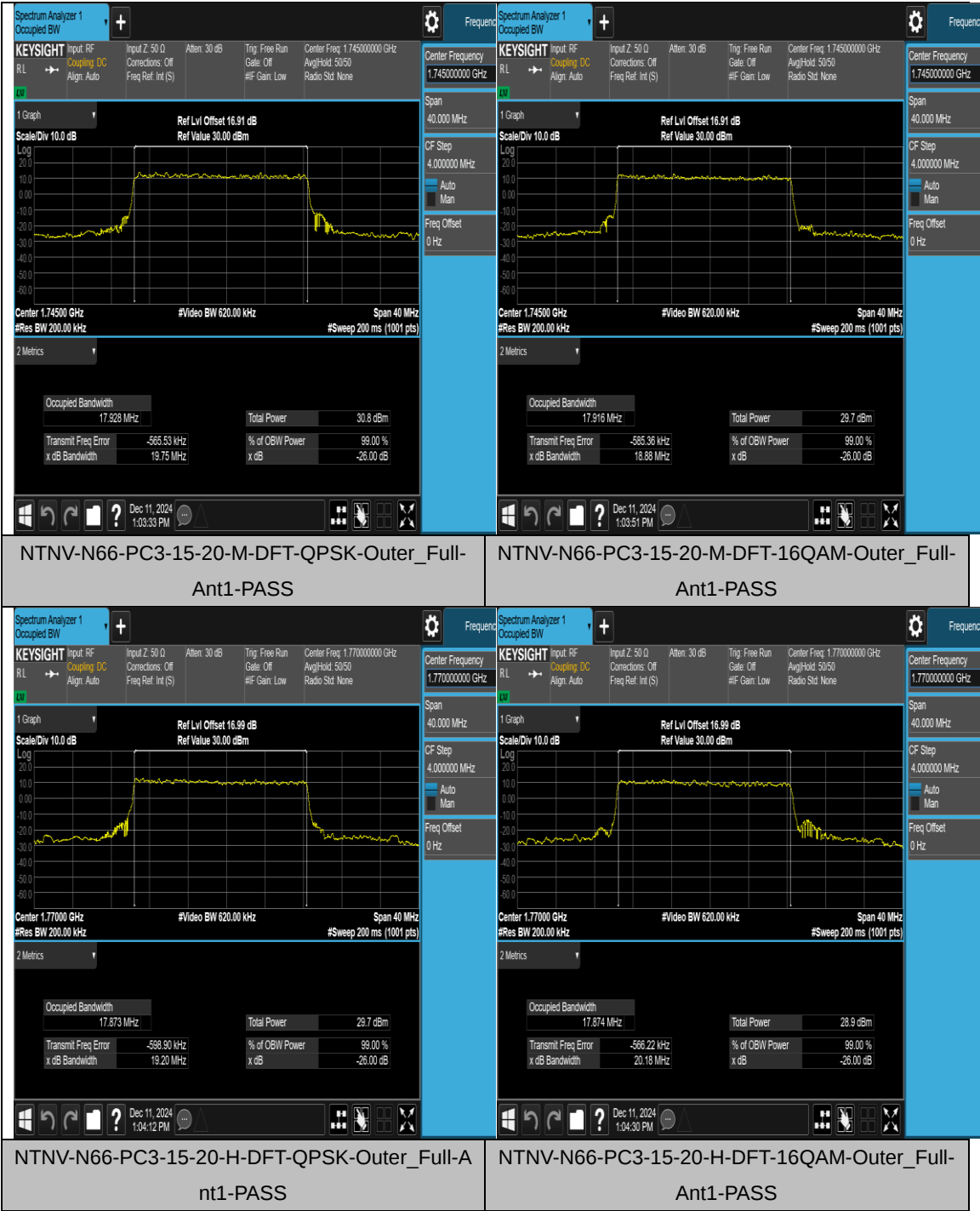
Dec 11, 2024

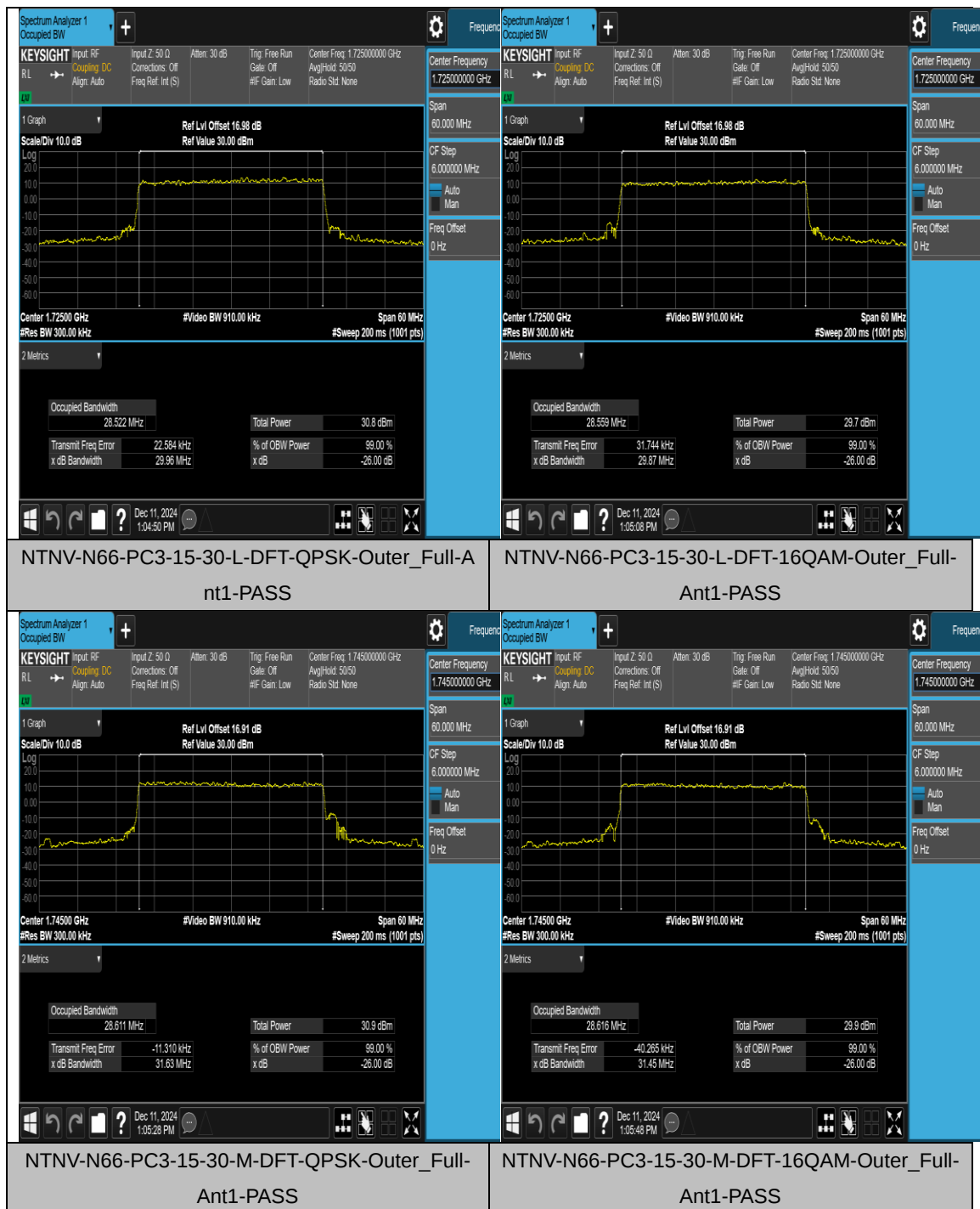
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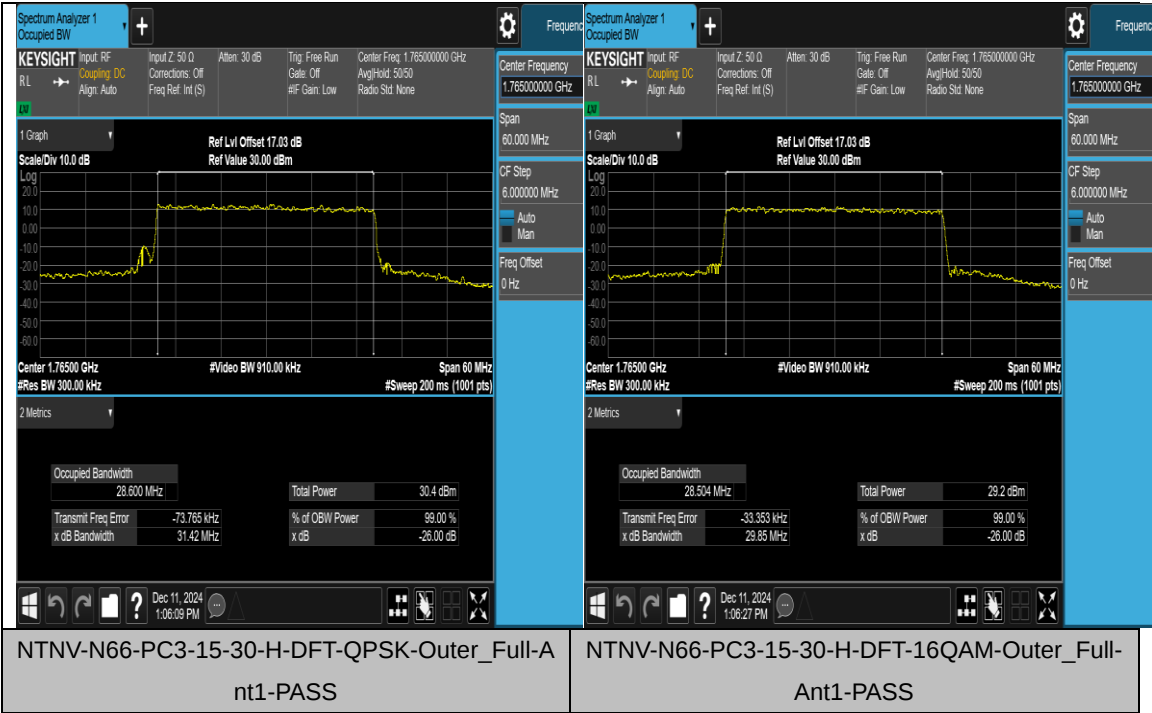
NTNV-N66-PC3-15-15-M-DFT-16QAM-Outer_Full-

Ant1-PASS









Appendix D: Band Edge for SA

Test Result

Band	SCS	Bandwidth	Modulation	Channel	RB Config	Result	Margin	Verdict
N66	15	5	DFT-QPSK	L	Outer_Full	-26.82	13.92	PASS
N66	15	5	DFT-QPSK	L	Edge_1RB_Left	-16.83	3.93	PASS
N66	15	5	DFT-QPSK	H	Outer_Full	-25.73	12.83	PASS
N66	15	5	DFT-QPSK	H	Edge_1RB_Right	-17.87	4.97	PASS
N66	15	10	DFT-QPSK	L	Outer_Full	-27.17	14.17	PASS
N66	15	10	DFT-QPSK	L	Edge_1RB_Left	-16.73	3.73	PASS
N66	15	10	DFT-QPSK	H	Outer_Full	-30.54	17.54	PASS
N66	15	10	DFT-QPSK	H	Edge_1RB_Right	-17.90	4.90	PASS
N66	15	15	DFT-QPSK	L	Outer_Full	-29.17	16.17	PASS
N66	15	15	DFT-QPSK	L	Edge_1RB_Left	-16.15	3.15	PASS
N66	15	15	DFT-QPSK	H	Outer_Full	-32.55	19.55	PASS
N66	15	15	DFT-QPSK	H	Edge_1RB_Right	-19.35	6.35	PASS
N66	15	20	DFT-QPSK	L	Outer_Full	-29.14	16.14	PASS
N66	15	20	DFT-QPSK	L	Edge_1RB_Left	-18.10	5.10	PASS
N66	15	20	DFT-QPSK	H	Outer_Full	-32.08	19.08	PASS
N66	15	20	DFT-QPSK	H	Edge_1RB_Right	-18.96	5.96	PASS
N66	15	30	DFT-QPSK	L	Outer_Full	-33.76	18.96	PASS
N66	15	30	DFT-QPSK	L	Edge_1RB_Left	-25.87	11.07	PASS
N66	15	30	DFT-QPSK	H	Outer_Full	-34.11	19.31	PASS
N66	15	30	DFT-QPSK	H	Edge_1RB_Right	-25.50	10.70	PASS

Test Graphs

