

Appendix for N13

Product Name: 5G Indoor CPE

Model No: TITAN 5000

Appendix A: Average Power Output Data

Test Result

Band	SCS	Bandwidth	Modulation	Channel	RB Config	Power (dBm)	Power Class	Verdict
N13	15	5	DFT-QPSK	L	Outer_Full	23.04	PC3	PASS
N13	15	5	DFT-QPSK	L	Inner_Full	23.04	PC3	PASS
N13	15	5	DFT-QPSK	L	Edge_1RB_Left	23.17	PC3	PASS
N13	15	5	DFT-QPSK	L	Edge_1RB_Right	23.08	PC3	PASS
N13	15	5	DFT-16QAM	L	Outer_Full	22.09	PC3	PASS
N13	15	5	DFT-16QAM	L	Inner_Full	23.07	PC3	PASS
N13	15	5	DFT-16QAM	L	Edge_1RB_Left	22.26	PC3	PASS
N13	15	5	DFT-16QAM	L	Edge_1RB_Right	22.04	PC3	PASS
N13	15	5	DFT-QPSK	M	Outer_Full	23.18	PC3	PASS
N13	15	5	DFT-QPSK	M	Inner_Full	23.24	PC3	PASS
N13	15	5	DFT-QPSK	M	Edge_1RB_Left	23.22	PC3	PASS
N13	15	5	DFT-QPSK	M	Edge_1RB_Right	23.21	PC3	PASS
N13	15	5	DFT-16QAM	M	Outer_Full	22.14	PC3	PASS
N13	15	5	DFT-16QAM	M	Inner_Full	23.01	PC3	PASS
N13	15	5	DFT-16QAM	M	Edge_1RB_Left	22.25	PC3	PASS
N13	15	5	DFT-16QAM	M	Edge_1RB_Right	22.24	PC3	PASS
N13	15	5	DFT-QPSK	H	Outer_Full	23.22	PC3	PASS
N13	15	5	DFT-QPSK	H	Inner_Full	23.17	PC3	PASS
N13	15	5	DFT-QPSK	H	Edge_1RB_Left	23.08	PC3	PASS
N13	15	5	DFT-QPSK	H	Edge_1RB_Right	22.99	PC3	PASS
N13	15	5	DFT-16QAM	H	Outer_Full	22.30	PC3	PASS
N13	15	5	DFT-16QAM	H	Inner_Full	23.25	PC3	PASS
N13	15	5	DFT-16QAM	H	Edge_1RB_Left	22.16	PC3	PASS
N13	15	5	DFT-16QAM	H	Edge_1RB_Right	22.07	PC3	PASS
N13	15	10	DFT-QPSK	M	Outer_Full	23.22	PC3	PASS
N13	15	10	DFT-QPSK	M	Inner_Full	23.14	PC3	PASS
N13	15	10	DFT-QPSK	M	Edge_1RB_Left	23.26	PC3	PASS
N13	15	10	DFT-QPSK	M	Edge_1RB_Right	22.99	PC3	PASS
N13	15	10	DFT-16QAM	M	Outer_Full	22.34	PC3	PASS
N13	15	10	DFT-16QAM	M	Inner_Full	23.16	PC3	PASS
N13	15	10	DFT-16QAM	M	Edge_1RB_Left	22.15	PC3	PASS
N13	15	10	DFT-16QAM	M	Edge_1RB_Right	21.85	PC3	PASS

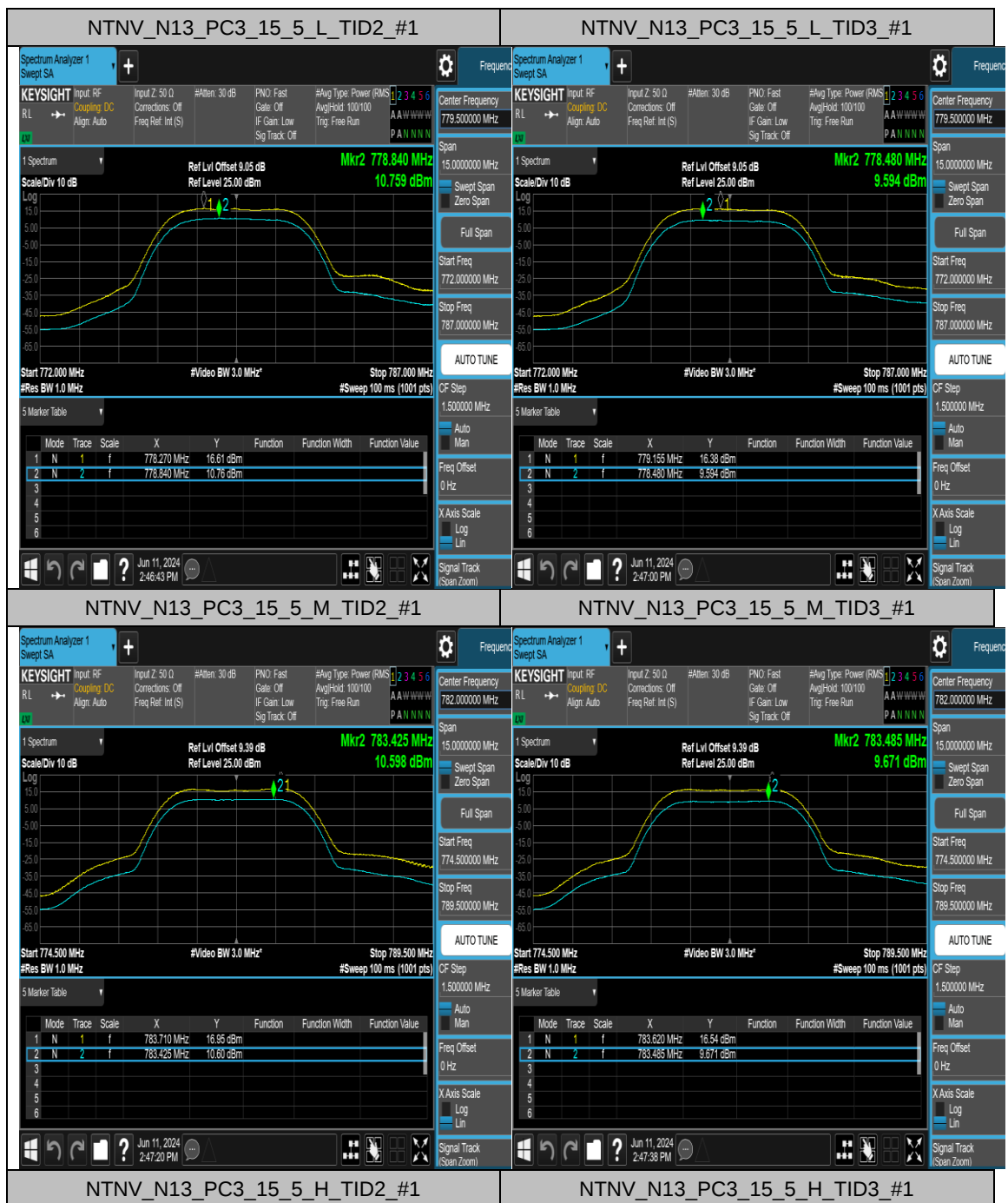
Appendix B: Peak-to-Average Ratio for SA

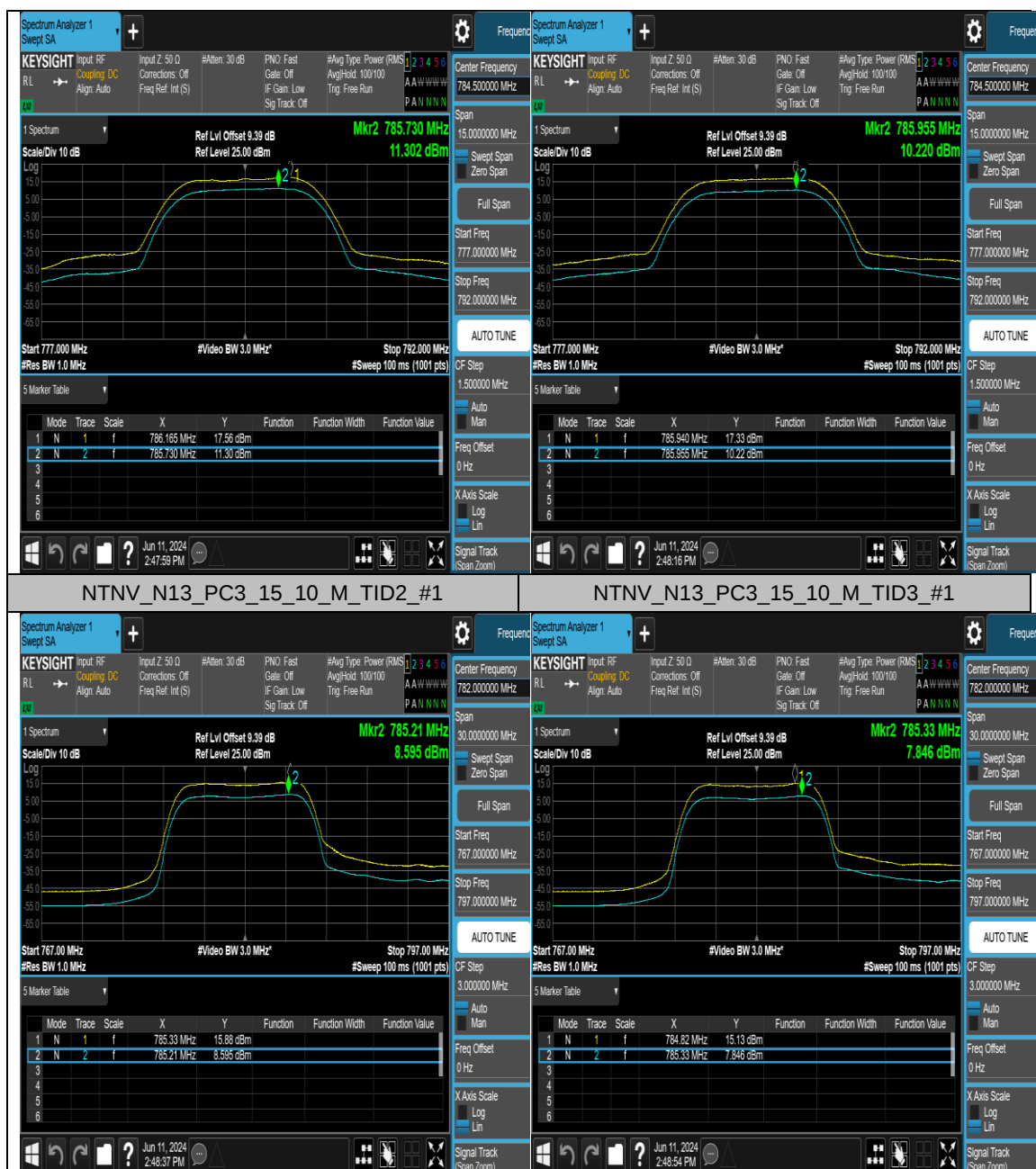
Peak-to-Average Ratio(PAPR)

Test Result

Band	SCS	Bandwidth	Modulation	Channel	RB Config	DutyCycle	Factor	Result	Limit	Verdict
N13	15	5	DFT-QPSK	L	Outer_Full	100%	0.00	5.85	≤13	PASS
N13	15	5	DFT-16QAM	L	Outer_Full	100%	0.00	6.79	≤13	PASS
N13	15	5	DFT-QPSK	M	Outer_Full	100%	0.00	6.35	≤13	PASS
N13	15	5	DFT-16QAM	M	Outer_Full	100%	0.00	6.87	≤13	PASS
N13	15	5	DFT-QPSK	H	Outer_Full	100%	0.00	6.26	≤13	PASS
N13	15	5	DFT-16QAM	H	Outer_Full	100%	0.00	7.11	≤13	PASS
N13	15	10	DFT-QPSK	M	Outer_Full	100%	0.00	7.28	≤13	PASS
N13	15	10	DFT-16QAM	M	Outer_Full	100%	0.00	7.28	≤13	PASS

Test Graphs



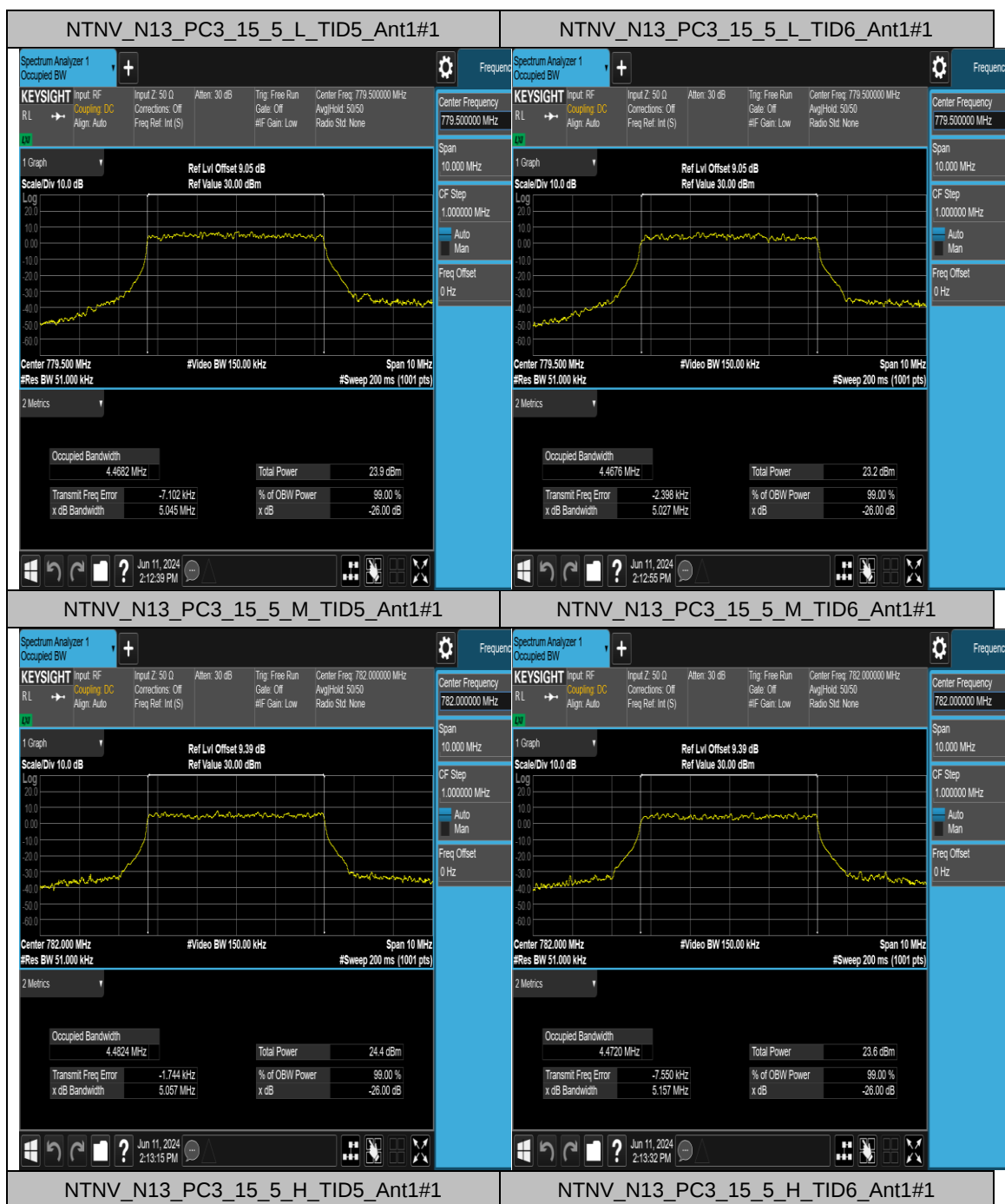


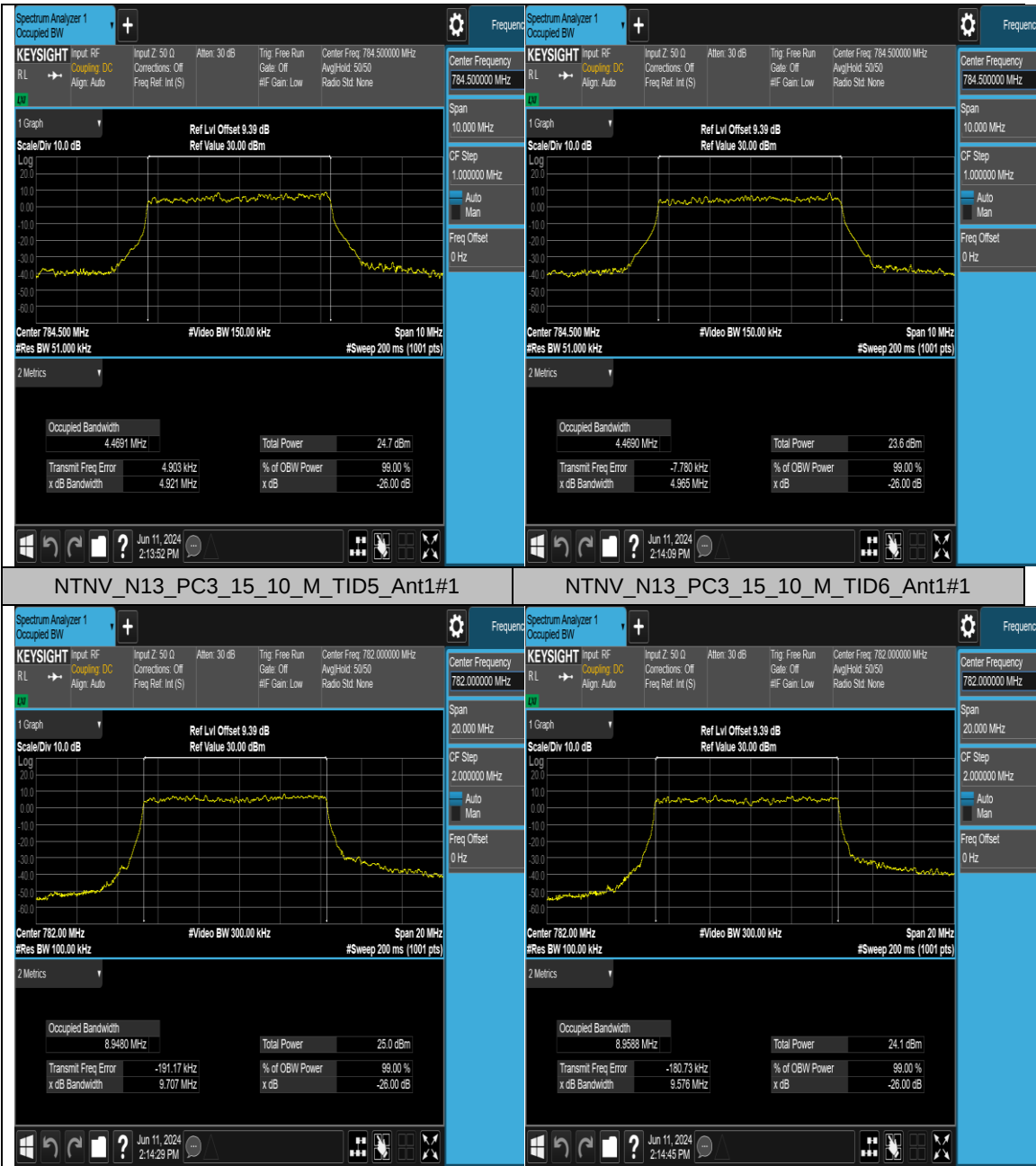
Appendix C: 26dB Bandwidth and Occupied Bandwidth for SA

Test Result

Band	SCS	Bandwidth	Modulation	Channel	RB Config	Result (99%)	Result (26dB)	Verdict
N13	15	5	DFT-QPSK	L	Outer_Full	4.4682	5.045	PASS
N13	15	5	DFT-16QAM	L	Outer_Full	4.4676	5.027	PASS
N13	15	5	DFT-QPSK	M	Outer_Full	4.4824	5.057	PASS
N13	15	5	DFT-16QAM	M	Outer_Full	4.4720	5.157	PASS
N13	15	5	DFT-QPSK	H	Outer_Full	4.4691	4.921	PASS
N13	15	5	DFT-16QAM	H	Outer_Full	4.4690	4.965	PASS
N13	15	10	DFT-QPSK	M	Outer_Full	8.9480	9.707	PASS
N13	15	10	DFT-16QAM	M	Outer_Full	8.9588	9.576	PASS

Test Graphs



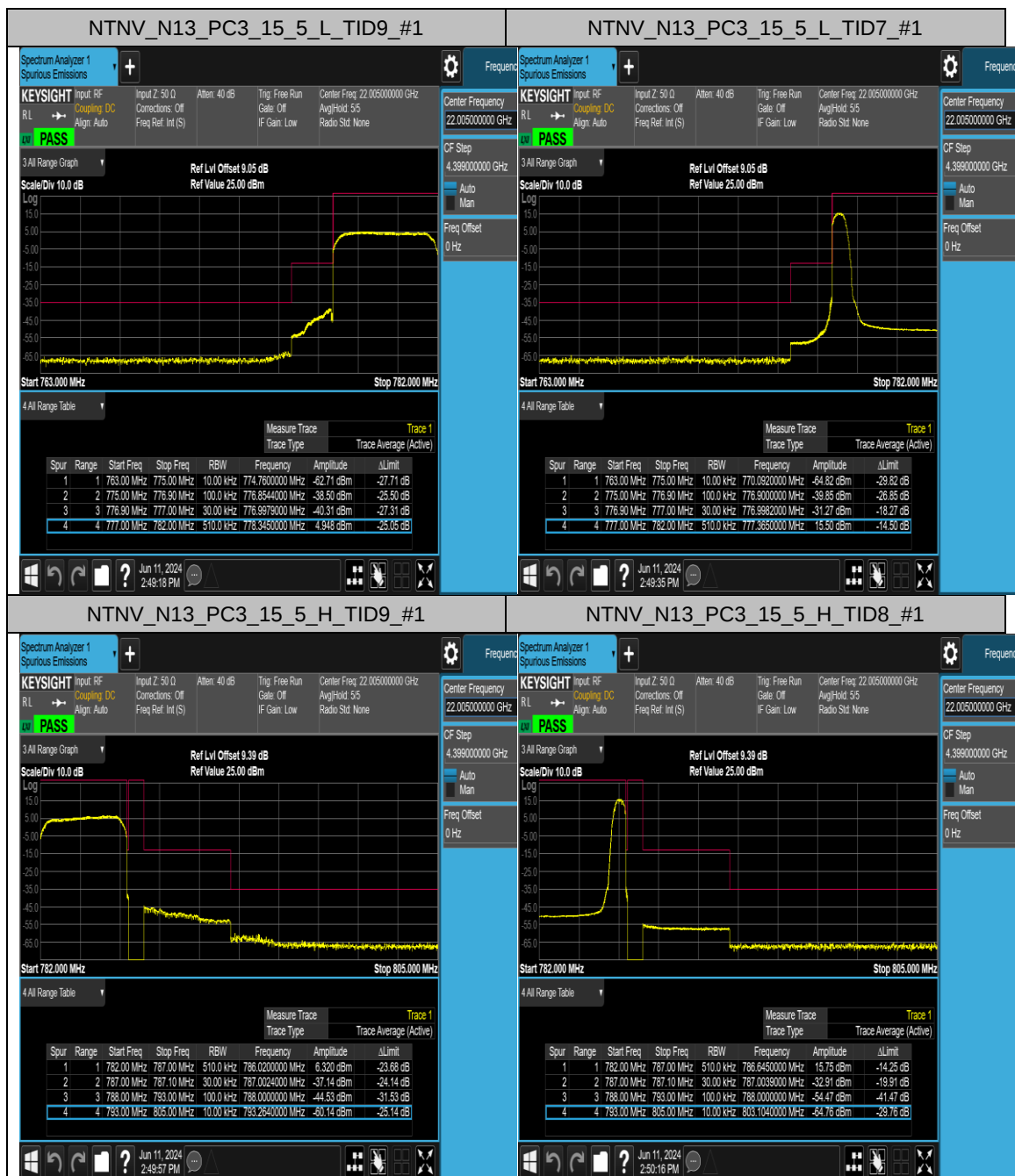


Appendix D: Band Edge for SA

Test Result

Band	SCS	Bandwidth	Modulation	Channel	RB Config	Verdict
N13	15	5	DFT-QPSK	L	Outer_Full	PASS
N13	15	5	DFT-QPSK	L	Edge_1RB_Left	PASS
N13	15	5	DFT-QPSK	H	Outer_Full	PASS
N13	15	5	DFT-QPSK	H	Edge_1RB_Right	PASS

Test Graphs



Appendix E: Conducted Spurious Emission for SA

Test Result

Band	SCS	Bandwidth	Modulation	Channel	RB Config	StartFreq	StopFreq	Result	Limit	Verdict
N13	15	5	DFT-QPSK	L	Outer_Full	0.009	0.15	-62.73	-33	PASS
N13	15	5	DFT-QPSK	L	Outer_Full	0.15	30	-72.46	-23	PASS
N13	15	5	DFT-QPSK	L	Outer_Full	30	1000	-52.15	-13	PASS
N13	15	5	DFT-QPSK	L	Outer_Full	1000	3000	-36.53	-13	PASS
N13	15	5	DFT-QPSK	L	Outer_Full	3000	12000	-43.89	-13	PASS
N13	15	5	DFT-QPSK	L	Outer_Full	12000	20000	-45.37	-13	PASS
N13	15	5	DFT-QPSK	L	Edge_1RB_Left	0.009	0.15	-63.14	-33	PASS
N13	15	5	DFT-QPSK	L	Edge_1RB_Left	0.15	30	-72.46	-23	PASS
N13	15	5	DFT-QPSK	L	Edge_1RB_Left	30	1000	-52.29	-13	PASS
N13	15	5	DFT-QPSK	L	Edge_1RB_Left	1000	3000	-36.53	-13	PASS
N13	15	5	DFT-QPSK	L	Edge_1RB_Left	3000	12000	-43.90	-13	PASS
N13	15	5	DFT-QPSK	L	Edge_1RB_Left	12000	20000	-45.32	-13	PASS
N13	15	5	DFT-QPSK	L	Edge_1RB_Right	0.009	0.15	-63.40	-33	PASS
N13	15	5	DFT-QPSK	L	Edge_1RB_Right	0.15	30	-72.38	-23	PASS
N13	15	5	DFT-QPSK	L	Edge_1RB_Right	30	1000	-52.29	-13	PASS
N13	15	5	DFT-QPSK	L	Edge_1RB_Right	1000	3000	-36.50	-13	PASS
N13	15	5	DFT-QPSK	L	Edge_1RB_Right	3000	12000	-44.17	-13	PASS
N13	15	5	DFT-QPSK	L	Edge_1RB_Right	12000	20000	-45.14	-13	PASS
N13	15	5	DFT-16QAM	L	Outer_Full	0.009	0.15	-62.06	-33	PASS
N13	15	5	DFT-16QAM	L	Outer_Full	0.15	30	-72.44	-23	PASS
N13	15	5	DFT-16QAM	L	Outer_Full	30	1000	-51.99	-13	PASS
N13	15	5	DFT-16QAM	L	Outer_Full	1000	3000	-36.58	-13	PASS
N13	15	5	DFT-16QAM	L	Outer_Full	3000	12000	-44.10	-13	PASS
N13	15	5	DFT-16QAM	L	Outer_Full	12000	20000	-45.40	-13	PASS
N13	15	5	DFT-16QAM	L	Edge_1RB_Left	0.009	0.15	-62.33	-33	PASS
N13	15	5	DFT-16QAM	L	Edge_1RB_Left	0.15	30	-71.17	-23	PASS
N13	15	5	DFT-16QAM	L	Edge_1RB_Left	30	1000	-52.04	-13	PASS
N13	15	5	DFT-16QAM	L	Edge_1RB_Left	1000	3000	-36.58	-13	PASS
N13	15	5	DFT-16QAM	L	Edge_1RB_Left	3000	12000	-44.15	-13	PASS
N13	15	5	DFT-16QAM	L	Edge_1RB_Left	12000	20000	-45.32	-13	PASS
N13	15	5	DFT-16QAM	L	Edge_1RB_Right	0.009	0.15	-62.51	-33	PASS
N13	15	5	DFT-16QAM	L	Edge_1RB_Right	0.15	30	-72.61	-23	PASS
N13	15	5	DFT-16QAM	L	Edge_1RB_Right	30	1000	-52.11	-13	PASS
N13	15	5	DFT-16QAM	L	Edge_1RB_Right	1000	3000	-36.52	-13	PASS
N13	15	5	DFT-16QAM	L	Edge_1RB_Right	3000	12000	-44.18	-13	PASS

N13	15	5	DFT-16QAM	L	Edge_1RB_Right	12000	20000	-45.33	-13	PASS
N13	15	5	DFT-QPSK	M	Outer_Full	0.009	0.15	-61.83	-33	PASS
N13	15	5	DFT-QPSK	M	Outer_Full	0.15	30	-72.33	-23	PASS
N13	15	5	DFT-QPSK	M	Outer_Full	30	1000	-52.13	-13	PASS
N13	15	5	DFT-QPSK	M	Outer_Full	1000	3000	-36.49	-13	PASS
N13	15	5	DFT-QPSK	M	Outer_Full	3000	12000	-44.03	-13	PASS
N13	15	5	DFT-QPSK	M	Outer_Full	12000	20000	-45.43	-13	PASS
N13	15	5	DFT-QPSK	M	Edge_1RB_Left	0.009	0.15	-62.91	-33	PASS
N13	15	5	DFT-QPSK	M	Edge_1RB_Left	0.15	30	-71.33	-23	PASS
N13	15	5	DFT-QPSK	M	Edge_1RB_Left	30	1000	-52.03	-13	PASS
N13	15	5	DFT-QPSK	M	Edge_1RB_Left	1000	3000	-36.57	-13	PASS
N13	15	5	DFT-QPSK	M	Edge_1RB_Left	3000	12000	-44.19	-13	PASS
N13	15	5	DFT-QPSK	M	Edge_1RB_Left	12000	20000	-45.49	-13	PASS
N13	15	5	DFT-QPSK	M	Edge_1RB_Right	0.009	0.15	-62.51	-33	PASS
N13	15	5	DFT-QPSK	M	Edge_1RB_Right	0.15	30	-71.71	-23	PASS
N13	15	5	DFT-QPSK	M	Edge_1RB_Right	30	1000	-52.47	-13	PASS
N13	15	5	DFT-QPSK	M	Edge_1RB_Right	1000	3000	-36.47	-13	PASS
N13	15	5	DFT-QPSK	M	Edge_1RB_Right	3000	12000	-43.99	-13	PASS
N13	15	5	DFT-QPSK	M	Edge_1RB_Right	12000	20000	-45.37	-13	PASS
N13	15	5	DFT-16QAM	M	Outer_Full	0.009	0.15	-62.85	-33	PASS
N13	15	5	DFT-16QAM	M	Outer_Full	0.15	30	-73.07	-23	PASS
N13	15	5	DFT-16QAM	M	Outer_Full	30	1000	-52.23	-13	PASS
N13	15	5	DFT-16QAM	M	Outer_Full	1000	3000	-36.60	-13	PASS
N13	15	5	DFT-16QAM	M	Outer_Full	3000	12000	-44.21	-13	PASS
N13	15	5	DFT-16QAM	M	Outer_Full	12000	20000	-45.46	-13	PASS
N13	15	5	DFT-16QAM	M	Edge_1RB_Left	0.009	0.15	-61.41	-33	PASS
N13	15	5	DFT-16QAM	M	Edge_1RB_Left	0.15	30	-71.66	-23	PASS
N13	15	5	DFT-16QAM	M	Edge_1RB_Left	30	1000	-52.41	-13	PASS
N13	15	5	DFT-16QAM	M	Edge_1RB_Left	1000	3000	-36.62	-13	PASS
N13	15	5	DFT-16QAM	M	Edge_1RB_Left	3000	12000	-43.99	-13	PASS
N13	15	5	DFT-16QAM	M	Edge_1RB_Left	12000	20000	-45.41	-13	PASS
N13	15	5	DFT-16QAM	M	Edge_1RB_Right	0.009	0.15	-62.22	-33	PASS
N13	15	5	DFT-16QAM	M	Edge_1RB_Right	0.15	30	-71.51	-23	PASS
N13	15	5	DFT-16QAM	M	Edge_1RB_Right	30	1000	-52.31	-13	PASS
N13	15	5	DFT-16QAM	M	Edge_1RB_Right	1000	3000	-36.53	-13	PASS
N13	15	5	DFT-16QAM	M	Edge_1RB_Right	3000	12000	-43.94	-13	PASS
N13	15	5	DFT-16QAM	M	Edge_1RB_Right	12000	20000	-45.37	-13	PASS
N13	15	5	DFT-QPSK	H	Outer_Full	0.009	0.15	-62.92	-33	PASS
N13	15	5	DFT-QPSK	H	Outer_Full	0.15	30	-72.70	-23	PASS
N13	15	5	DFT-QPSK	H	Outer_Full	30	1000	-52.42	-13	PASS
N13	15	5	DFT-QPSK	H	Outer_Full	1000	3000	-36.48	-13	PASS
N13	15	5	DFT-QPSK	H	Outer_Full	3000	12000	-44.19	-13	PASS

N13	15	5	DFT-QPSK	H	Outer_Full	12000	20000	-45.45	-13	PASS
N13	15	5	DFT-QPSK	H	Edge_1RB_Left	0.009	0.15	-62.30	-33	PASS
N13	15	5	DFT-QPSK	H	Edge_1RB_Left	0.15	30	-72.69	-23	PASS
N13	15	5	DFT-QPSK	H	Edge_1RB_Left	30	1000	-52.16	-13	PASS
N13	15	5	DFT-QPSK	H	Edge_1RB_Left	1000	3000	-36.59	-13	PASS
N13	15	5	DFT-QPSK	H	Edge_1RB_Left	3000	12000	-44.02	-13	PASS
N13	15	5	DFT-QPSK	H	Edge_1RB_Left	12000	20000	-45.30	-13	PASS
N13	15	5	DFT-QPSK	H	Edge_1RB_Right	0.009	0.15	-62.80	-33	PASS
N13	15	5	DFT-QPSK	H	Edge_1RB_Right	0.15	30	-72.40	-23	PASS
N13	15	5	DFT-QPSK	H	Edge_1RB_Right	30	1000	-52.41	-13	PASS
N13	15	5	DFT-QPSK	H	Edge_1RB_Right	1000	3000	-36.57	-13	PASS
N13	15	5	DFT-QPSK	H	Edge_1RB_Right	3000	12000	-44.08	-13	PASS
N13	15	5	DFT-QPSK	H	Edge_1RB_Right	12000	20000	-45.42	-13	PASS
N13	15	5	DFT-16QAM	H	Outer_Full	0.009	0.15	-62.98	-33	PASS
N13	15	5	DFT-16QAM	H	Outer_Full	0.15	30	-72.64	-23	PASS
N13	15	5	DFT-16QAM	H	Outer_Full	30	1000	-52.25	-13	PASS
N13	15	5	DFT-16QAM	H	Outer_Full	1000	3000	-36.61	-13	PASS
N13	15	5	DFT-16QAM	H	Outer_Full	3000	12000	-44.14	-13	PASS
N13	15	5	DFT-16QAM	H	Outer_Full	12000	20000	-45.37	-13	PASS
N13	15	5	DFT-16QAM	H	Edge_1RB_Left	0.009	0.15	-62.58	-33	PASS
N13	15	5	DFT-16QAM	H	Edge_1RB_Left	0.15	30	-72.60	-23	PASS
N13	15	5	DFT-16QAM	H	Edge_1RB_Left	30	1000	-52.36	-13	PASS
N13	15	5	DFT-16QAM	H	Edge_1RB_Left	1000	3000	-36.57	-13	PASS
N13	15	5	DFT-16QAM	H	Edge_1RB_Left	3000	12000	-44.17	-13	PASS
N13	15	5	DFT-16QAM	H	Edge_1RB_Left	12000	20000	-45.39	-13	PASS
N13	15	5	DFT-16QAM	H	Edge_1RB_Right	0.009	0.15	-62.32	-33	PASS
N13	15	5	DFT-16QAM	H	Edge_1RB_Right	0.15	30	-72.93	-23	PASS
N13	15	5	DFT-16QAM	H	Edge_1RB_Right	30	1000	-52.18	-13	PASS
N13	15	5	DFT-16QAM	H	Edge_1RB_Right	1000	3000	-36.56	-13	PASS
N13	15	5	DFT-16QAM	H	Edge_1RB_Right	3000	12000	-44.00	-13	PASS
N13	15	5	DFT-16QAM	H	Edge_1RB_Right	12000	20000	-45.30	-13	PASS
N13	15	10	DFT-QPSK	M	Outer_Full	0.009	0.15	-61.59	-33	PASS
N13	15	10	DFT-QPSK	M	Outer_Full	0.15	30	-73.57	-23	PASS
N13	15	10	DFT-QPSK	M	Outer_Full	30	1000	-52.05	-13	PASS
N13	15	10	DFT-QPSK	M	Outer_Full	1000	3000	-36.53	-13	PASS
N13	15	10	DFT-QPSK	M	Outer_Full	3000	12000	-44.18	-13	PASS
N13	15	10	DFT-QPSK	M	Outer_Full	12000	20000	-45.31	-13	PASS
N13	15	10	DFT-QPSK	M	Edge_1RB_Left	0.009	0.15	-63.02	-33	PASS
N13	15	10	DFT-QPSK	M	Edge_1RB_Left	0.15	30	-70.76	-23	PASS
N13	15	10	DFT-QPSK	M	Edge_1RB_Left	30	1000	-51.72	-13	PASS
N13	15	10	DFT-QPSK	M	Edge_1RB_Left	1000	3000	-36.58	-13	PASS
N13	15	10	DFT-QPSK	M	Edge_1RB_Left	3000	12000	-44.04	-13	PASS

N13	15	10	DFT-QPSK	M	Edge_1RB_Left	12000	20000	-45.50	-13	PASS
N13	15	10	DFT-QPSK	M	Edge_1RB_Right	0.009	0.15	-61.96	-33	PASS
N13	15	10	DFT-QPSK	M	Edge_1RB_Right	0.15	30	-70.83	-23	PASS
N13	15	10	DFT-QPSK	M	Edge_1RB_Right	30	1000	-52.35	-13	PASS
N13	15	10	DFT-QPSK	M	Edge_1RB_Right	1000	3000	-36.57	-13	PASS
N13	15	10	DFT-QPSK	M	Edge_1RB_Right	3000	12000	-44.10	-13	PASS
N13	15	10	DFT-QPSK	M	Edge_1RB_Right	12000	20000	-45.29	-13	PASS
N13	15	10	DFT-16QAM	M	Outer_Full	0.009	0.15	-62.91	-33	PASS
N13	15	10	DFT-16QAM	M	Outer_Full	0.15	30	-72.23	-23	PASS
N13	15	10	DFT-16QAM	M	Outer_Full	30	1000	-52.22	-13	PASS
N13	15	10	DFT-16QAM	M	Outer_Full	1000	3000	-36.56	-13	PASS
N13	15	10	DFT-16QAM	M	Outer_Full	3000	12000	-44.01	-13	PASS
N13	15	10	DFT-16QAM	M	Outer_Full	12000	20000	-45.33	-13	PASS
N13	15	10	DFT-16QAM	M	Edge_1RB_Left	0.009	0.15	-62.42	-33	PASS
N13	15	10	DFT-16QAM	M	Edge_1RB_Left	0.15	30	-70.51	-23	PASS
N13	15	10	DFT-16QAM	M	Edge_1RB_Left	30	1000	-52.23	-13	PASS
N13	15	10	DFT-16QAM	M	Edge_1RB_Left	1000	3000	-36.51	-13	PASS
N13	15	10	DFT-16QAM	M	Edge_1RB_Left	3000	12000	-43.95	-13	PASS
N13	15	10	DFT-16QAM	M	Edge_1RB_Left	12000	20000	-45.46	-13	PASS
N13	15	10	DFT-16QAM	M	Edge_1RB_Right	0.009	0.15	-63.06	-33	PASS
N13	15	10	DFT-16QAM	M	Edge_1RB_Right	0.15	30	-70.79	-23	PASS
N13	15	10	DFT-16QAM	M	Edge_1RB_Right	30	1000	-52.30	-13	PASS
N13	15	10	DFT-16QAM	M	Edge_1RB_Right	1000	3000	-36.49	-13	PASS
N13	15	10	DFT-16QAM	M	Edge_1RB_Right	3000	12000	-44.04	-13	PASS
N13	15	10	DFT-16QAM	M	Edge_1RB_Right	12000	20000	-45.44	-13	PASS

Test Graphs

