

APPENDIX B 5G NR N77(3700-3980MHZ) RF TEST DATA

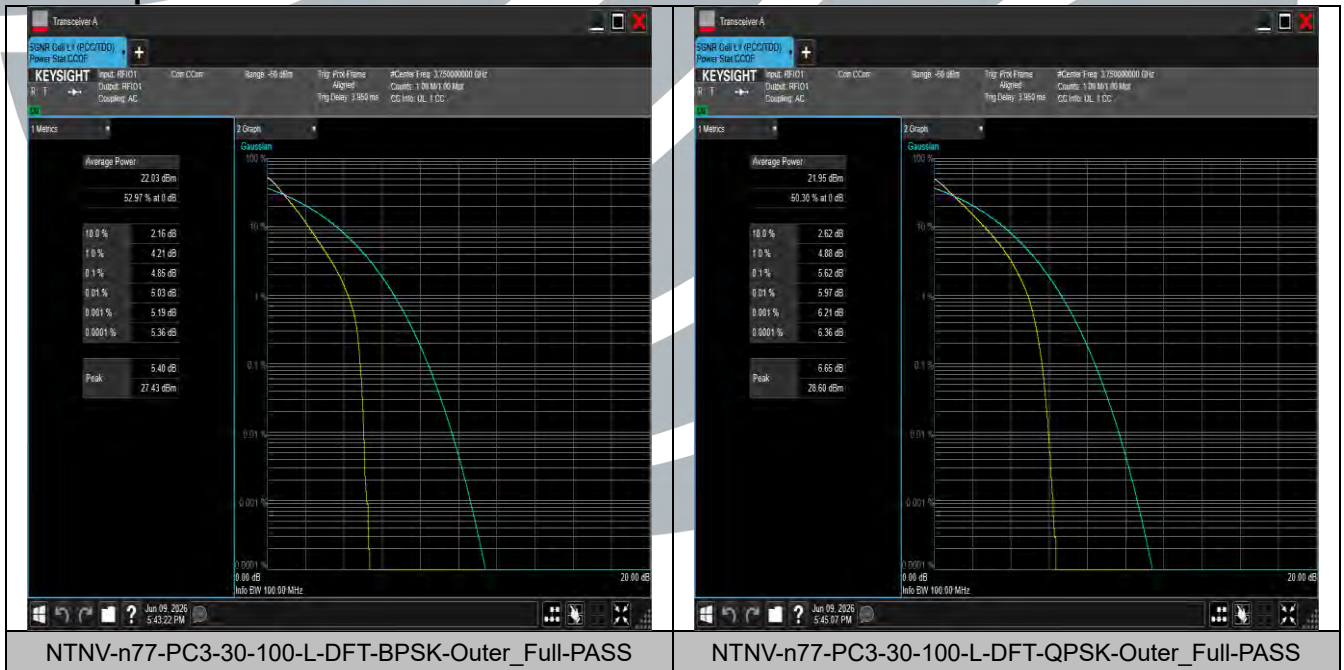
B.1 PEAK-TO-AVERAGE RATIO FOR SA

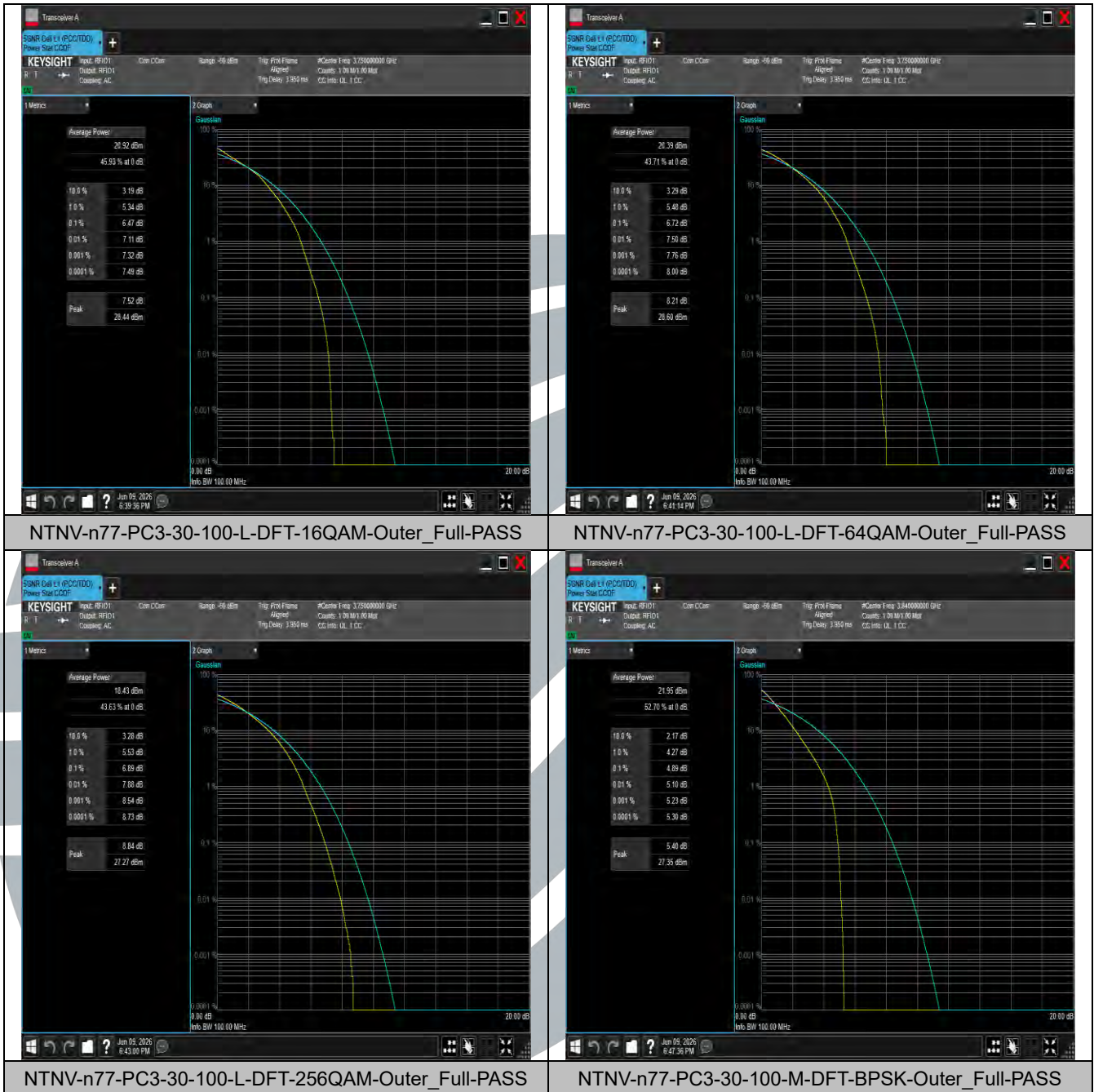
➤ Peak-to-Average Ratio(CCDFF)

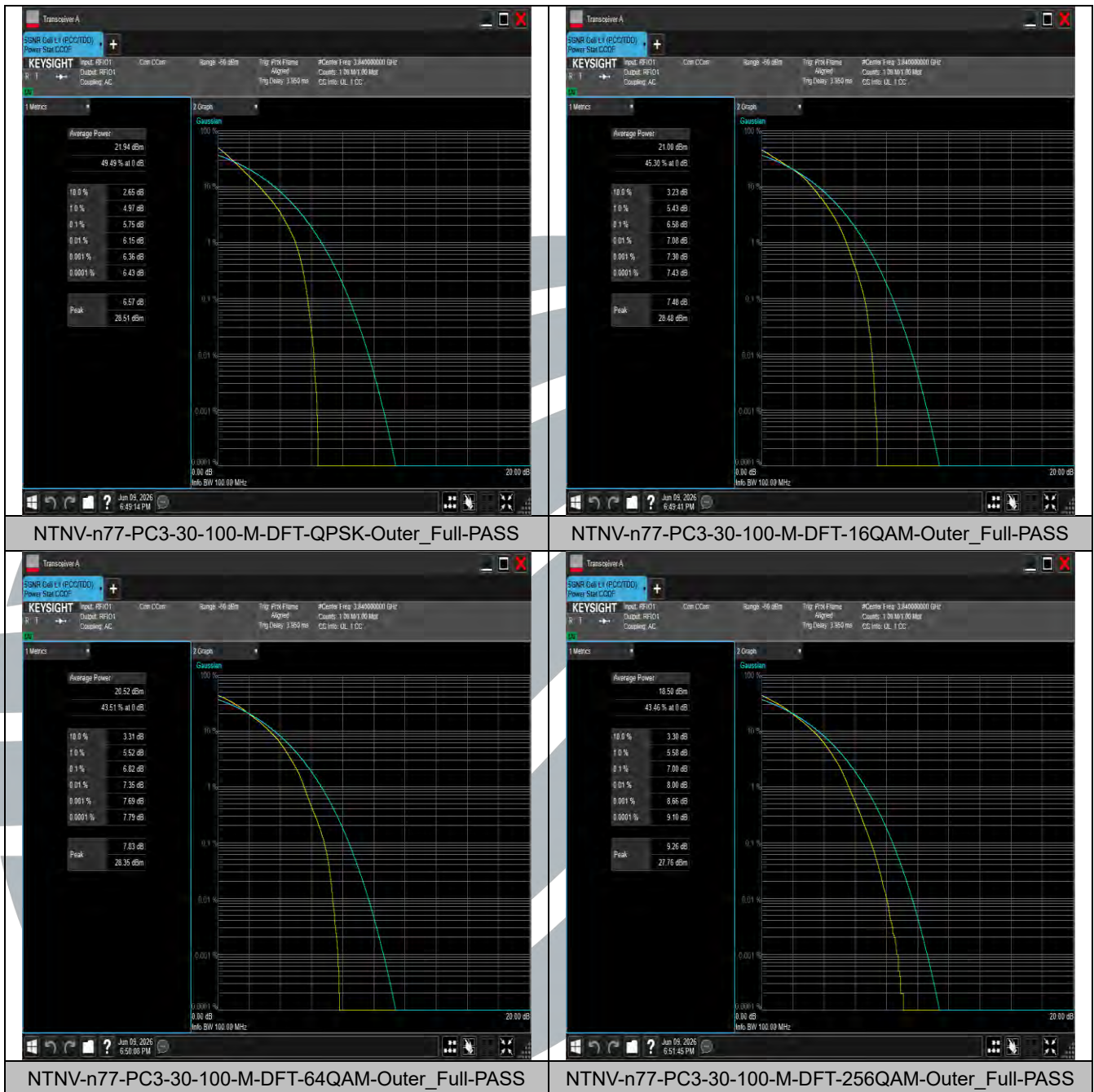
Test Result

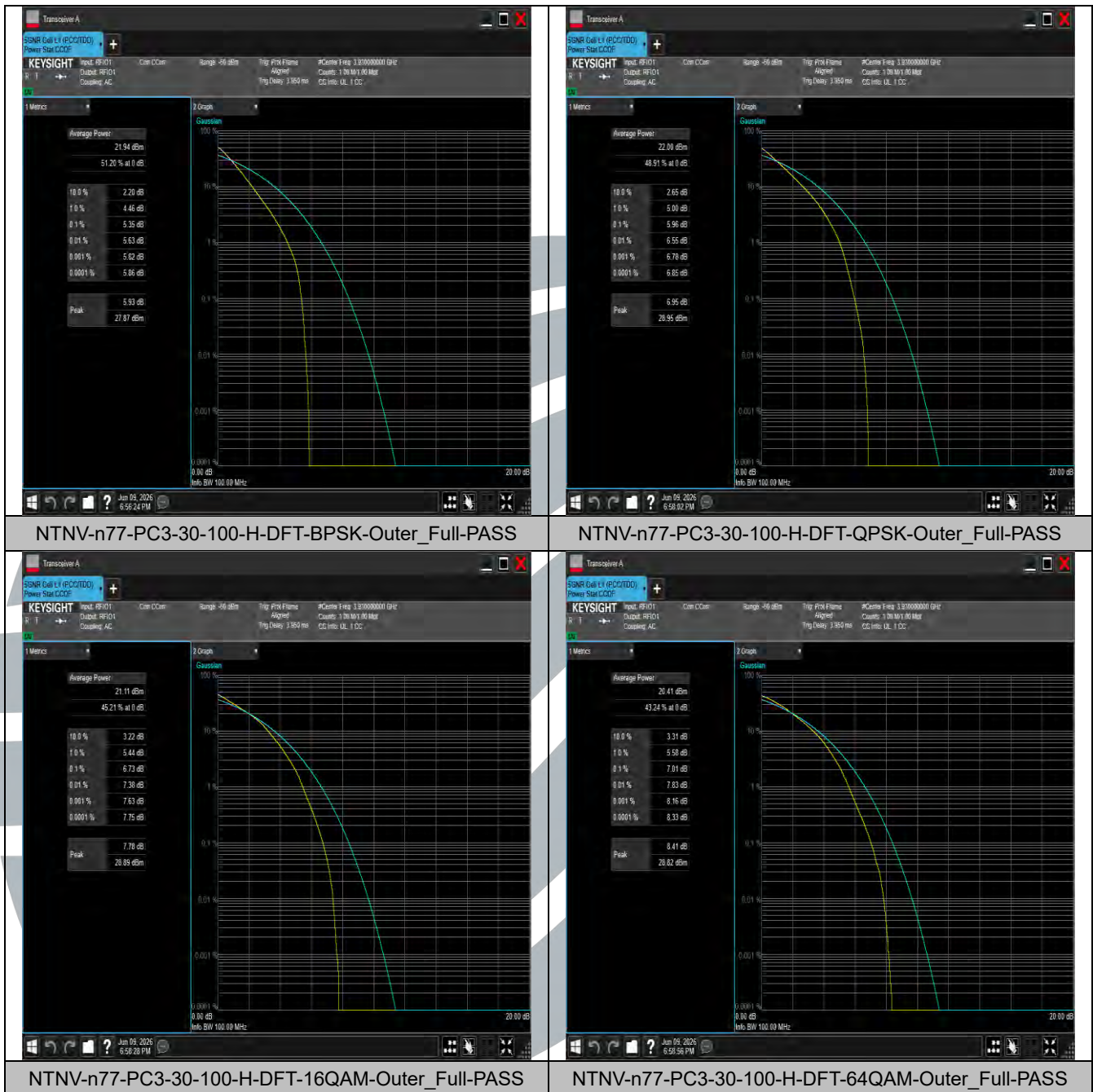
Band	SCS (kHz)	BW (MHz)	Modulation	Ch.	RB Config	Result (dB)	Limit	Verdict
n77	30	100	DFT-BPSK	L	Outer_Full	4.85	≤13dB	PASS
n77	30	100	DFT-QPSK	L	Outer_Full	5.62	≤13dB	PASS
n77	30	100	DFT-16QAM	L	Outer_Full	6.47	≤13dB	PASS
n77	30	100	DFT-64QAM	L	Outer_Full	6.72	≤13dB	PASS
n77	30	100	DFT-256QAM	L	Outer_Full	6.89	≤13dB	PASS
n77	30	100	DFT-BPSK	M	Outer_Full	4.89	≤13dB	PASS
n77	30	100	DFT-QPSK	M	Outer_Full	5.75	≤13dB	PASS
n77	30	100	DFT-16QAM	M	Outer_Full	6.58	≤13dB	PASS
n77	30	100	DFT-64QAM	M	Outer_Full	6.82	≤13dB	PASS
n77	30	100	DFT-256QAM	M	Outer_Full	7	≤13dB	PASS
n77	30	100	DFT-BPSK	H	Outer_Full	5.35	≤13dB	PASS
n77	30	100	DFT-QPSK	H	Outer_Full	5.96	≤13dB	PASS
n77	30	100	DFT-16QAM	H	Outer_Full	6.73	≤13dB	PASS
n77	30	100	DFT-64QAM	H	Outer_Full	7.01	≤13dB	PASS
n77	30	100	DFT-256QAM	H	Outer_Full	7.07	≤13dB	PASS

Test Graphs











N/A

NTNV-n77-PC3-30-100-H-DFT-256QAM-Outer_Full-PASS

B.2 26DB BANDWIDTH AND OCCUPIED BANDWIDTH FOR SA

Test Result

Band	SCS (kHz)	BW (MHz)	Modulation	Ch.	RB Config	99% BW Result (MHz)	26dB BW Result (MHz)	Verdict
n77	30	20	DFT-QPSK	L	Outer_Full	17.852	18.95	PASS
n77	30	20	DFT-16QAM	L	Outer_Full	17.882	19.11	PASS
n77	30	20	DFT-QPSK	M	Outer_Full	17.855	18.97	PASS
n77	30	20	DFT-16QAM	M	Outer_Full	17.865	18.92	PASS
n77	30	20	DFT-QPSK	H	Outer_Full	17.864	18.98	PASS
n77	30	20	DFT-16QAM	H	Outer_Full	17.866	18.92	PASS
n77	30	30	DFT-QPSK	L	Outer_Full	26.807	28.32	PASS
n77	30	30	DFT-16QAM	L	Outer_Full	26.730	28.10	PASS
n77	30	30	DFT-QPSK	M	Outer_Full	26.815	28.24	PASS
n77	30	30	DFT-16QAM	M	Outer_Full	26.760	28.03	PASS
n77	30	30	DFT-QPSK	H	Outer_Full	26.811	28.34	PASS
n77	30	30	DFT-16QAM	H	Outer_Full	26.838	28.30	PASS
n77	30	40	DFT-QPSK	L	Outer_Full	35.684	37.57	PASS
n77	30	40	DFT-16QAM	L	Outer_Full	35.700	37.42	PASS
n77	30	40	DFT-QPSK	M	Outer_Full	35.723	37.55	PASS
n77	30	40	DFT-16QAM	M	Outer_Full	35.732	37.45	PASS
n77	30	40	DFT-QPSK	H	Outer_Full	35.685	37.42	PASS
n77	30	40	DFT-16QAM	H	Outer_Full	35.724	37.44	PASS
n77	30	40	DFT-64QAM	H	Outer_Full	35.746	37.54	PASS
n77	30	60	DFT-QPSK	L	Outer_Full	57.765	59.99	PASS
n77	30	60	DFT-16QAM	L	Outer_Full	57.899	60.11	PASS
n77	30	60	DFT-QPSK	M	Outer_Full	57.784	60.24	PASS
n77	30	60	DFT-16QAM	M	Outer_Full	57.716	60.18	PASS
n77	30	60	DFT-QPSK	H	Outer_Full	57.702	60.23	PASS
n77	30	60	DFT-16QAM	H	Outer_Full	57.757	60.14	PASS
n77	30	80	DFT-QPSK	L	Outer_Full	77.015	79.91	PASS
n77	30	80	DFT-16QAM	L	Outer_Full	77.001	79.94	PASS
n77	30	80	DFT-QPSK	M	Outer_Full	77.002	80.09	PASS
n77	30	80	DFT-16QAM	M	Outer_Full	77.064	79.92	PASS
n77	30	80	DFT-QPSK	H	Outer_Full	76.950	79.92	PASS
n77	30	80	DFT-16QAM	H	Outer_Full	76.994	79.92	PASS
n77	30	100	DFT-QPSK	L	Outer_Full	96.486	99.72	PASS
n77	30	100	DFT-16QAM	L	Outer_Full	96.227	99.57	PASS
n77	30	100	DFT-QPSK	M	Outer_Full	96.366	99.61	PASS
n77	30	100	DFT-16QAM	M	Outer_Full	96.186	99.62	PASS
n77	30	100	DFT-QPSK	H	Outer_Full	96.435	99.57	PASS
n77	30	100	DFT-16QAM	H	Outer_Full	96.218	99.51	PASS

Test Graphs



NTNV-n77-PC3-30-20-L-DFT-QPSK-Outer_Full-Ant1-PASS



NTNV-n77-PC3-30-20-L-DFT-16QAM-Outer_Full-Ant1-PASS



NTNV-n77-PC3-30-20-M-DFT-QPSK-Outer_Full-Ant1-PASS



NTNV-n77-PC3-30-20-M-DFT-16QAM-Outer_Full-Ant1-PASS



NTNV-n77-PC3-30-20-H-DFT-QPSK-Outer_Full-Ant1-PASS



NTNV-n77-PC3-30-20-H-DFT-16QAM-Outer_Full-Ant1-PASS



NTNV-n77-PC3-30-30-L-DFT-QPSK-Outer_Full-Ant1-PASS



NTNV-n77-PC3-30-30-L-DFT-16QAM-Outer_Full-Ant1-PASS

NTNV-n77-PC3-30-30-M-DFT-QPSK-Outer_Full-Ant1-
PASS

NTNV-n77-PC3-30-30-M-DFT-16QAM-Outer_Full-Ant1-
PASS

NTNV-n77-PC3-30-30-H-DFT-QPSK-Outer Full-Ant1-PASS

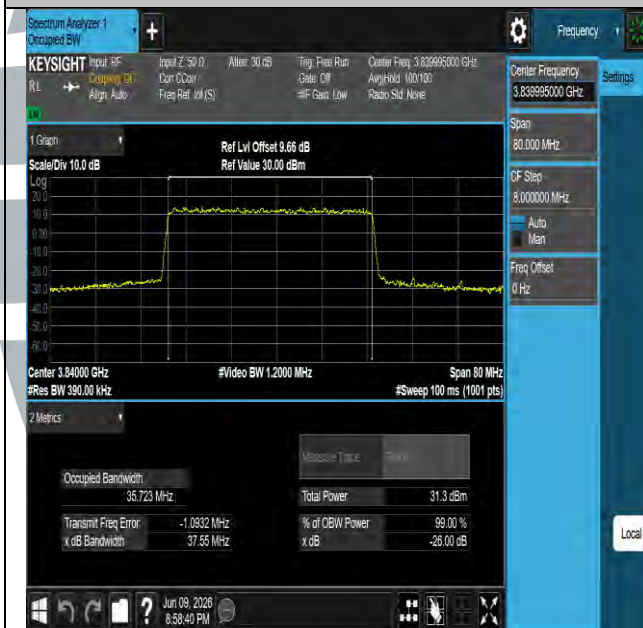
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PASS



NTNV-n77-PC3-30-40-L-DFT-QPSK-Outer_Full-Ant1-PASS



NTNV-n77-PC3-30-40-L-DFT-16QAM-Outer_Full-Ant1-PASS



NTNV-n77-PC3-30-40-M-DFT-QPSK-Outer_Full-Ant1-PASS



NTNV-n77-PC3-30-40-M-DFT-16QAM-Outer_Full-Ant1-PASS



NTNV-n77-PC3-30-40-H-DFT-QPSK-Outter_Full-Ant1-PASS



NTNV-n77-PC3-30-40-H-DFT-16QAM-Outter_Full-Ant1-PASS



NTNV-n77-PC3-30-60-L-DFT-QPSK-Outter_Full-Ant1-PASS



NTNV-n77-PC3-30-60-L-DFT-16QAM-Outter_Full-Ant1-PASS



NTNV-n77-PC3-30-60-M-DFT-QPSK-Outet_Full-Ant1-PASS



NTNV-n77-PC3-30-60-M-DFT-16QAM-Outet_Full-Ant1-PASS



NTNV-n77-PC3-30-60-H-DFT-QPSK-Outet_Full-Ant1-PASS



NTNV-n77-PC3-30-60-H-DFT-16QAM-Outet_Full-Ant1-PASS



NTNV-n77-PC3-30-80-L-DFT-QPSK-Outer_Full-Ant1-PASS



NTNV-n77-PC3-30-80-L-DFT-16QAM-Outer_Full-Ant1-PASS



NTNV-n77-PC3-30-80-M-DFT-QPSK-Outer_Full-Ant1-PASS



NTNV-n77-PC3-30-80-M-DFT-16QAM-Outer_Full-Ant1-PASS



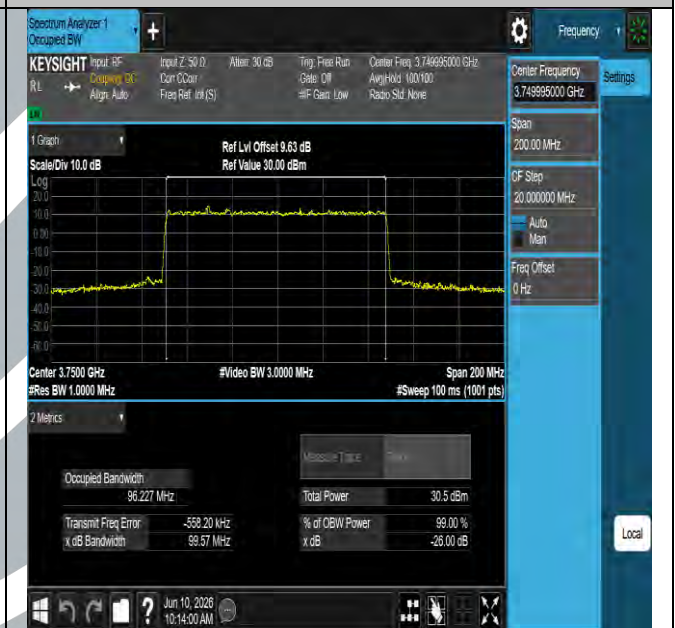
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NTNV-n77-PC3-30-80-H-DFT-16QAM-Outer_Full-Ant1-PASS



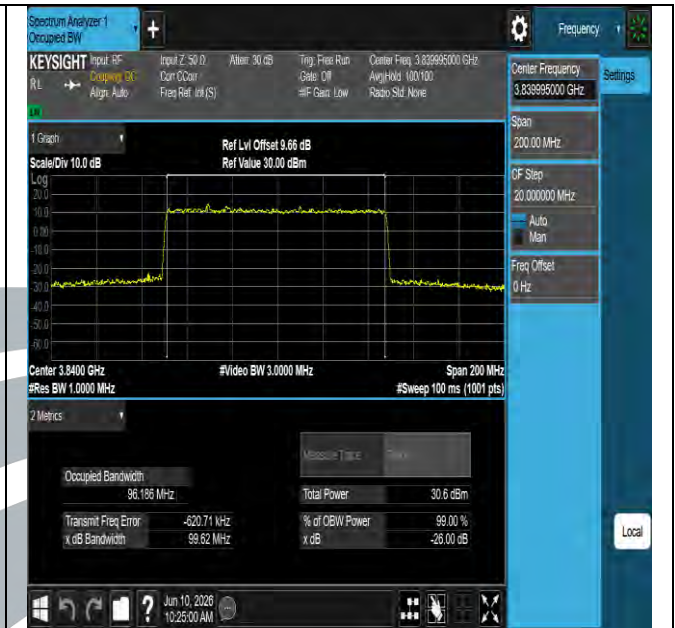
NTNV-n77-PC3-30-100-L-DFT-QPSK-Outer_Full-Ant1-PASS



NTNV-n77-PC3-30-100-L-DFT-16QAM-Outer_Full-Ant1-PASS



NTNV-n77-PC3-30-100-M-DFT-QPSK-Outer_Full-Ant1-
PASS



NTNV-n77-PC3-30-100-M-DFT-16QAM-Outer_Full-Ant1-
PASS



NTNV-n77-PC3-30-100-H-DFT-QPSK-Outer_Full-Ant1-
PASS



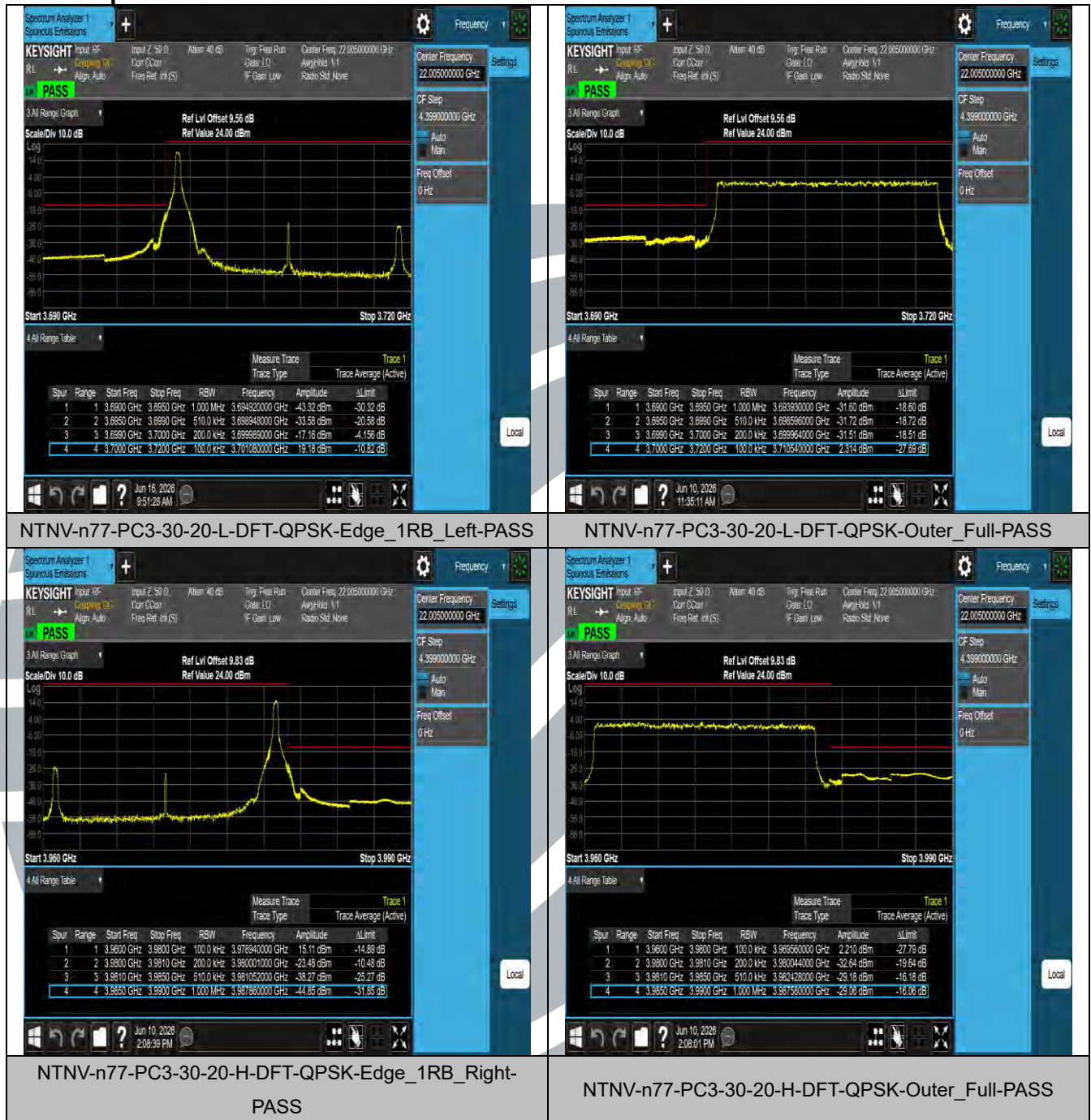
NTNV-n77-PC3-30-100-H-DFT-16QAM-Outer_Full-Ant1-
PASS

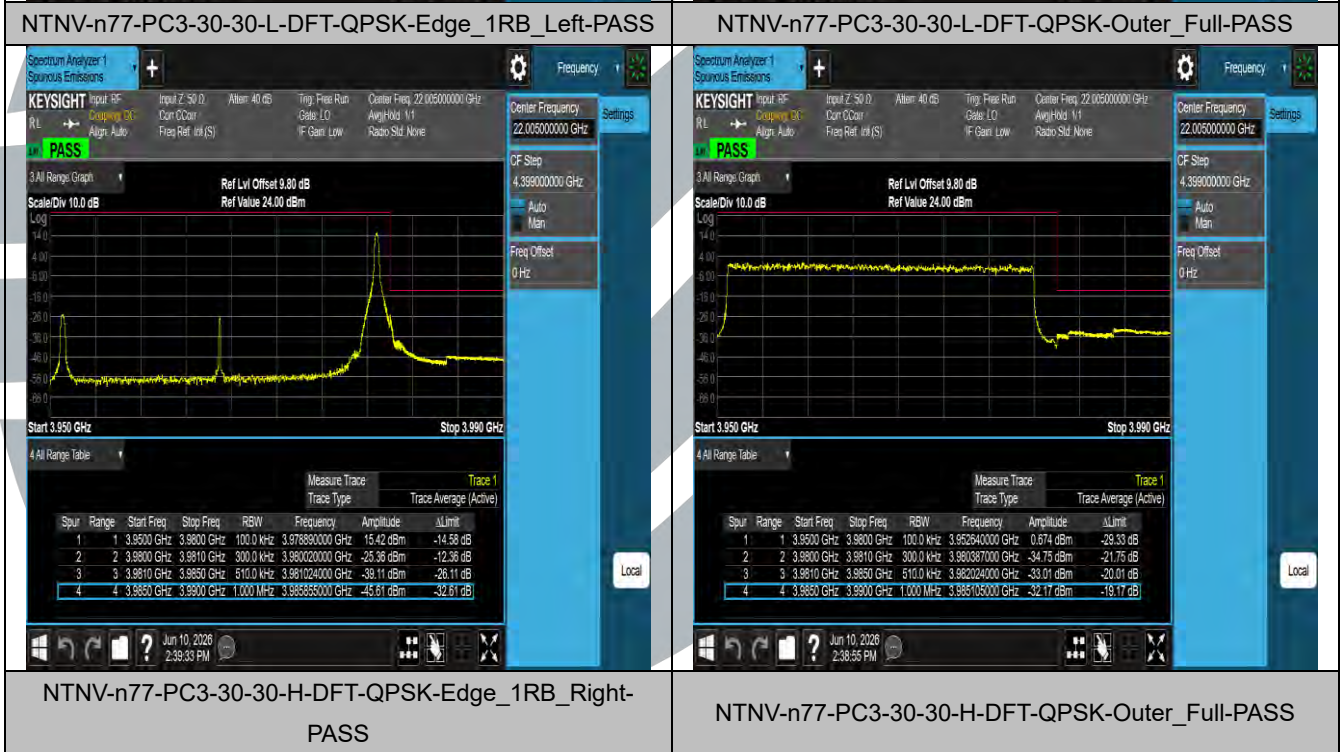
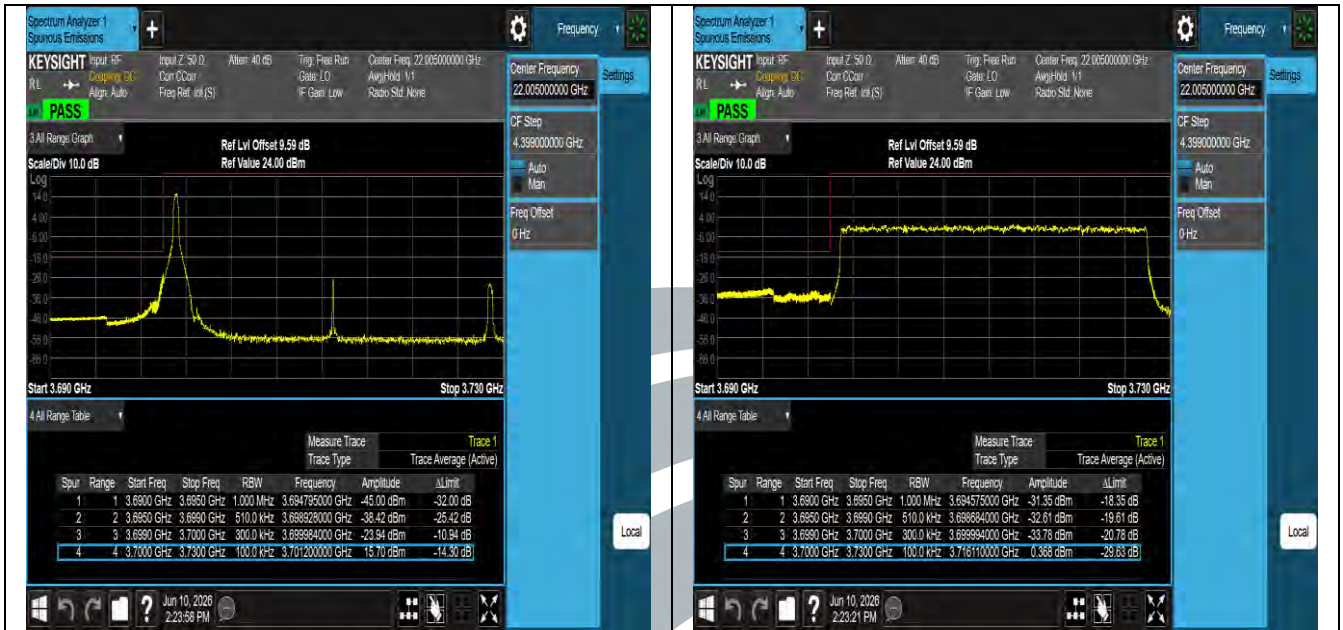
B.3 BAND EDGE FOR SA

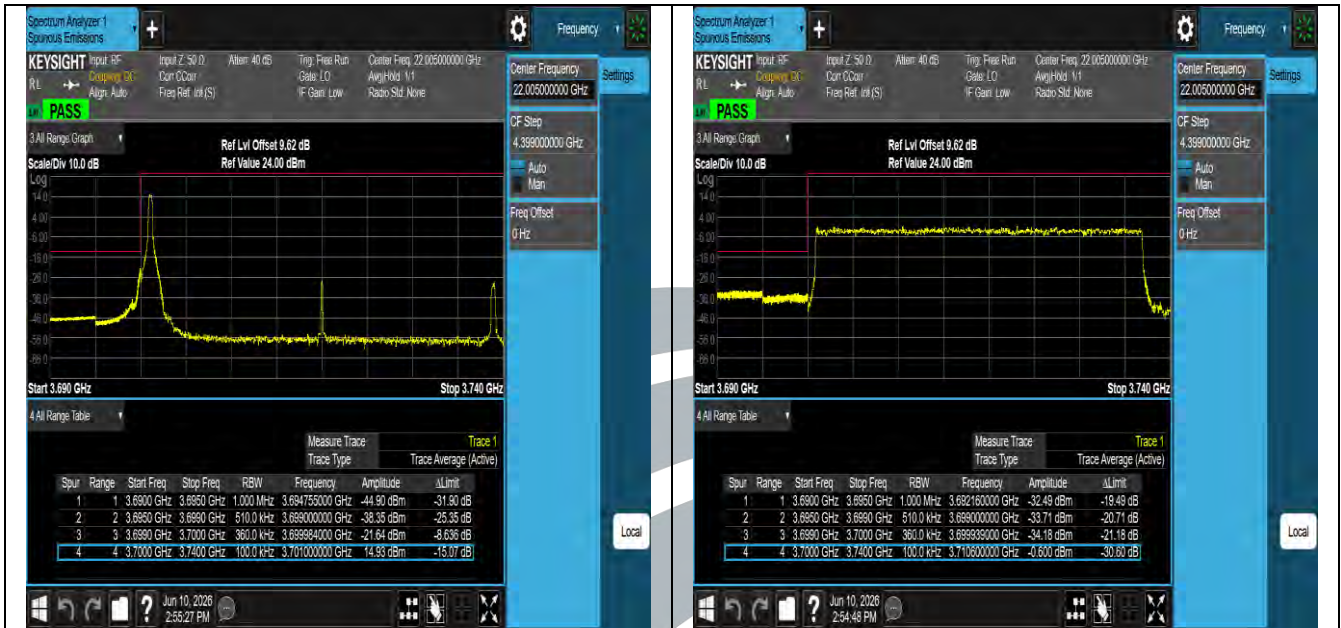
Test Result

Band	SCS (kHz)	BW (MHz)	Modulation	Ch.	RB Config	Result (dBm)	Verdict
n77	30	20	DFT-QPSK	L	Edge_1RB_Left	-17.16	PASS
n77	30	20	DFT-QPSK	L	Outer_Full	-31.51	PASS
n77	30	20	DFT-QPSK	H	Edge_1RB_Right	-23.48	PASS
n77	30	20	DFT-QPSK	H	Outer_Full	-29.06	PASS
n77	30	30	DFT-QPSK	L	Edge_1RB_Left	-23.94	PASS
n77	30	30	DFT-QPSK	L	Outer_Full	-31.35	PASS
n77	30	30	DFT-QPSK	H	Edge_1RB_Right	-25.36	PASS
n77	30	30	DFT-QPSK	H	Outer_Full	-32.17	PASS
n77	30	40	DFT-QPSK	L	Edge_1RB_Left	-21.64	PASS
n77	30	40	DFT-QPSK	L	Outer_Full	-32.49	PASS
n77	30	40	DFT-QPSK	H	Edge_1RB_Right	-23.29	PASS
n77	30	40	DFT-QPSK	H	Outer_Full	-32.73	PASS
n77	30	60	DFT-QPSK	L	Edge_1RB_Left	-19.45	PASS
n77	30	60	DFT-QPSK	L	Outer_Full	-35.84	PASS
n77	30	60	DFT-QPSK	H	Edge_1RB_Right	-20.80	PASS
n77	30	60	DFT-QPSK	H	Outer_Full	-33.55	PASS
n77	30	80	DFT-QPSK	L	Edge_1RB_Left	-19.59	PASS
n77	30	80	DFT-QPSK	L	Outer_Full	-36.83	PASS
n77	30	80	DFT-QPSK	H	Edge_1RB_Right	-21.54	PASS
n77	30	80	DFT-QPSK	H	Outer_Full	-34.43	PASS
n77	30	100	DFT-QPSK	L	Edge_1RB_Left	-17.78	PASS
n77	30	100	DFT-QPSK	L	Outer_Full	-32.83	PASS
n77	30	100	DFT-QPSK	H	Edge_1RB_Right	-21.25	PASS
n77	30	100	DFT-QPSK	H	Outer_Full	-33.33	PASS

Test Graphs







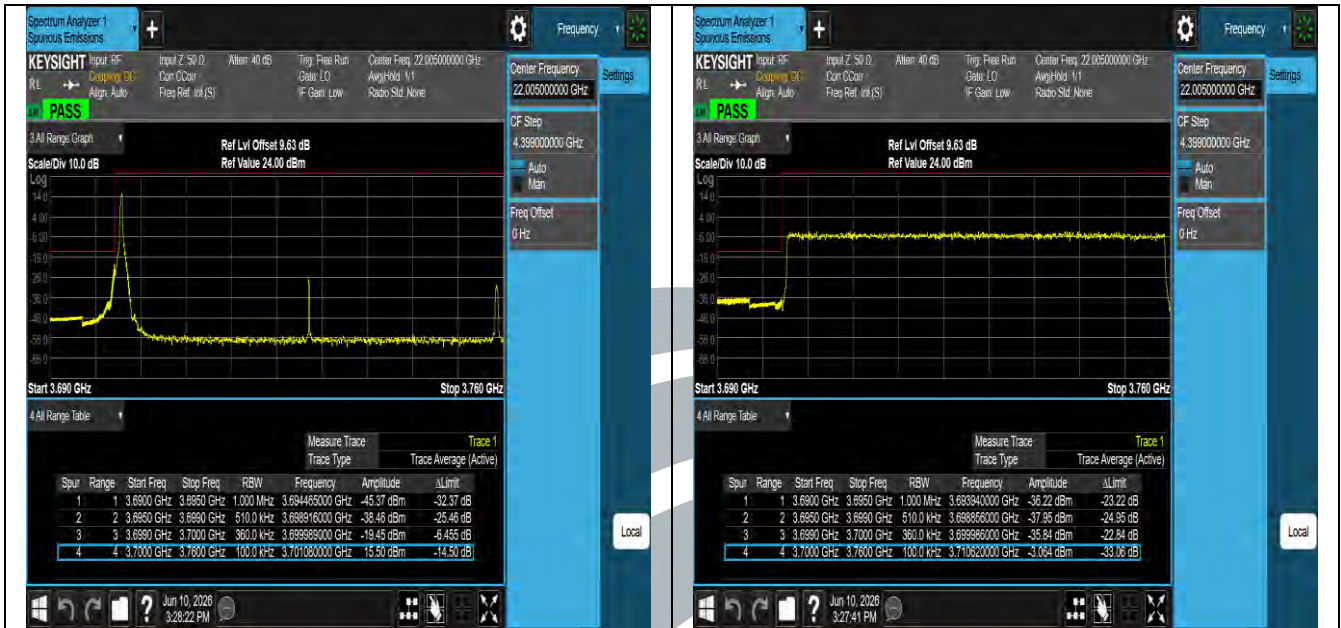
NTNV-n77-PC3-30-40-L-DFT-QPSK-Edge_1RB_Left-PASS

NTNV-n77-PC3-30-40-L-DFT-QPSK-Outer_Full-PASS



NTNV-n77-PC3-30-40-H-DFT-QPSK-Edge_1RB_Right-PASS

NTNV-n77-PC3-30-40-H-DFT-QPSK-Outer_Full-PASS



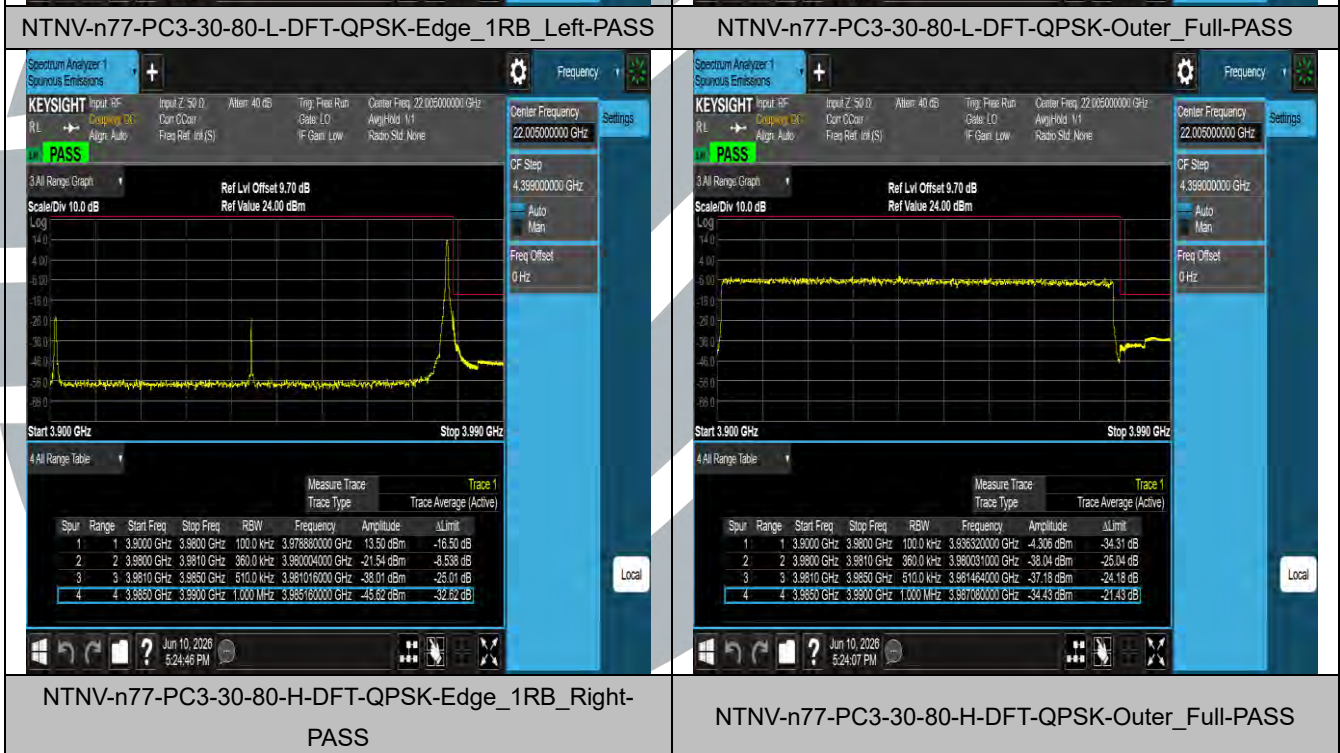
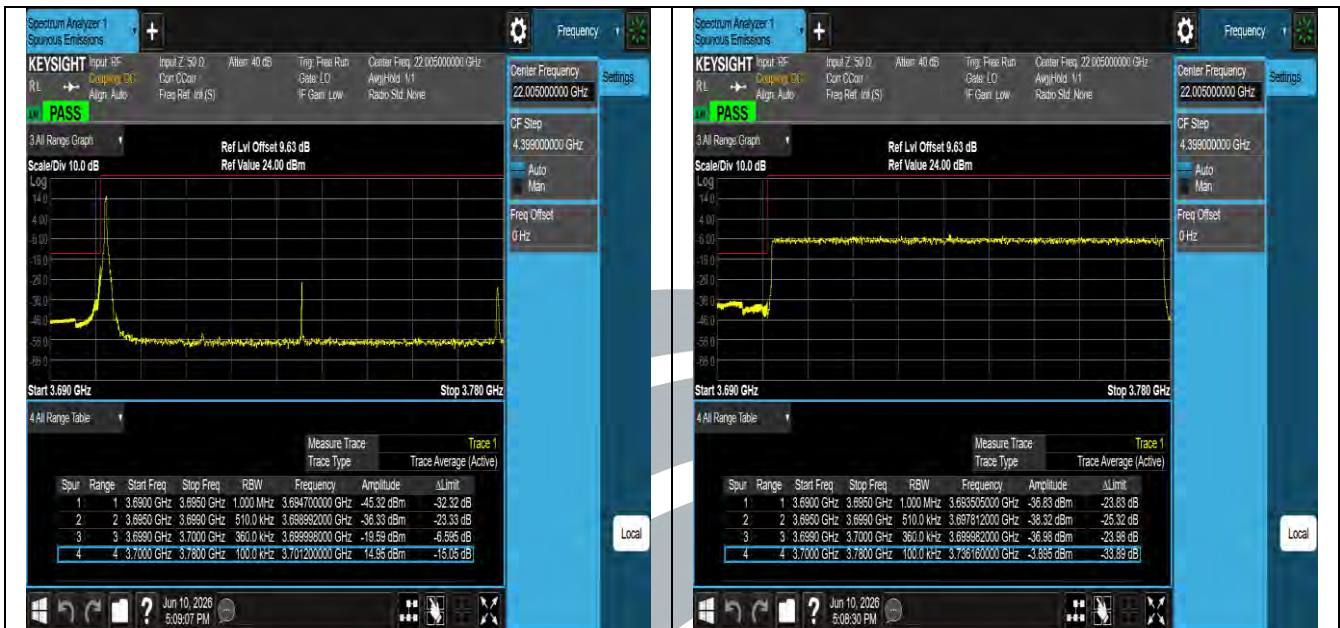
NTNV-n77-PC3-30-60-L-DFT-QPSK-Edge_1RB_Left-PASS

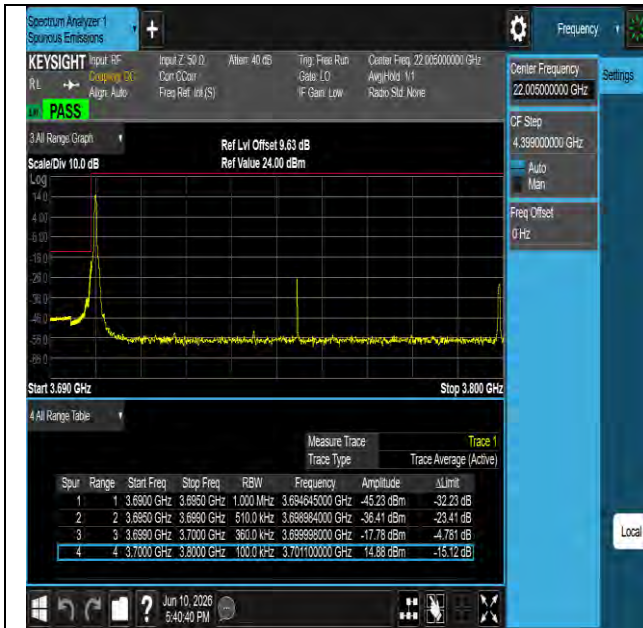
NTNV-n77-PC3-30-60-L-DFT-QPSK-Outer_Full-PASS



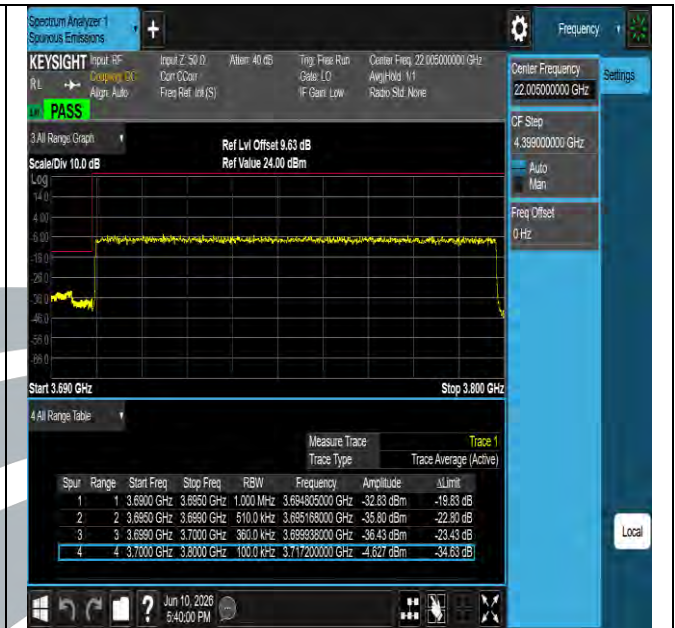
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NTNV-n77-PC3-30-60-H-DFT-QPSK-Outer_Full-PASS

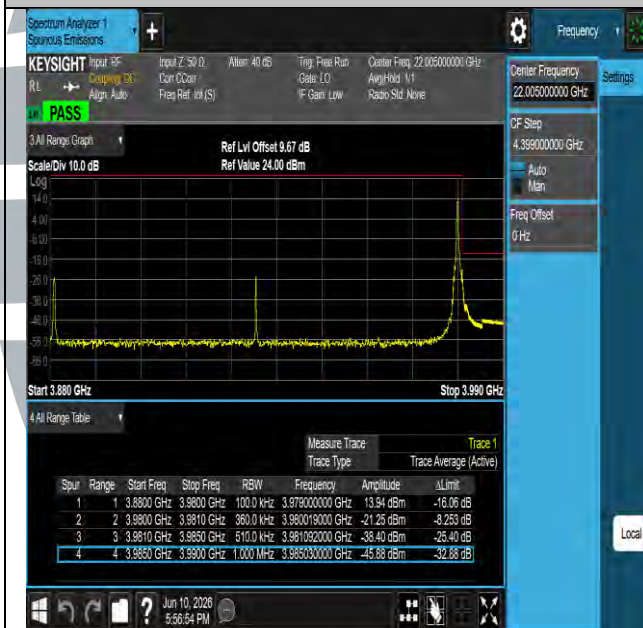




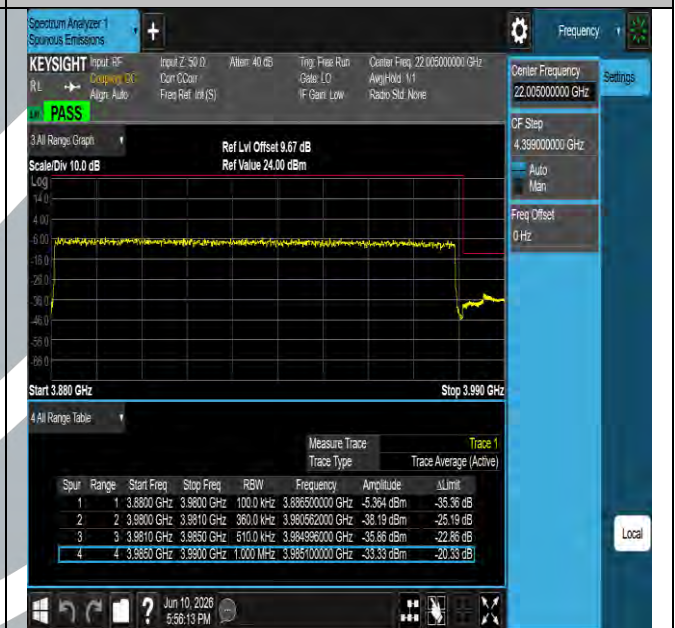
NTNV-n77-PC3-30-100-L-DFT-QPSK-Edge_1RB_Left-PASS



NTNV-n77-PC3-30-100-L-DFT-QPSK-Outer_Full-PASS



NTNV-n77-PC3-30-100-H-DFT-QPSK-Edge_1RB_Right-PASS



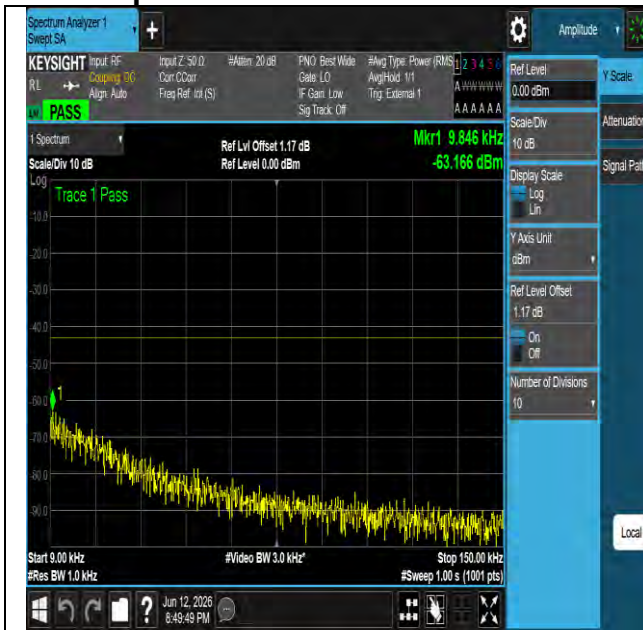
NTNV-n77-PC3-30-100-H-DFT-QPSK-Outer_Full-PASS

B.4 CONDUCTED SPURIOUS EMISSION FOR SA

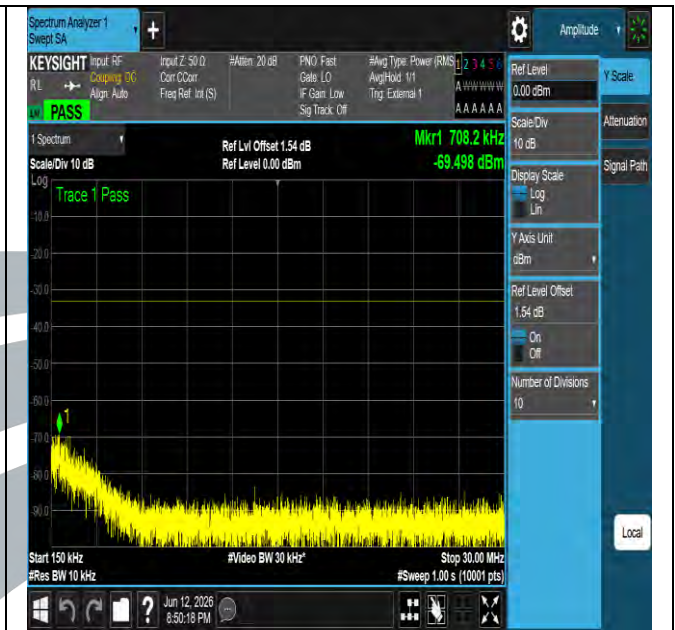
Test Result

Band	SCS (kHz)	BW (MHz)	Modulation	Ch.	RB Config	Start Freq (MHz)	Stop Freq (MHz)	Result (dBm)	Limit	Verdict
n77	30	100	DFT-QPSK	L	Inner_1RB_Left	0.009	0.15	-63.17	≤-43dBm	PASS
n77	30	100	DFT-QPSK	L	Inner_1RB_Left	0.15	30	-69.50	≤-33dBm	PASS
n77	30	100	DFT-QPSK	L	Inner_1RB_Left	30	1000	-52.41	≤-23dBm	PASS
n77	30	100	DFT-QPSK	L	Inner_1RB_Left	1000	3000	-39.82	≤-13dBm	PASS
n77	30	100	DFT-QPSK	L	Inner_1RB_Left	3000	6000	-33.32	≤-13dBm	PASS
n77	30	100	DFT-QPSK	L	Inner_1RB_Left	6000	26000	-36.72	≤-13dBm	PASS
n77	30	100	DFT-QPSK	L	Inner_1RB_Left	26000	40000	-42.21	≤-13dBm	PASS
n77	30	100	DFT-QPSK	M	Inner_1RB_Left	0.009	0.15	-63.76	≤-43dBm	PASS
n77	30	100	DFT-QPSK	M	Inner_1RB_Left	0.15	30	-67.67	≤-33dBm	PASS
n77	30	100	DFT-QPSK	M	Inner_1RB_Left	30	1000	-52.50	≤-23dBm	PASS
n77	30	100	DFT-QPSK	M	Inner_1RB_Left	1000	3000	-39.97	≤-13dBm	PASS
n77	30	100	DFT-QPSK	M	Inner_1RB_Left	3000	6000	-33.40	≤-13dBm	PASS
n77	30	100	DFT-QPSK	M	Inner_1RB_Left	6000	26000	-37.06	≤-13dBm	PASS
n77	30	100	DFT-QPSK	M	Inner_1RB_Left	26000	40000	-42.22	≤-13dBm	PASS
n77	30	100	DFT-QPSK	H	Inner_1RB_Left	0.009	0.15	-64.50	≤-43dBm	PASS
n77	30	100	DFT-QPSK	H	Inner_1RB_Left	0.15	30	-68.99	≤-33dBm	PASS
n77	30	100	DFT-QPSK	H	Inner_1RB_Left	30	1000	-52.41	≤-23dBm	PASS
n77	30	100	DFT-QPSK	H	Inner_1RB_Left	1000	3000	-39.91	≤-13dBm	PASS
n77	30	100	DFT-QPSK	H	Inner_1RB_Left	3000	6000	-33.58	≤-13dBm	PASS
n77	30	100	DFT-QPSK	H	Inner_1RB_Left	6000	26000	-36.89	≤-13dBm	PASS
n77	30	100	DFT-QPSK	H	Inner_1RB_Left	26000	40000	-42.42	≤-13dBm	PASS

Test Graphs



NTNV-n77-PC3-30-100-L-DFT-QPSK-Inner_1RB_Left-
0.009-0.15MHz-PASS



NTNV-n77-PC3-30-100-L-DFT-QPSK-Inner_1RB_Left-0.15-
30MHz-PASS



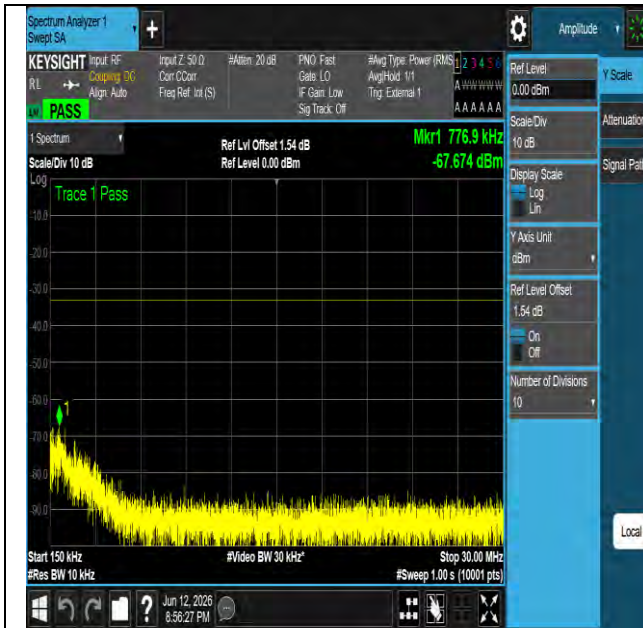
NTNV-n77-PC3-30-100-L-DFT-QPSK-Inner_1RB_Left-30-
1000MHz-PASS



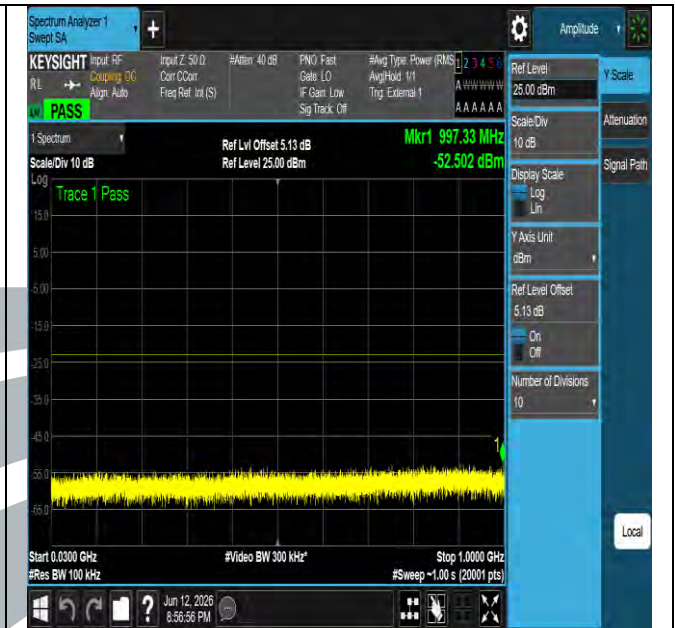
NTNV-n77-PC3-30-100-L-DFT-QPSK-Inner_1RB_Left-
1000-3000MHz-PASS

NTNV-n77-PC3-30-100-L-DFT-QPSK-Inner_1RB_Left-
3000-6000MHz-PASSNTNV-n77-PC3-30-100-L-DFT-QPSK-Inner_1RB_Left-
6000-26000MHz-PASSNTNV-n77-PC3-30-100-L-DFT-QPSK-Inner_1RB_Left-
26000-40000MHz-PASS

NTNV-n77-PC3-30-100-M-DFT-QPSK-Inner_1RB_Left-
0.009-0.15MHz-PASS



NTNV-n77-PC3-30-100-M-DFT-QPSK-Inner_1RB_Left-
0.15-30MHz-PASS



NTNV-n77-PC3-30-100-M-DFT-QPSK-Inner_1RB_Left-30-
1000MHz-PASS



NTNV-n77-PC3-30-100-M-DFT-QPSK-Inner_1RB_Left-
1000-3000MHz-PASS



NTNV-n77-PC3-30-100-M-DFT-QPSK-Inner_1RB_Left-
3000-6000MHz-PASS



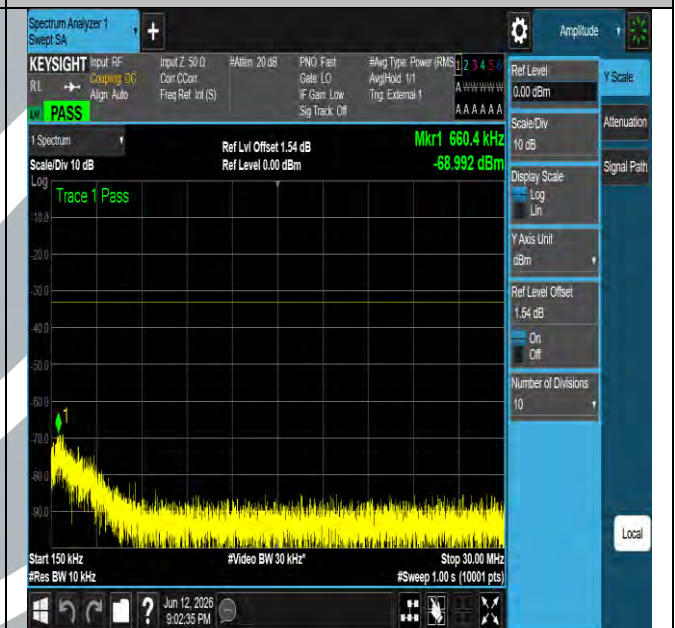
NTNV-n77-PC3-30-100-M-DFT-QPSK-Inner_1RB_Left-
6000-26000MHz-PASS



NTNV-n77-PC3-30-100-M-DFT-QPSK-Inner_1RB_Left-
26000-40000MHz-PASS



NTNV-n77-PC3-30-100-H-DFT-QPSK-Inner_1RB_Left-
0.009-0.15MHz-PASS



NTNV-n77-PC3-30-100-H-DFT-QPSK-Inner_1RB_Left-
0.15-30MHz-PASS



NTNV-n77-PC3-30-100-H-DFT-QPSK-Inner_1RB_Left-30-1000MHz-PASS



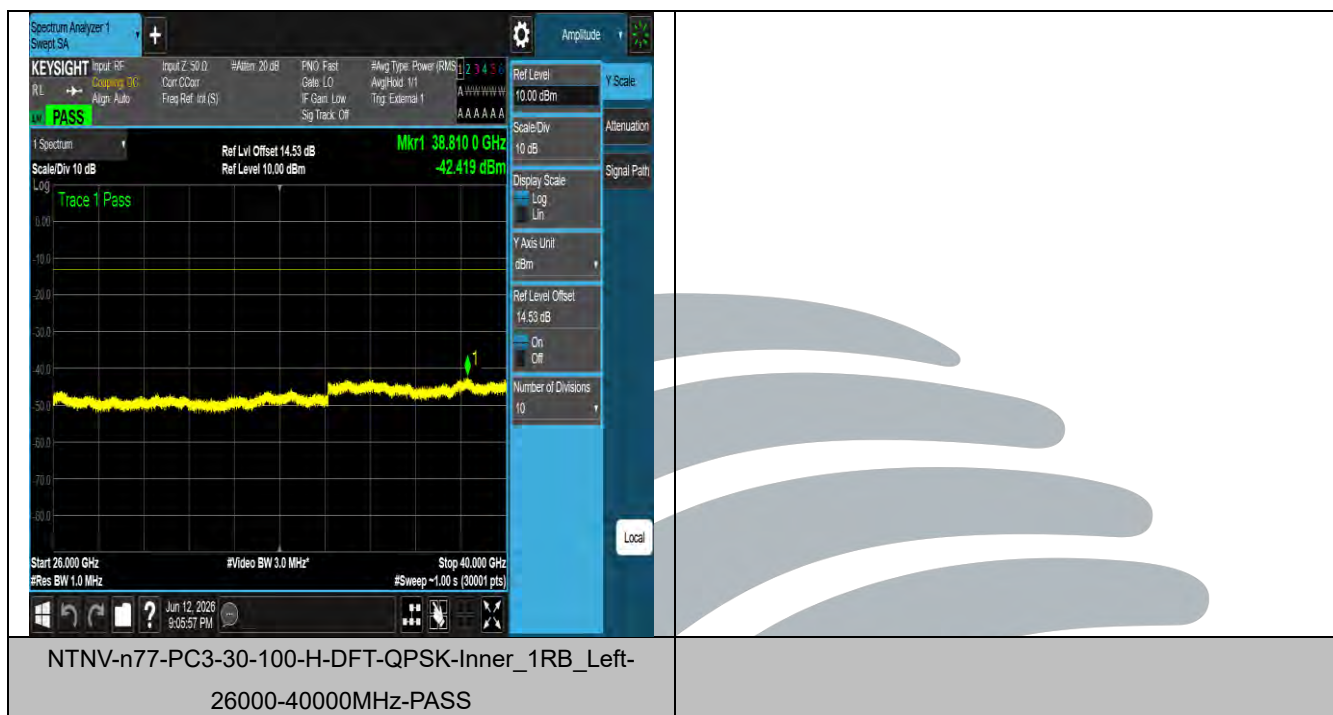
NTNV-n77-PC3-30-100-H-DFT-QPSK-Inner_1RB_Left-1000-3000MHz-PASS



NTNV-n77-PC3-30-100-H-DFT-QPSK-Inner_1RB_Left-3000-6000MHz-PASS



NTNV-n77-PC3-30-100-H-DFT-QPSK-Inner_1RB_Left-6000-26000MHz-PASS



B.5 FREQUENCY STABILITY FOR SA

Test Result

Frequency Error VS. Voltage

Voltage													
Band	SCS (kHz)	BW (MHz)	Modulation	Ch.	RB Config	Voltage	Temp.	Result (ppm)	Limit (ppm)	FL (MHz)	FH (MHz)	Limit (MHz)	Verdict
n77	30	100	DFT-QPSK	M	Outer_Full	VL	NT	0.000548	-2.5~2.5	3700	3980	---	PASS
n77	30	100	DFT-QPSK	M	Outer_Full	VN	NT	0.002286	-2.5~2.5	3700	3980	---	PASS
n77	30	100	DFT-QPSK	M	Outer_Full	VH	NT	-0.000992	-2.5~2.5	3700	3980	---	PASS

Frequency Error VS. Temperature

Temperature													
Band	SCS (kHz)	BW (MHz)	Modulation	Ch.	RB Config	Voltage	Temp.	Result (ppm)	Limit (ppm)	FL (MHz)	FH (MHz)	Limit (MHz)	Verdict
n77	30	100	DFT-QPSK	M	Outer_Full	NV	-30	-0.000708	-2.5~2.5	3700	3980	---	PASS
n77	30	100	DFT-QPSK	M	Outer_Full	NV	-20	-0.003936	-2.5~2.5	3700	3980	---	PASS
n77	30	100	DFT-QPSK	M	Outer_Full	NV	-10	2.1E-05	-2.5~2.5	3700	3980	---	PASS
n77	30	100	DFT-QPSK	M	Outer_Full	NV	0	-0.000369	-2.5~2.5	3700	3980	---	PASS
n77	30	100	DFT-QPSK	M	Outer_Full	NV	10	-0.000315	-2.5~2.5	3700	3980	---	PASS
n77	30	100	DFT-QPSK	M	Outer_Full	NV	20	-0.001829	-2.5~2.5	3700	3980	---	PASS
n77	30	100	DFT-QPSK	M	Outer_Full	NV	30	9E-05	-2.5~2.5	3700	3980	---	PASS
n77	30	100	DFT-QPSK	M	Outer_Full	NV	40	-0.00066	-2.5~2.5	3700	3980	---	PASS
n77	30	100	DFT-QPSK	M	Outer_Full	NV	50	0.000791	-2.5~2.5	3700	3980	---	PASS