

APPENDIX C 5G NR N78(3450-3550MHZ) RF TEST DATA

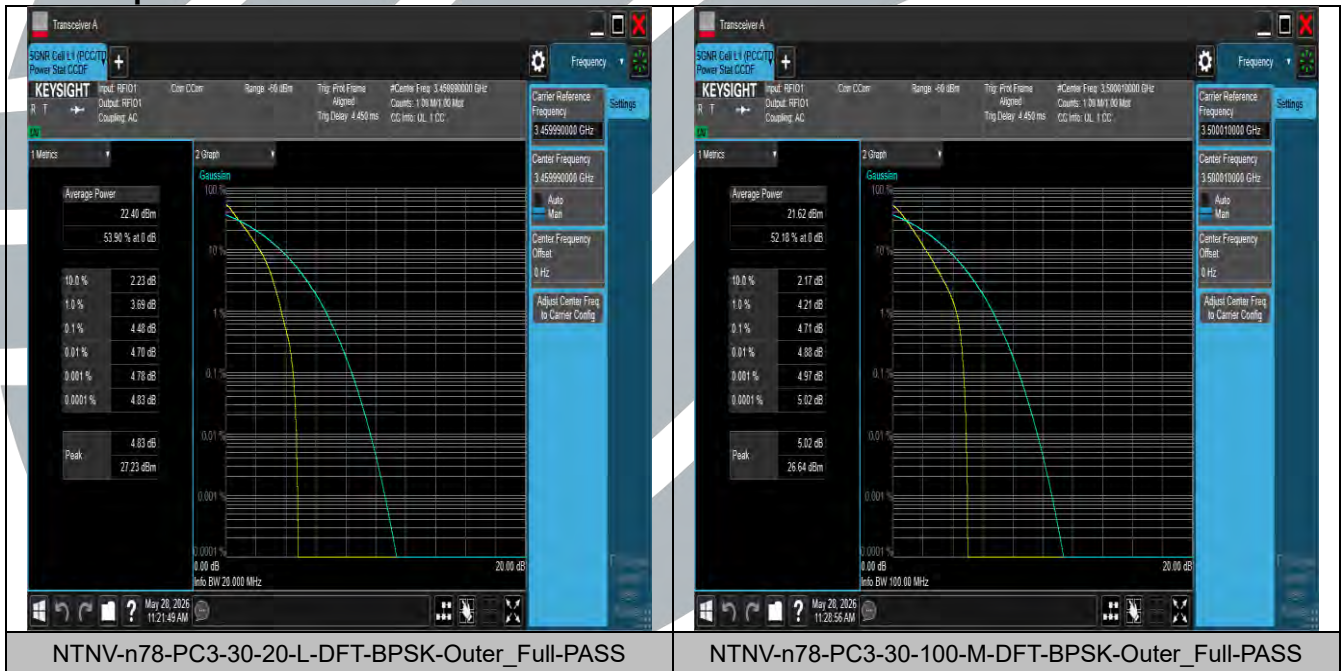
C.1 PEAK-TO-AVERAGE RATIO FOR SA

➤ Peak-to-Average Ratio(CCDF)

Test Result

Band	SCS (kHz)	BW (MHz)	Modulation	Ch.	RB Config	Result (dB)	Limit	Verdict
n78	30	100	DFT-BPSK	M	Outer_Full	4.71	≤13dB	PASS
n78	30	100	DFT-QPSK	M	Outer_Full	6	≤13dB	PASS
n78	30	100	DFT-16QAM	M	Outer_Full	6.69	≤13dB	PASS
n78	30	100	DFT-64QAM	M	Outer_Full	6.93	≤13dB	PASS
n78	30	100	DFT-256QAM	M	Outer_Full	6.94	≤13dB	PASS
n78	30	100	CP-QPSK	M	Outer_Full	7.64	≤13dB	PASS
n78	30	100	CP-16QAM	M	Outer_Full	7.66	≤13dB	PASS
n78	30	100	CP-64QAM	M	Outer_Full	8.16	≤13dB	PASS

Test Graphs





NTNV-n78-PC3-30-100-M-DFT-QPSK-Outet_Full-PASS



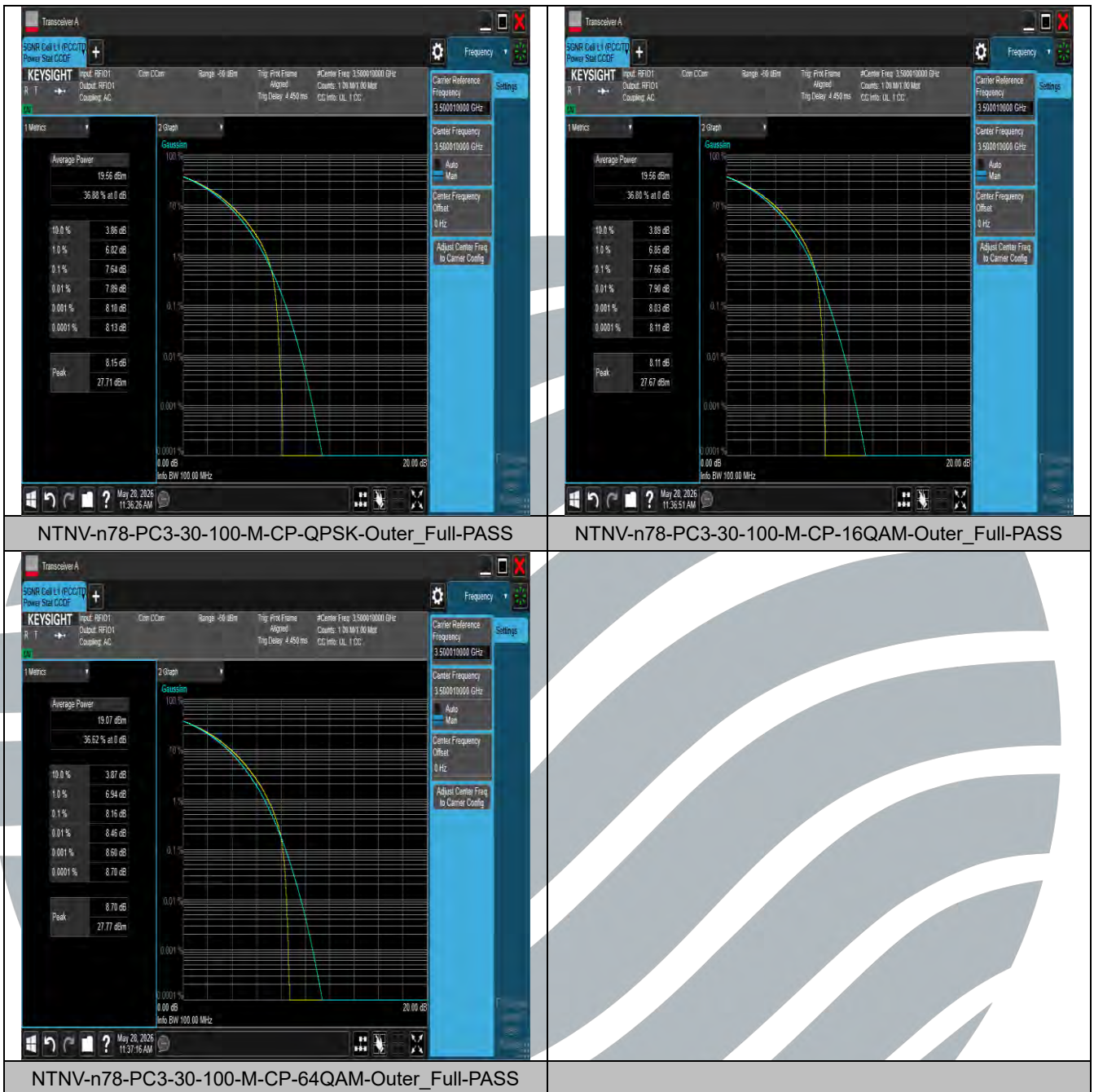
NTNV-n78-PC3-30-100-M-DFT-16QAM-Outet_Full-PASS



NTNV-n78-PC3-30-100-M-DFT-64QAM-Outet_Full-PASS



NTNV-n78-PC3-30-100-M-DFT-256QAM-Outet_Full-PASS



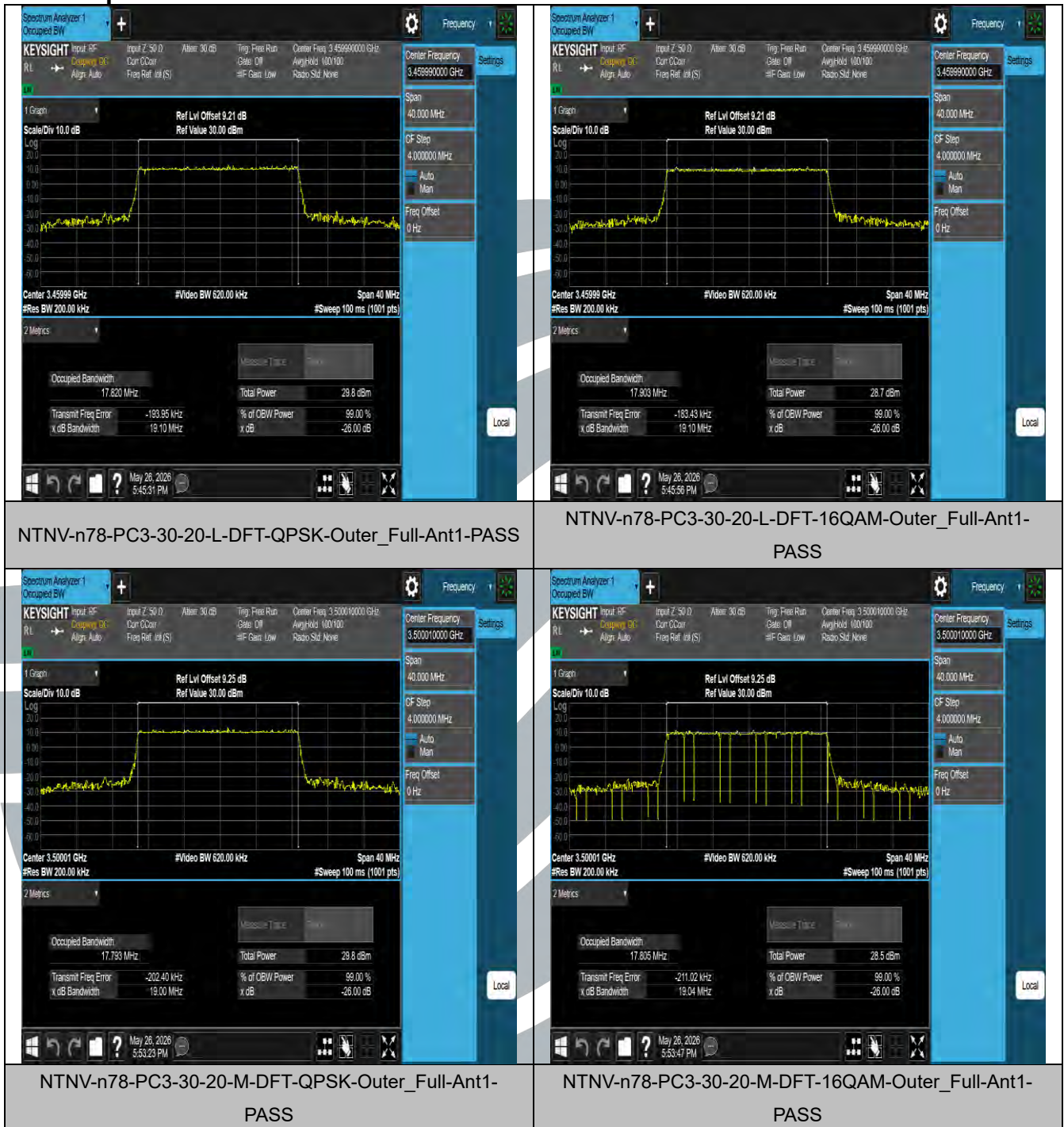
C.2 26DB BANDWIDTH AND OCCUPIED BANDWIDTH FOR SA

Test Result

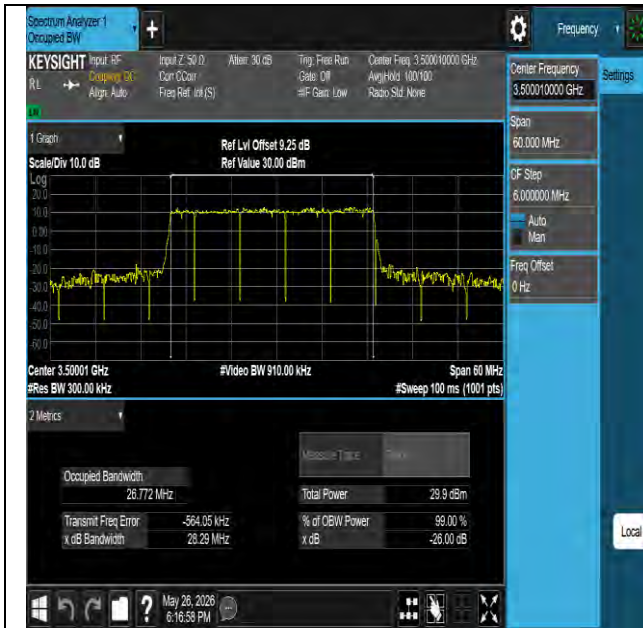
Band	SCS (kHz)	BW (MHz)	Modulation	Ch.	RB Config	99% BW Result (MHz)	26dB BW Result (MHz)	Verdict
n78	30	20	DFT-QPSK	L	Outer_Full	17.820	19.10	PASS
n78	30	20	DFT-16QAM	L	Outer_Full	17.903	19.10	PASS
n78	30	20	DFT-QPSK	M	Outer_Full	17.793	19.00	PASS
n78	30	20	DFT-16QAM	M	Outer_Full	17.805	19.04	PASS
n78	30	20	DFT-QPSK	H	Outer_Full	17.788	18.97	PASS
n78	30	20	DFT-16QAM	H	Outer_Full	17.917	19.11	PASS
n78	30	30	DFT-QPSK	L	Outer_Full	26.787	28.32	PASS
n78	30	30	DFT-16QAM	L	Outer_Full	26.798	28.14	PASS
n78	30	30	DFT-QPSK	M	Outer_Full	26.772	28.29	PASS
n78	30	30	DFT-16QAM	M	Outer_Full	26.794	28.15	PASS
n78	30	30	DFT-QPSK	H	Outer_Full	26.782	28.26	PASS
n78	30	30	DFT-16QAM	H	Outer_Full	26.797	28.19	PASS
n78	30	40	DFT-QPSK	L	Outer_Full	35.687	37.29	PASS
n78	30	40	DFT-16QAM	L	Outer_Full	35.726	37.26	PASS
n78	30	40	DFT-QPSK	M	Outer_Full	35.693	37.31	PASS
n78	30	40	DFT-16QAM	M	Outer_Full	35.694	37.51	PASS
n78	30	40	DFT-QPSK	H	Outer_Full	35.690	37.44	PASS
n78	30	40	DFT-16QAM	H	Outer_Full	35.755	37.40	PASS
n78	30	50	DFT-QPSK	L	Outer_Full	45.792	47.41	PASS
n78	30	50	DFT-16QAM	L	Outer_Full	45.850	47.57	PASS
n78	30	50	DFT-QPSK	M	Outer_Full	45.811	47.59	PASS
n78	30	50	DFT-16QAM	M	Outer_Full	45.845	47.54	PASS
n78	30	50	DFT-QPSK	H	Outer_Full	45.824	47.50	PASS
n78	30	50	DFT-16QAM	H	Outer_Full	45.807	47.59	PASS
n78	30	60	DFT-QPSK	L	Outer_Full	57.742	60.14	PASS
n78	30	60	DFT-16QAM	L	Outer_Full	57.710	59.97	PASS
n78	30	60	DFT-QPSK	M	Outer_Full	57.778	60.10	PASS
n78	30	60	DFT-16QAM	M	Outer_Full	57.703	60.07	PASS
n78	30	60	DFT-QPSK	H	Outer_Full	57.776	60.18	PASS
n78	30	60	DFT-16QAM	H	Outer_Full	57.712	60.14	PASS
n78	30	70	DFT-QPSK	L	Outer_Full	64.375	66.44	PASS
n78	30	70	DFT-16QAM	L	Outer_Full	64.231	66.53	PASS
n78	30	70	DFT-QPSK	M	Outer_Full	64.190	66.52	PASS
n78	30	70	DFT-16QAM	M	Outer_Full	64.214	66.40	PASS
n78	30	70	DFT-QPSK	H	Outer_Full	64.212	66.65	PASS
n78	30	70	DFT-16QAM	H	Outer_Full	64.204	66.42	PASS
n78	30	80	DFT-QPSK	L	Outer_Full	76.890	79.77	PASS

Band	SCS (kHz)	BW (MHz)	Modulation	Ch.	RB Config	99% BW Result (MHz)	26dB BW Result (MHz)	Verdict
n78	30	80	DFT-16QAM	L	Outer_Full	77.056	79.82	PASS
n78	30	80	DFT-QPSK	M	Outer_Full	76.935	79.81	PASS
n78	30	80	DFT-16QAM	M	Outer_Full	77.072	79.64	PASS
n78	30	80	DFT-QPSK	H	Outer_Full	76.942	79.91	PASS
n78	30	80	DFT-16QAM	H	Outer_Full	77.166	79.89	PASS
n78	30	90	DFT-QPSK	L	Outer_Full	86.635	89.57	PASS
n78	30	90	DFT-16QAM	L	Outer_Full	86.736	89.53	PASS
n78	30	90	DFT-QPSK	M	Outer_Full	86.642	89.75	PASS
n78	30	90	DFT-16QAM	M	Outer_Full	86.639	89.53	PASS
n78	30	90	DFT-QPSK	H	Outer_Full	86.525	89.69	PASS
n78	30	90	DFT-16QAM	H	Outer_Full	86.763	89.41	PASS
n78	30	100	DFT-QPSK	M	Outer_Full	96.325	99.63	PASS
n78	30	100	DFT-16QAM	M	Outer_Full	96.268	99.84	PASS

Test Graphs



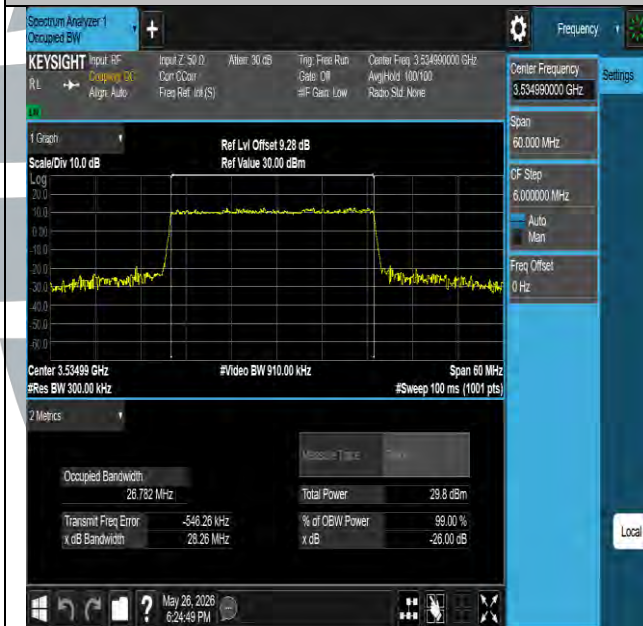




NTNV-n78-PC3-30-30-M-DFT-QPSK-Outer_Full-Ant1-PASS



NTNV-n78-PC3-30-30-M-DFT-16QAM-Outer_Full-Ant1-PASS



NTNV-n78-PC3-30-30-H-DFT-QPSK-Outer_Full-Ant1-PASS



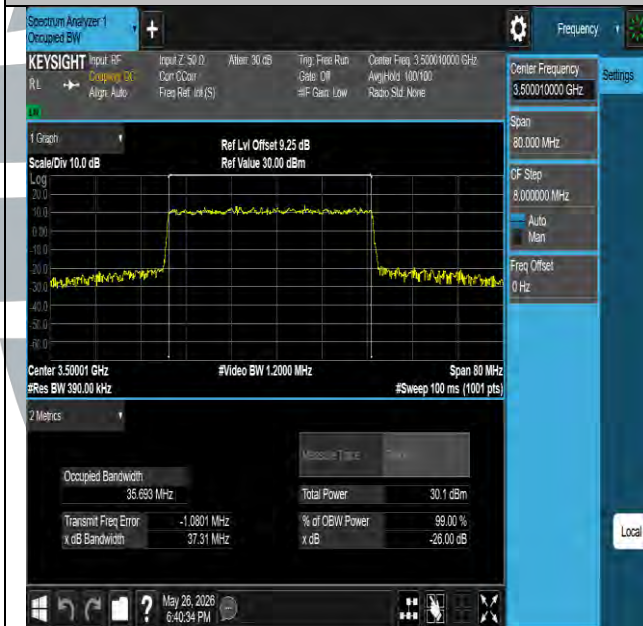
NTNV-n78-PC3-30-30-H-DFT-16QAM-Outer_Full-Ant1-PASS



NTNV-n78-PC3-30-40-L-DFT-QPSK-Outer_Full-Ant1-PASS



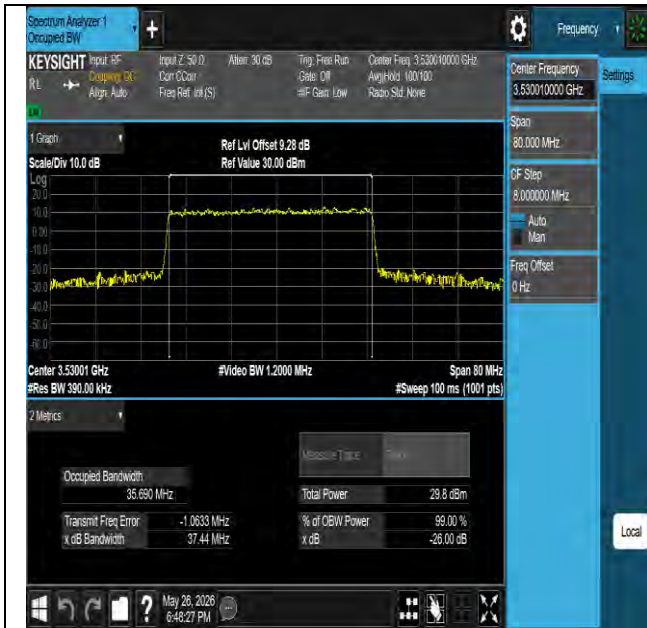
NTNV-n78-PC3-30-40-L-DFT-16QAM-Outer_Full-Ant1-PASS



NTNV-n78-PC3-30-40-M-DFT-QPSK-Outer_Full-Ant1-PASS



NTNV-n78-PC3-30-40-M-DFT-16QAM-Outer_Full-Ant1-PASS



NTNV-n78-PC3-30-40-H-DFT-QPSK-Outer_Full-Ant1-PASS



NTNV-n78-PC3-30-40-H-DFT-16QAM-Outer_Full-Ant1-PASS



NTNV-n78-PC3-30-50-L-DFT-QPSK-Outer_Full-Ant1-PASS



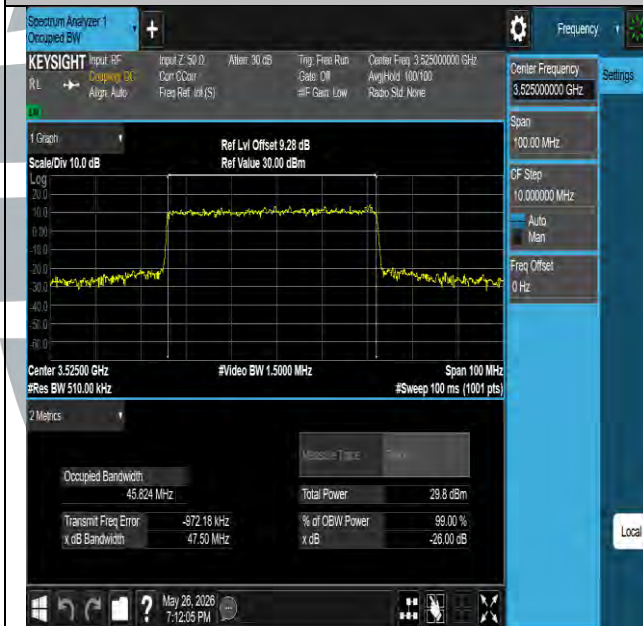
NTNV-n78-PC3-30-50-L-DFT-16QAM-Outer_Full-Ant1-PASS



NTNV-n78-PC3-30-50-M-DFT-QPSK-Outer_Full-Ant1-PASS



NTNV-n78-PC3-30-50-M-DFT-16QAM-Outer_Full-Ant1-PASS



NTNV-n78-PC3-30-50-H-DFT-QPSK-Outer_Full-Ant1-PASS



NTNV-n78-PC3-30-50-H-DFT-16QAM-Outer_Full-Ant1-PASS



NTNV-n78-PC3-30-60-L-DFT-QPSK-Outer_Full-Ant1-PASS



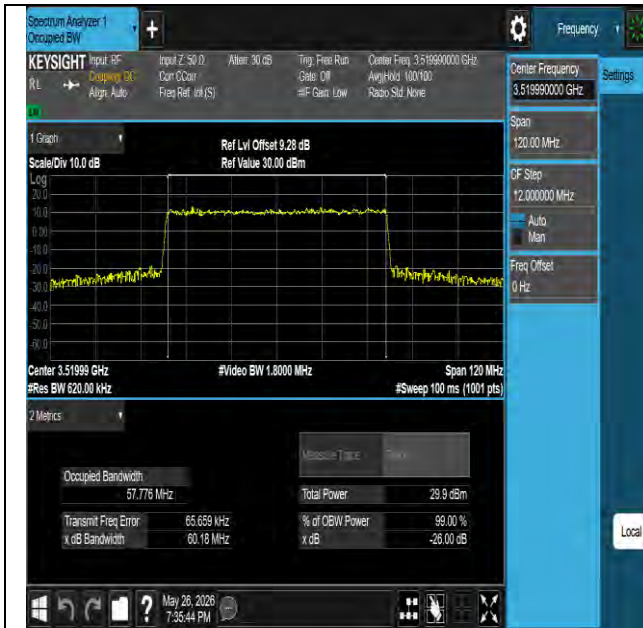
NTNV-n78-PC3-30-60-L-DFT-16QAM-Outer_Full-Ant1-PASS



NTNV-n78-PC3-30-60-M-DFT-QPSK-Outer_Full-Ant1-PASS



NTNV-n78-PC3-30-60-M-DFT-16QAM-Outer_Full-Ant1-PASS



NTNV-n78-PC3-30-60-H-DFT-QPSK-Outer_Full-Ant1-PASS



NTNV-n78-PC3-30-60-H-DFT-16QAM-Outer_Full-Ant1-PASS



NTNV-n78-PC3-30-70-L-DFT-QPSK-Outer_Full-Ant1-PASS



NTNV-n78-PC3-30-70-L-DFT-16QAM-Outer_Full-Ant1-PASS



NTNV-n78-PC3-30-70-M-DFT-QPSK-Outter_Full-Ant1-PASS



NTNV-n78-PC3-30-70-M-DFT-16QAM-Outter_Full-Ant1-PASS



NTNV-n78-PC3-30-70-H-DFT-QPSK-Outter_Full-Ant1-PASS



NTNV-n78-PC3-30-70-H-DFT-16QAM-Outter_Full-Ant1-PASS



NTNV-n78-PC3-30-80-L-DFT-QPSK-Outer_Full-Ant1-PASS



NTNV-n78-PC3-30-80-L-DFT-16QAM-Outer_Full-Ant1-PASS



NTNV-n78-PC3-30-80-M-DFT-QPSK-Outer_Full-Ant1-PASS



NTNV-n78-PC3-30-80-M-DFT-16QAM-Outer_Full-Ant1-PASS



NTNV-n78-PC3-30-80-H-DFT-QPSK-Outer_Full-Ant1-PASS



NTNV-n78-PC3-30-80-H-DFT-16QAM-Outer_Full-Ant1-PASS



NTNV-n78-PC3-30-90-L-DFT-QPSK-Outer_Full-Ant1-PASS



NTNV-n78-PC3-30-90-L-DFT-16QAM-Outer_Full-Ant1-PASS



NTNV-n78-PC3-30-90-M-DFT-QPSK-Outer_Full-Ant1-PASS



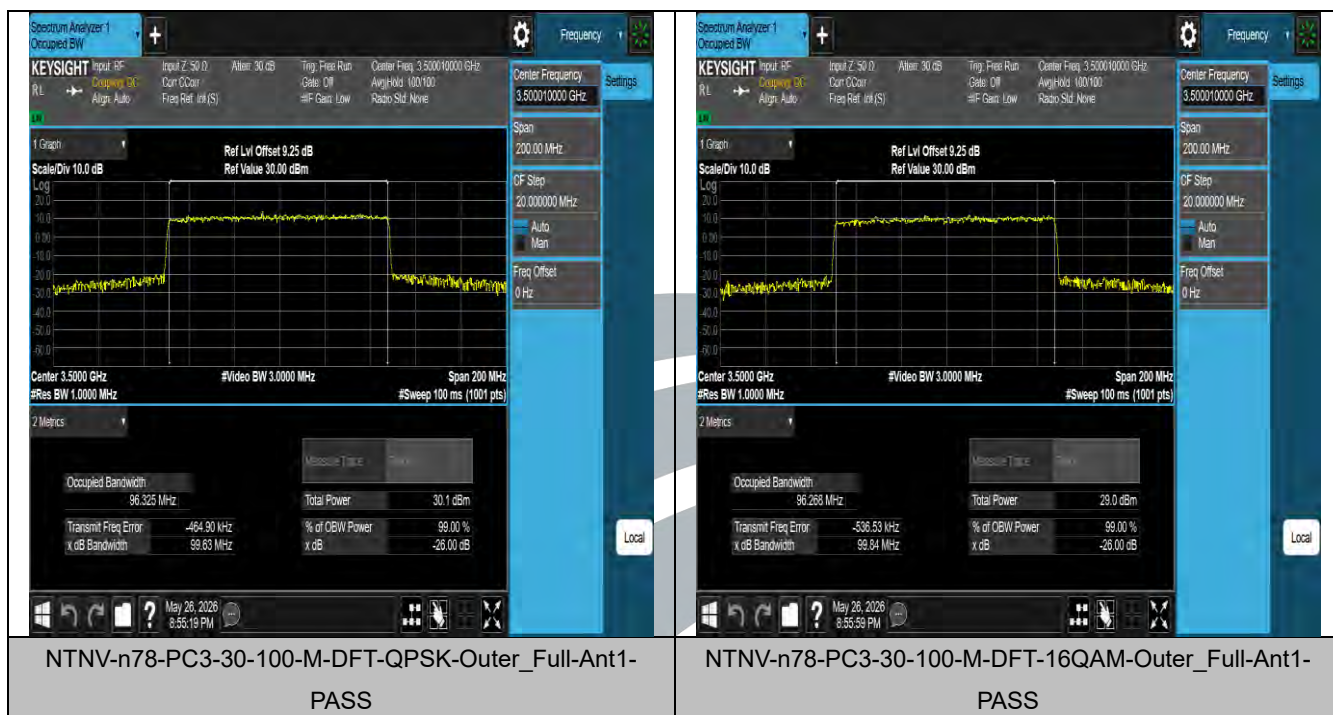
NTNV-n78-PC3-30-90-M-DFT-16QAM-Outer_Full-Ant1-PASS



NTNV-n78-PC3-30-90-H-DFT-QPSK-Outer_Full-Ant1-PASS



NTNV-n78-PC3-30-90-H-DFT-16QAM-Outer_Full-Ant1-PASS

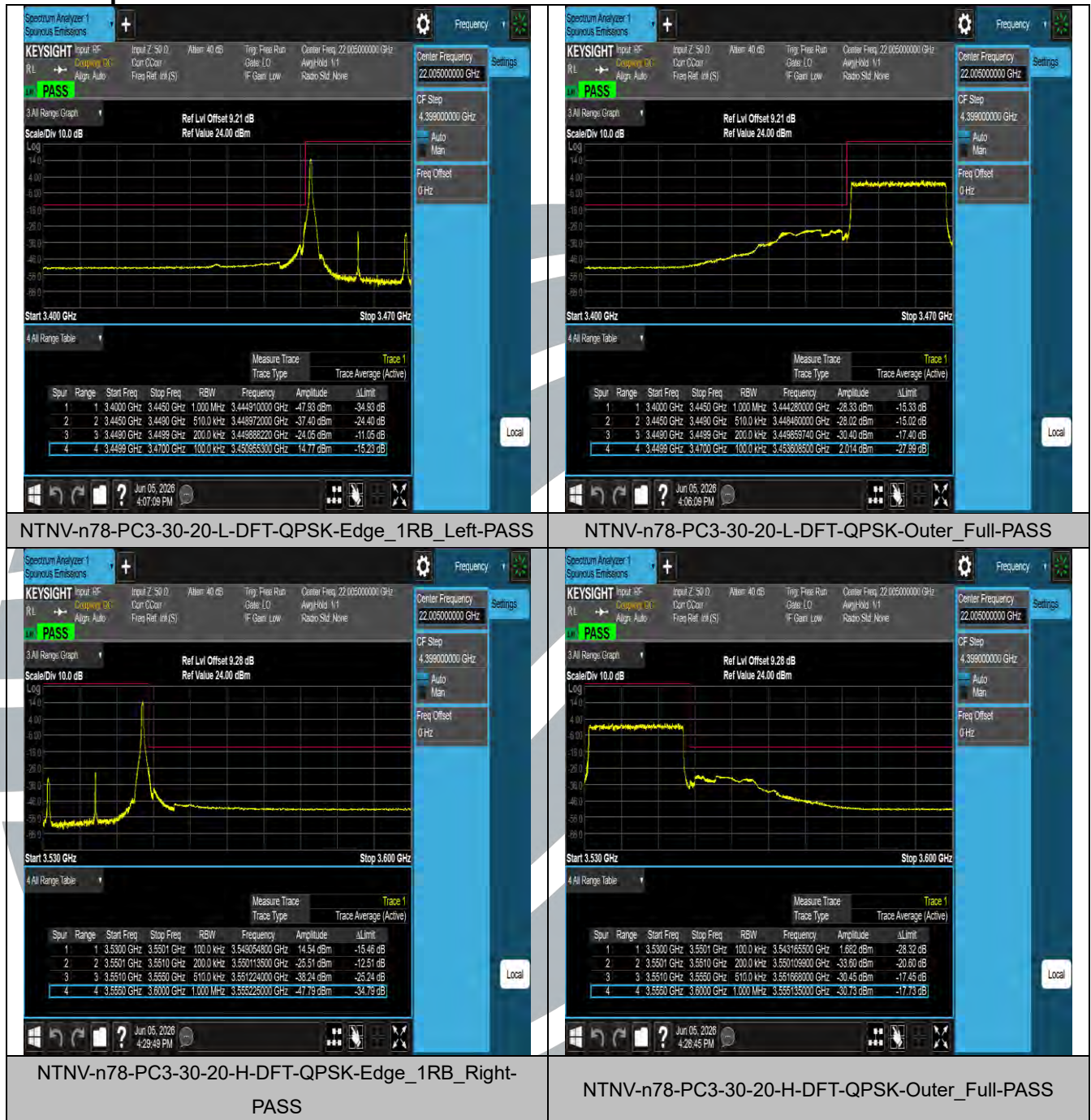


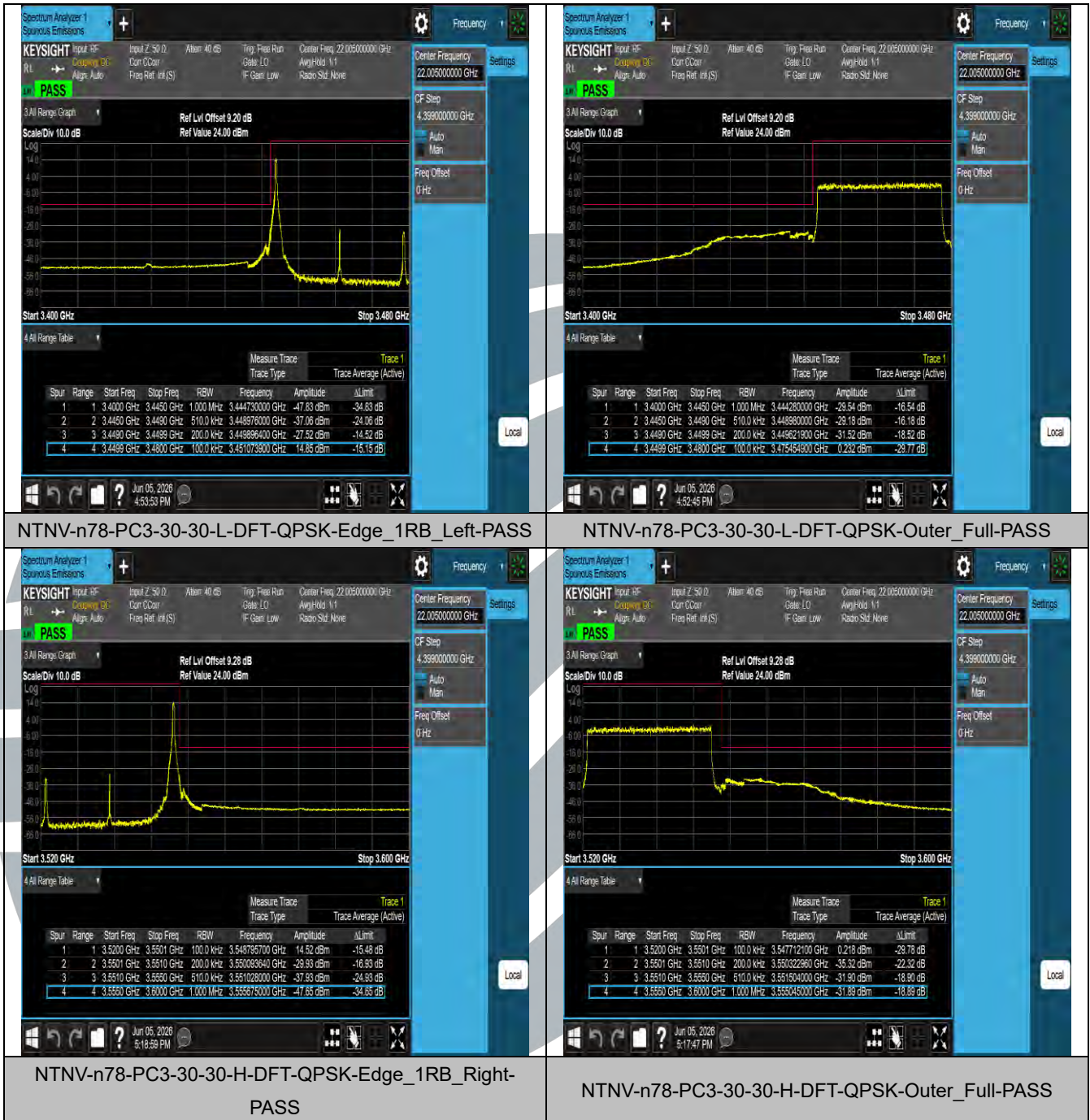
C.3 BAND EDGE FOR SA

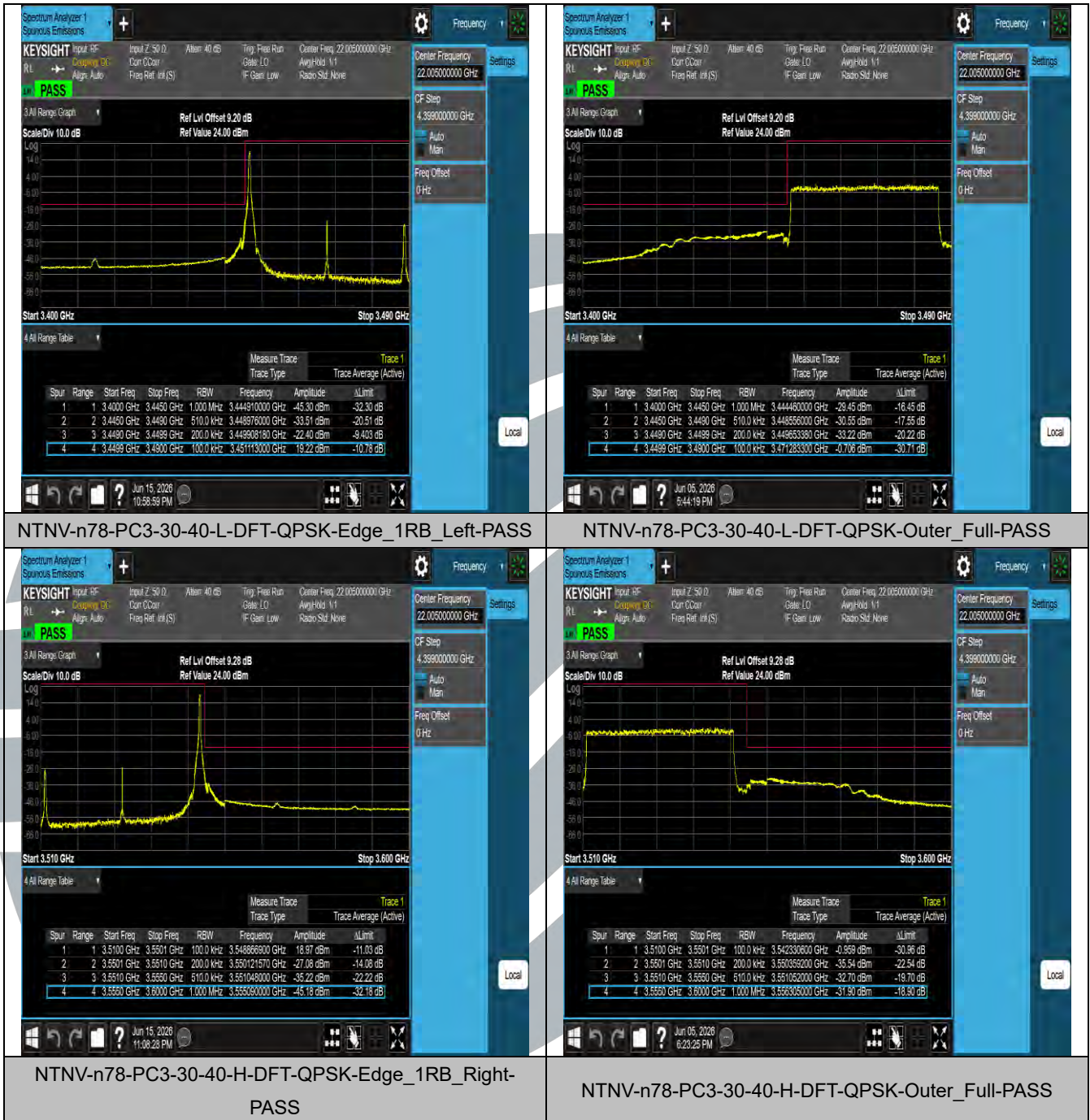
Test Result

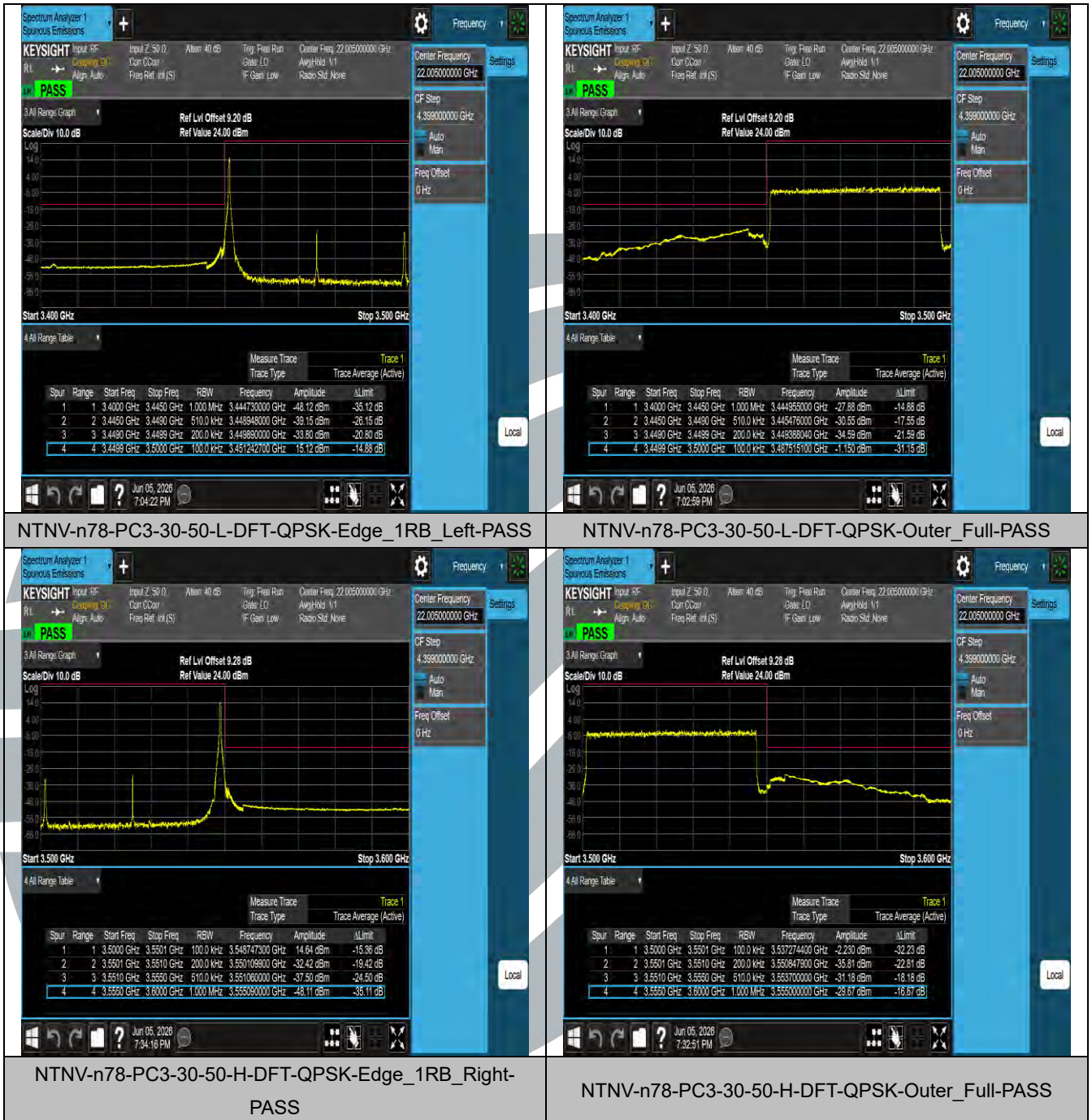
Band	SCS (kHz)	BW (MHz)	Modulation	Channel	RB Config	Result (dBm)	Verdict
n78	30	20	DFT-QPSK	L	Edge_1RB_Left	-24.05	PASS
n78	30	20	DFT-QPSK	L	Outer_Full	-28.02	PASS
n78	30	20	DFT-QPSK	H	Edge_1RB_Right	-25.51	PASS
n78	30	20	DFT-QPSK	H	Outer_Full	-30.45	PASS
n78	30	30	DFT-QPSK	L	Edge_1RB_Left	-27.52	PASS
n78	30	30	DFT-QPSK	L	Outer_Full	-29.18	PASS
n78	30	30	DFT-QPSK	H	Edge_1RB_Right	-29.93	PASS
n78	30	30	DFT-QPSK	H	Outer_Full	-31.89	PASS
n78	30	40	DFT-QPSK	L	Edge_1RB_Left	-22.40	PASS
n78	30	40	DFT-QPSK	L	Outer_Full	-29.45	PASS
n78	30	40	DFT-QPSK	H	Edge_1RB_Right	-27.08	PASS
n78	30	40	DFT-QPSK	H	Outer_Full	-31.90	PASS
n78	30	50	DFT-QPSK	L	Edge_1RB_Left	-33.80	PASS
n78	30	50	DFT-QPSK	L	Outer_Full	-27.88	PASS
n78	30	50	DFT-QPSK	H	Edge_1RB_Right	-32.42	PASS
n78	30	50	DFT-QPSK	H	Outer_Full	-29.67	PASS
n78	30	60	DFT-QPSK	L	Edge_1RB_Left	-23.98	PASS
n78	30	60	DFT-QPSK	L	Outer_Full	-31.30	PASS
n78	30	60	DFT-QPSK	H	Edge_1RB_Right	-28.49	PASS
n78	30	60	DFT-QPSK	H	Outer_Full	-32.04	PASS
n78	30	70	DFT-QPSK	L	Edge_1RB_Left	-29.61	PASS
n78	30	70	DFT-QPSK	L	Outer_Full	-31.49	PASS
n78	30	70	DFT-QPSK	H	Edge_1RB_Right	-30.84	PASS
n78	30	70	DFT-QPSK	H	Outer_Full	-32.36	PASS
n78	30	80	DFT-QPSK	L	Edge_1RB_Left	-27.21	PASS
n78	30	80	DFT-QPSK	L	Outer_Full	-31.13	PASS
n78	30	80	DFT-QPSK	H	Edge_1RB_Right	-30.16	PASS
n78	30	80	DFT-QPSK	H	Outer_Full	-31.12	PASS
n78	30	90	DFT-QPSK	L	Edge_1RB_Left	-25.60	PASS
n78	30	90	DFT-QPSK	L	Outer_Full	-33.02	PASS
n78	30	90	DFT-QPSK	H	Edge_1RB_Right	-28.41	PASS
n78	30	90	DFT-QPSK	H	Outer_Full	-33.26	PASS
n78	30	100	DFT-QPSK	M	Edge_1RB_Left	-24.96	PASS
n78	30	100	DFT-QPSK	M	Edge_1RB_Right	-26.72	PASS
n78	30	100	DFT-QPSK	M	Outer_Full	-30.77	PASS

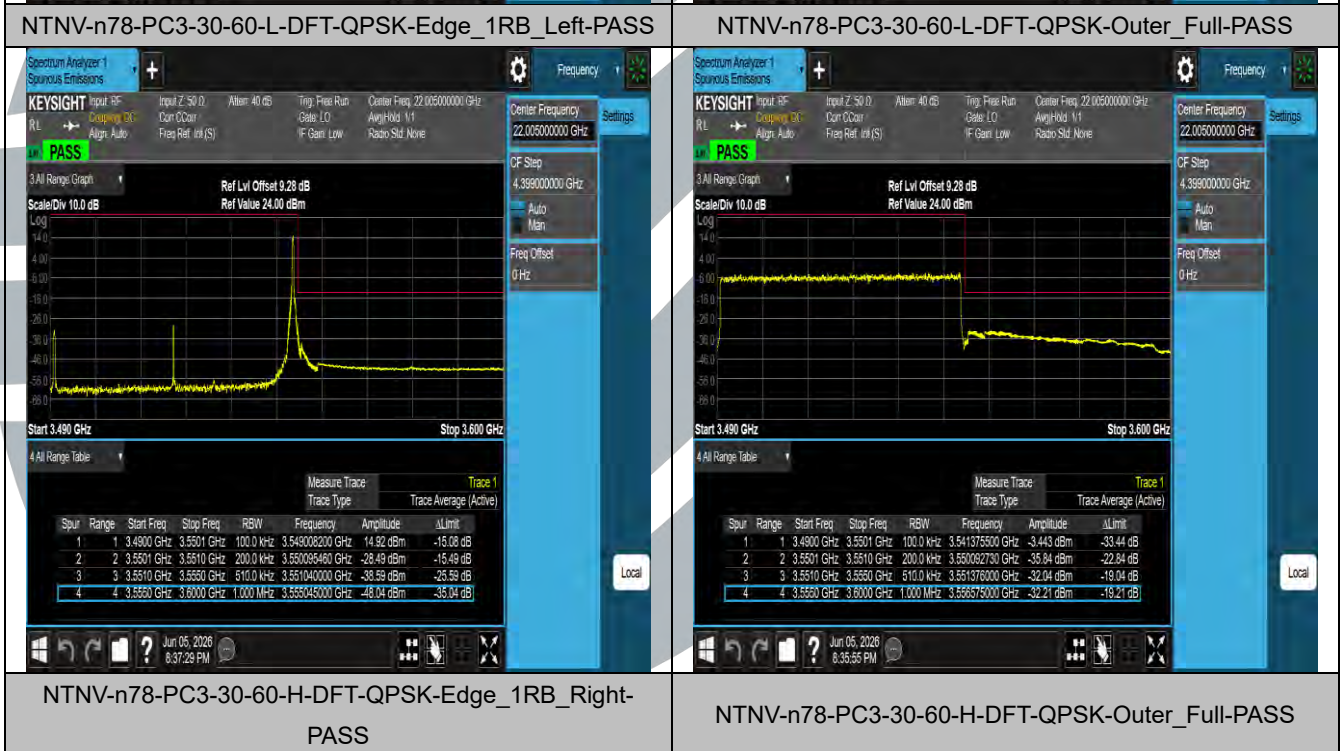
Test Graphs

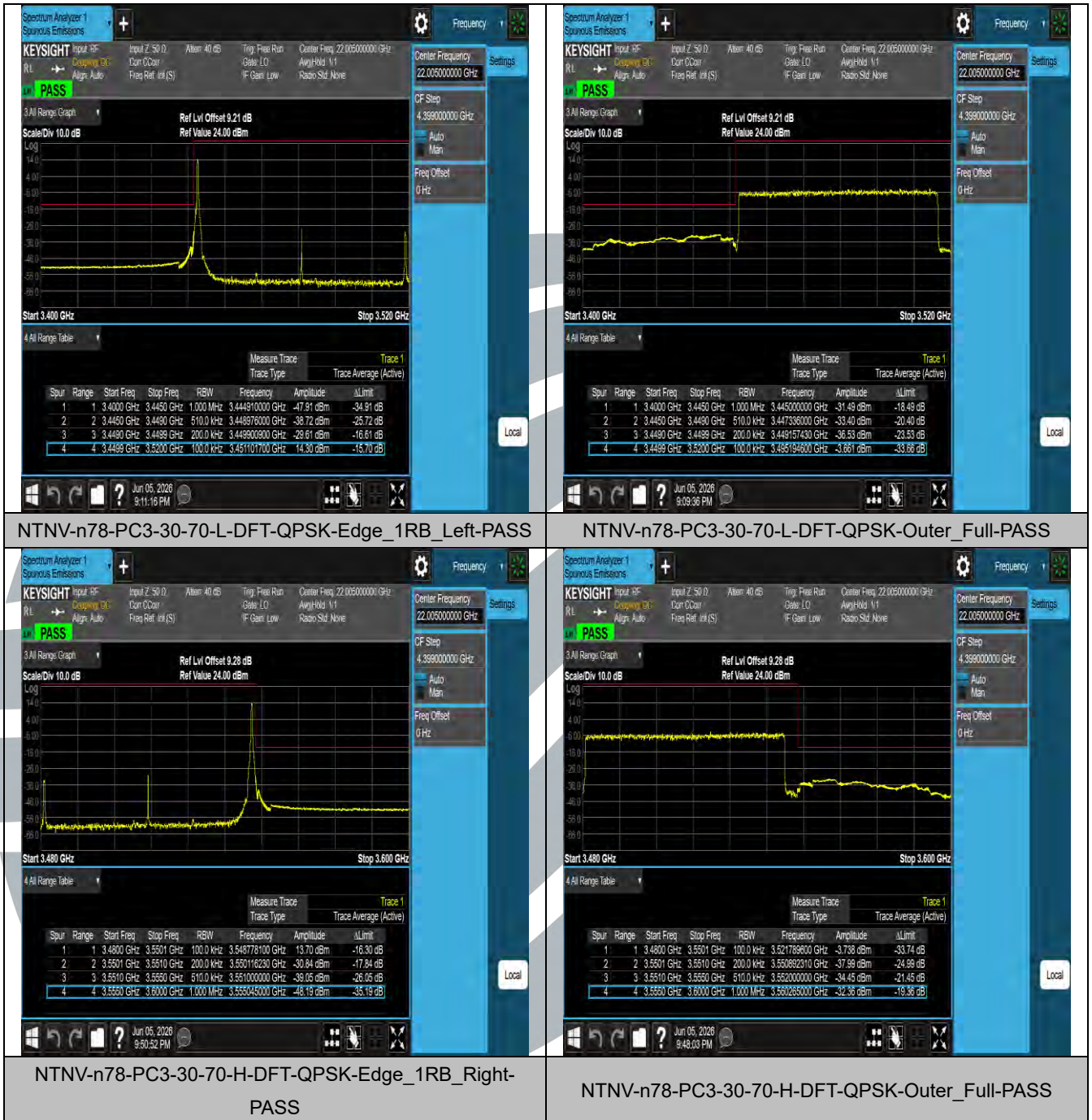


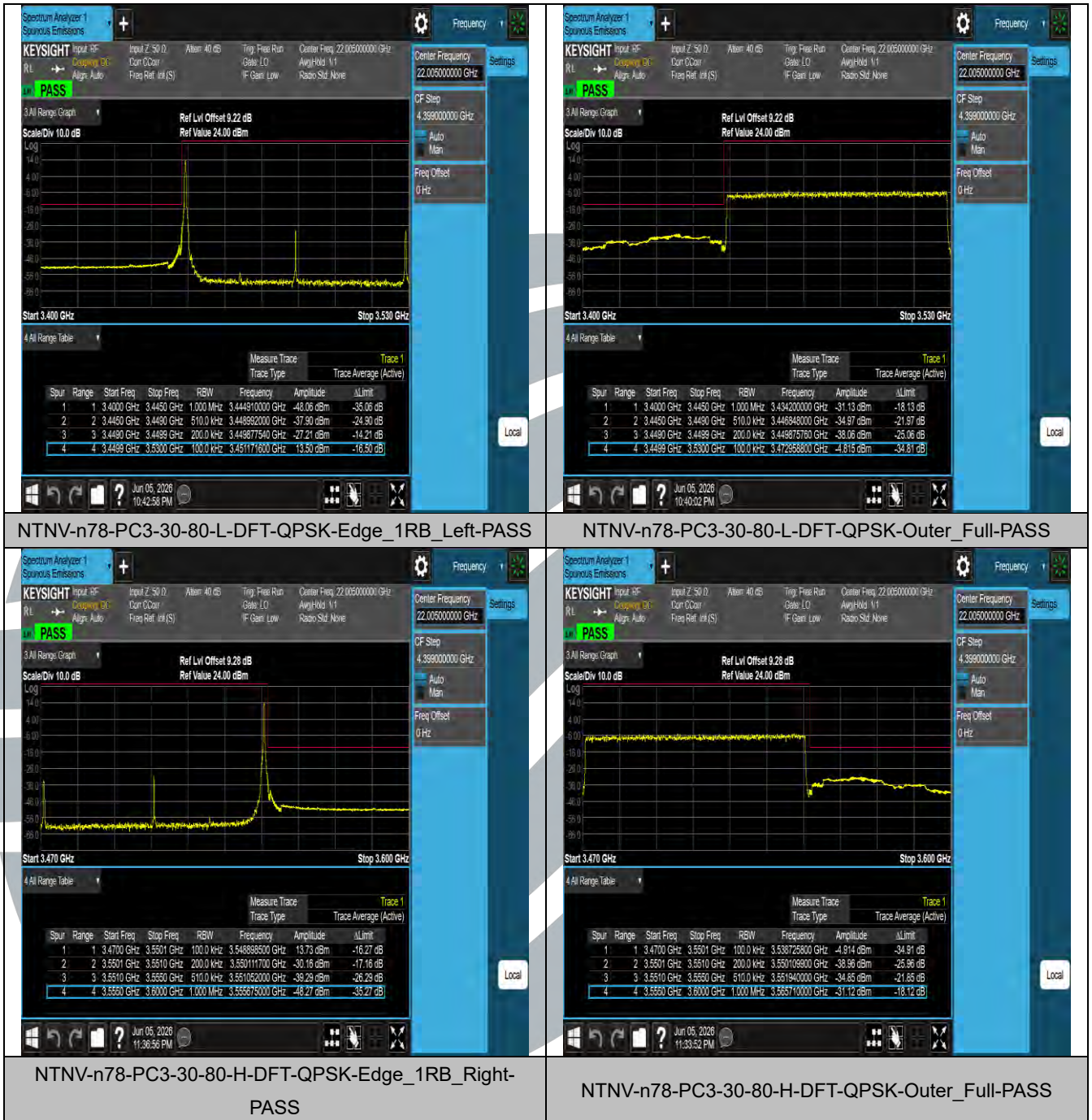


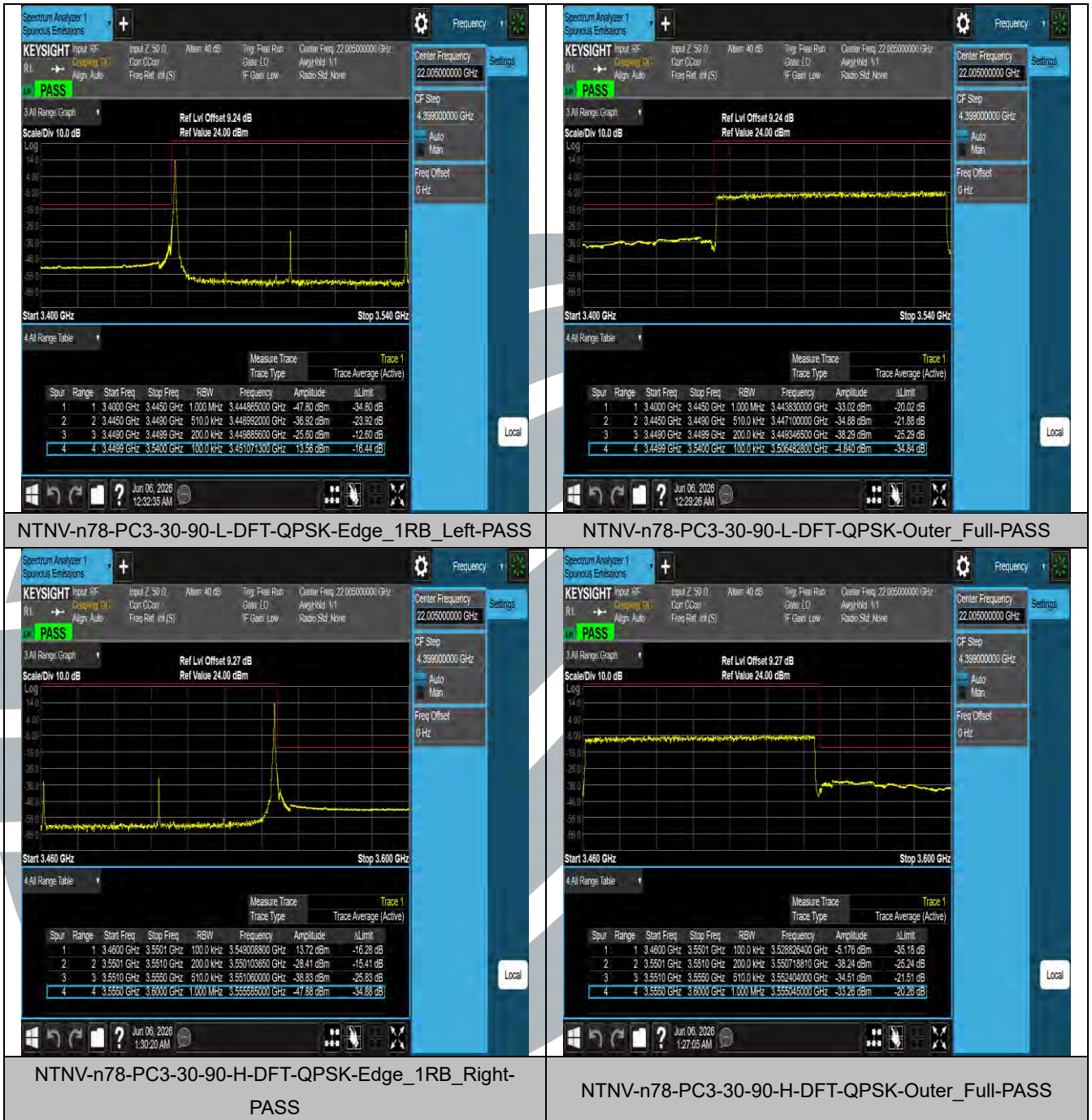


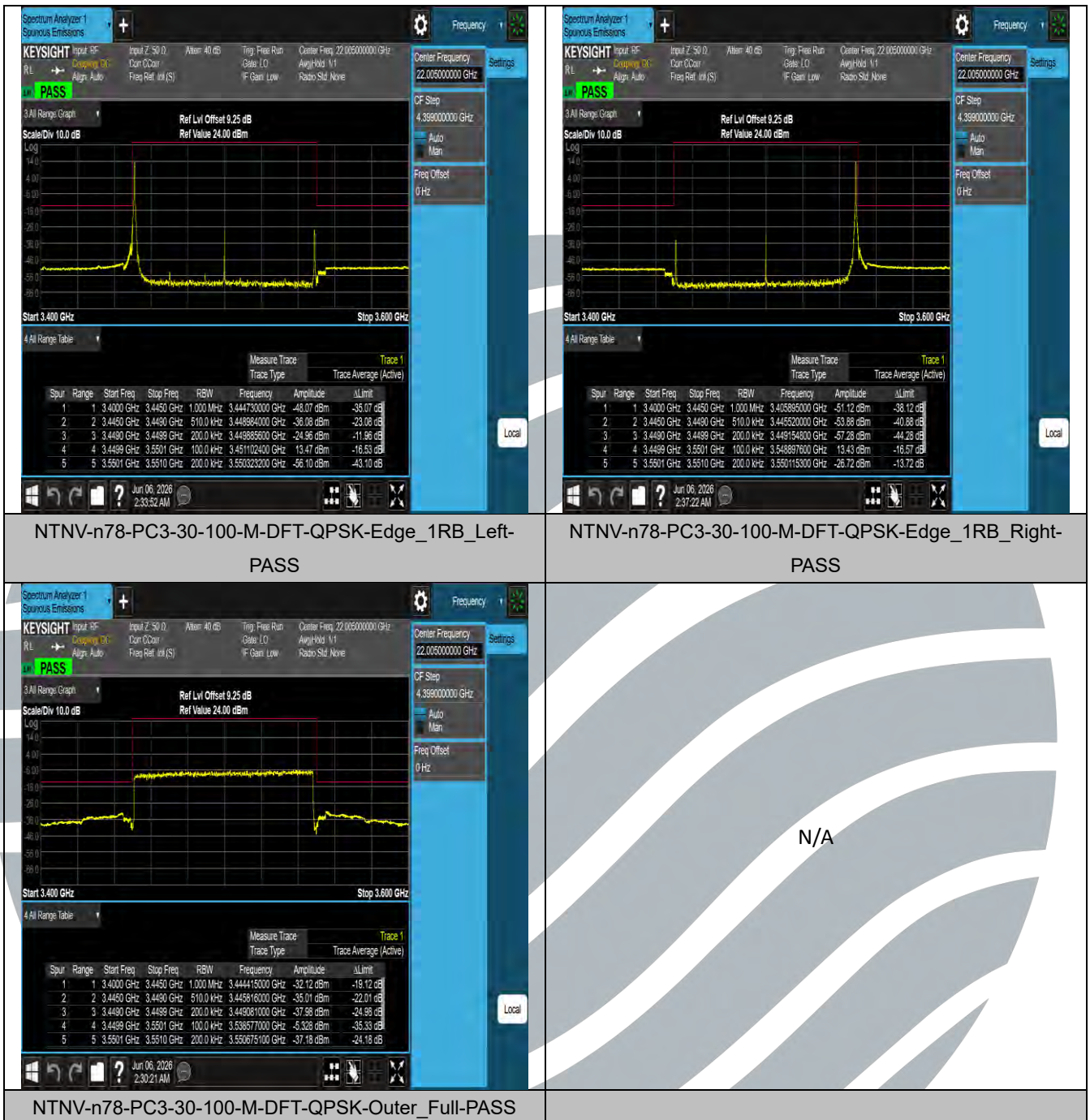










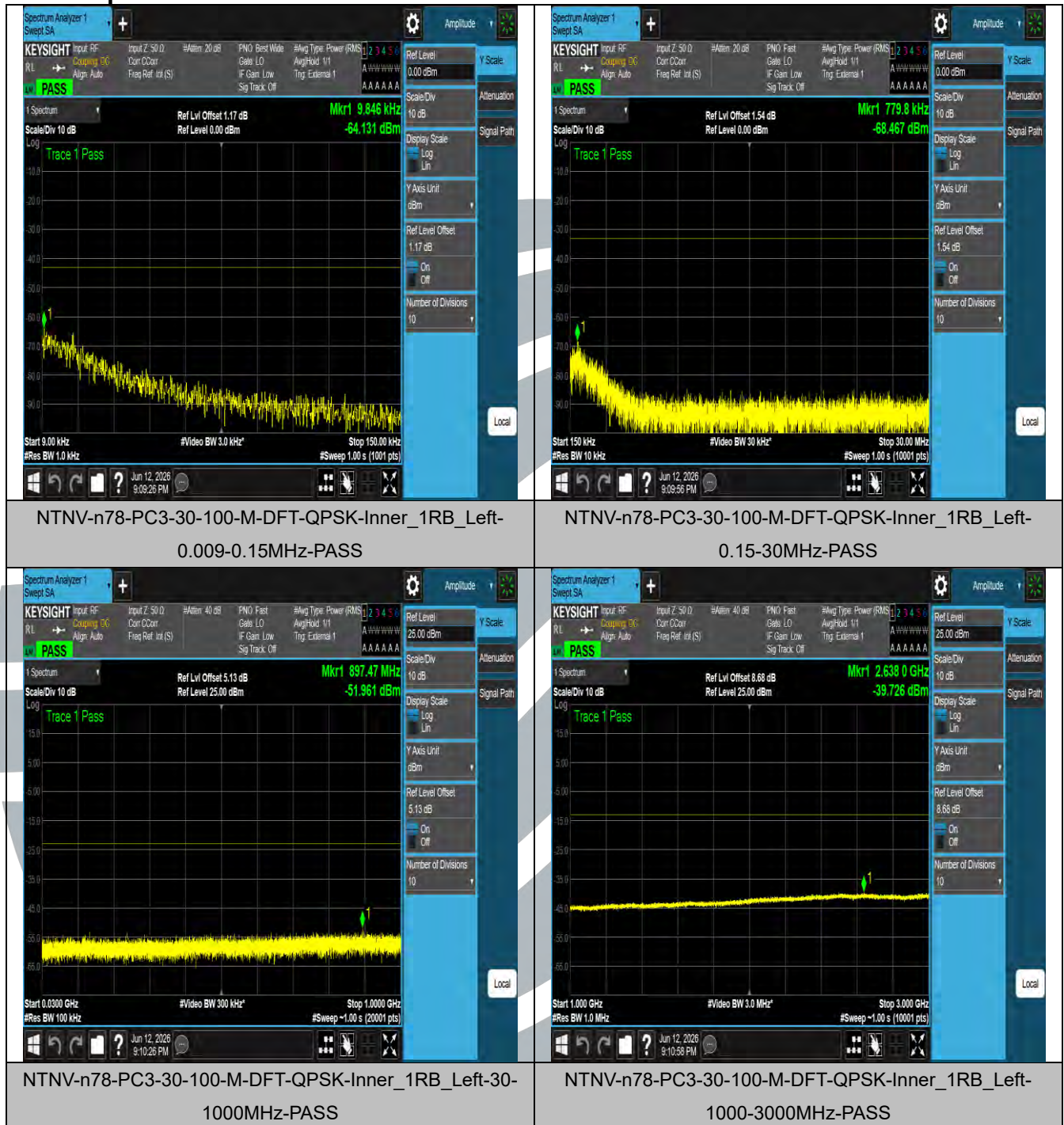


C.4 CONDUCTED SPURIOUS EMISSION FOR SA

Test Result

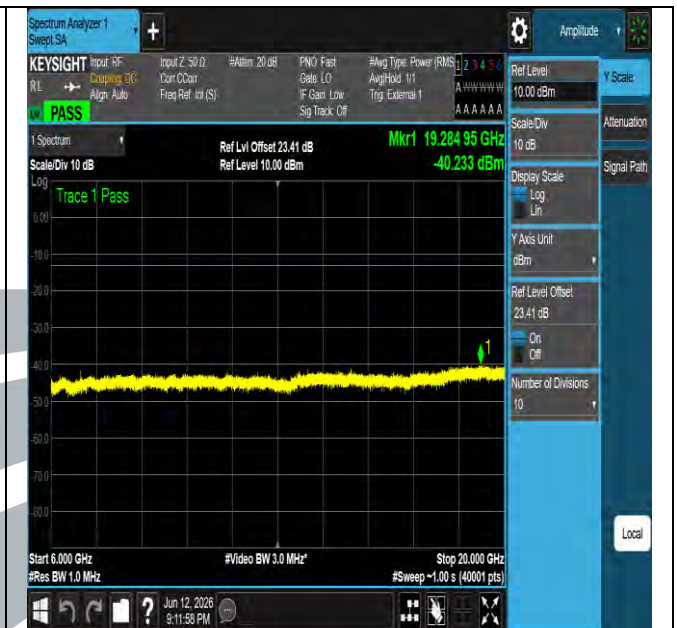
Band	SCS (kHz)	BW (MHz)	Modulation	Ch.	RB Config	Start Freq (MHz)	Stop Freq (MHz)	Result (dBm)	Limit	Verdict
n78	30	100	DFT-QPSK	M	Inner_1RB_Left	0.009	0.15	-64.13	≤-43dBm	PASS
n78	30	100	DFT-QPSK	M	Inner_1RB_Left	0.15	30	-68.47	≤-33dBm	PASS
n78	30	100	DFT-QPSK	M	Inner_1RB_Left	30	1000	-51.96	≤-23dBm	PASS
n78	30	100	DFT-QPSK	M	Inner_1RB_Left	1000	3000	-39.73	≤-13dBm	PASS
n78	30	100	DFT-QPSK	M	Inner_1RB_Left	3000	6000	-32.67	≤-13dBm	PASS
n78	30	100	DFT-QPSK	M	Inner_1RB_Left	6000	20000	-40.23	≤-13dBm	PASS
n78	30	100	DFT-QPSK	M	Inner_1RB_Left	20000	40000	-42.73	≤-13dBm	PASS

Test Graphs





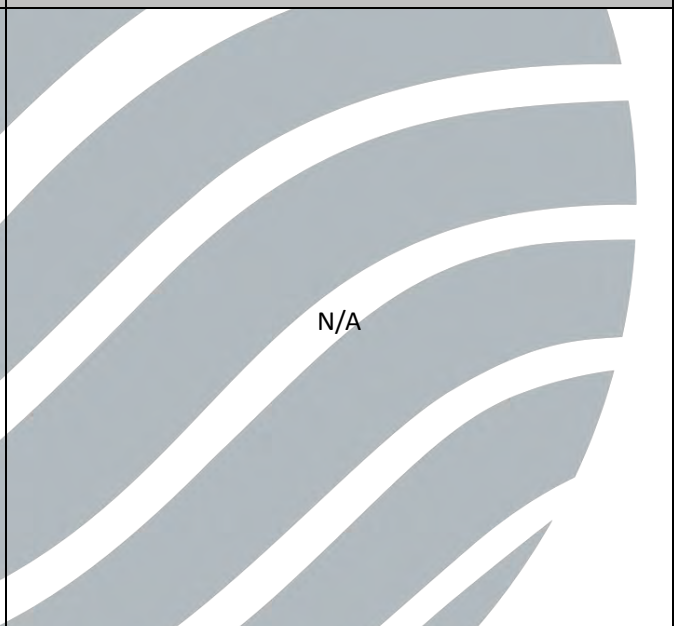
NTNV-n78-PC3-30-100-M-DFT-QPSK-Inner_1RB_Left-
3000-6000MHz-PASS



NTNV-n78-PC3-30-100-M-DFT-QPSK-Inner_1RB_Left-
6000-20000MHz-PASS



NTNV-n78-PC3-30-100-M-DFT-QPSK-Inner_1RB_Left-
20000-40000MHz-PASS



C.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
n78	30	100	DFT-QPSK	M	Outer_Full	VL	NT	-0.003498	- 2.5~2.5	3450	3550	---	PASS
n78	30	100	DFT-QPSK	M	Outer_Full	VN	NT	-0.001267	- 2.5~2.5	3450	3550	---	PASS
n78	30	100	DFT-QPSK	M	Outer_Full	VH	NT	-0.002776	- 2.5~2.5	3450	3550	---	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
n78	30	100	DFT-QPSK	M	Outer_Full	NV	-30	0.000497	-2.5~2.5	3450	3550	---	PASS
n78	30	100	DFT-QPSK	M	Outer_Full	NV	-20	-0.004722	-2.5~2.5	3450	3550	---	PASS
n78	30	100	DFT-QPSK	M	Outer_Full	NV	-10	-0.004202	-2.5~2.5	3450	3550	---	PASS
n78	30	100	DFT-QPSK	M	Outer_Full	NV	0	0.000966	-2.5~2.5	3450	3550	---	PASS
n78	30	100	DFT-QPSK	M	Outer_Full	NV	10	-0.001816	-2.5~2.5	3450	3550	---	PASS
n78	30	100	DFT-QPSK	M	Outer_Full	NV	20	-0.002336	-2.5~2.5	3450	3550	---	PASS
n78	30	100	DFT-QPSK	M	Outer_Full	NV	30	-0.003443	-2.5~2.5	3450	3550	---	PASS
n78	30	100	DFT-QPSK	M	Outer_Full	NV	40	-0.001709	-2.5~2.5	3450	3550	---	PASS
n78	30	100	DFT-QPSK	M	Outer_Full	NV	50	-0.000346	-2.5~2.5	3450	3550	---	PASS