

APPENDIX O 5G NR N25 RF TEST DATA

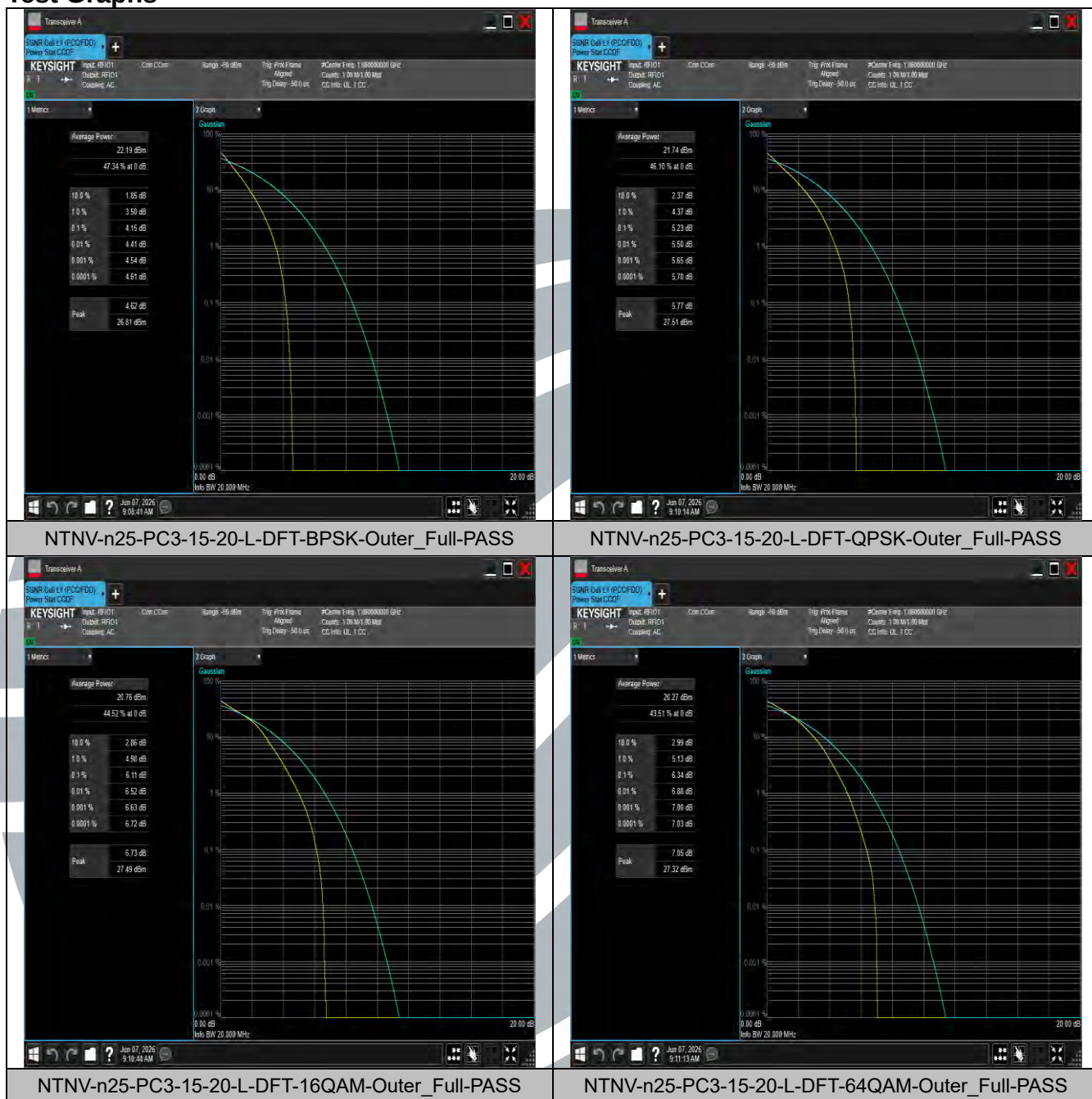
O.1 PEAK-TO-AVERAGE RATIO FOR SA

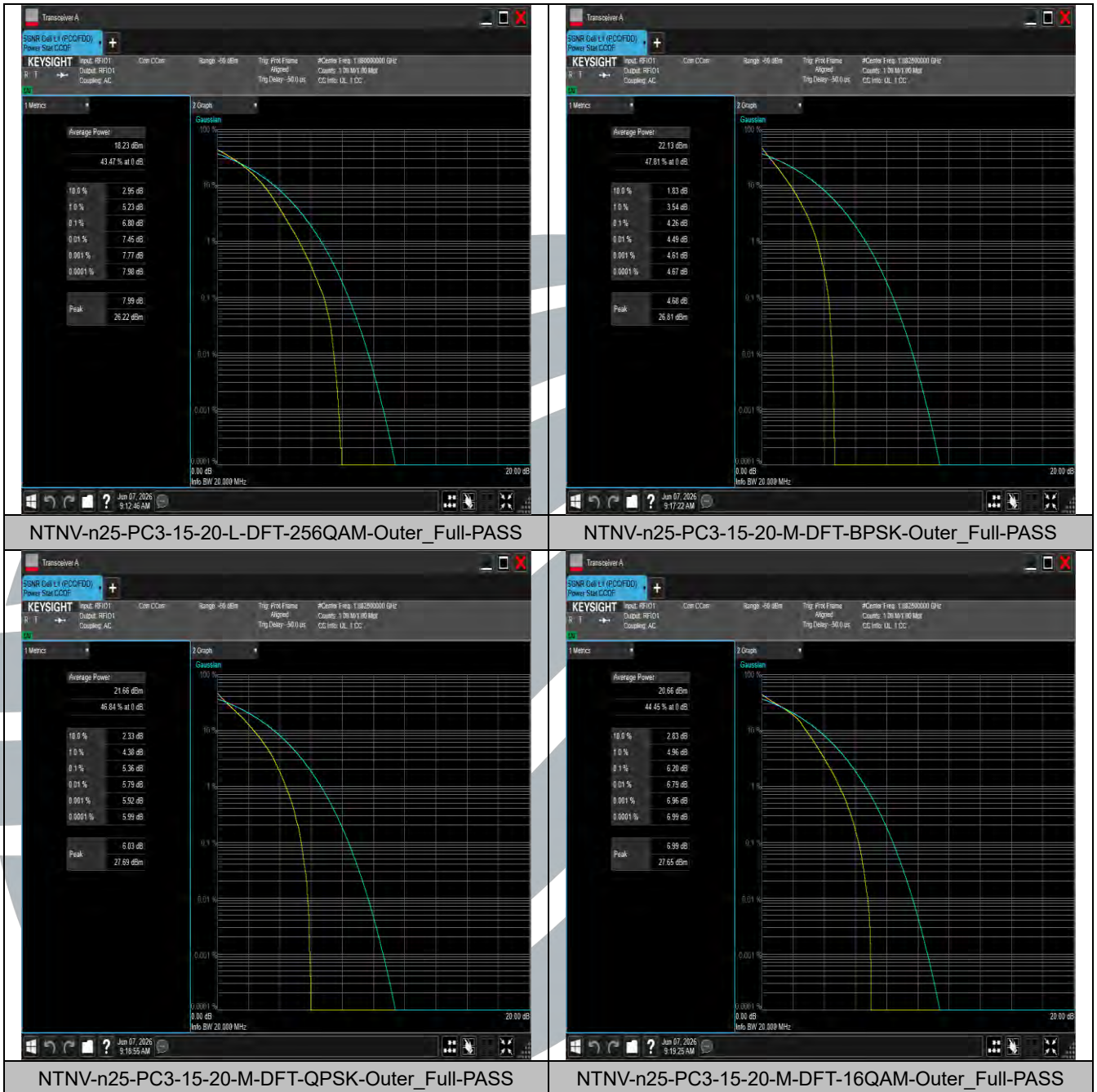
➤ Peak-to-Average Ratio(CCDF)

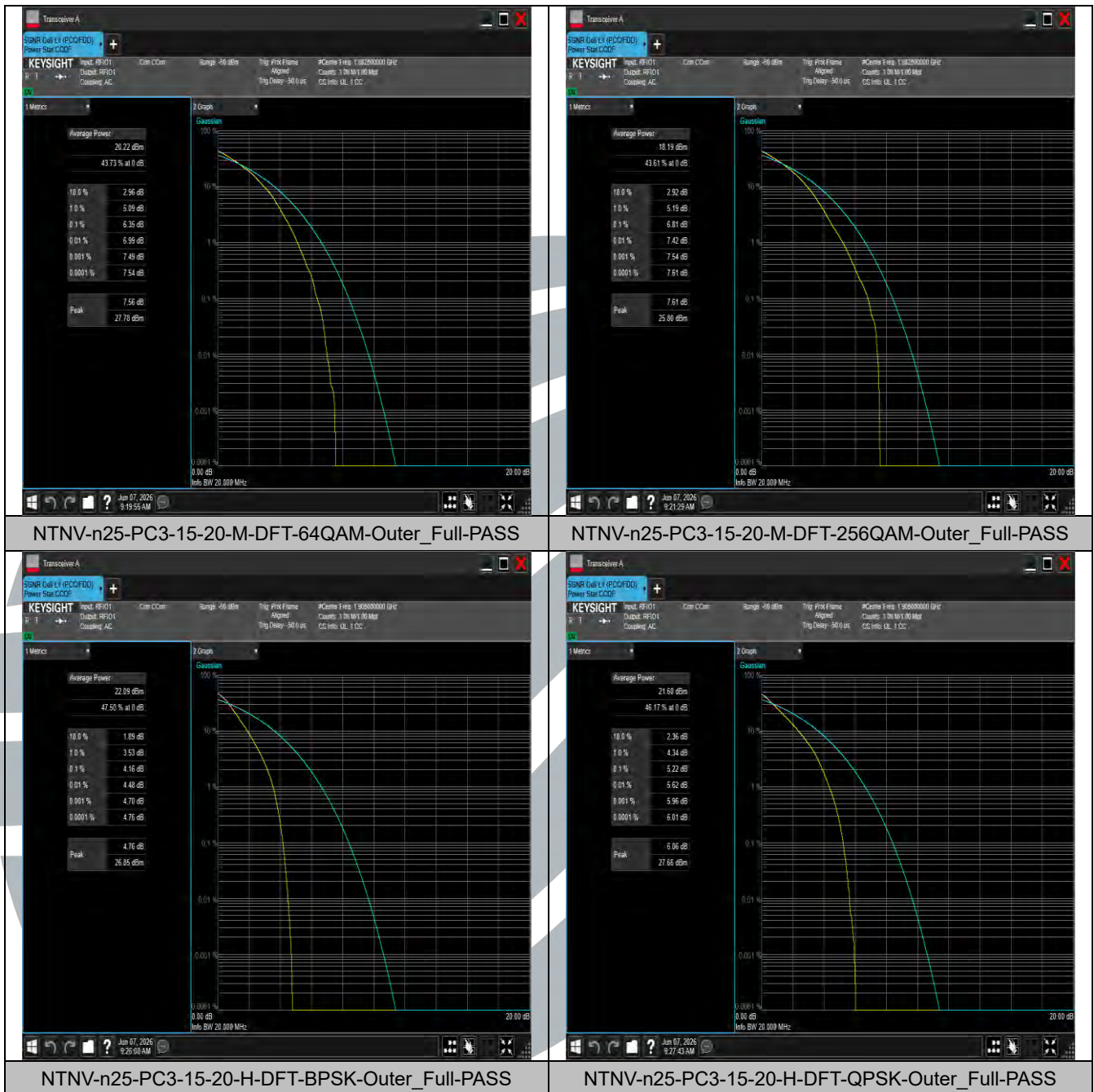
Test Result

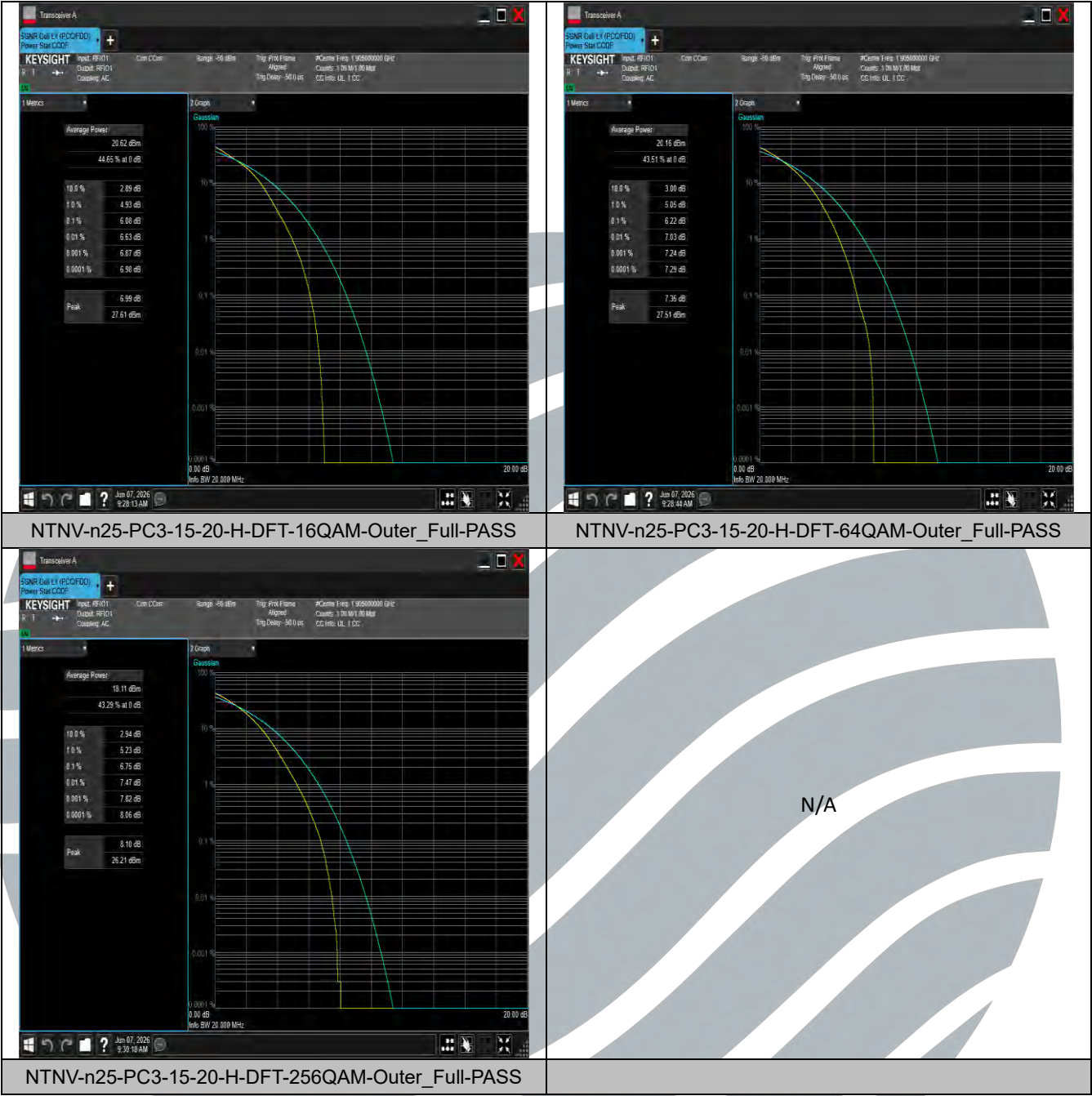
Band	SCS (kHz)	Bandwidth (MHz)	Modulation	Channel	RB Config	Result (dBm)	Limit	Verdict
n25	15	20	DFT-BPSK	L	Outer_Full	4.15	≤13dB	PASS
n25	15	20	DFT-QPSK	L	Outer_Full	5.23	≤13dB	PASS
n25	15	20	DFT-16QAM	L	Outer_Full	6.11	≤13dB	PASS
n25	15	20	DFT-64QAM	L	Outer_Full	6.34	≤13dB	PASS
n25	15	20	DFT-256QAM	L	Outer_Full	6.8	≤13dB	PASS
n25	15	20	DFT-BPSK	M	Outer_Full	4.26	≤13dB	PASS
n25	15	20	DFT-QPSK	M	Outer_Full	5.36	≤13dB	PASS
n25	15	20	DFT-16QAM	M	Outer_Full	6.2	≤13dB	PASS
n25	15	20	DFT-64QAM	M	Outer_Full	6.35	≤13dB	PASS
n25	15	20	DFT-256QAM	M	Outer_Full	6.81	≤13dB	PASS
n25	15	20	DFT-BPSK	H	Outer_Full	4.16	≤13dB	PASS
n25	15	20	DFT-QPSK	H	Outer_Full	5.22	≤13dB	PASS
n25	15	20	DFT-16QAM	H	Outer_Full	6.08	≤13dB	PASS
n25	15	20	DFT-64QAM	H	Outer_Full	6.22	≤13dB	PASS
n25	15	20	DFT-256QAM	H	Outer_Full	6.75	≤13dB	PASS

Test Graphs







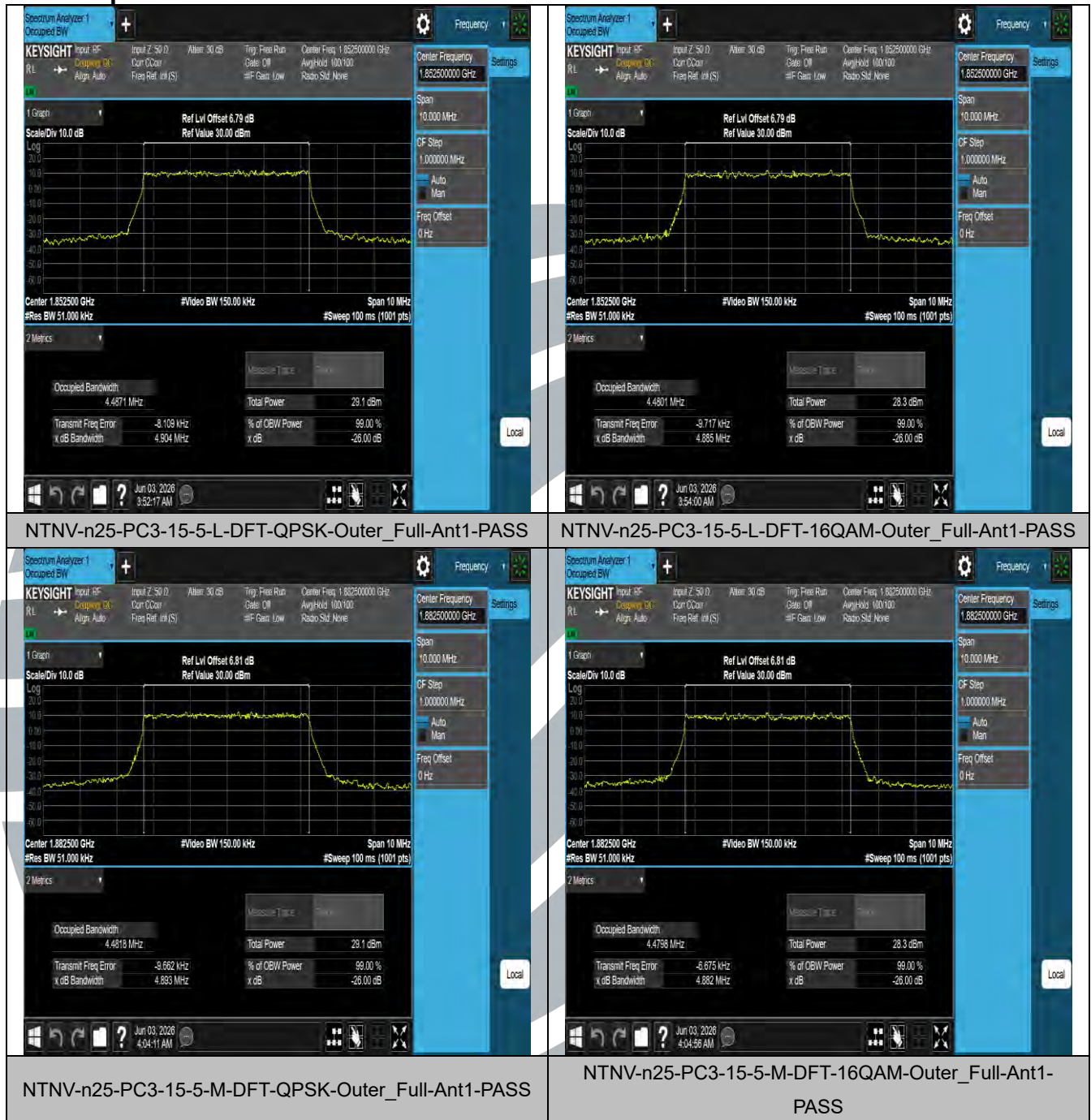


O.2 26DB BANDWIDTH AND OCCUPIED BANDWIDTH FOR SA

Test Result

Band	SCS (kHz)	Bandwidth (MHz)	Modulation	Ch.	RB Config	99% BW Result (MHz)	26dB BW Result (MHz)	Verdict
n25	15	5	DFT-QPSK	L	Outer_Full	4.4871	4.904	PASS
n25	15	5	DFT-16QAM	L	Outer_Full	4.4801	4.885	PASS
n25	15	5	DFT-QPSK	M	Outer_Full	4.4818	4.893	PASS
n25	15	5	DFT-16QAM	M	Outer_Full	4.4798	4.882	PASS
n25	15	5	DFT-QPSK	H	Outer_Full	4.4788	4.858	PASS
n25	15	5	DFT-16QAM	H	Outer_Full	4.4823	4.980	PASS
n25	15	10	DFT-QPSK	L	Outer_Full	8.9266	9.499	PASS
n25	15	10	DFT-16QAM	L	Outer_Full	8.9555	9.526	PASS
n25	15	10	DFT-QPSK	M	Outer_Full	8.9240	9.509	PASS
n25	15	10	DFT-16QAM	M	Outer_Full	8.9460	9.482	PASS
n25	15	10	DFT-QPSK	H	Outer_Full	8.9289	9.488	PASS
n25	15	10	DFT-16QAM	H	Outer_Full	8.9553	9.545	PASS
n25	15	15	DFT-QPSK	L	Outer_Full	13.427	14.20	PASS
n25	15	15	DFT-16QAM	L	Outer_Full	13.423	14.11	PASS
n25	15	15	DFT-QPSK	M	Outer_Full	13.430	14.23	PASS
n25	15	15	DFT-16QAM	M	Outer_Full	13.427	14.13	PASS
n25	15	15	DFT-QPSK	H	Outer_Full	13.432	14.27	PASS
n25	15	15	DFT-16QAM	H	Outer_Full	13.426	14.15	PASS
n25	15	20	DFT-QPSK	L	Outer_Full	17.843	18.75	PASS
n25	15	20	DFT-16QAM	L	Outer_Full	17.860	18.69	PASS
n25	15	20	DFT-QPSK	M	Outer_Full	17.845	28.35	PASS
n25	15	20	DFT-16QAM	M	Outer_Full	17.890	24.41	PASS
n25	15	20	DFT-QPSK	H	Outer_Full	17.847	18.72	PASS
n25	15	20	DFT-16QAM	H	Outer_Full	17.872	18.67	PASS
n25	15	20	DFT-64QAM	H	Outer_Full	17.892	18.73	PASS

Test Graphs





NTNV-n25-PC3-15-5-H-DFT-QPSK-Outer_Full-Ant1-PASS



NTNV-n25-PC3-15-5-H-DFT-16QAM-Outer_Full-Ant1-PASS



NTNV-n25-PC3-15-10-L-DFT-QPSK-Outer_Full-Ant1-PASS



NTNV-n25-PC3-15-10-L-DFT-16QAM-Outer_Full-Ant1-PASS



NTNV-n25-PC3-15-10-M-DFT-QPSK-Outer_Full-Ant1-PASS



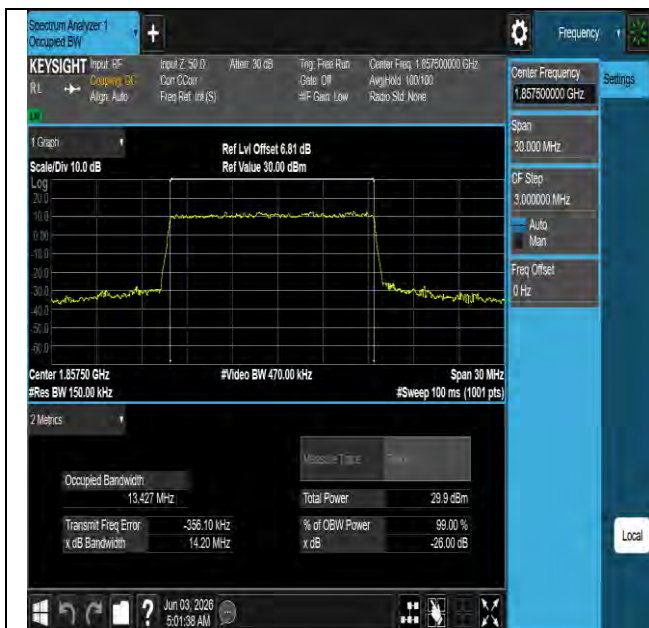
NTNV-n25-PC3-15-10-M-DFT-16QAM-Outer_Full-Ant1-PASS



NTNV-n25-PC3-15-10-H-DFT-QPSK-Outer_Full-Ant1-PASS



NTNV-n25-PC3-15-10-H-DFT-16QAM-Outer_Full-Ant1-PASS



NTNV-n25-PC3-15-15-L-DFT-QPSK-Outer_Full-Ant1-PASS



NTNV-n25-PC3-15-15-L-DFT-16QAM-Outer_Full-Ant1-PASS



NTNV-n25-PC3-15-15-M-DFT-QPSK-Outer_Full-Ant1-PASS



NTNV-n25-PC3-15-15-M-DFT-16QAM-Outer_Full-Ant1-PASS



NTNV-n25-PC3-15-15-H-DFT-QPSK-Outer_Full-Ant1-PASS



NTNV-n25-PC3-15-15-H-DFT-16QAM-Outer_Full-Ant1-PASS



NTNV-n25-PC3-15-20-L-DFT-QPSK-Outer_Full-Ant1-PASS



NTNV-n25-PC3-15-20-L-DFT-16QAM-Outer_Full-Ant1-PASS



NTNV-n25-PC3-15-20-M-DFT-QPSK-Outer_Full-Ant1-PASS



NTNV-n25-PC3-15-20-M-DFT-16QAM-Outer_Full-Ant1-PASS



NTNV-n25-PC3-15-20-H-DFT-QPSK-Outer_Full-Ant1-PASS



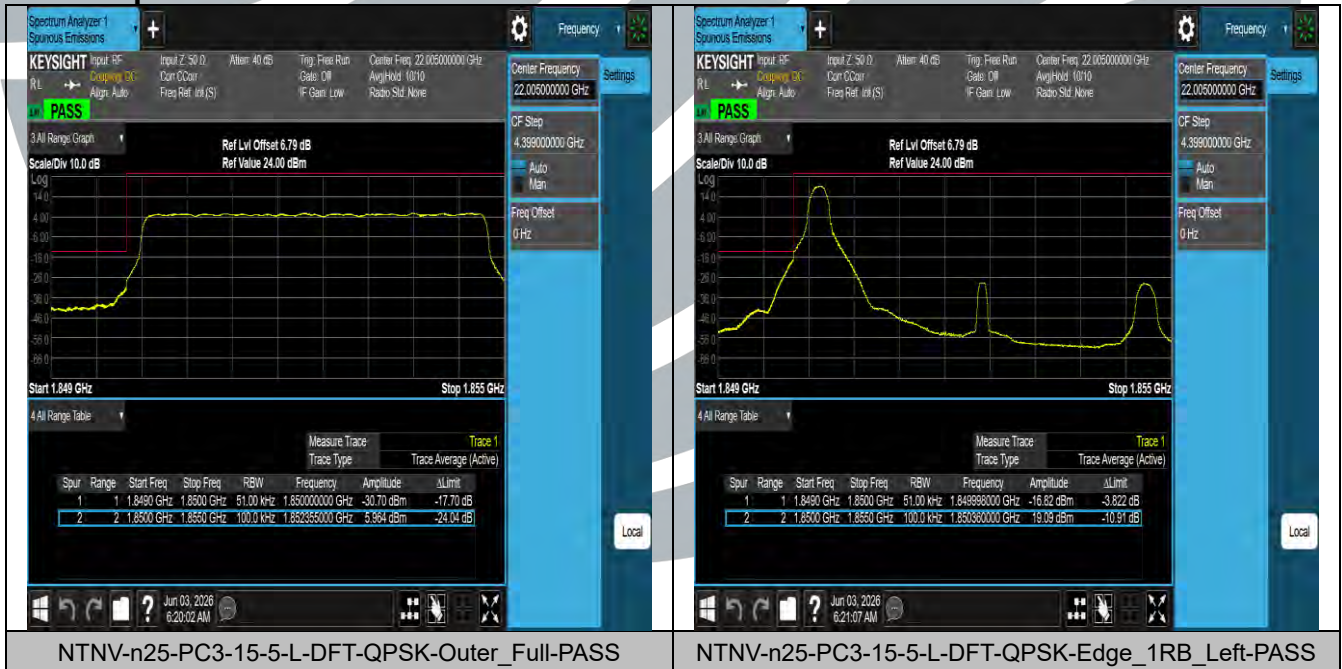
NTNV-n25-PC3-15-20-H-DFT-16QAM-Outer_Full-Ant1-PASS

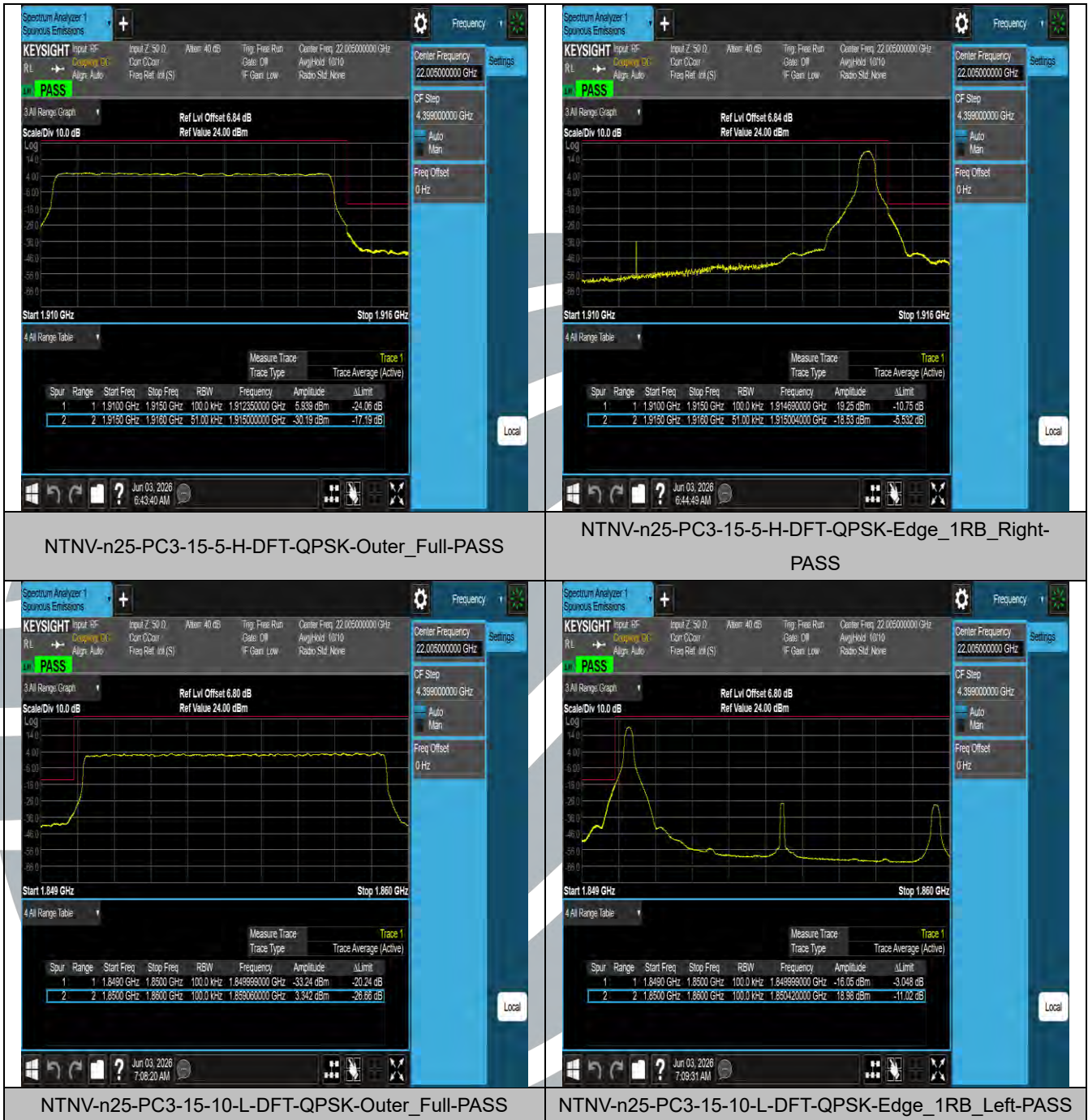
O.3 BAND EDGE FOR SA

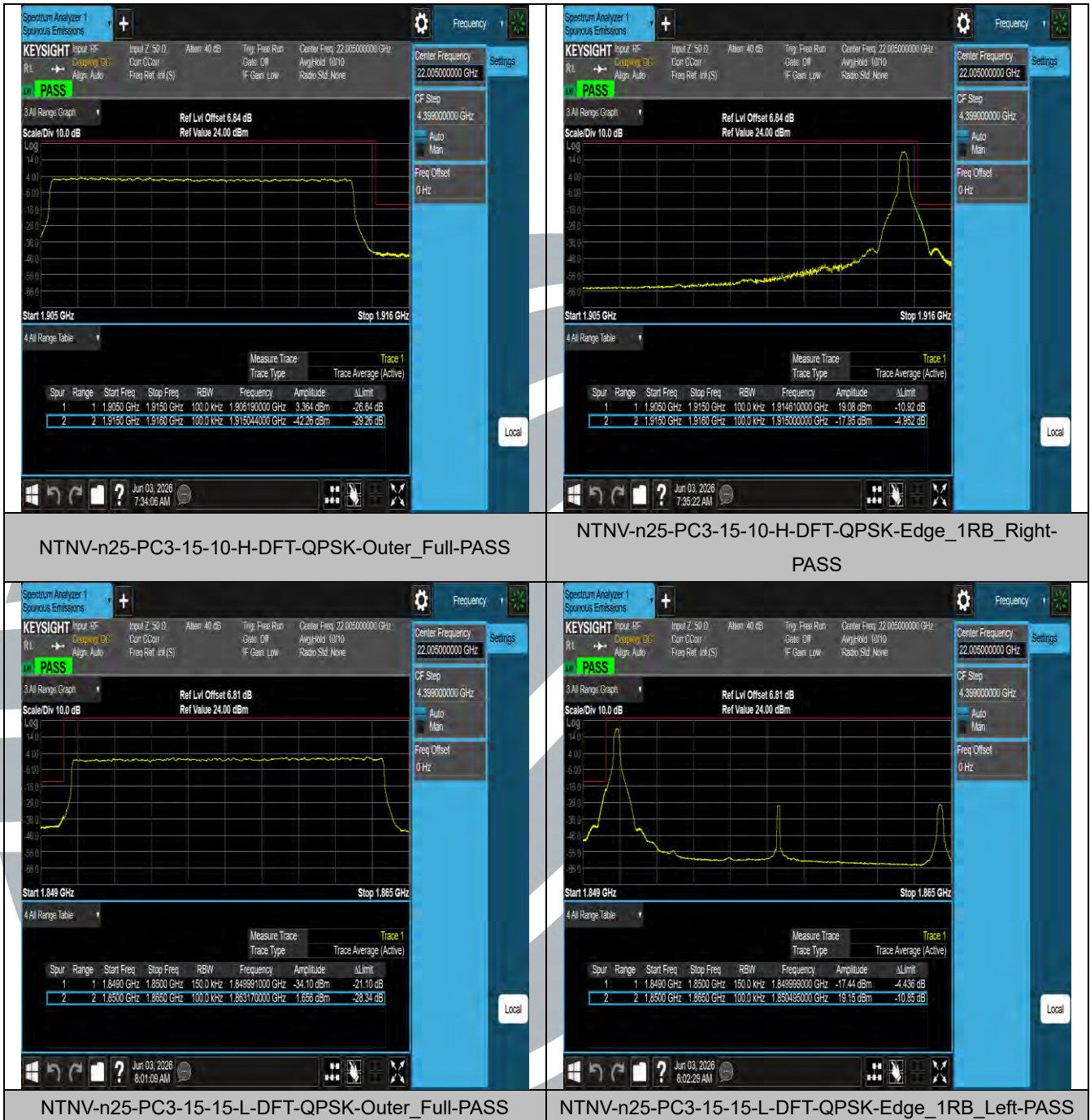
Test Result

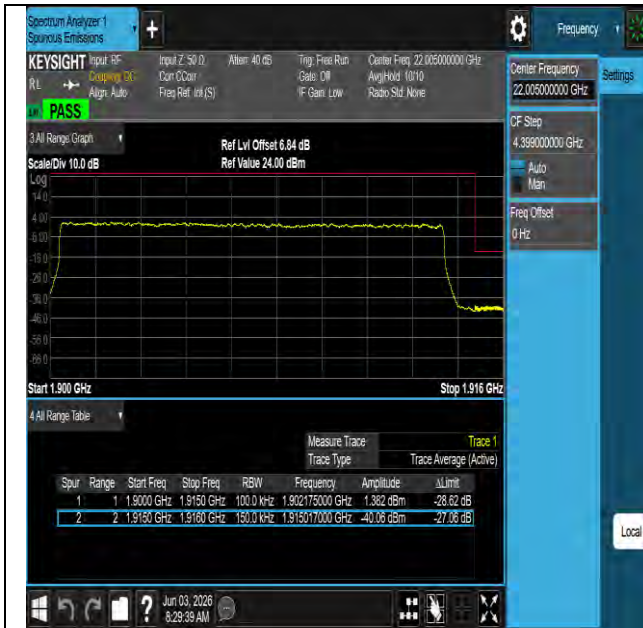
Band	SCS (kHz)	Bandwidth (MHz)	Modulation	Channel	RB Config	Result (dBm)	Verdict
n25	15	5	DFT-QPSK	L	Outer_Full	-30.70	PASS
n25	15	5	DFT-QPSK	L	Edge_1RB_Left	-16.82	PASS
n25	15	5	DFT-QPSK	H	Outer_Full	-30.19	PASS
n25	15	5	DFT-QPSK	H	Edge_1RB_Right	-18.53	PASS
n25	15	10	DFT-QPSK	L	Outer_Full	-33.24	PASS
n25	15	10	DFT-QPSK	L	Edge_1RB_Left	-16.05	PASS
n25	15	10	DFT-QPSK	H	Outer_Full	-42.26	PASS
n25	15	10	DFT-QPSK	H	Edge_1RB_Right	-17.95	PASS
n25	15	15	DFT-QPSK	L	Outer_Full	-34.10	PASS
n25	15	15	DFT-QPSK	L	Edge_1RB_Left	-17.44	PASS
n25	15	15	DFT-QPSK	H	Outer_Full	-40.06	PASS
n25	15	15	DFT-QPSK	H	Edge_1RB_Right	-19.19	PASS
n25	15	20	DFT-QPSK	L	Outer_Full	-36.53	PASS
n25	15	20	DFT-QPSK	L	Edge_1RB_Left	-19.08	PASS
n25	15	20	DFT-QPSK	H	Outer_Full	-38.40	PASS
n25	15	20	DFT-QPSK	H	Edge_1RB_Right	-20.28	PASS

Test Graphs

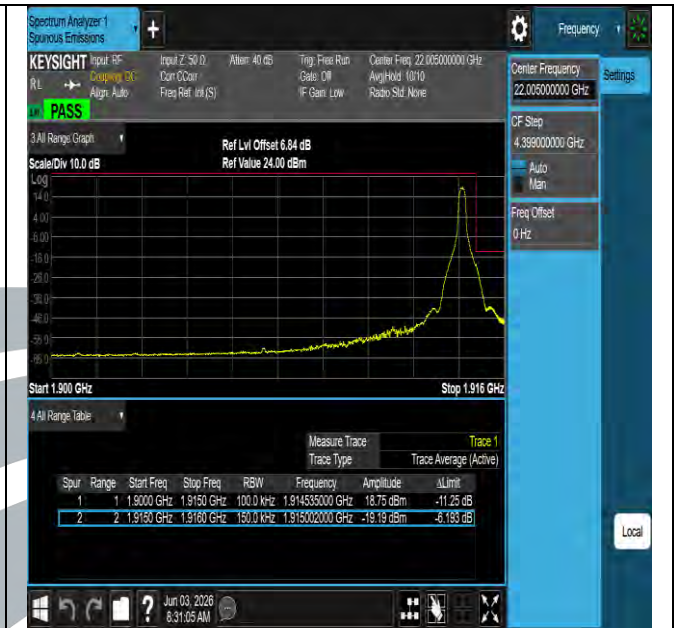




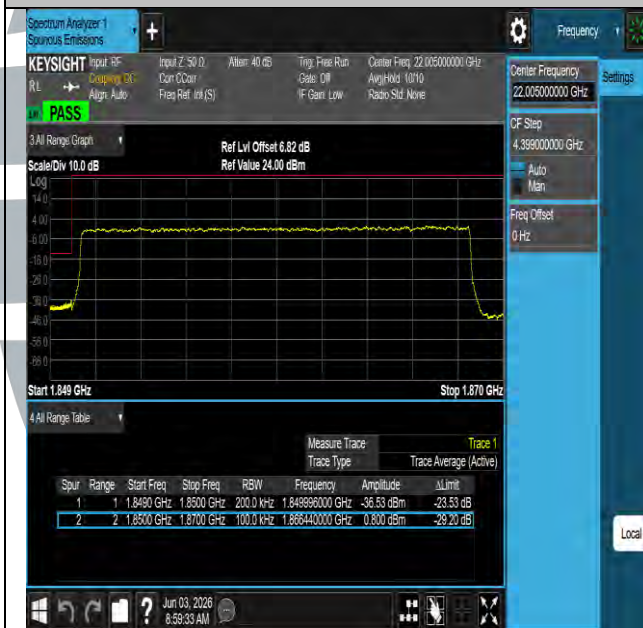




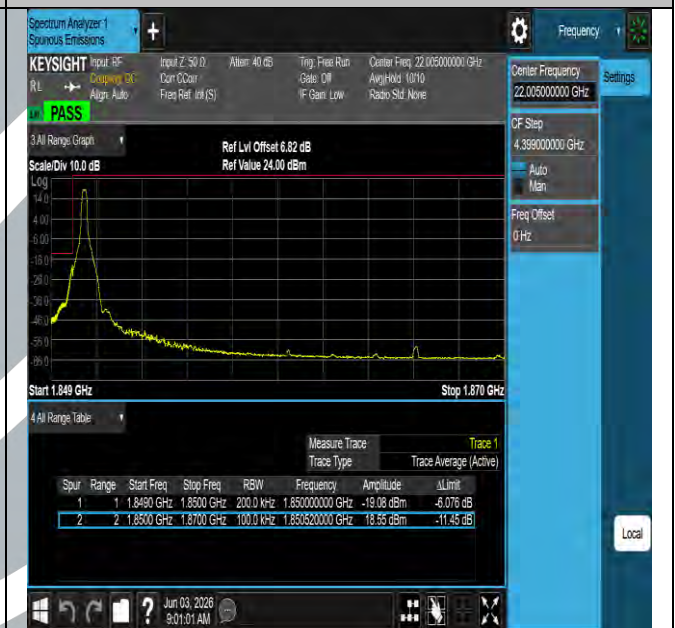
NTNV-n25-PC3-15-15-H-DFT-QPSK-Outer_Full-PASS



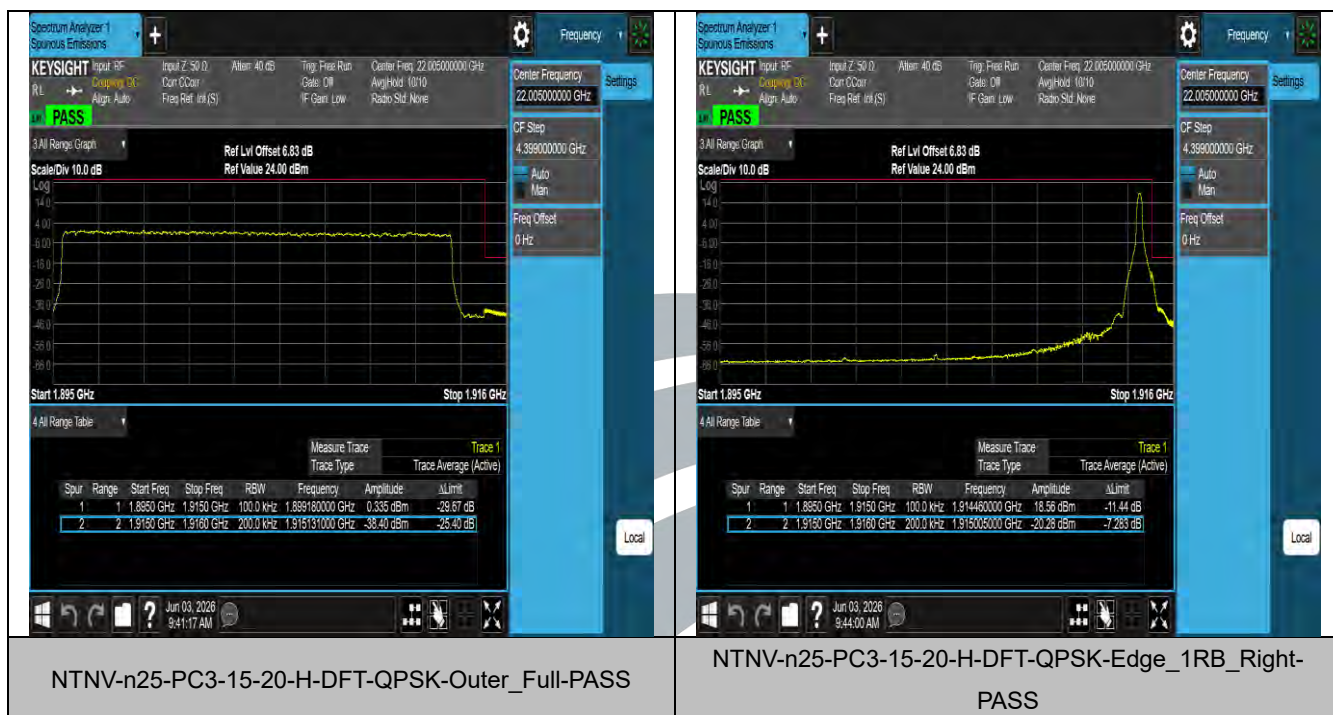
NTNV-n25-PC3-15-15-H-DFT-QPSK-Edge_1RB_Right-PASS



NTNV-n25-PC3-15-20-L-DFT-QPSK-Outer_Full-PASS



NTNV-n25-PC3-15-20-L-DFT-QPSK-Edge_1RB_Left-PASS



O.4 CONDUCTED SPURIOUS EMISSION FOR SA

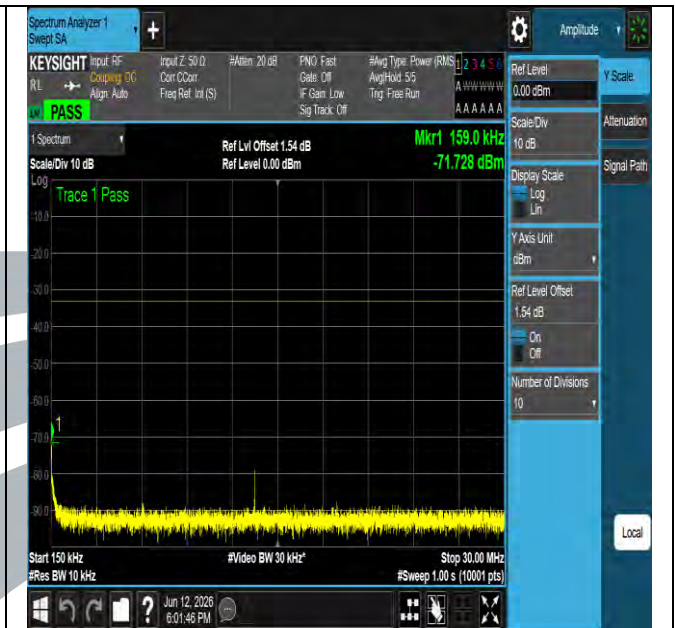
Test Result

Band	SCS (kHz)	BW (MHz)	Modulation	Ch.	RB Config	Start req (MHz)	Stop Freq (MHz)	Result (dBm)	Limit	Verdict
n25	15	20	DFT-QPSK	L	Inner_1RB_Left	0.009	0.15	-65.75	≤-43dBm	PASS
n25	15	20	DFT-QPSK	L	Inner_1RB_Left	0.15	30	-71.73	≤-33dBm	PASS
n25	15	20	DFT-QPSK	L	Inner_1RB_Left	30	1000	-54.67	≤-23dBm	PASS
n25	15	20	DFT-QPSK	L	Inner_1RB_Left	1000	3000	-37.55	≤-13dBm	PASS
n25	15	20	DFT-QPSK	L	Inner_1RB_Left	3000	12000	-45.61	≤-13dBm	PASS
n25	15	20	DFT-QPSK	L	Inner_1RB_Left	12000	20000	-55.15	≤-13dBm	PASS
n25	15	20	DFT-QPSK	M	Inner_1RB_Left	0.009	0.15	-64.61	≤-43dBm	PASS
n25	15	20	DFT-QPSK	M	Inner_1RB_Left	0.15	30	-72.53	≤-33dBm	PASS
n25	15	20	DFT-QPSK	M	Inner_1RB_Left	30	1000	-54.45	≤-23dBm	PASS
n25	15	20	DFT-QPSK	M	Inner_1RB_Left	1000	3000	-37.49	≤-13dBm	PASS
n25	15	20	DFT-QPSK	M	Inner_1RB_Left	3000	12000	-45.69	≤-13dBm	PASS
n25	15	20	DFT-QPSK	M	Inner_1RB_Left	12000	20000	-55.38	≤-13dBm	PASS
n25	15	20	DFT-QPSK	H	Inner_1RB_Left	0.009	0.15	-66.07	≤-43dBm	PASS
n25	15	20	DFT-QPSK	H	Inner_1RB_Left	0.15	30	-71.65	≤-33dBm	PASS
n25	15	20	DFT-QPSK	H	Inner_1RB_Left	30	1000	-54.85	≤-23dBm	PASS
n25	15	20	DFT-QPSK	H	Inner_1RB_Left	1000	3000	-37.83	≤-13dBm	PASS
n25	15	20	DFT-QPSK	H	Inner_1RB_Left	3000	12000	-45.76	≤-13dBm	PASS
n25	15	20	DFT-QPSK	H	Inner_1RB_Left	12000	20000	-55.33	≤-13dBm	PASS

Test Graphs



NTNV-n25-PC3-15-20-L-DFT-QPSK-Inner_1RB_Left-0.009-0.15MHz-PASS



NTNV-n25-PC3-15-20-L-DFT-QPSK-Inner_1RB_Left-0.15-30MHz-PASS



NTNV-n25-PC3-15-20-L-DFT-QPSK-Inner_1RB_Left-30-1000MHz-PASS



NTNV-n25-PC3-15-20-L-DFT-QPSK-Inner_1RB_Left-1000-3000MHz-PASS



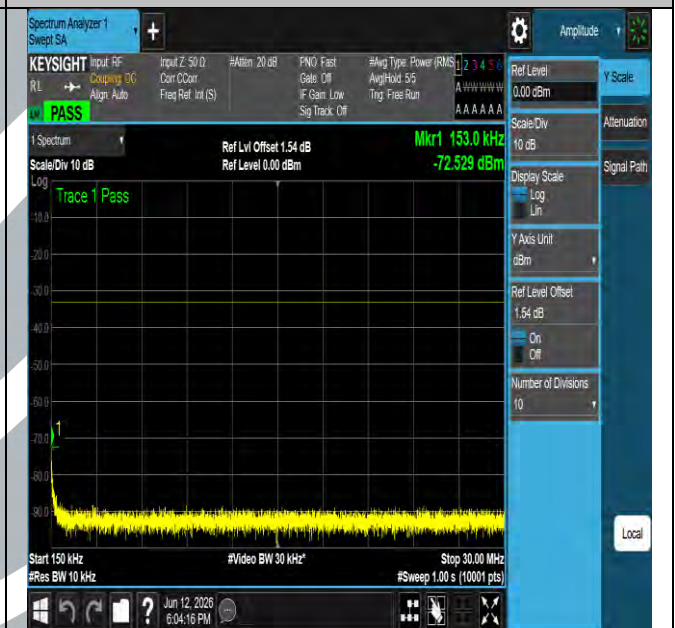
NTNV-n25-PC3-15-20-L-DFT-QPSK-Inner_1RB_Left-3000-12000MHz-PASS



NTNV-n25-PC3-15-20-L-DFT-QPSK-Inner_1RB_Left-12000-20000MHz-PASS



NTNV-n25-PC3-15-20-M-DFT-QPSK-Inner_1RB_Left-0.009-0.15MHz-PASS



NTNV-n25-PC3-15-20-M-DFT-QPSK-Inner_1RB_Left-0.15-30MHz-PASS



NTNV-n25-PC3-15-20-M-DFT-QPSK-Inner_1RB_Left-30-1000MHz-PASS



NTNV-n25-PC3-15-20-M-DFT-QPSK-Inner_1RB_Left-1000-3000MHz-PASS



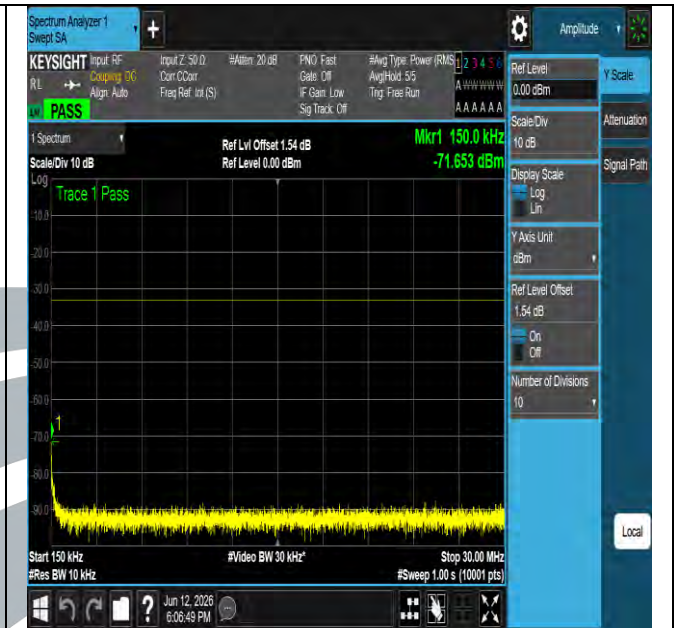
NTNV-n25-PC3-15-20-M-DFT-QPSK-Inner_1RB_Left-3000-12000MHz-PASS



NTNV-n25-PC3-15-20-M-DFT-QPSK-Inner_1RB_Left-12000-20000MHz-PASS



NTNV-n25-PC3-15-20-H-DFT-QPSK-Inner_1RB_Left-
0.009-0.15MHz-PASS



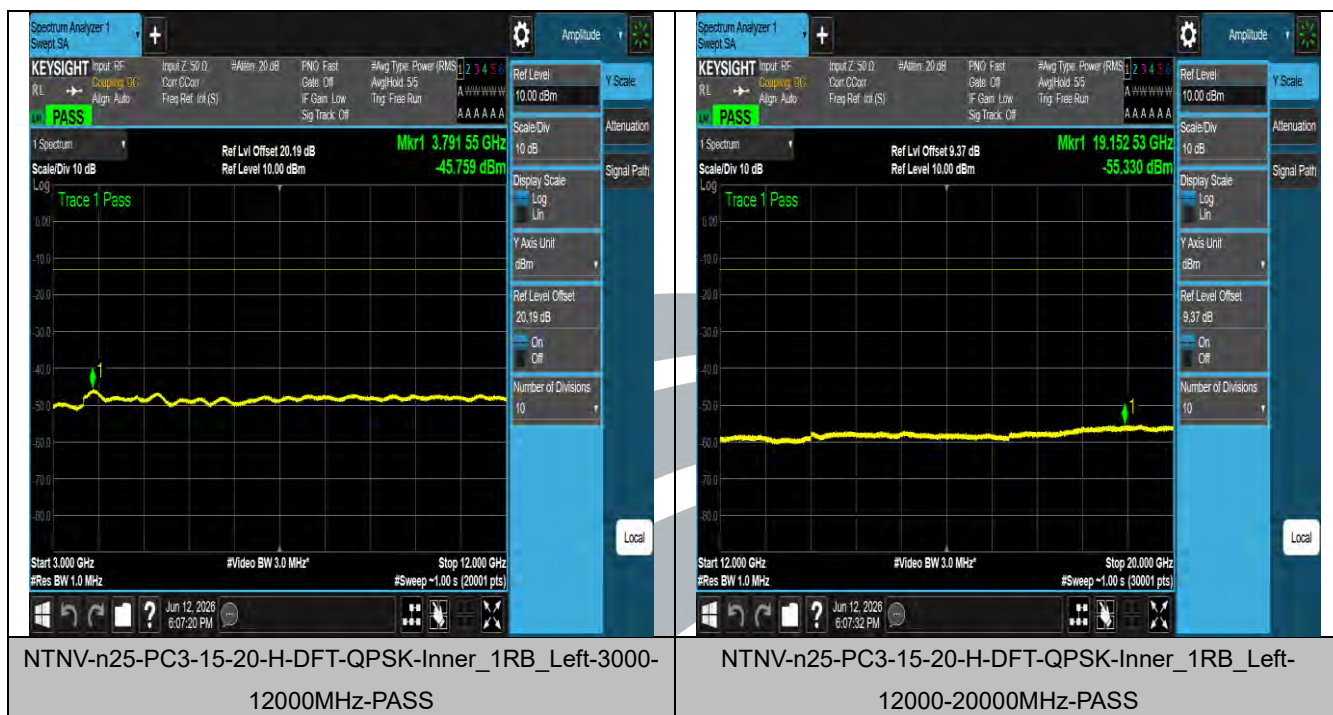
NTNV-n25-PC3-15-20-H-DFT-QPSK-Inner_1RB_Left-0.15-
30MHz-PASS



NTNV-n25-PC3-15-20-H-DFT-QPSK-Inner_1RB_Left-30-
1000MHz-PASS



NTNV-n25-PC3-15-20-H-DFT-QPSK-Inner_1RB_Left-1000-
3000MHz-PASS



O.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
n25	15	20	DFT-QPSK	M	Outer_Full	VL	NT	0.027013	1850-1915	1850	1915	1850-1915	PASS
n25	15	20	DFT-QPSK	M	Outer_Full	VN	NT	0.034559	1850-1915	1850	1915	1850-1915	PASS
n25	15	20	DFT-QPSK	M	Outer_Full	VH	NT	0.011804	1850-1915	1850	1915	1850-1915	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
n25	15	20	DFT-QPSK	M	Outer_Full	NV	-30	-0.014653	1850-1915	1850	1915	1850-1915	PASS
n25	15	20	DFT-QPSK	M	Outer_Full	NV	-20	5.2E-05	1850-1915	1850	1915	1850-1915	PASS
n25	15	20	DFT-QPSK	M	Outer_Full	NV	-10	-0.041622	1850-1915	1850	1915	1850-1915	PASS
n25	15	20	DFT-QPSK	M	Outer_Full	NV	0	-0.002051	1850-1915	1850	1915	1850-1915	PASS
n25	15	20	DFT-QPSK	M	Outer_Full	NV	10	-0.02361	1850-1915	1850	1915	1850-1915	PASS
n25	15	20	DFT-QPSK	M	Outer_Full	NV	20	-0.04727	1850-1915	1850	1915	1850-1915	PASS
n25	15	20	DFT-QPSK	M	Outer_Full	NV	30	-0.00024	1850-1915	1850	1915	1850-1915	PASS
n25	15	20	DFT-QPSK	M	Outer_Full	NV	40	-7E-05	1850-1915	1850	1915	1850-1915	PASS
n25	15	20	DFT-QPSK	M	Outer_Full	NV	50	-0.00118	1850-1915	1850	1915	1850-1915	PASS