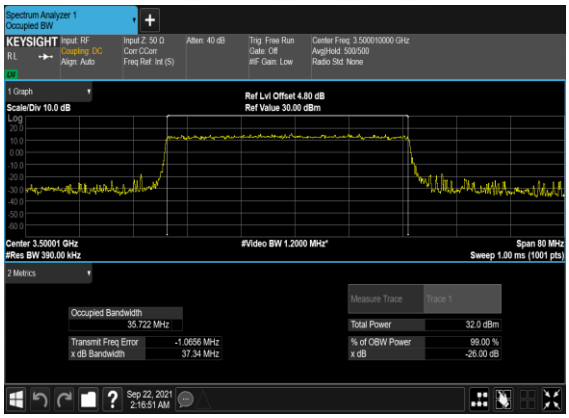
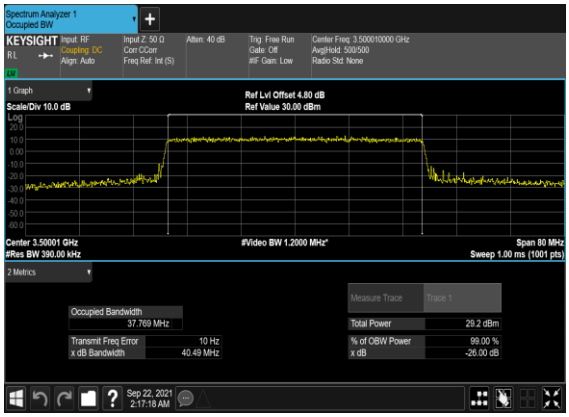
N78(40M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Mid_CH

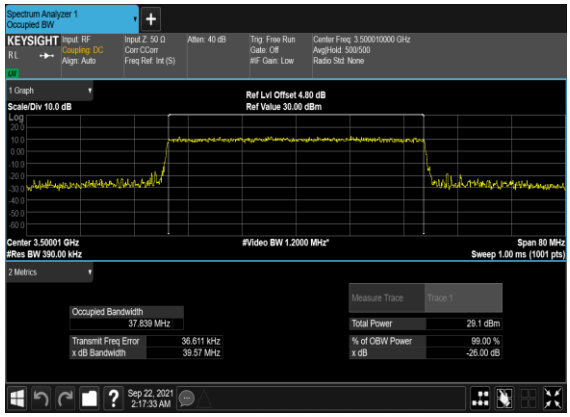


N78(40M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH

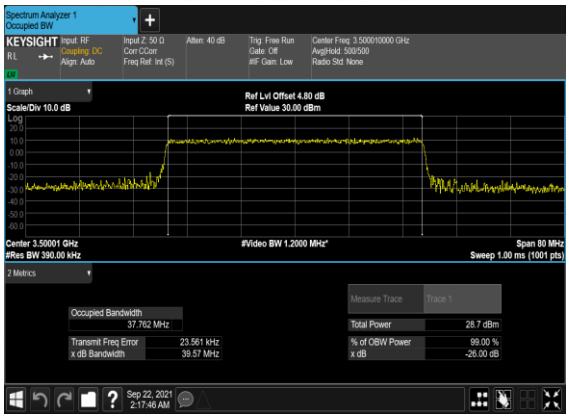
N78(40M)_CP-OFDM_QPSK_Outer_Full_Mid_CH



N78(40M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH



N78(40M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH

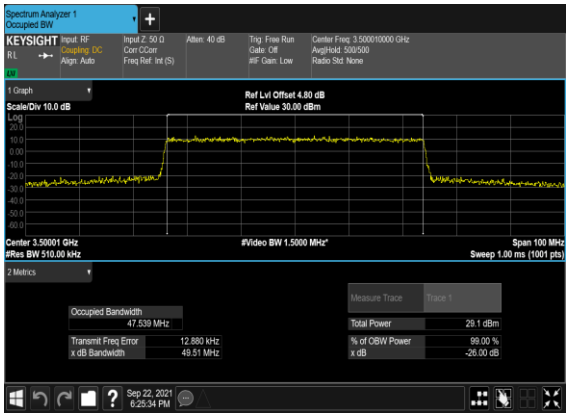


N78(40M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH

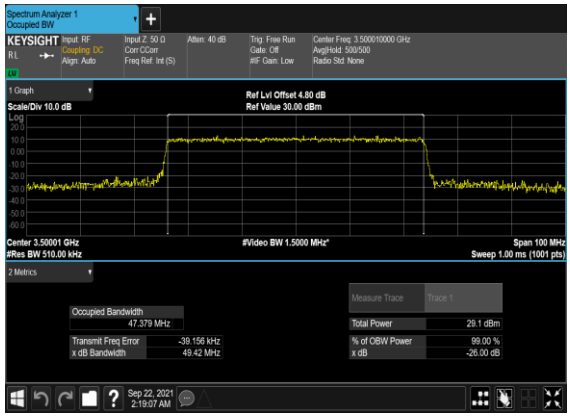
N78(50M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Mid_CH

N78(50M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH

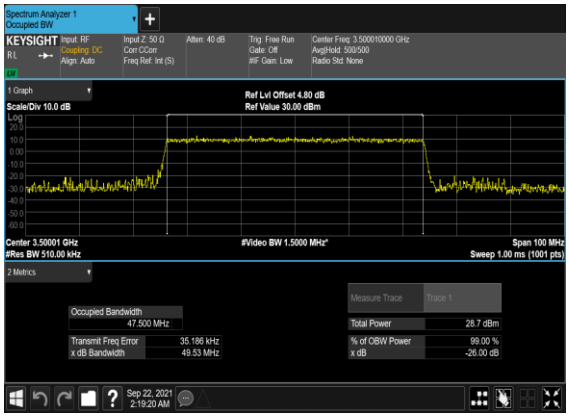
N78(50M)_CP-OFDM_QPSK_Outer_Full_Mid_CH



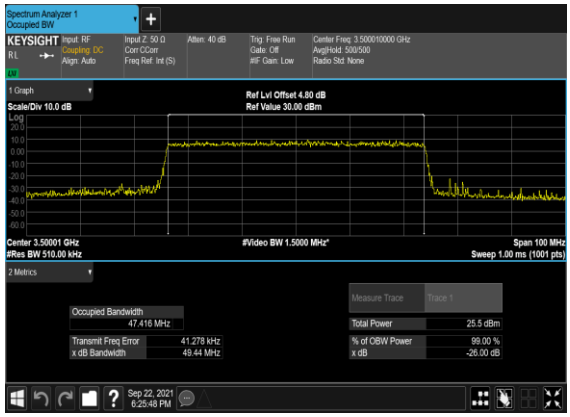
N78(50M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH



N78(50M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH



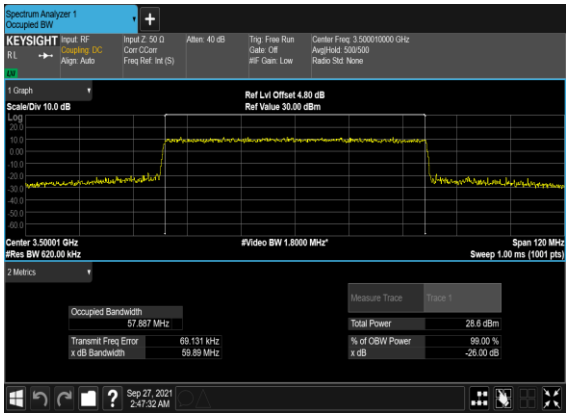
N78(50M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH



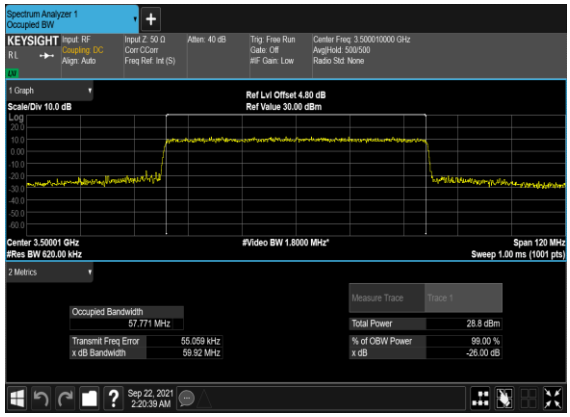
N78(60M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Mid_CH

N78(60M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH

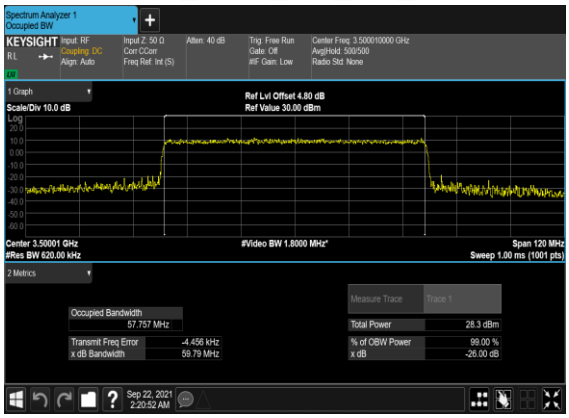
N78(60M)_CP-OFDM_QPSK_Outer_Full_Mid_CH



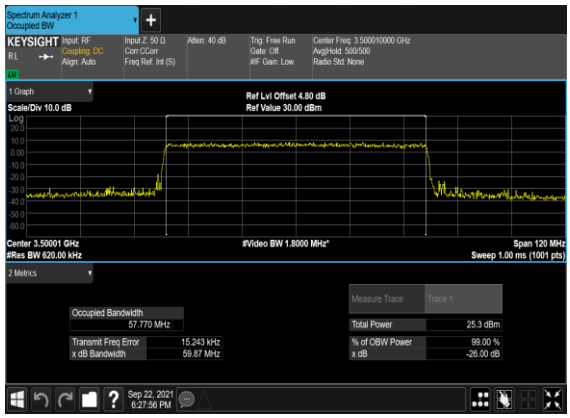
N78(60M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH



N78(60M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH

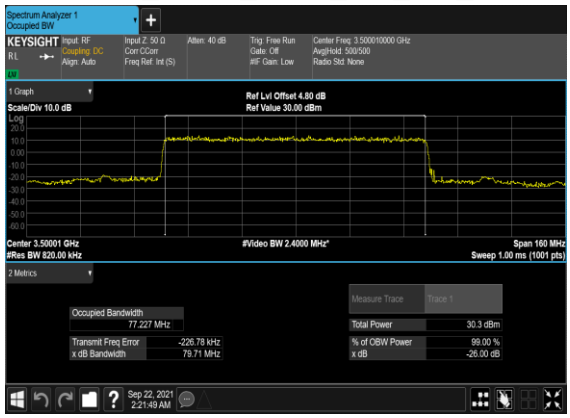


N78(60M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH

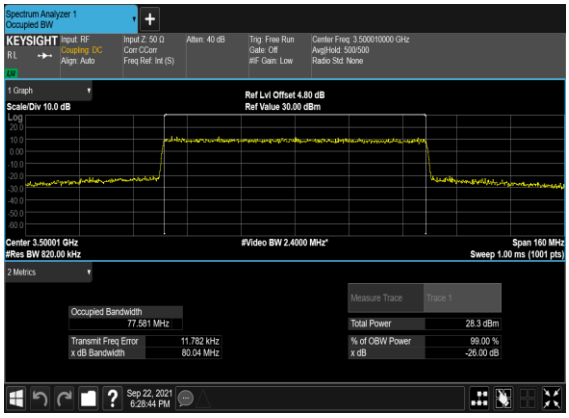


N78(80M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Mid_CH

N78(80M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH

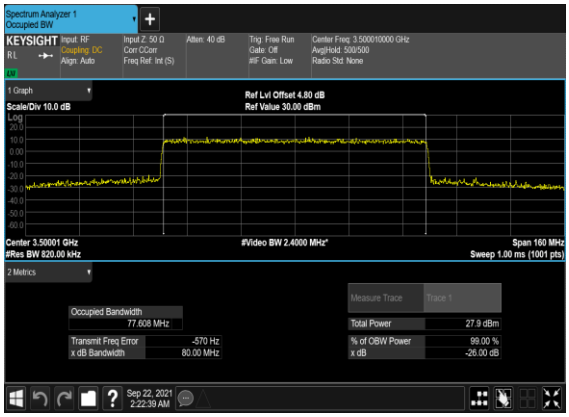


N78(80M)_CP-OFDM_QPSK_Outer_Full_Mid_CH

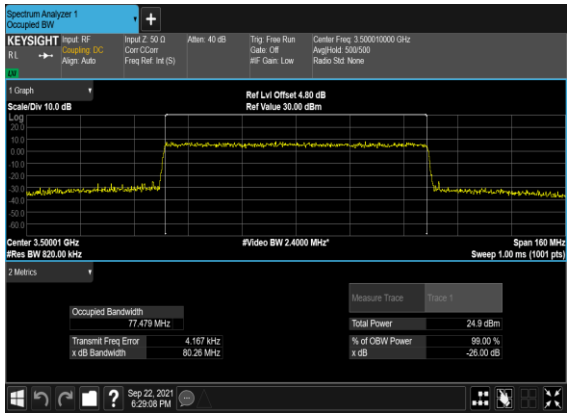


N78(80M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH

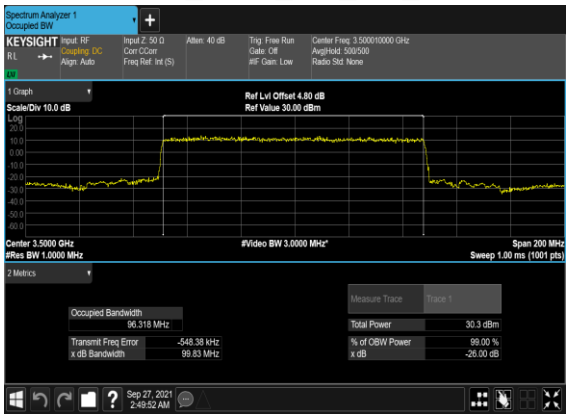
N78(80M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH



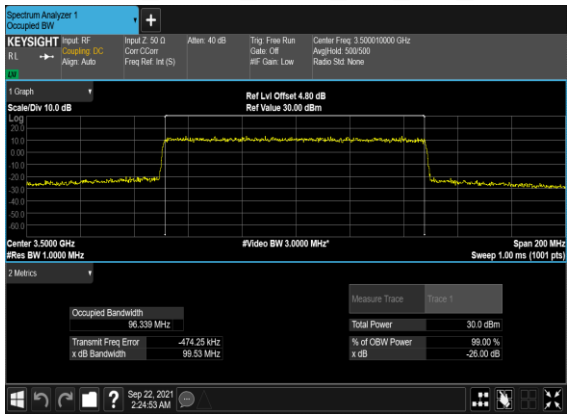
N78(80M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH



N78(100M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Mid_CH

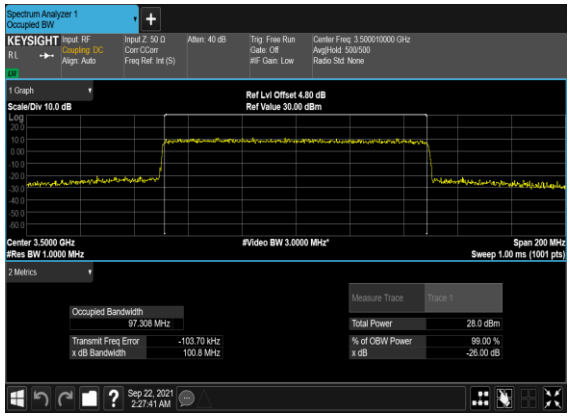


N78(100M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH

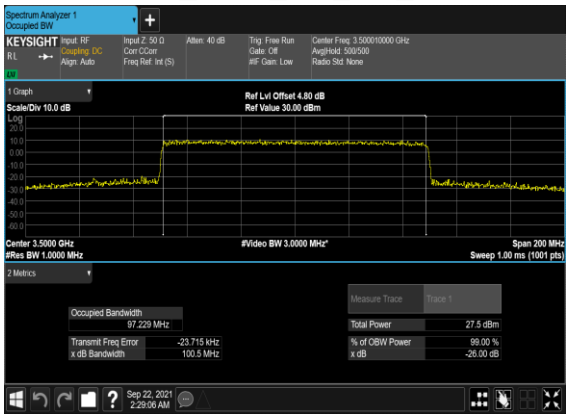


N78(100M)_CP-OFDM_QPSK_Outer_Full_Mid_CH

N78(100M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH



N78(100M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH



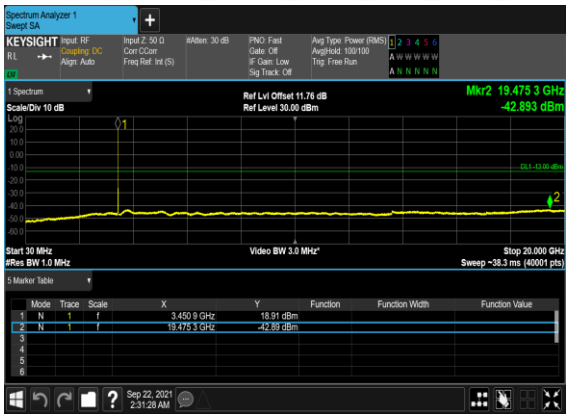
N78(100M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH

Conducted Spurious Emissions

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Result	Verdict
78	30	10	630334	3455.01	DFT-s-OFDM BPSK	1@0	see graph	**---**
78	30	10	630334	3455.01	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
78	30	10	630334	3455.01	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
78	30	10	630334	3455.01	DFT-s-OFDM QPSK	1@0	see graph	**---**
78	30	10	630334	3455.01	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
78	30	10	630334	3455.01	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
78	30	10	633334	3500.01	DFT-s-OFDM BPSK	1@0	see graph	**---**
78	30	10	633334	3500.01	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
78	30	10	633334	3500.01	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
78	30	10	633334	3500.01	DFT-s-OFDM QPSK	1@0	see graph	**---**
78	30	10	633334	3500.01	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
78	30	10	633334	3500.01	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
78	30	10	636332	3544.98	DFT-s-OFDM BPSK	1@0	see graph	**---**
78	30	10	636332	3544.98	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
78	30	10	636332	3544.98	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
78	30	10	636332	3544.98	DFT-s-OFDM QPSK	1@0	see graph	**---**
78	30	10	636332	3544.98	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
78	30	10	636332	3544.98	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
78	30	50	631668	3475.02	DFT-s-OFDM BPSK	1@0	see graph	**---**
78	30	50	631668	3475.02	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
78	30	50	631668	3475.02	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
78	30	50	631668	3475.02	DFT-s-OFDM QPSK	1@0	see graph	**---**

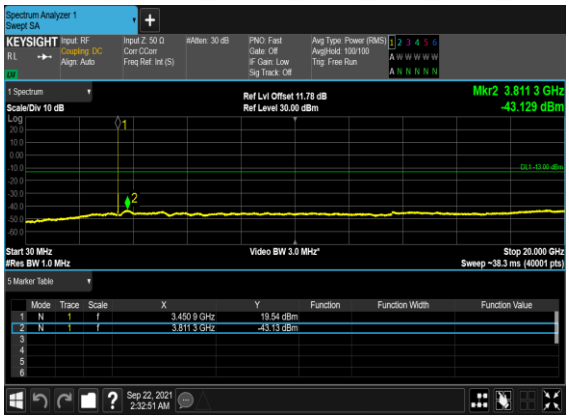
78	30	50	631668	3475.02	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
78	30	50	631668	3475.02	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
78	30	50	633334	3500.01	DFT-s-OFDM BPSK	1@0	see graph	**---**
78	30	50	633334	3500.01	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
78	30	50	633334	3500.01	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
78	30	50	633334	3500.01	DFT-s-OFDM QPSK	1@0	see graph	**---**
78	30	50	633334	3500.01	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
78	30	50	633334	3500.01	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
78	30	50	635000	3525.0	DFT-s-OFDM BPSK	1@0	see graph	**---**
78	30	50	635000	3525.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
78	30	50	635000	3525.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
78	30	50	635000	3525.0	DFT-s-OFDM QPSK	1@0	see graph	**---**
78	30	50	635000	3525.0	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
78	30	50	635000	3525.0	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
78	30	100	633334	3500.01	DFT-s-OFDM BPSK	1@0	see graph	**---**
78	30	100	633334	3500.01	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
78	30	100	633334	3500.01	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
78	30	100	633334	3500.01	DFT-s-OFDM QPSK	1@0	see graph	**---**
78	30	100	633334	3500.01	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
78	30	100	633334	3500.01	DFT-s-OFDM QPSK	1@0	see graph	**PASS**

N78(10M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Low_CH



N78(10M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Low_CH

N78(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH

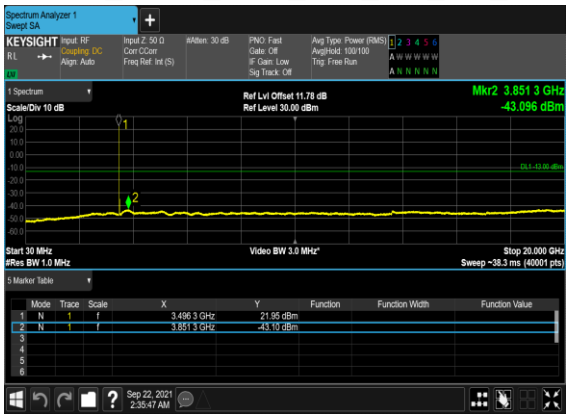


N78(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH

N78(10M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Mid_CH

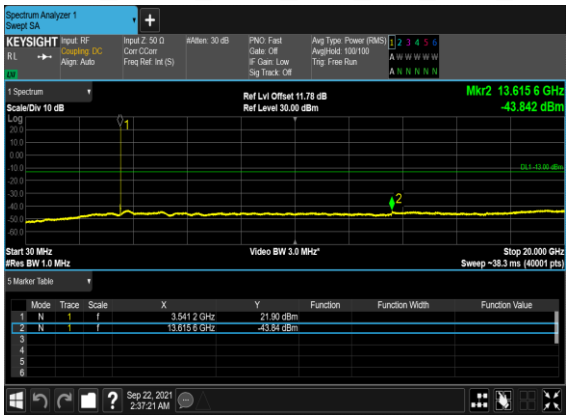
N78(10M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Mid_CH

N78(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH



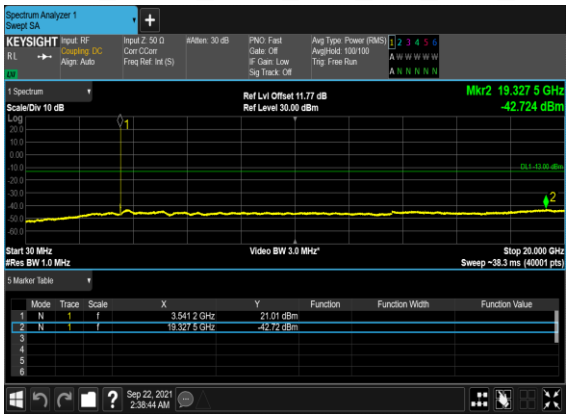
N78(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH

N78(10M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_High_CH



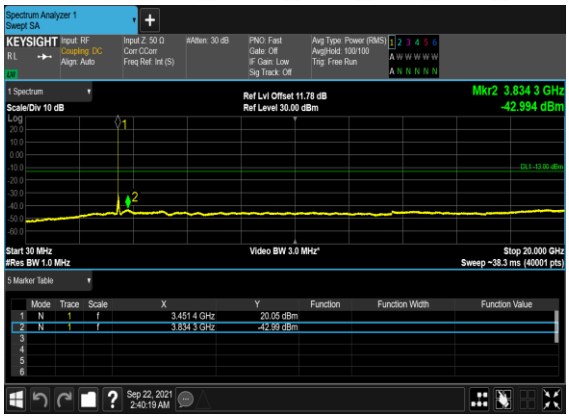
N78(10M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_High_CH

N78(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_High_CH



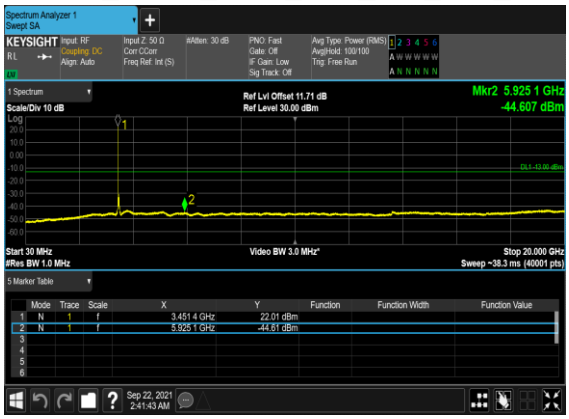
N78(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_High_CH

N78(50M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Low_CH

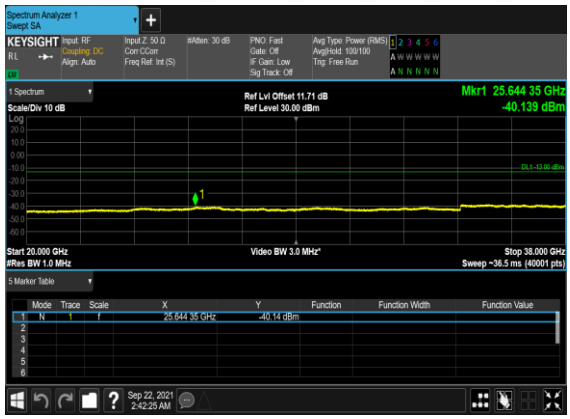


N78(50M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Low_CH

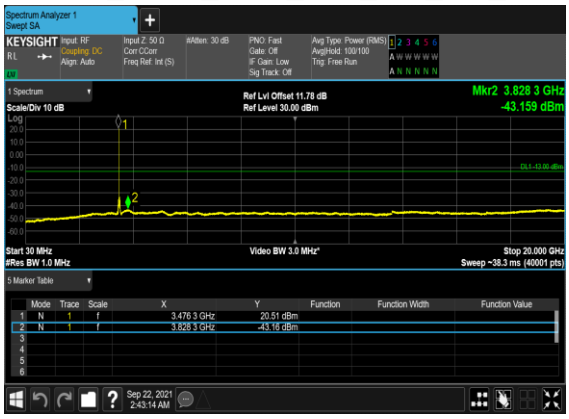
N78(50M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



N78(50M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH

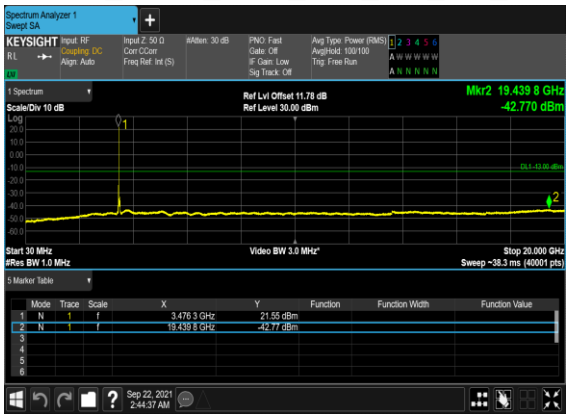


N78(50M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Mid_CH



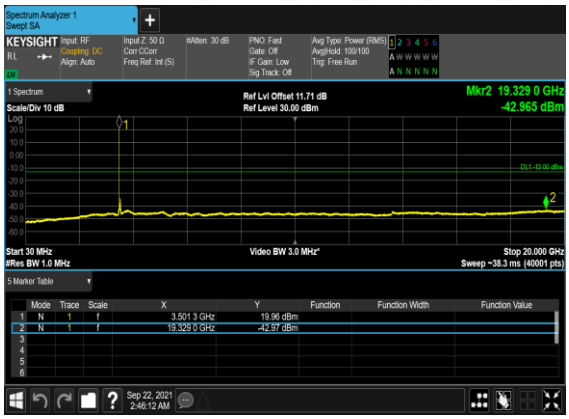
N78(50M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Mid_CH

N78(50M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH

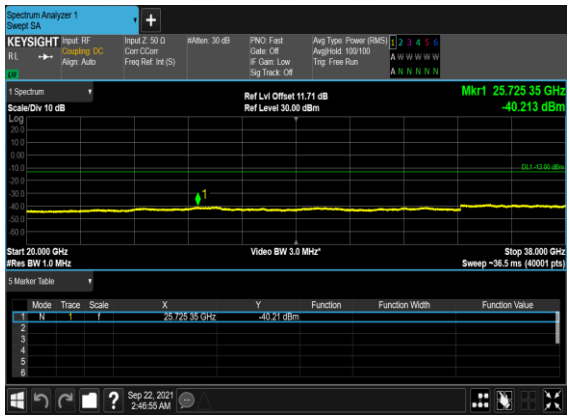


N78(50M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH

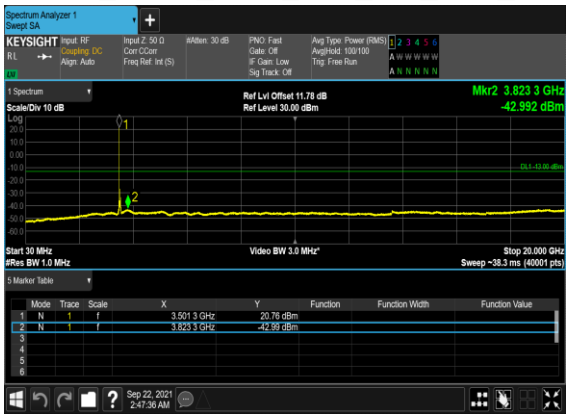
N78(50M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_High_CH



N78(50M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_High_CH

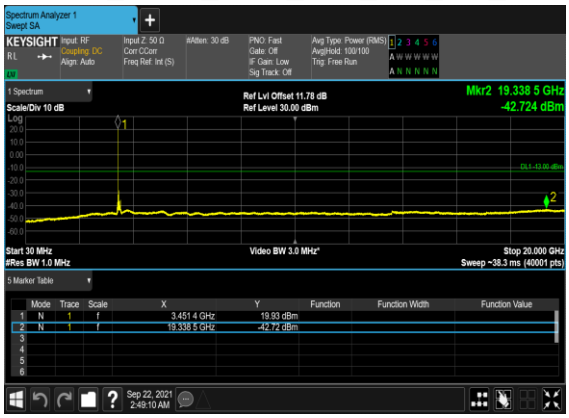


N78(50M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_High_CH

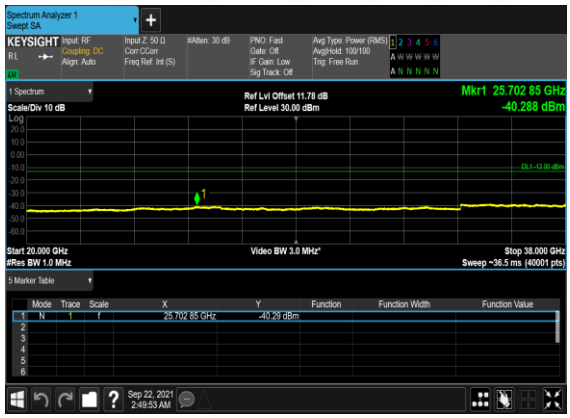


N78(50M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_High_CH

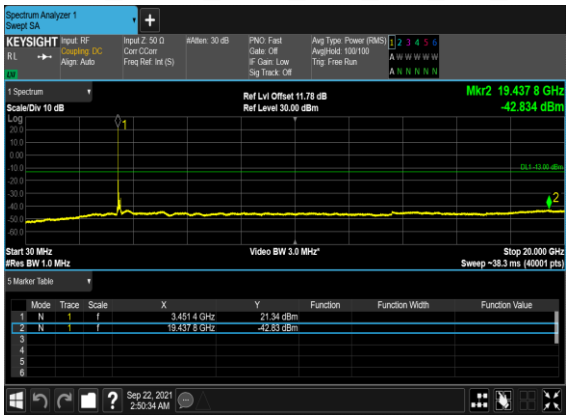
N78(100M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Mid_CH



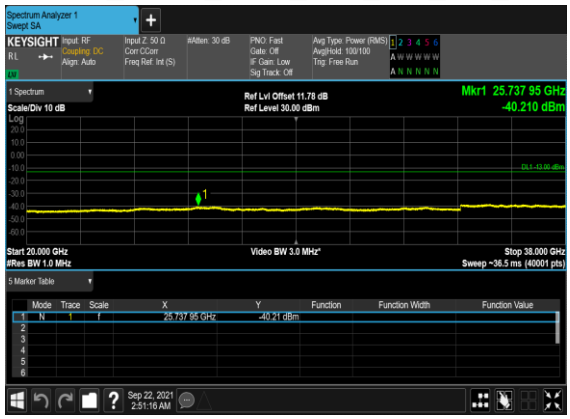
N78(100M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Mid_CH



N78(100M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH



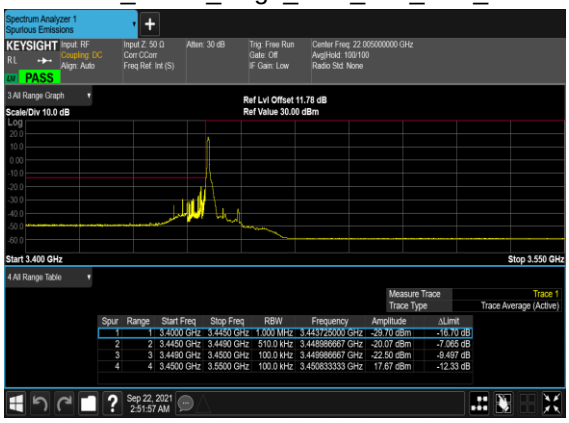
N78(100M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH



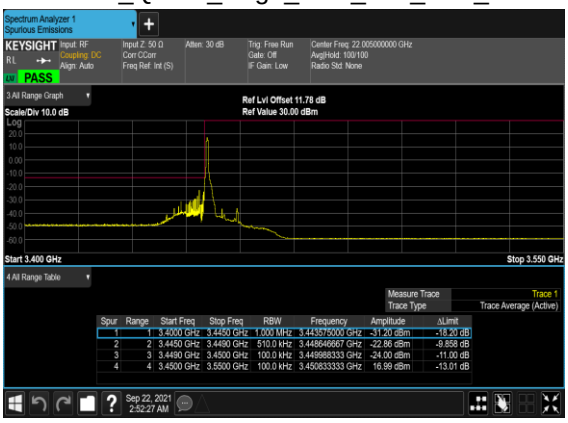
Conducted Band Edge

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Result	Verdict
78	30	10	630334	3455.01	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
78	30	10	630334	3455.01	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
78	30	10	630334	3455.01	DFT-s-OFDM BPSK	24@0	see graph	**PASS**
78	30	10	630334	3455.01	DFT-s-OFDM QPSK	24@0	see graph	**PASS**
78	30	10	636332	3544.98	DFT-s-OFDM BPSK	1@23	see graph	**PASS**
78	30	10	636332	3544.98	DFT-s-OFDM QPSK	1@23	see graph	**PASS**
78	30	10	636332	3544.98	DFT-s-OFDM BPSK	24@0	see graph	**PASS**
78	30	10	636332	3544.98	DFT-s-OFDM QPSK	24@0	see graph	**PASS**
78	30	50	631668	3475.02	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
78	30	50	631668	3475.02	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
78	30	50	631668	3475.02	DFT-s-OFDM BPSK	128@0	see graph	**PASS**
78	30	50	631668	3475.02	DFT-s-OFDM QPSK	128@0	see graph	**PASS**
78	30	50	635000	3525.0	DFT-s-OFDM BPSK	1@132	see graph	**PASS**
78	30	50	635000	3525.0	DFT-s-OFDM QPSK	1@132	see graph	**PASS**
78	30	50	635000	3525.0	DFT-s-OFDM BPSK	128@0	see graph	**PASS**
78	30	50	635000	3525.0	DFT-s-OFDM QPSK	128@0	see graph	**PASS**
78	30	100	633334	3500.01	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
78	30	100	633334	3500.01	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
78	30	100	633334	3500.01	DFT-s-OFDM BPSK	1@272	see graph	**PASS**
78	30	100	633334	3500.01	DFT-s-OFDM QPSK	1@272	see graph	**PASS**
78	30	100	633334	3500.01	DFT-s-OFDM BPSK	270@0	see graph	**PASS**
78	30	100	633334	3500.01	DFT-s-OFDM QPSK	270@0	see graph	**PASS**

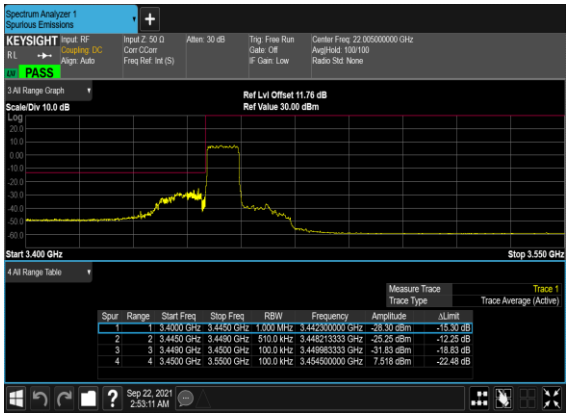
N78(10M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Low_CH



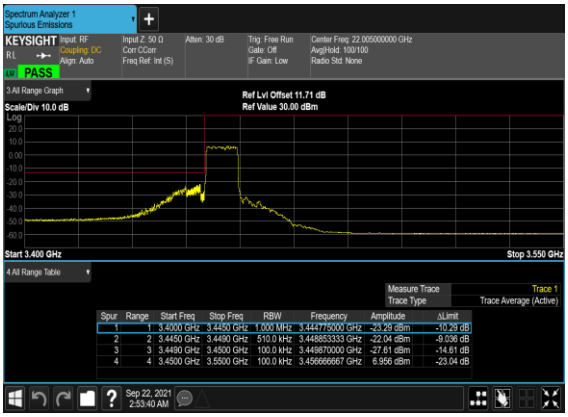
N78(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



N78(10M)_DFT-s-OFDM_BPSK_Outer_Full_Low_CH

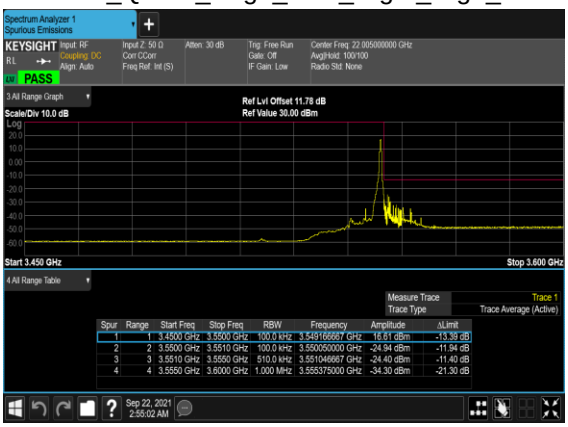


N78(10M)_DFT-s-OFDM_QPSK_Outer_Full_Low_CH

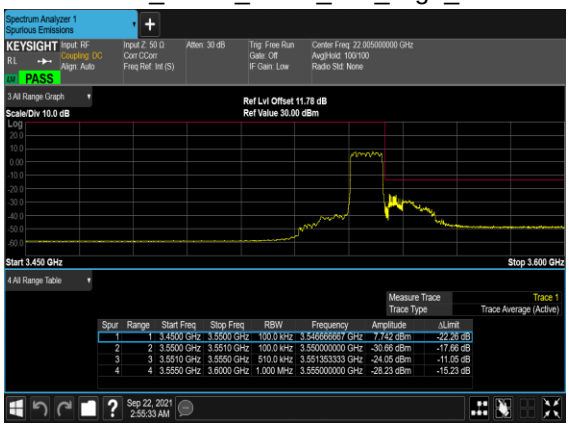


N78(10M)_DFT-s-OFDM_BPSK_Edge_1RB_Right_High_CH

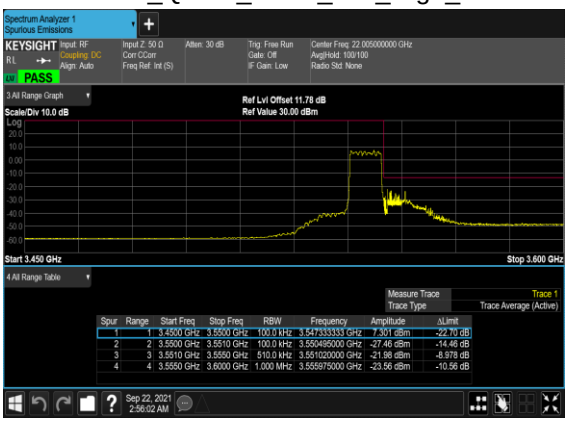
N78(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_High_CH



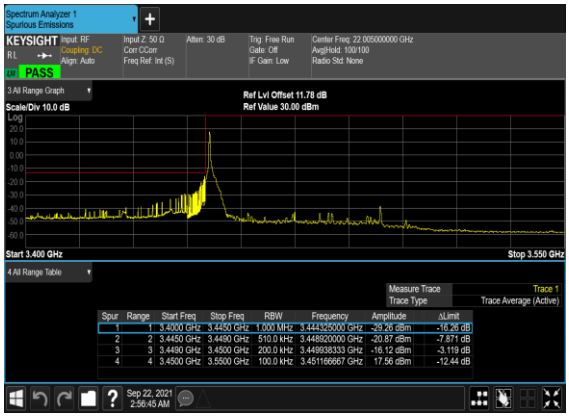
N78(10M)_DFT-s-OFDM_BPSK_Outer_Full_High_CH



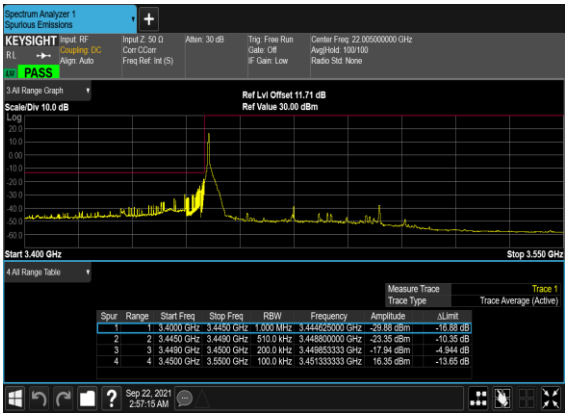
N78(10M)_DFT-s-OFDM_QPSK_Outer_Full_High_CH



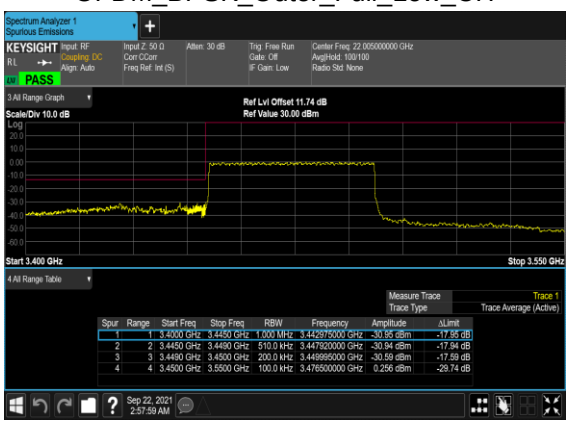
N78(50M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Low_CH



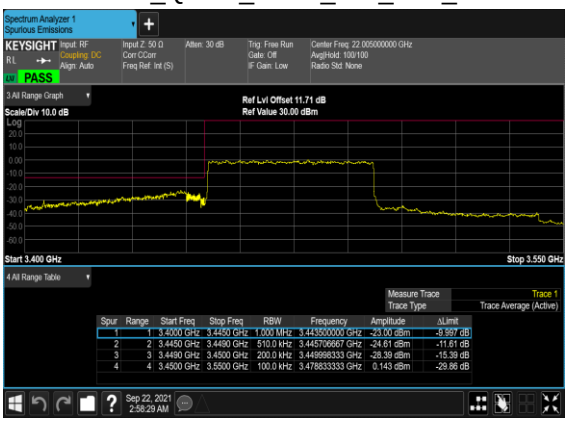
N78(50M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



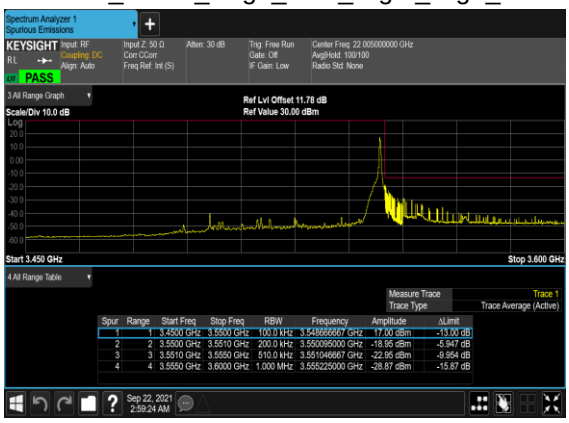
N78(50M)_DFT-s-OFDM_BPSK_Outer_Full_Low_CH



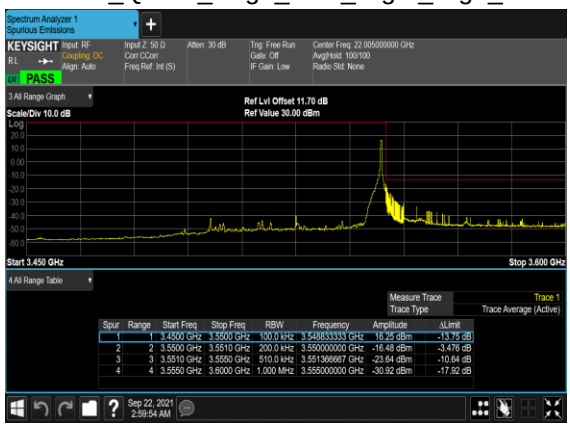
N78(50M)_DFT-s-OFDM_QPSK_Outer_Full_Low_CH



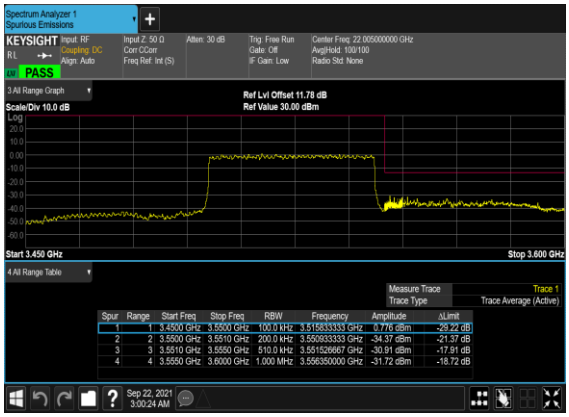
N78(50M)_DFT-s-OFDM_BPSK_Edge_1RB_Right_High_CH



N78(50M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_High_CH

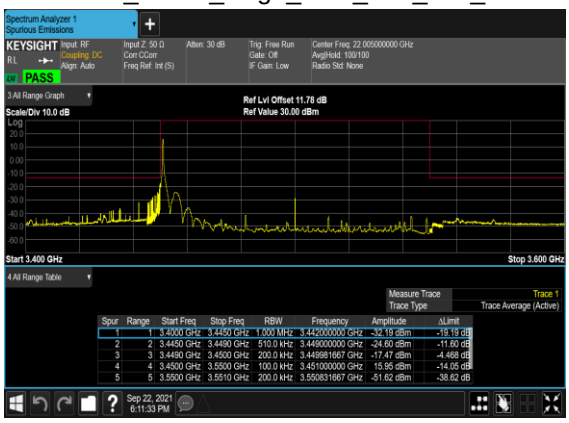


N78(50M)_DFT-s-OFDM_BPSK_Outer_Full_High_CH

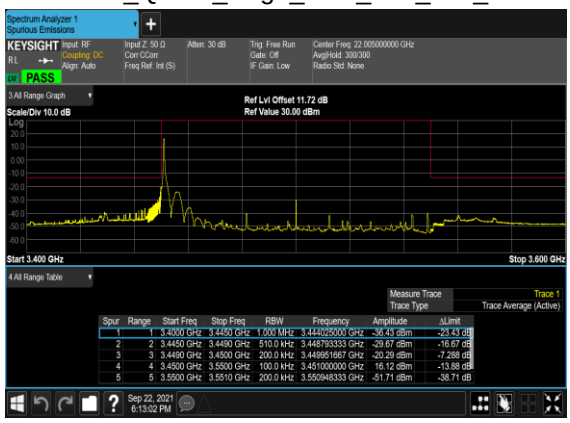


N78(50M)_DFT-s-OFDM_QPSK_Outer_Full_High_CH

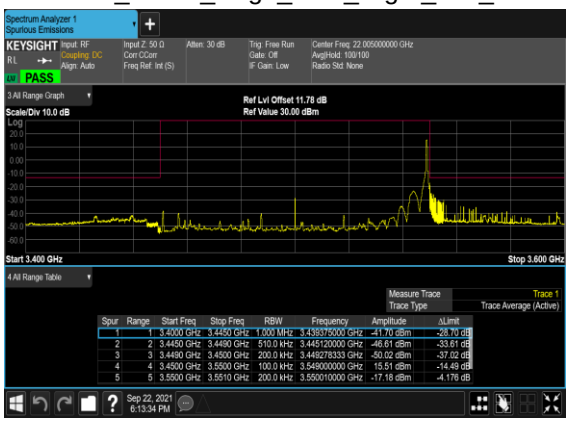
N78(100M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Mid_CH



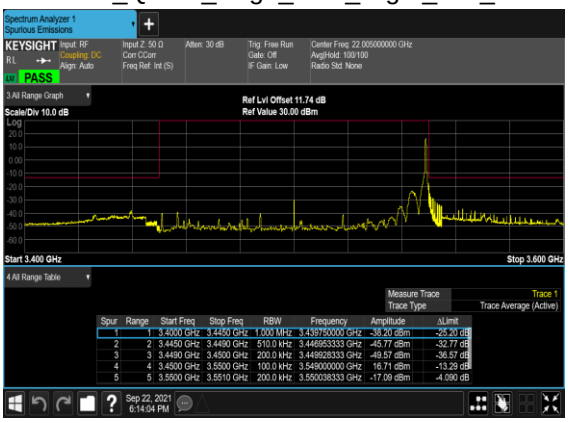
N78(100M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH



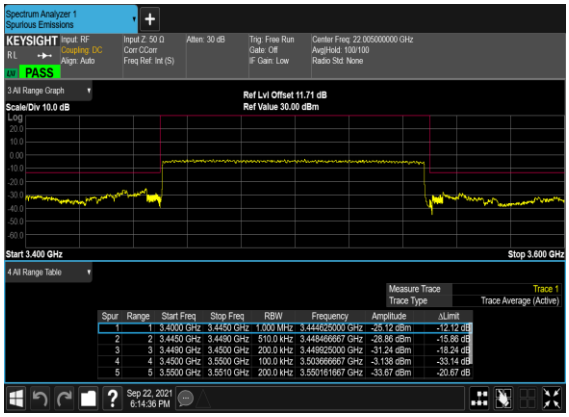
N78(100M)_DFT-s-OFDM_BPSK_Edge_1RB_Right_Mid_CH



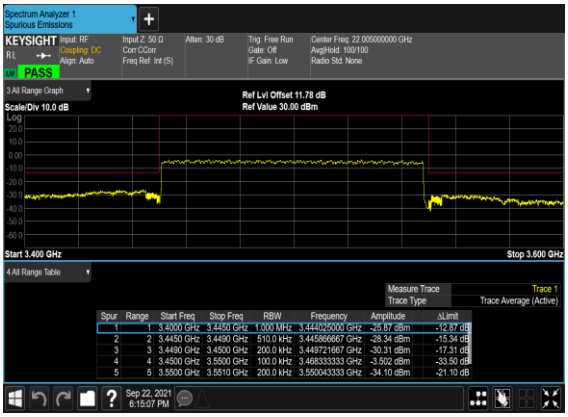
N78(100M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_Mid_CH



N78(100M)_DFT-s-OFDM_BPSK_Outer_Full_Mid_CH



N78(100M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH



Appendix B. Test Results of Radiated Test

Radiated Spurious Emission

5G NR n77_UL_MIMO / NR 100MHz / QPSK DFT-s-OFDM									
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	7582.90	-58.31	-13	-45.31	-55.18	-63.87	7.14	12.70	H
	11374.35	-52.36	-13	-39.36	-58.03	-55.66	8.30	11.60	H
	15165.80	-52.11	-13	-39.11	-57.29	-53.63	10.48	12.00	H
	7582.90	-58.55	-13	-45.55	-55.21	-64.11	7.14	12.70	V
	11374.35	-52.39	-13	-39.39	-57.86	-55.69	8.30	11.60	V
	15165.80	-52.11	-13	-39.11	-57.6	-53.63	10.48	12.00	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

5G NR n78 / NR 100MHz / QPSK DFT-s-OFDM									
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	7402.50	-57.85	-13	-44.85	-55.30	-63.41	7.14	12.70	H
	11103.75	-52.11	-13	-39.11	-56.53	-55.41	8.30	11.60	H
	14805.00	-50.93	-13	-37.93	-57.51	-52.45	10.48	12.00	H
	7402.50	-57.68	-13	-44.68	-55.18	-63.24	7.14	12.70	V
	11103.75	-52.45	-13	-39.45	-56.57	-55.75	8.30	11.60	V
	14805.00	-50.69	-13	-37.69	-57.46	-52.21	10.48	12.00	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

EN-DC_2A_n77A / LTE 20MHz + NR 100MHz / QPSK DFT-s-OFDM									
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
NR n77 Middle	7071.48	-55.05	-13	-42.05	-79.47	-60.61	7.14	12.70	H
	10607.22	-49.80	-13	-36.80	-79.93	-53.10	8.30	11.60	H
	14142.96	-45.36	-13	-32.36	-78.97	-46.88	10.48	12.00	H
	7071.48	-54.48	-13	-41.48	-79.32	-60.04	7.14	12.70	V
	10607.22	-50.42	-13	-37.42	-80.07	-53.72	8.30	11.60	V
	14142.96	-44.96	-13	-31.96	-78.16	-46.48	10.48	12.00	V
LTE Band2 Middle	3742	-60.86	-13	-47.86	-77.55	-67.61	5.85	12.60	H
	5613	-58.75	-13	-45.75	-78.46	-64.55	7.30	13.10	H
	7484	-54.32	-13	-41.32	-79.06	-57.47	8.35	11.50	H
	3742	-60.73	-13	-47.73	-77.34	-67.48	5.85	12.60	V
	5613	-58.89	-13	-45.89	-78.79	-64.69	7.30	13.10	V
	7484	-54.18	-13	-41.18	-78.91	-57.33	8.35	11.50	V

Remark:

1. Spurious emissions within 30-1000MHz were found more than 20dB below limit line.
2. For NSA mode of all 5G NR, we only choice the combination of the maximum power among all NSA combinations to test.