

N77(100M)_CP-
OFDM_QPSK_Outer_Full_Mid_CH



N77(100M)_CP-
OFDM_QPSK_Edge_1RB_Left_Mid_CH



N77(100M)_CP-OFDM_16
QAM_Outer_Full_Mid_CH



N77(100M)_CP-OFDM_16
QAM_Edge_1RB_Left_Mid_CH

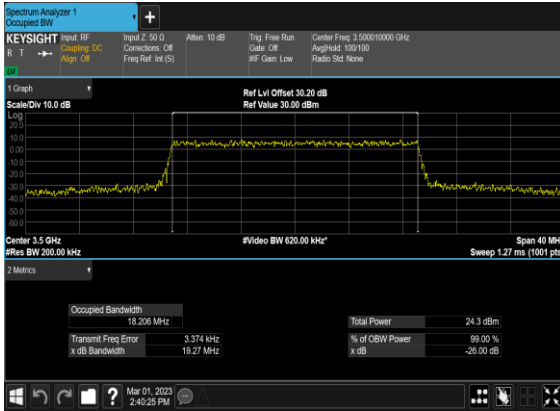


Occupied Bandwidth

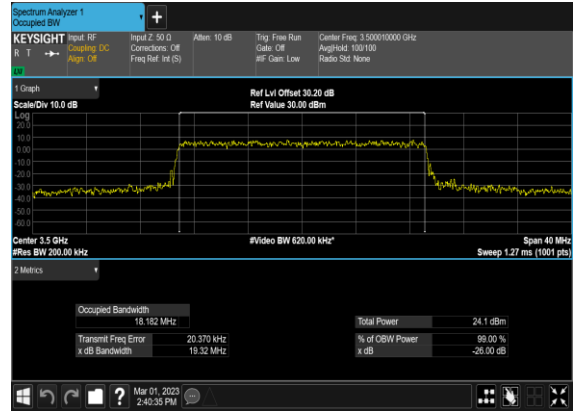
NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	OBW (MHz)	26dB BW (MHz)
77	30	20	633334	3500.01	CP-OFDM QPSK	51@0	18.206	19.27
77	30	20	633334	3500.01	CP-OFDM 16 QAM	51@0	18.182	19.32
77	30	20	633334	3500.01	CP-OFDM 64 QAM	51@0	18.228	18.99
77	30	20	633334	3500.01	CP-OFDM 256 QAM	51@0	18.155	19.14
77	30	30	633334	3500.01	CP-OFDM QPSK	78@0	27.791	29.03
77	30	30	633334	3500.01	CP-OFDM 16 QAM	78@0	27.871	29.12
77	30	30	633334	3500.01	CP-OFDM 64 QAM	78@0	27.848	28.76
77	30	30	633334	3500.01	CP-OFDM 256 QAM	78@0	27.755	28.84
77	30	40	633334	3500.01	CP-OFDM QPSK	106@0	37.759	39.27
77	30	40	633334	3500.01	CP-OFDM 16 QAM	106@0	37.886	39.21
77	30	40	633334	3500.01	CP-OFDM 64 QAM	106@0	37.82	39.24
77	30	40	633334	3500.01	CP-OFDM 256 QAM	106@0	37.741	39.1
77	30	50	633334	3500.01	CP-OFDM QPSK	133@0	47.443	49.01
77	30	50	633334	3500.01	CP-OFDM 16 QAM	133@0	47.403	49.01
77	30	50	633334	3500.01	CP-OFDM 64 QAM	133@0	47.473	49.21
77	30	50	633334	3500.01	CP-OFDM 256 QAM	133@0	47.421	49.04
77	30	60	633334	3500.01	CP-OFDM QPSK	162@0	57.745	59.67
77	30	60	633334	3500.01	CP-OFDM 16 QAM	162@0	57.825	59.66
77	30	60	633334	3500.01	CP-OFDM 64 QAM	162@0	57.724	59.72
77	30	60	633334	3500.01	CP-OFDM 256 QAM	162@0	57.868	59.79
77	30	70	633334	3500.01	CP-OFDM QPSK	189@0	67.374	69.6
77	30	70	633334	3500.01	CP-OFDM 16 QAM	189@0	67.533	69.72
77	30	70	633334	3500.01	CP-OFDM 64 QAM	189@0	67.47	69.73
77	30	70	633334	3500.01	CP-OFDM 256 QAM	189@0	67.578	69.67
77	30	80	633334	3500.01	CP-OFDM QPSK	217@0	77.445	79.84
77	30	80	633334	3500.01	CP-OFDM 16 QAM	217@0	77.387	79.89

77	30	80	633334	3500.01	CP-OFDM 64 QAM	217@0	77.531	79.95
77	30	80	633334	3500.01	CP-OFDM 256 QAM	217@0	77.412	79.91
77	30	90	633334	3500.01	CP-OFDM QPSK	245@0	87.292	90.13
77	30	90	633334	3500.01	CP-OFDM 16 QAM	245@0	87.607	90.23
77	30	90	633334	3500.01	CP-OFDM 64 QAM	245@0	87.437	90.17
77	30	90	633334	3500.01	CP-OFDM 256 QAM	245@0	87.337	90.1
77	30	100	633334	3500.01	CP-OFDM QPSK	273@0	97.524	100.5
77	30	100	633334	3500.01	CP-OFDM 16 QAM	273@0	97.797	100.7
77	30	100	633334	3500.01	CP-OFDM 64 QAM	273@0	97.368	100.4
77	30	100	633334	3500.01	CP-OFDM 256 QAM	273@0	97.515	100.5

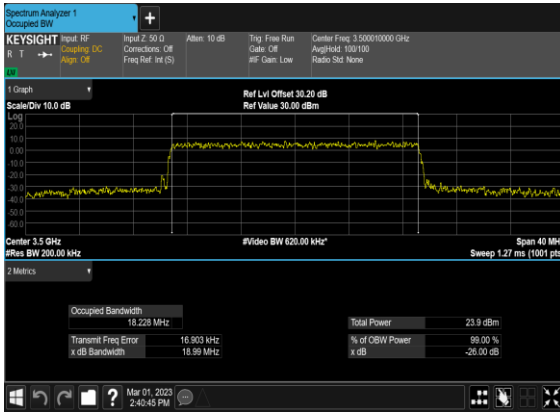
N77(20M)_CP- OFDM_QPSK_Outer_Full_Mid_CH



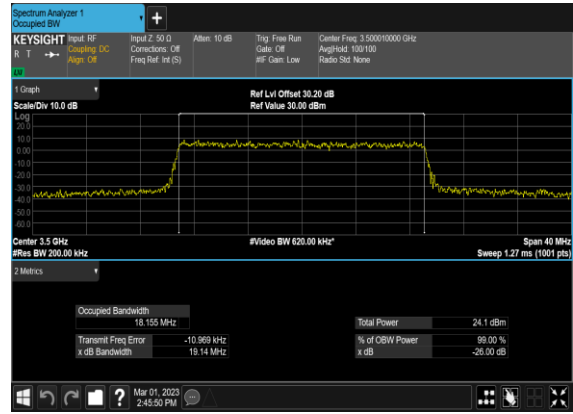
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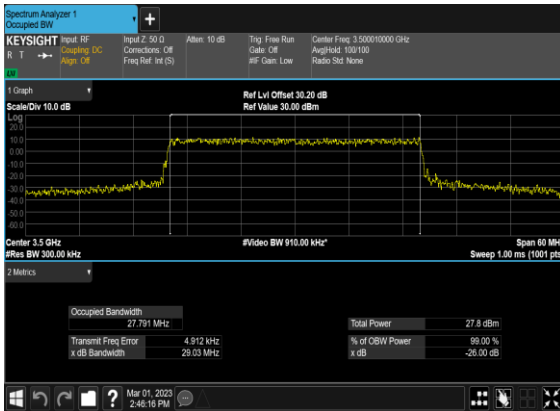
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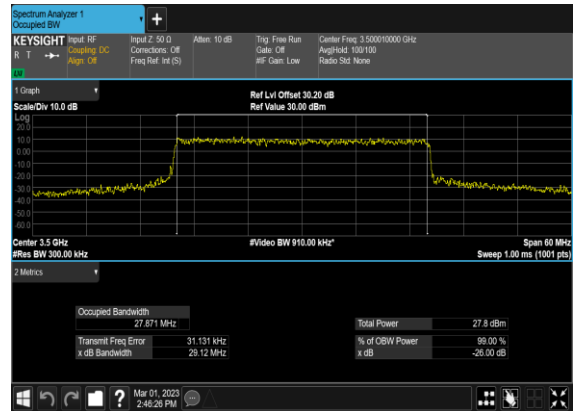
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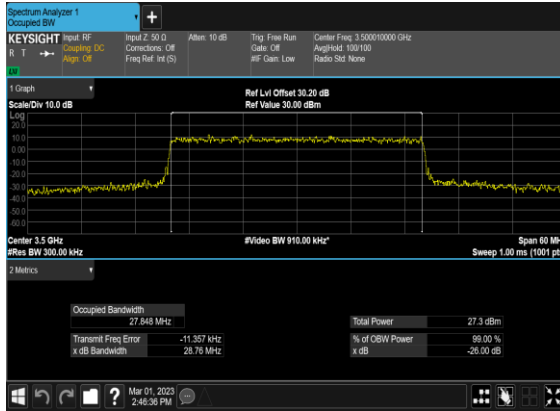
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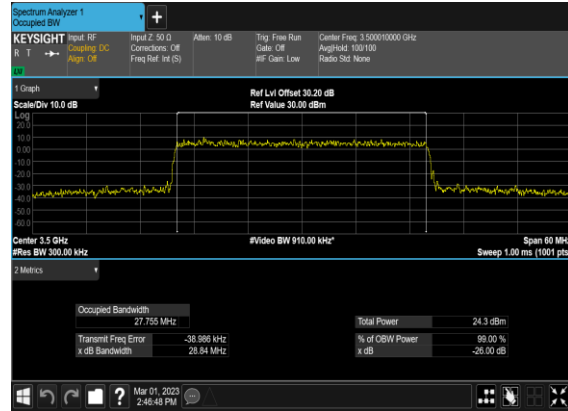
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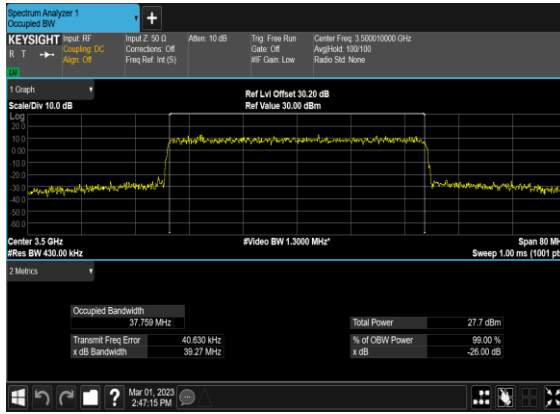
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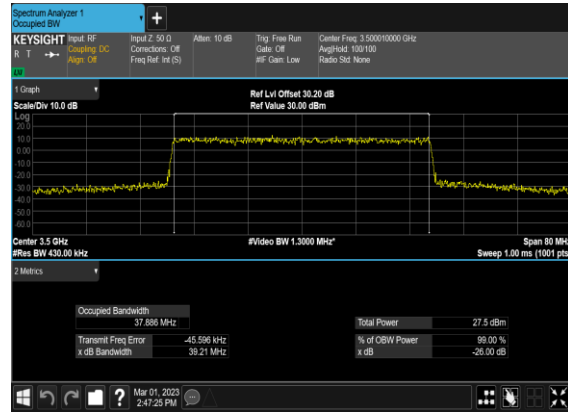
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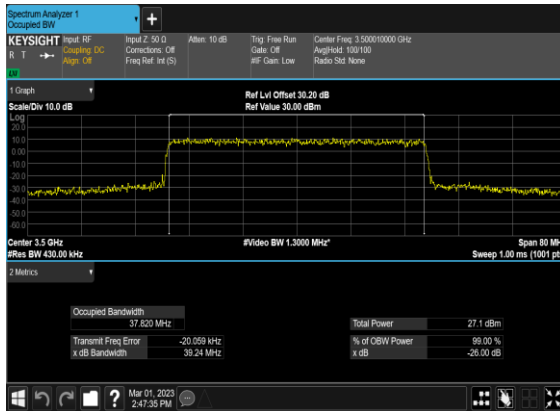
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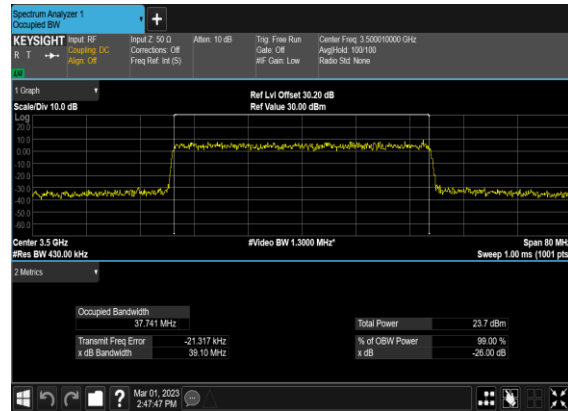
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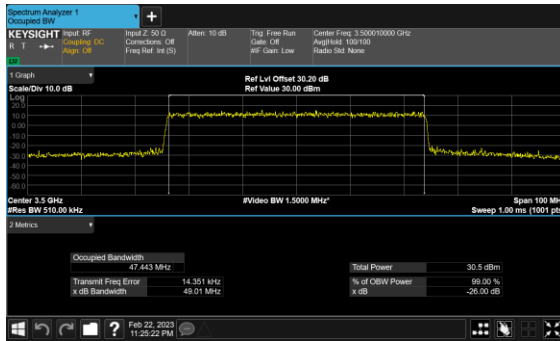
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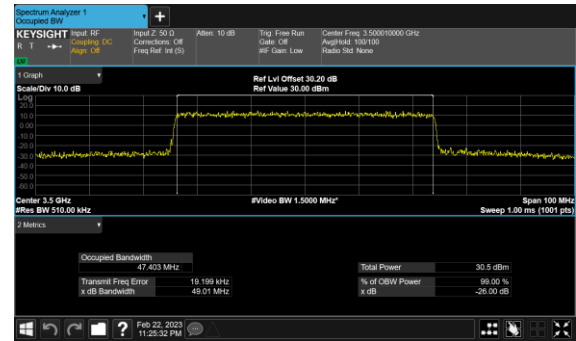
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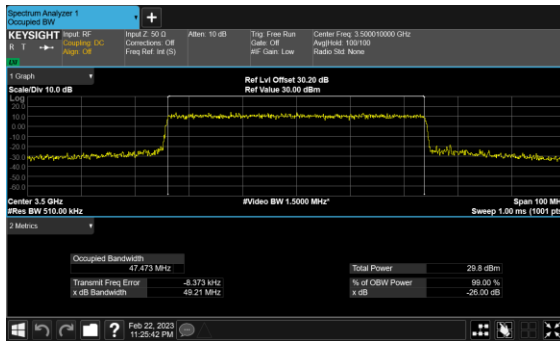
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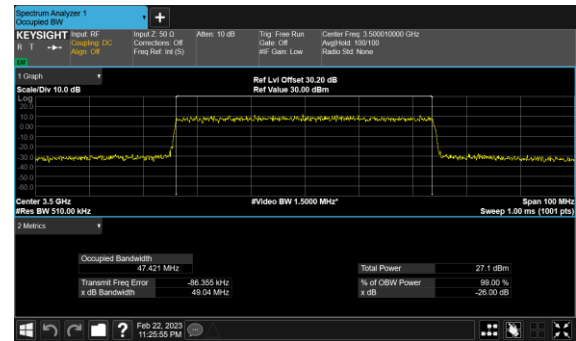
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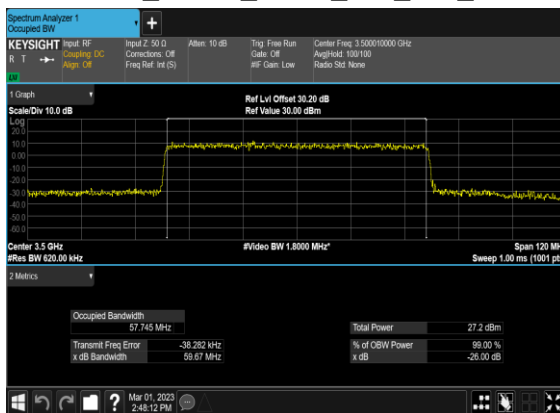
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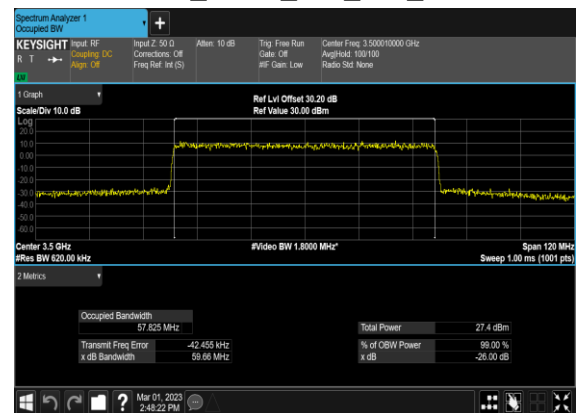
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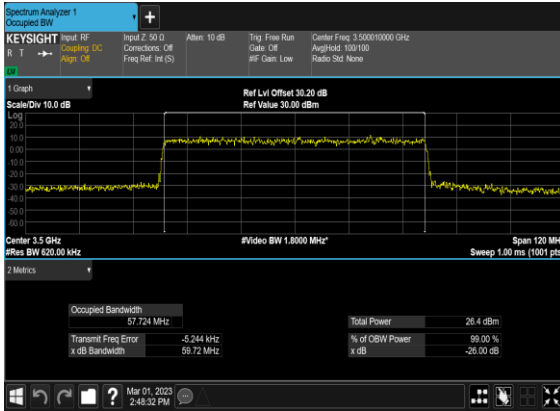
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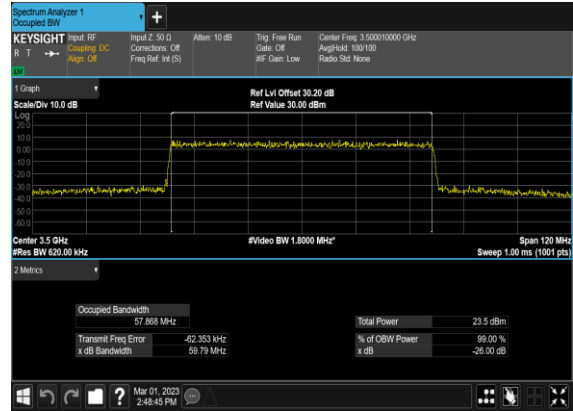
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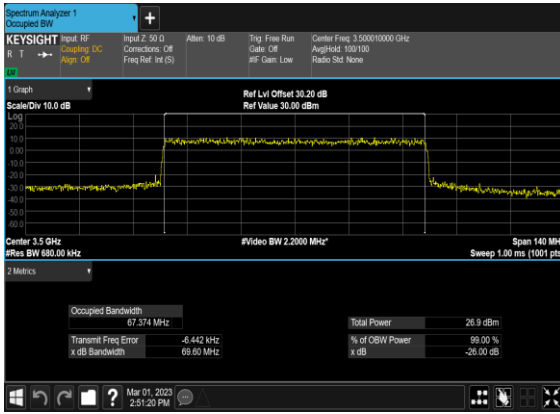
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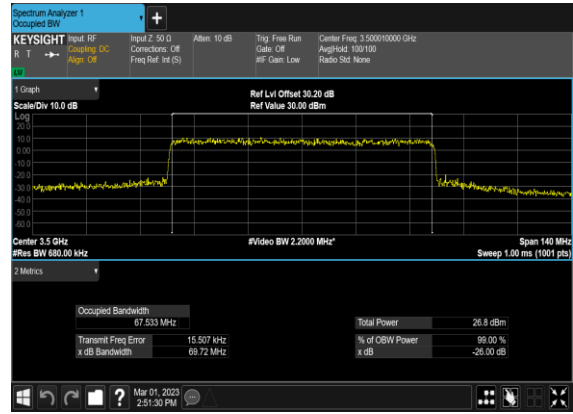
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N77(70M)_CP- OFDM_QPSK_Outer_Full_Mid_CH



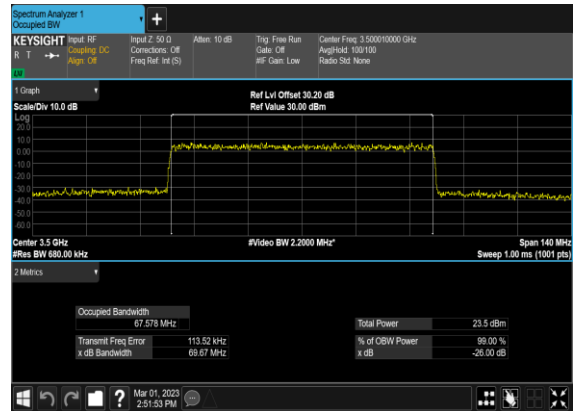
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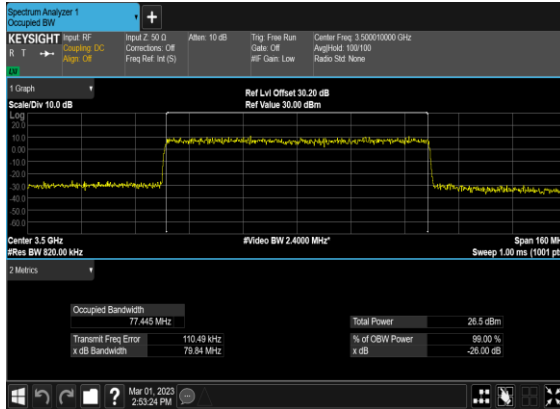
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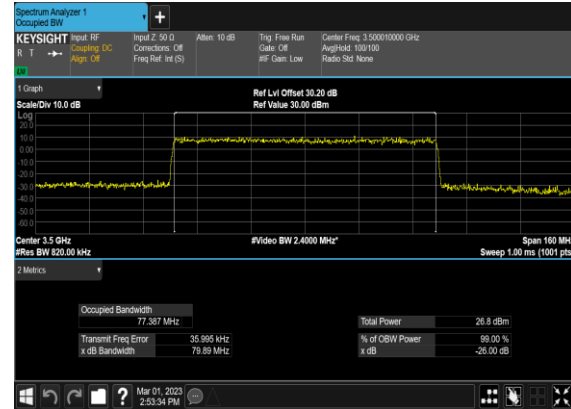
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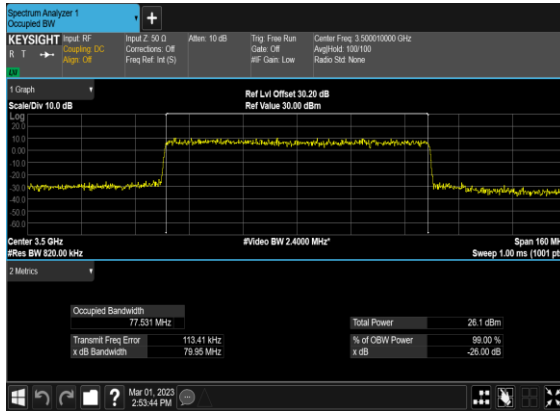
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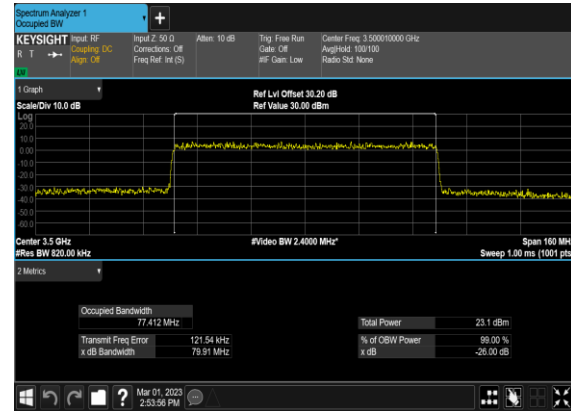
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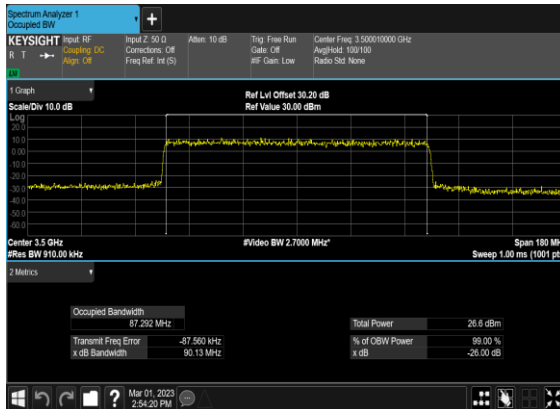
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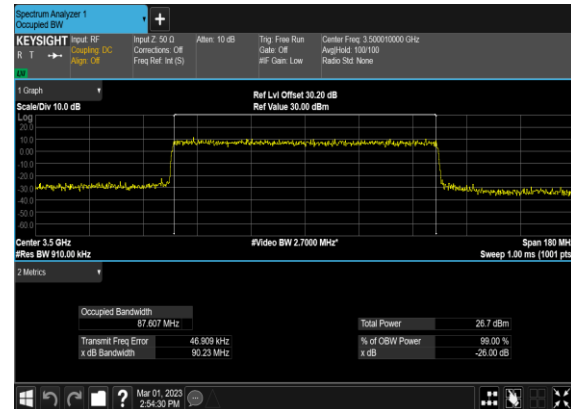
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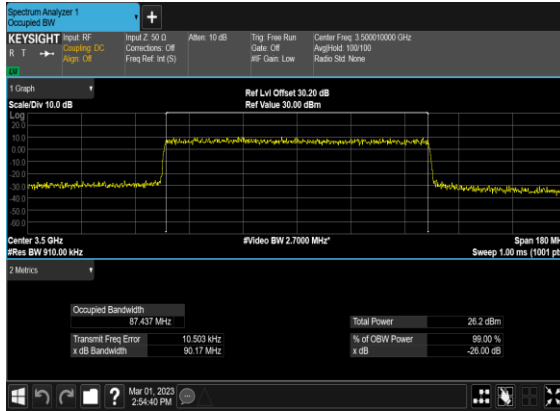
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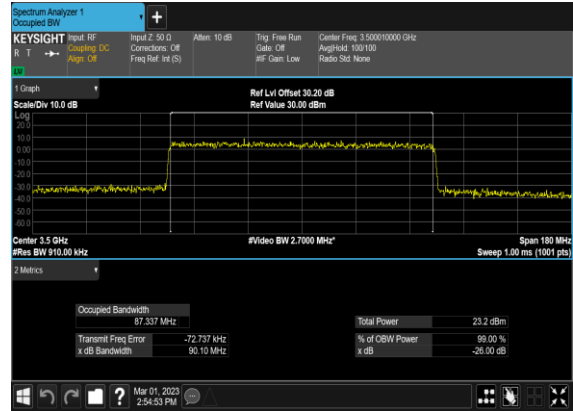
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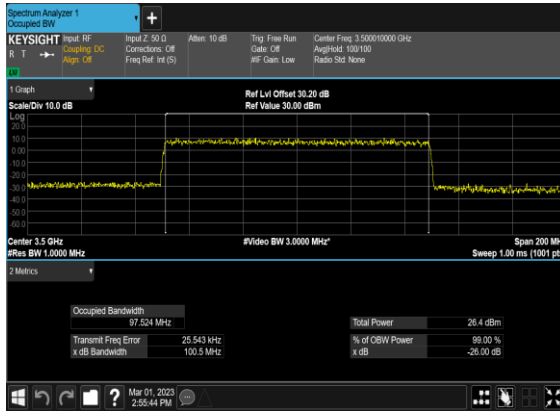
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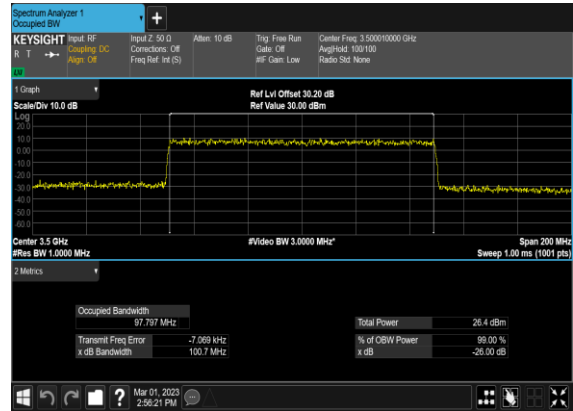
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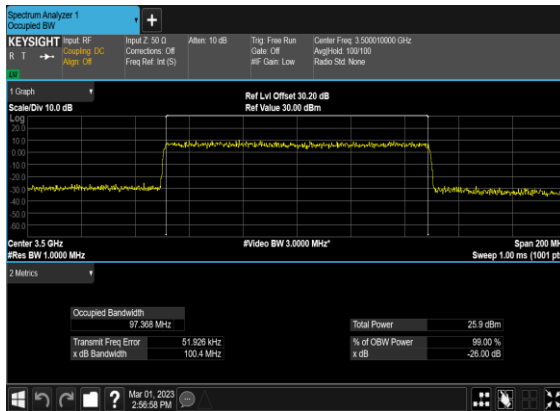
N77(100M)_CP- OFDM_QPSK_Outer_Full_Mid_CH



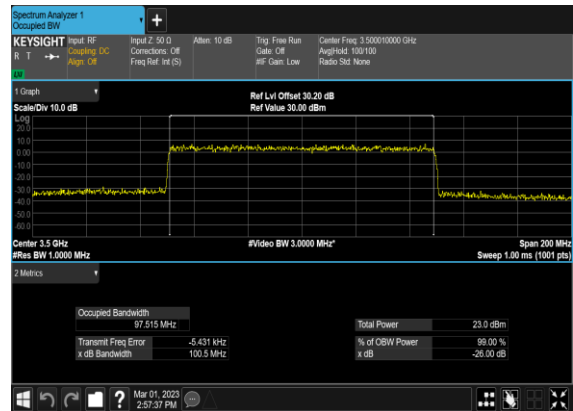
N77(100M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH



N77(100M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH



N77(100M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH

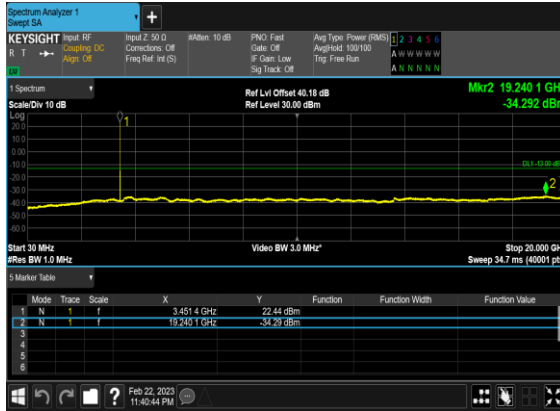


Conducted Spurious Emissions

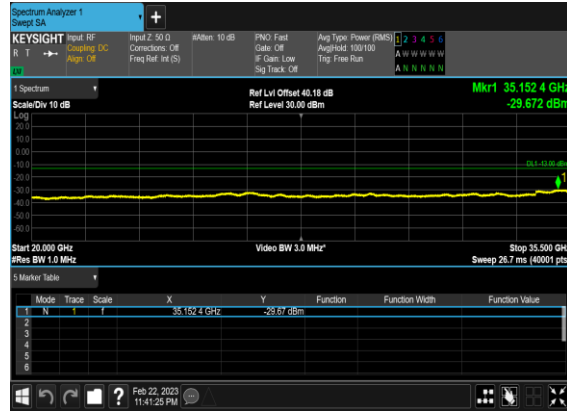
NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Result	Verdict
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77	30	20	630668	3460.02	CP-OFDM QPSK	1@0	see graph	PASS
77	30	20	630668	3460.02	CP-OFDM QPSK	1@0	see graph	PASS
77	30	20	630668	3460.02	CP-OFDM 16 QAM	1@0	see graph	---
77	30	20	630668	3460.02	CP-OFDM 16 QAM	1@0	see graph	PASS
77	30	20	630668	3460.02	CP-OFDM 16 QAM	1@0	see graph	PASS
77	30	20	633334	3500.01	CP-OFDM QPSK	1@0	see graph	---
77	30	20	633334	3500.01	CP-OFDM QPSK	1@0	see graph	PASS
77	30	20	633334	3500.01	CP-OFDM QPSK	1@0	see graph	PASS
77	30	20	633334	3500.01	CP-OFDM 16 QAM	1@0	see graph	---
77	30	20	633334	3500.01	CP-OFDM 16 QAM	1@0	see graph	PASS
77	30	20	633334	3500.01	CP-OFDM 16 QAM	1@0	see graph	PASS
77	30	20	636000	3540.0	CP-OFDM QPSK	1@0	see graph	---
77	30	20	636000	3540.0	CP-OFDM QPSK	1@0	see graph	PASS
77	30	20	636000	3540.0	CP-OFDM QPSK	1@0	see graph	PASS
77	30	20	636000	3540.0	CP-OFDM 16 QAM	1@0	see graph	---
77	30	20	636000	3540.0	CP-OFDM 16 QAM	1@0	see graph	PASS
77	30	20	636000	3540.0	CP-OFDM 16 QAM	1@0	see graph	PASS
77	30	60	632000	3480.0	CP-OFDM QPSK	1@0	see graph	---
77	30	60	632000	3480.0	CP-OFDM QPSK	1@0	see graph	PASS
77	30	60	632000	3480.0	CP-OFDM QPSK	1@0	see graph	PASS
77	30	60	632000	3480.0	CP-OFDM 16 QAM	1@0	see graph	---
77	30	60	632000	3480.0	CP-OFDM 16 QAM	1@0	see graph	PASS

77	30	60	632000	3480.0	CP-OFDM 16 QAM	1@0	see graph	PASS
77	30	60	633334	3500.01	CP-OFDM QPSK	1@0	see graph	---
77	30	60	633334	3500.01	CP-OFDM QPSK	1@0	see graph	PASS
77	30	60	633334	3500.01	CP-OFDM QPSK	1@0	see graph	PASS
77	30	60	633334	3500.01	CP-OFDM 16 QAM	1@0	see graph	---
77	30	60	633334	3500.01	CP-OFDM 16 QAM	1@0	see graph	PASS
77	30	60	633334	3500.01	CP-OFDM 16 QAM	1@0	see graph	PASS
77	30	60	634666	3519.99	CP-OFDM QPSK	1@0	see graph	---
77	30	60	634666	3519.99	CP-OFDM QPSK	1@0	see graph	PASS
77	30	60	634666	3519.99	CP-OFDM QPSK	1@0	see graph	PASS
77	30	60	634666	3519.99	CP-OFDM 16 QAM	1@0	see graph	---
77	30	60	634666	3519.99	CP-OFDM 16 QAM	1@0	see graph	PASS
77	30	60	634666	3519.99	CP-OFDM 16 QAM	1@0	see graph	PASS
77	30	100	633334	3500.01	CP-OFDM QPSK	1@0	see graph	---
77	30	100	633334	3500.01	CP-OFDM QPSK	1@0	see graph	PASS
77	30	100	633334	3500.01	CP-OFDM QPSK	1@0	see graph	PASS
77	30	100	633334	3500.01	CP-OFDM 16 QAM	1@0	see graph	---
77	30	100	633334	3500.01	CP-OFDM 16 QAM	1@0	see graph	PASS
77	30	100	633334	3500.01	CP-OFDM 16 QAM	1@0	see graph	PASS

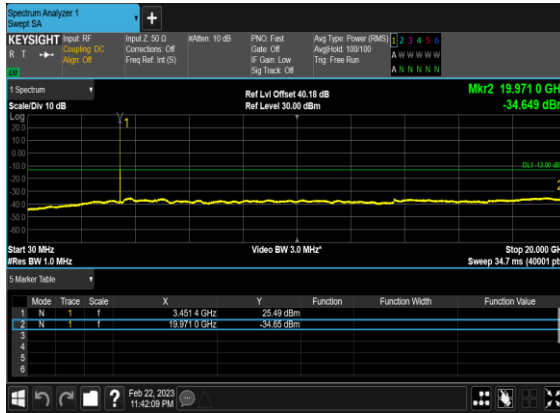
N77(20M)_CP- OFDM_QPSK_Edge_1RB_Left_Low_CH



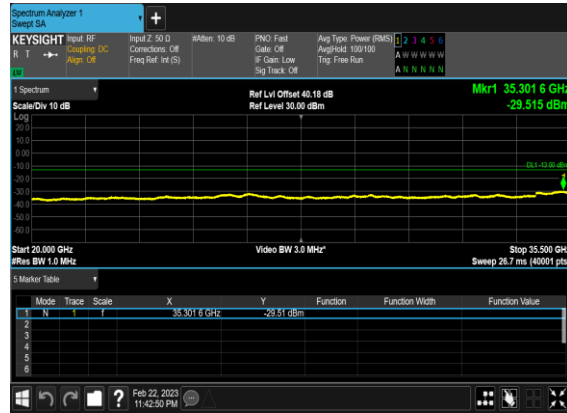
N77(20M)_CP- OFDM_QPSK_Edge_1RB_Left_Low_CH



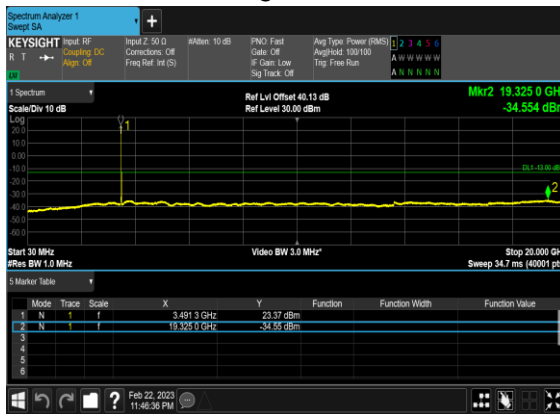
N77(20M)_CP-OFDM_16 QAM_Edge_1RB_Left_Low_CH



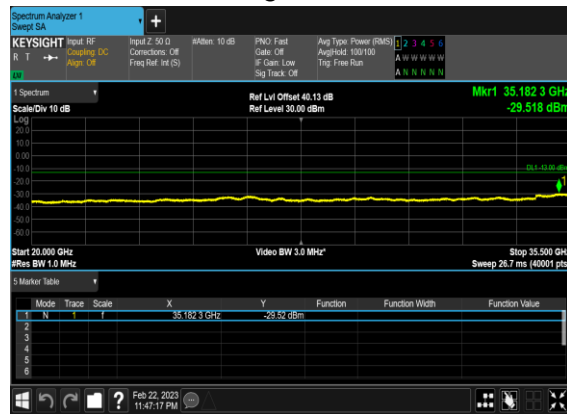
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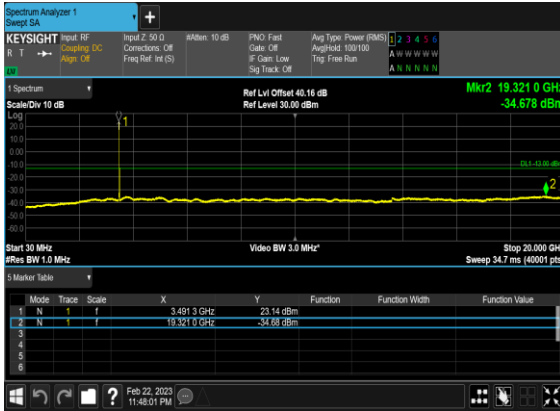
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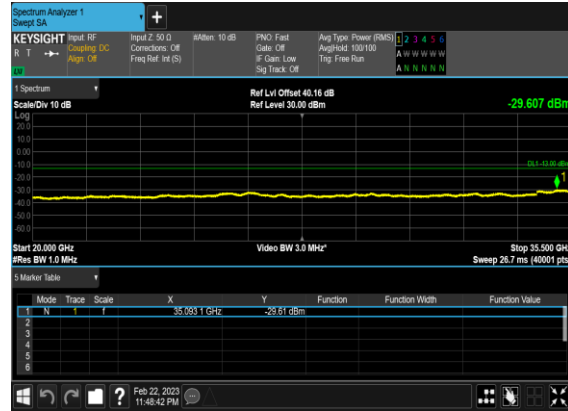
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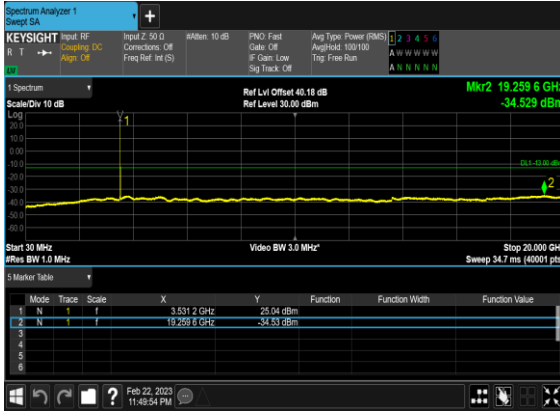
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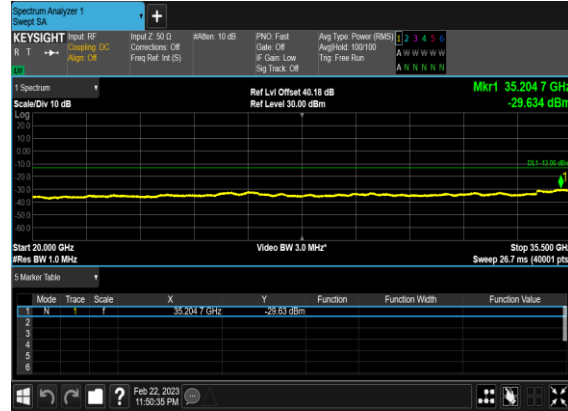
N77(20M)_CP-OFDM_16 QAM_Edge_1RB_Left_Mid_CH



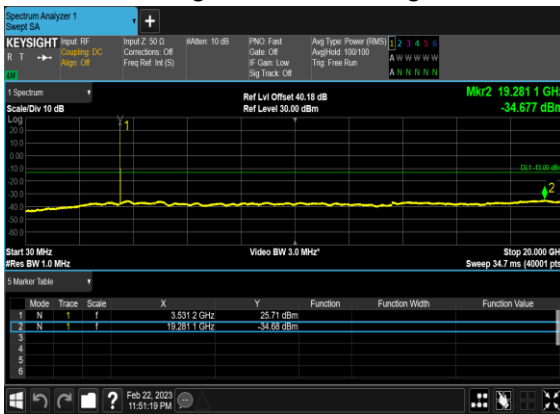
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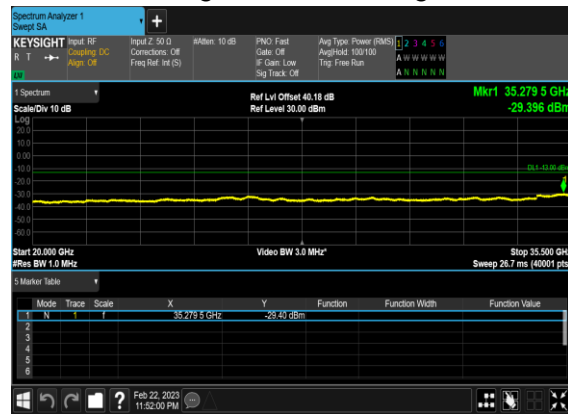
N77(20M)_CP-OFDM_QPSK_Edge_1RB_Left_High_CH



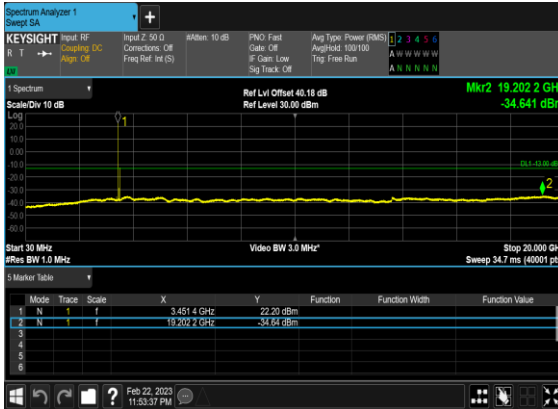
N77(20M)_CP-OFDM_16 QAM_Edge_1RB_Left_High_CH



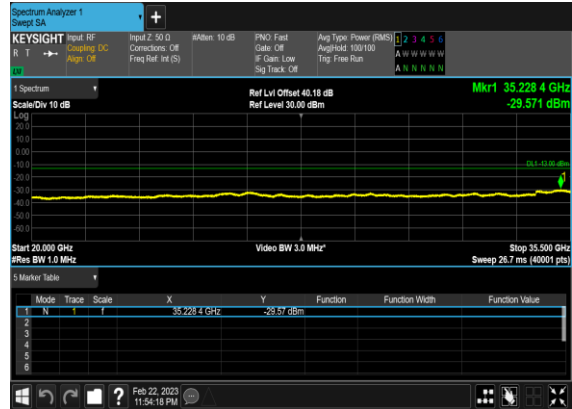
N77(20M)_CP-OFDM_16 QAM_Edge_1RB_Left_High_CH



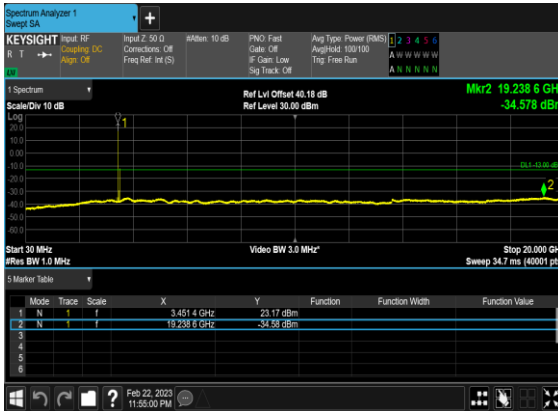
N77(60M)_CP- OFDM_QPSK_Edge_1RB_Left_Low_CH



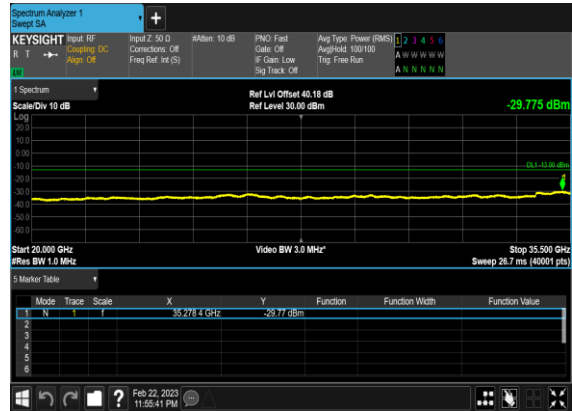
N77(60M)_CP- OFDM_QPSK_Edge_1RB_Left_Low_CH



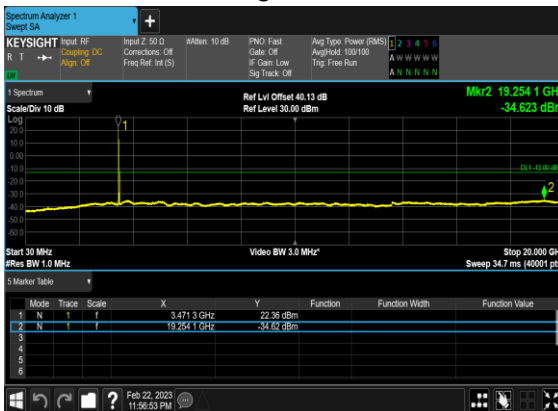
N77(60M)_CP-OFDM_16 QAM_Edge_1RB_Left_Low_CH



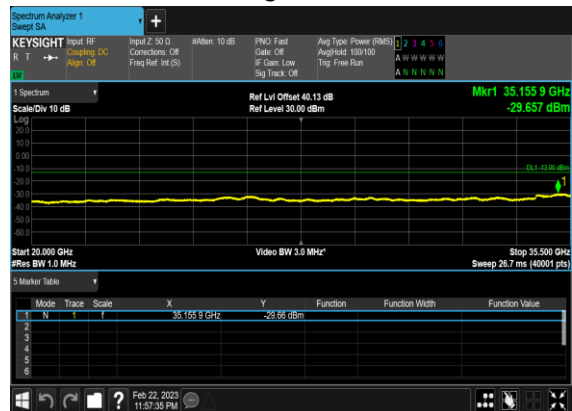
N77(60M)_CP-OFDM_16 QAM_Edge_1RB_Left_Low_CH



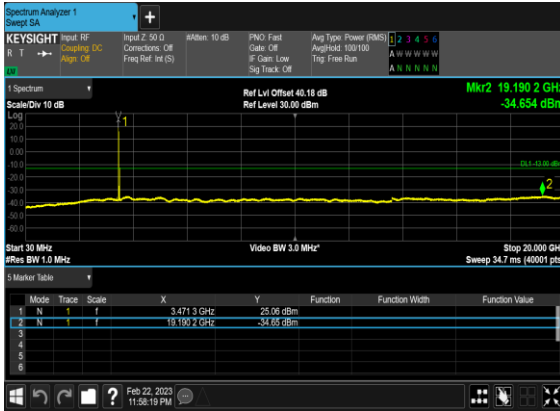
N77(60M)_CP- OFDM_QPSK_Edge_1RB_Left_Mid_CH



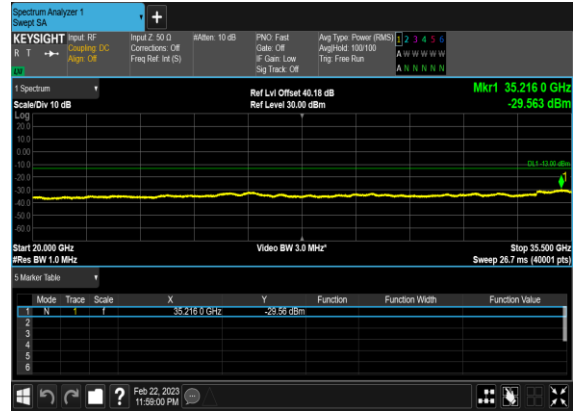
N77(60M)_CP- OFDM_QPSK_Edge_1RB_Left_Mid_CH



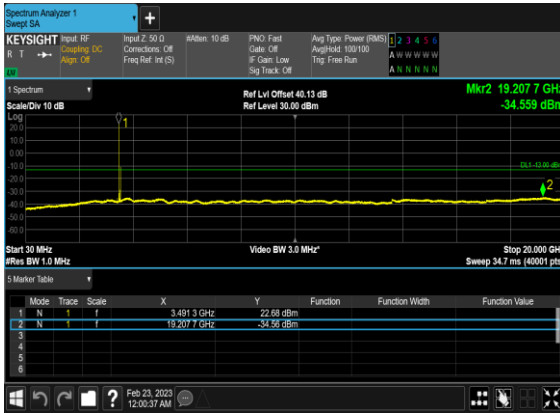
N77(60M)_CP-OFDM_16 QAM_Edge_1RB_Left_Mid_CH



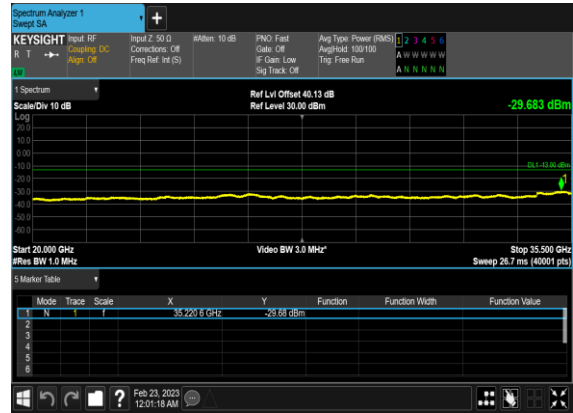
N77(60M)_CP-OFDM_16 QAM_Edge_1RB_Left_Mid_CH



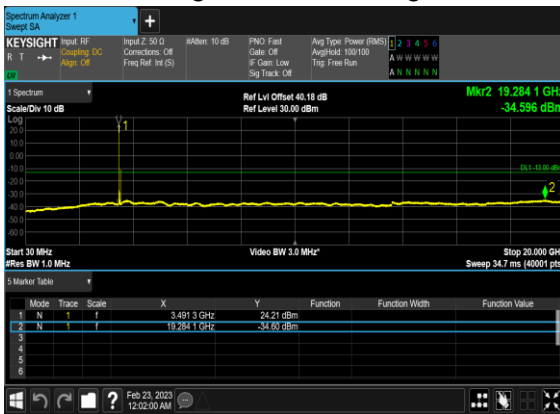
N77(60M)_CP- OFDM_QPSK_Edge_1RB_Left_High_CH



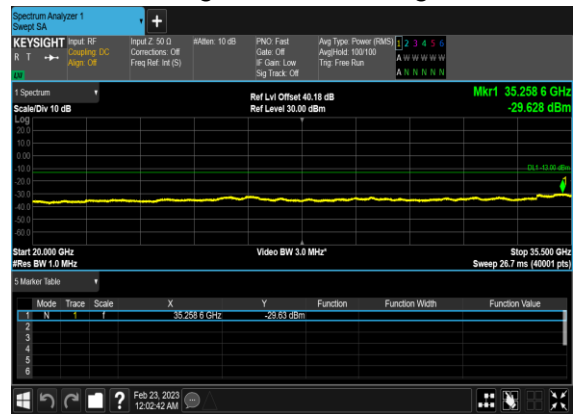
N77(60M)_CP- OFDM_QPSK_Edge_1RB_Left_High_CH



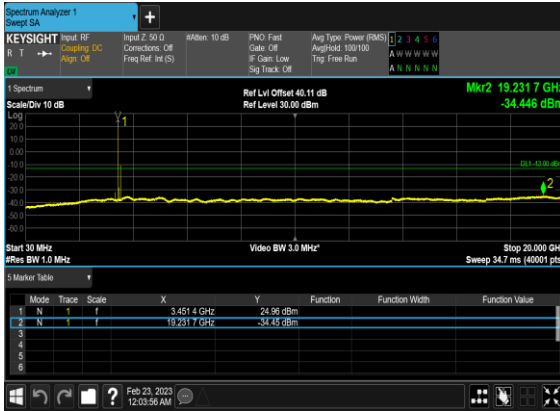
N77(60M)_CP-OFDM_16 QAM_Edge_1RB_Left_High_CH



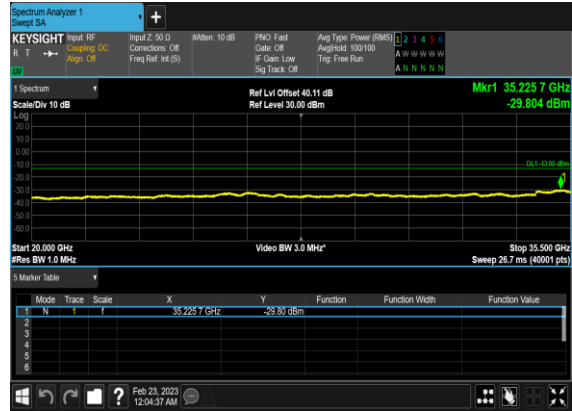
N77(60M)_CP-OFDM_16 QAM_Edge_1RB_Left_High_CH



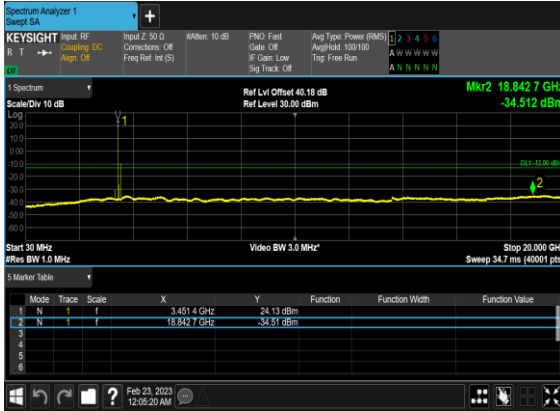
N77(100M)_CP- OFDM_QPSK_Edge_1RB_Left_Mid_CH



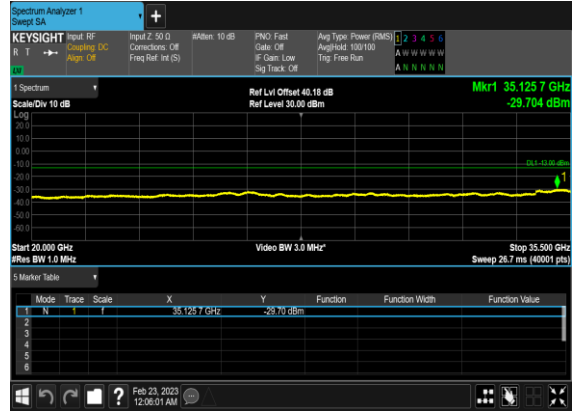
N77(100M)_CP- OFDM_QPSK_Edge_1RB_Left_Mid_CH



N77(100M)_CP-OFDM_16 QAM_Edge_1RB_Left_Mid_CH



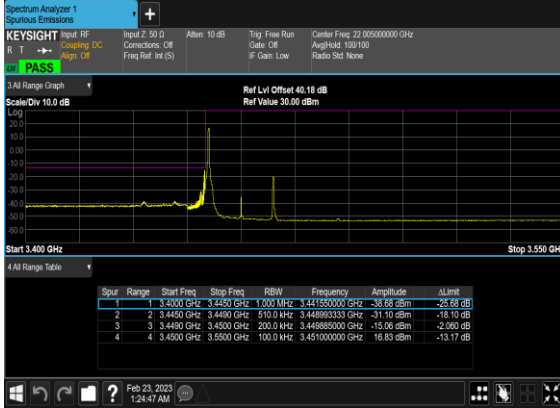
N77(100M)_CP-OFDM_16 QAM_Edge_1RB_Left_Mid_CH



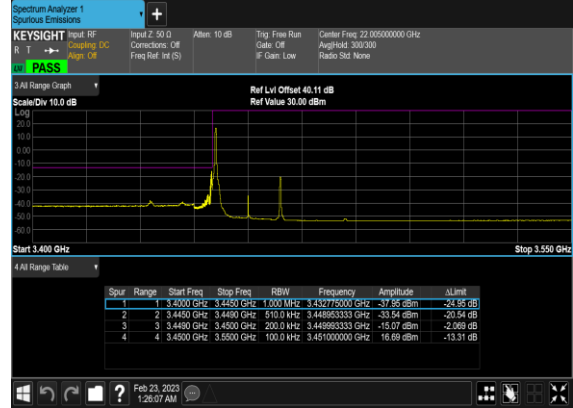
Conducted Band Edge

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Result	Verdict
77	30	20	630668	3460.02	CP-OFDM QPSK	1@0	see graph	PASS
77	30	20	630668	3460.02	CP-OFDM 16 QAM	1@0	see graph	PASS
77	30	20	630668	3460.02	CP-OFDM QPSK	51@0	see graph	PASS
77	30	20	630668	3460.02	CP-OFDM 16 QAM	51@0	see graph	PASS
77	30	20	636000	3540.0	CP-OFDM QPSK	1@50	see graph	PASS
77	30	20	636000	3540.0	CP-OFDM 16 QAM	1@50	see graph	PASS
77	30	20	636000	3540.0	CP-OFDM QPSK	51@0	see graph	PASS
77	30	20	636000	3540.0	CP-OFDM 16 QAM	51@0	see graph	PASS
77	30	60	632000	3480.0	CP-OFDM QPSK	1@0	see graph	PASS
77	30	60	632000	3480.0	CP-OFDM 16 QAM	1@0	see graph	PASS
77	30	60	632000	3480.0	CP-OFDM QPSK	162@0	see graph	PASS
77	30	60	632000	3480.0	CP-OFDM 16 QAM	162@0	see graph	PASS
77	30	60	634666	3519.99	CP-OFDM QPSK	1@161	see graph	PASS
77	30	60	634666	3519.99	CP-OFDM 16 QAM	1@161	see graph	PASS
77	30	60	634666	3519.99	CP-OFDM QPSK	162@0	see graph	PASS
77	30	60	634666	3519.99	CP-OFDM 16 QAM	162@0	see graph	PASS
77	30	100	633334	3500.01	CP-OFDM QPSK	1@0	see graph	PASS
77	30	100	633334	3500.01	CP-OFDM 16 QAM	1@0	see graph	PASS
77	30	100	633334	3500.01	CP-OFDM QPSK	1@272	see graph	PASS
77	30	100	633334	3500.01	CP-OFDM 16 QAM	1@272	see graph	PASS
77	30	100	633334	3500.01	CP-OFDM QPSK	273@0	see graph	PASS
77	30	100	633334	3500.01	CP-OFDM 16 QAM	273@0	see graph	PASS

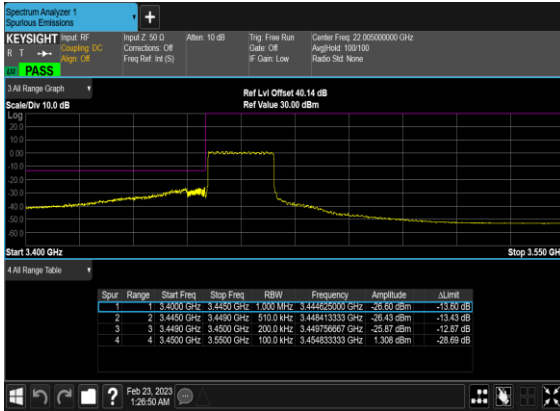
N77(20M)_CP-OFDM_QPSK_Edge_1RB_Left_Low_CH



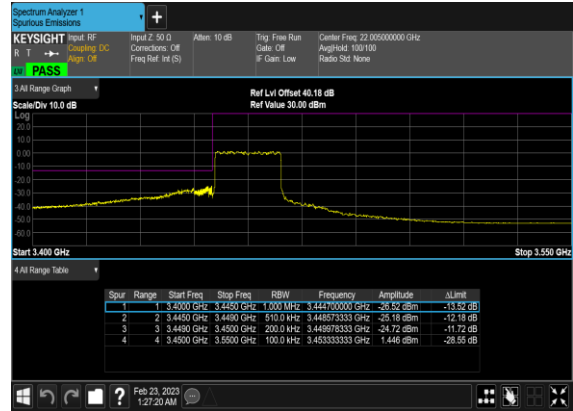
N77(20M)_CP-OFDM_16QAM_Edge_1RB_Left_Low_CH



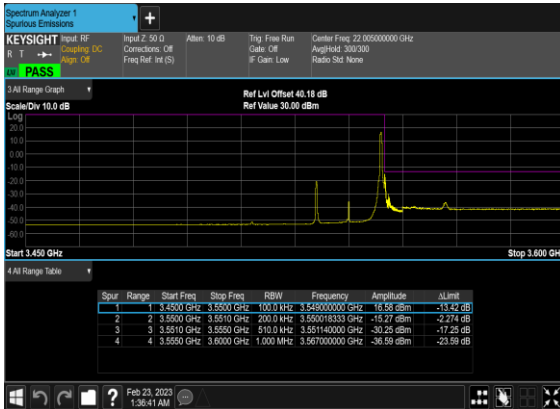
N77(20M)_CP-OFDM_QPSK_Outer_Full_Low_CH



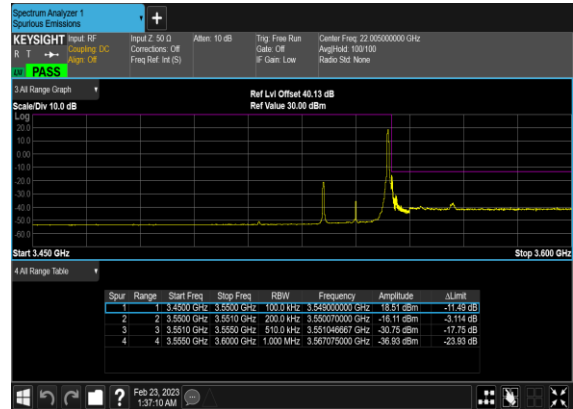
N77(20M)_CP-OFDM_16QAM_Outer_Full_Low_CH



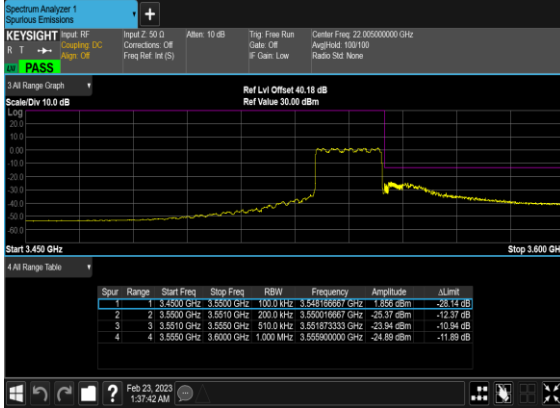
N77(20M)_CP-OFDM_QPSK_Edge_1RB_Right_High_CH



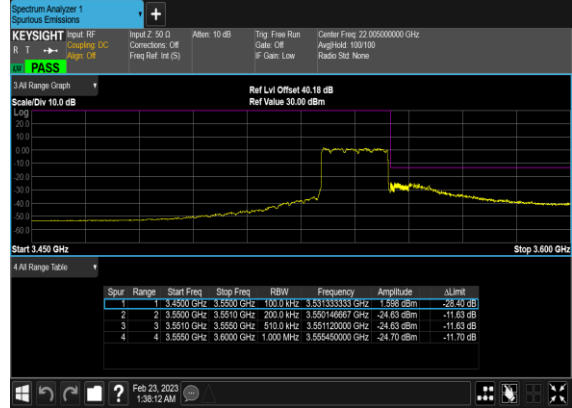
N77(20M)_CP-OFDM_16QAM_Edge_1RB_Right_High_CH



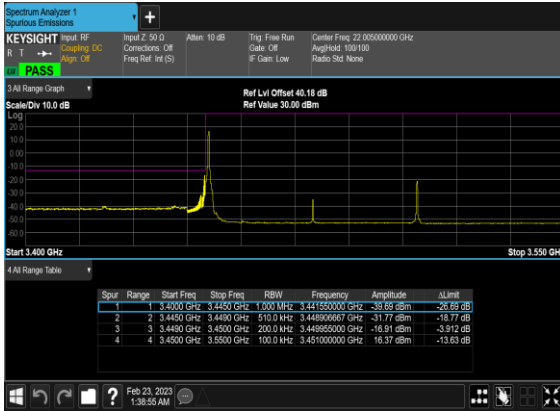
N77(20M)_CP-OFDM_QPSK_Outer_Full_High_CH



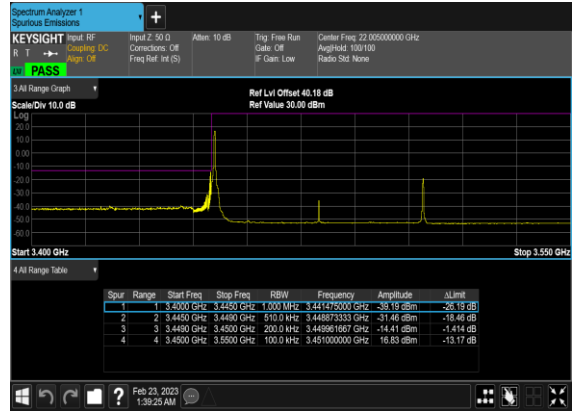
N77(20M)_CP-OFDM_16QAM_Outer_Full_High_CH



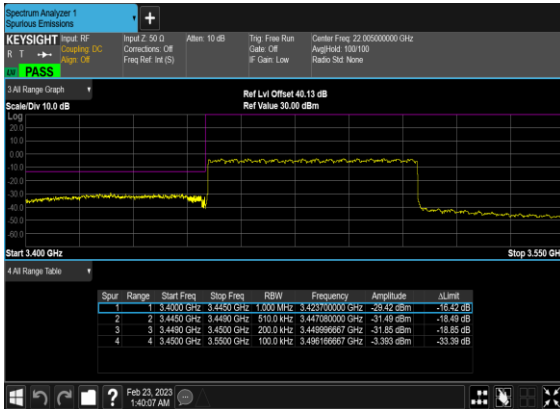
N77(60M)_CP-OFDM_QPSK_Edge_1RB_Left_Low_CH



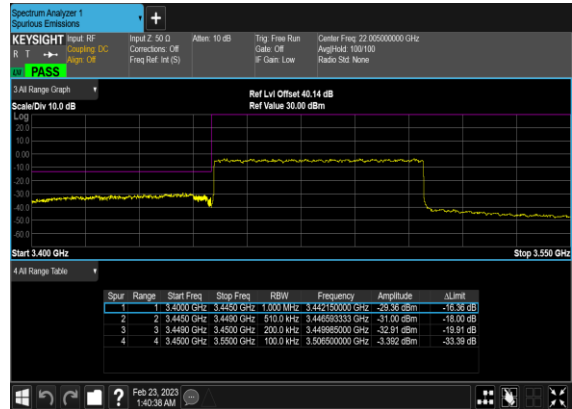
N77(60M)_CP-OFDM_16QAM_Edge_1RB_Left_Low_CH



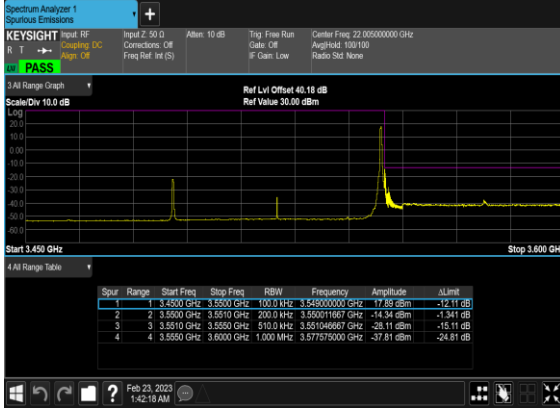
N77(60M)_CP-OFDM_QPSK_Outer_Full_Low_CH



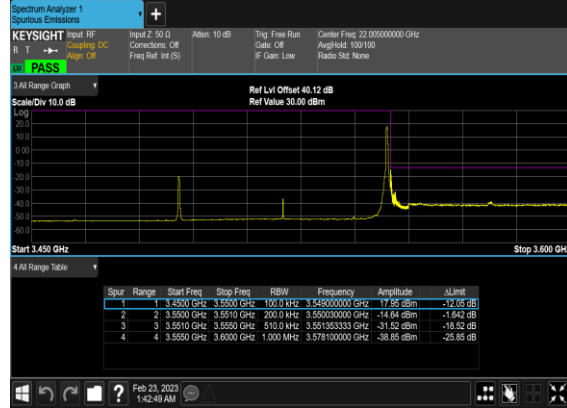
N77(60M)_CP-OFDM_16QAM_Outer_Full_Low_CH



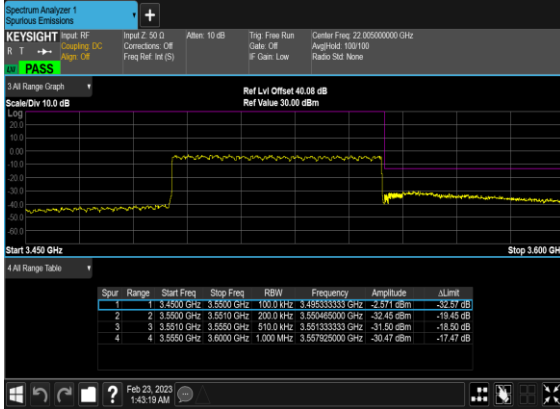
N77(60M)_CP-OFDM_QPSK_Edge_1RB_Right_High_CH



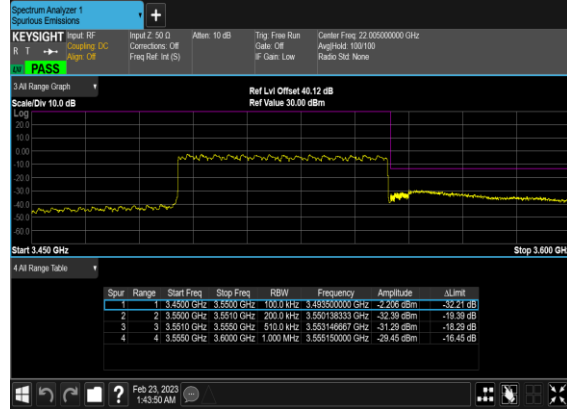
N77(60M)_CP-OFDM_16QAM_Edge_1RB_Right_High_CH



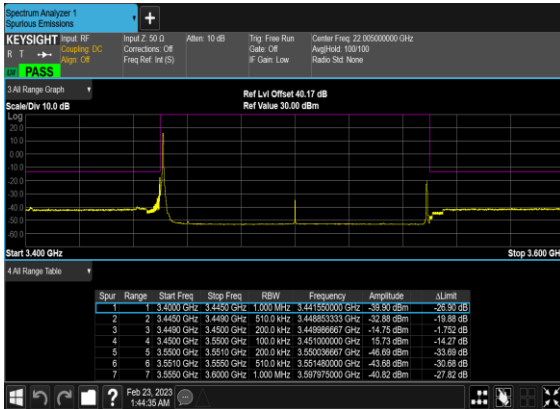
N77(60M)_CP-OFDM_QPSK_Outer_Full_High_CH



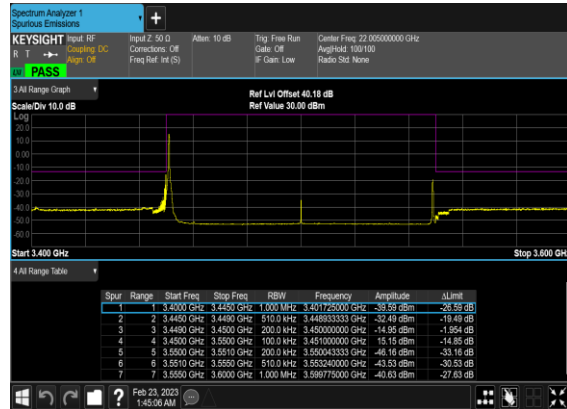
N77(60M)_CP-OFDM_16QAM_Outer_Full_High_CH



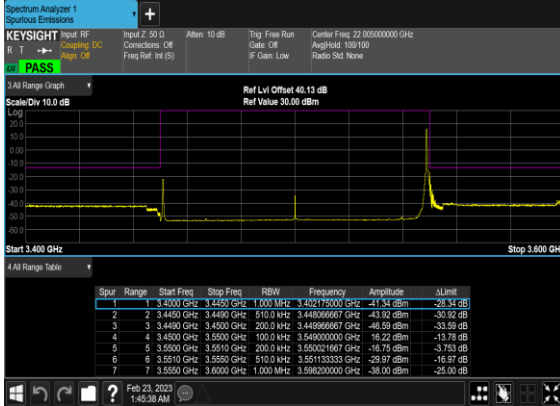
N77(100M)_CP-OFDM_QPSK_Edge_1RB_Left_Mid_CH



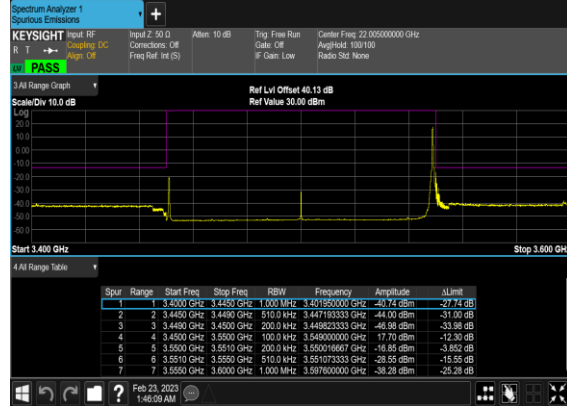
N77(100M)_CP-OFDM_16QAM_Edge_1RB_Left_Mid_CH



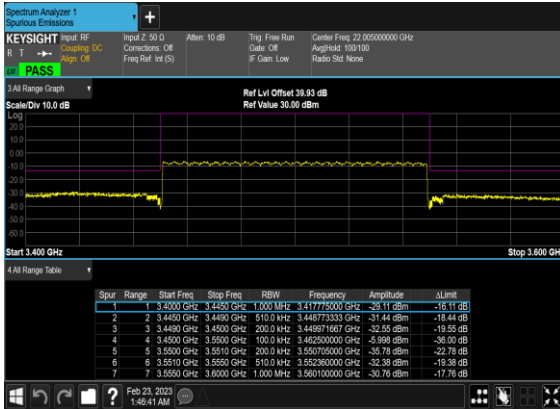
N77(100M)_CP- OFDM_QPSK_Edge_1RB_Right_Mid_CH



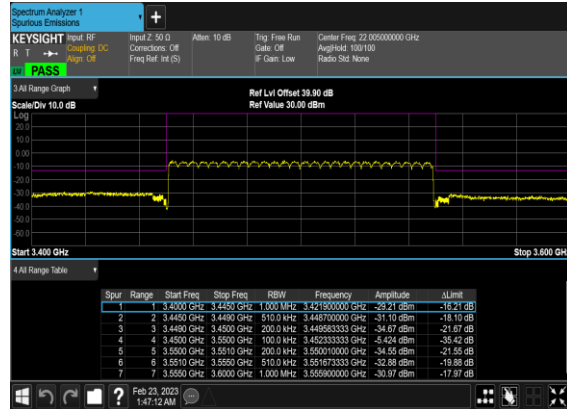
N77(100M)_CP-OFDM_16 QAM_Edge_1RB_Right_Mid_CH



N77(100M)_CP- OFDM_QPSK_Outer_Full_Mid_CH



N77(100M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH





Appendix B. Test Results of Radiated Test

Radiated Spurious Emission

Test Engineer :	Carry Xu	Temperature :	23~25°C
		Relative Humidity :	41~42%

Note: Pre-scanned harmonic for the different antenna combinations, we choose the worst antenna mode to perform final test.

Sample 1 :

SA n77 / NR 100MHz / QPSK / ANT5								
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	6912	-64.53	-13	-51.53	-74.74	3.03	13.24	H
	10368	-61.82	-13	-48.82	-71.27	3.56	13.01	H
	13824	-60.61	-13	-47.61	-70.13	3.92	13.44	H
	6912	-64.33	-13	-51.33	-74.54	3.03	13.24	V
	10368	-61.63	-13	-48.63	-71.08	3.56	13.01	V
	13824	-60.30	-13	-47.30	-69.82	3.92	13.44	V

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

EN-DC_13A_n77A / LTE 10MHz + NR 100MHz / QPSK / ANT0 (LTE) & ANT5(NR)								
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	6912	-63.94	-13	-50.94	-74.15	3.03	13.24	H
	10368	-61.29	-13	-48.29	-70.74	3.56	13.01	H
	13824	-60.43	-13	-47.43	-69.95	3.92	13.44	H
	6912	-63.92	-13	-50.92	-74.13	3.03	13.24	V
	10368	-61.73	-13	-48.73	-71.18	3.56	13.01	V
	13824	-60.51	-13	-47.51	-70.03	3.92	13.44	V

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

SA n77 UL_MIMO / NR 100MHz / QPSK / ANT5+1(NR)								
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	6900	-46.55	-13	-33.55	-56.76	3.03	13.24	H
	10356	-59.17	-13	-46.17	-68.62	3.56	13.01	H
	13818	-59.94	-13	-46.94	-69.46	3.92	13.44	H
	6900	-47.96	-13	-34.96	-58.17	3.03	13.24	V
	10356	-58.54	-13	-45.54	-67.99	3.56	13.01	V
	13818	-60.00	-13	-47.00	-69.52	3.92	13.44	V

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

Sample 2 :

SA n77 UL_MIMO / NR 100MHz / QPSK / ANT5+1(NR)								
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	6900	-51.39	-13	-38.39	-61.60	3.03	13.24	H
	10356	-60.00	-13	-47.00	-69.45	3.56	13.01	H
	13824	-60.22	-13	-47.22	-69.74	3.92	13.44	H
	6900	-48.93	-13	-35.93	-59.14	3.03	13.24	V
	10356	-59.78	-13	-46.78	-69.23	3.56	13.01	V
	13824	-60.17	-13	-47.17	-69.69	3.92	13.44	V

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