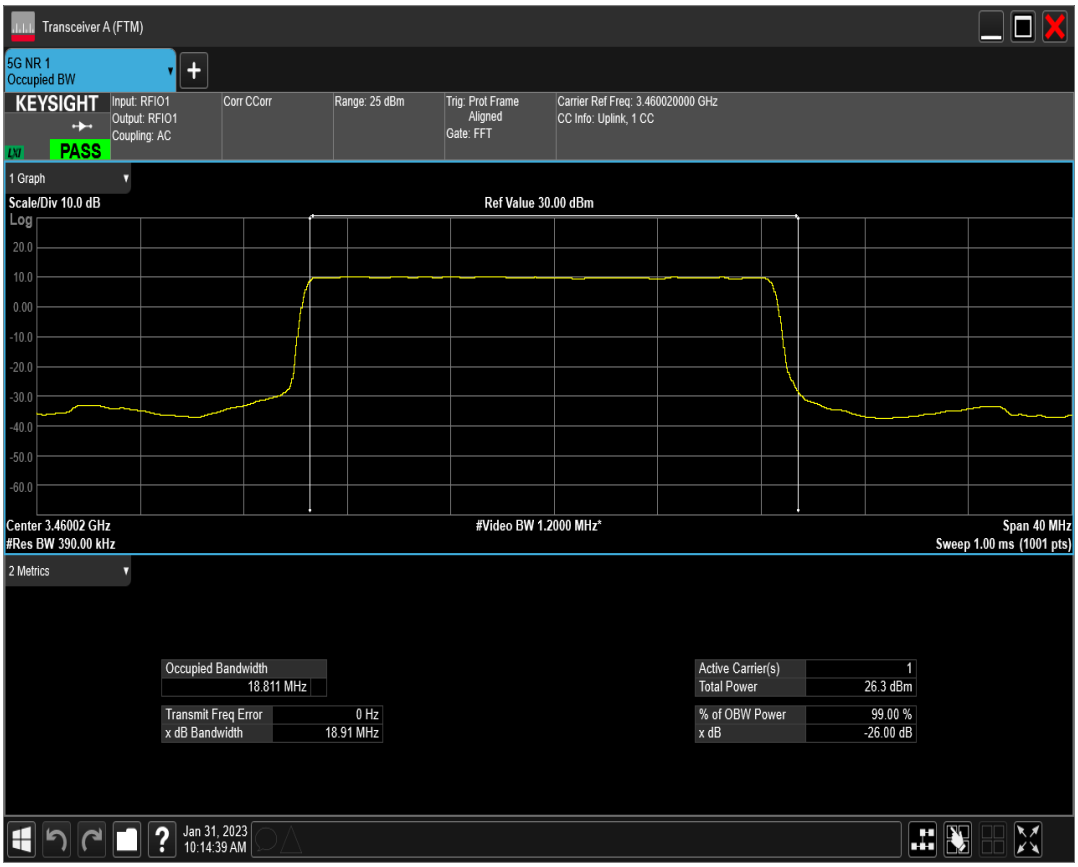
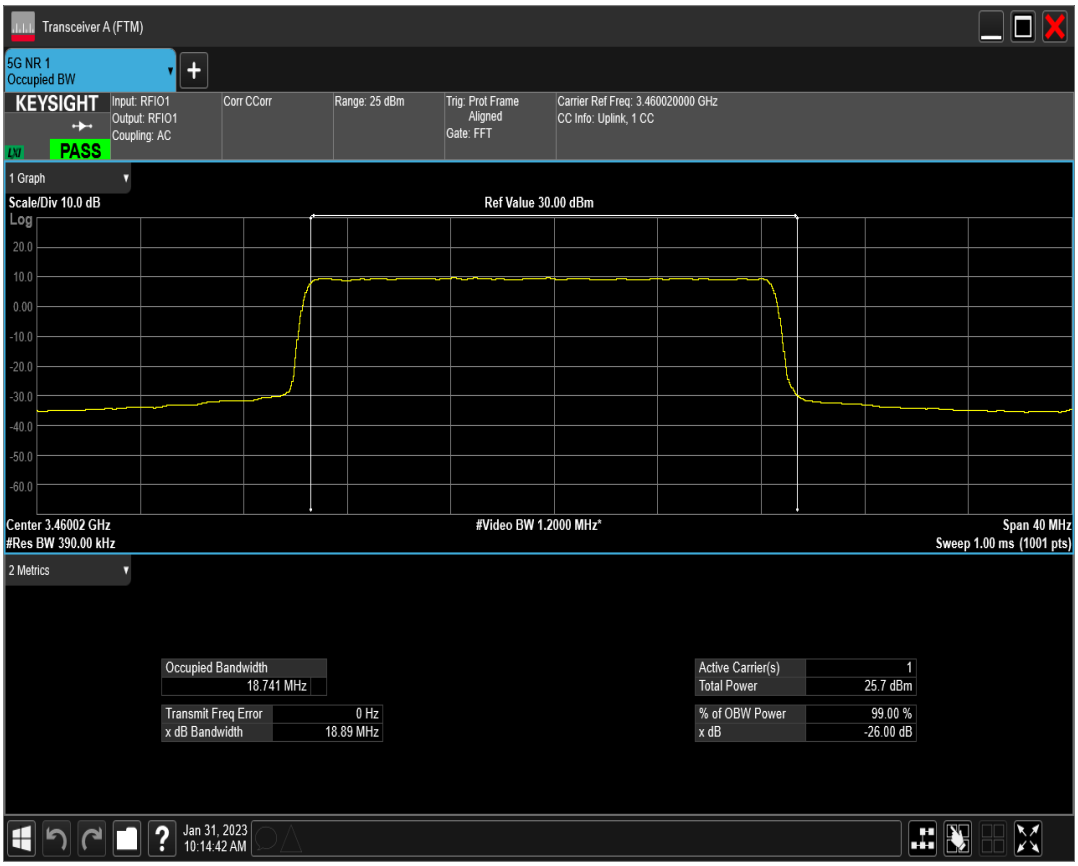
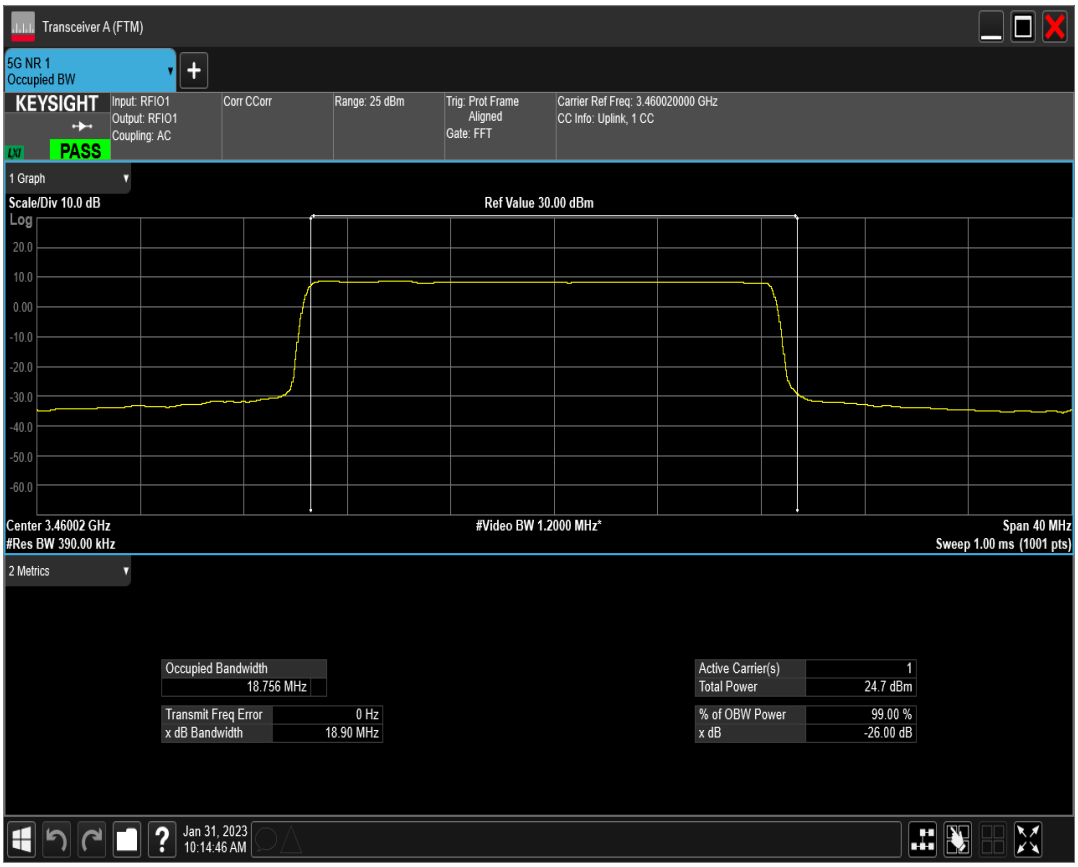


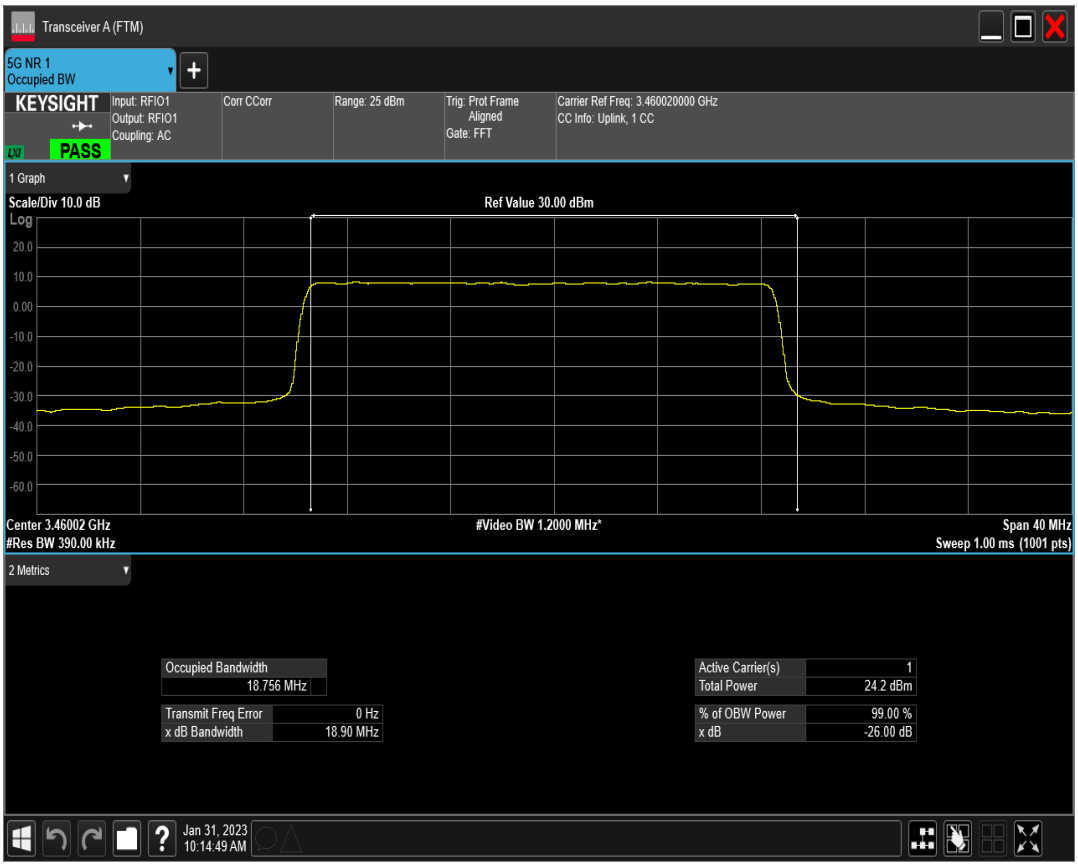
n77(3450-3550) SCS=15kHz DFT_QPSK BW=20MHz Channel=630668 RB=100@0



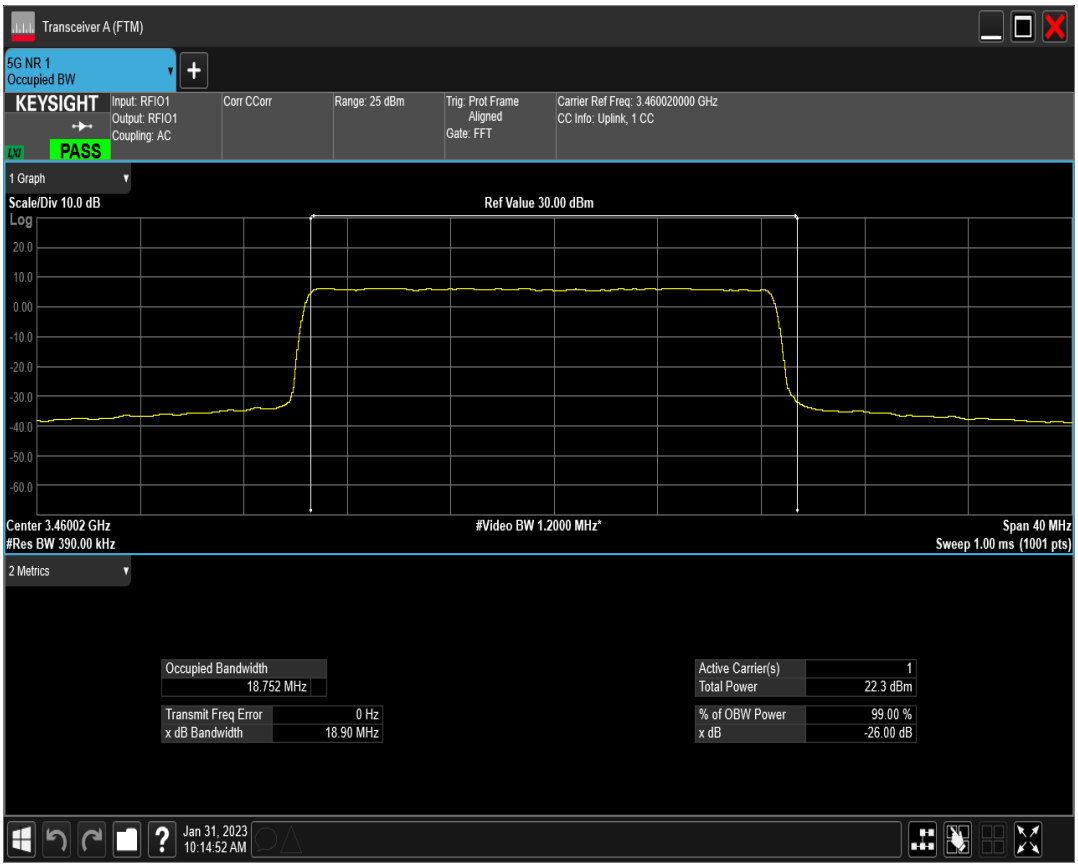
n77(3450-3550) SCS=15kHz DFT_QAM16 BW=20MHz Channel=630668 RB=100@0



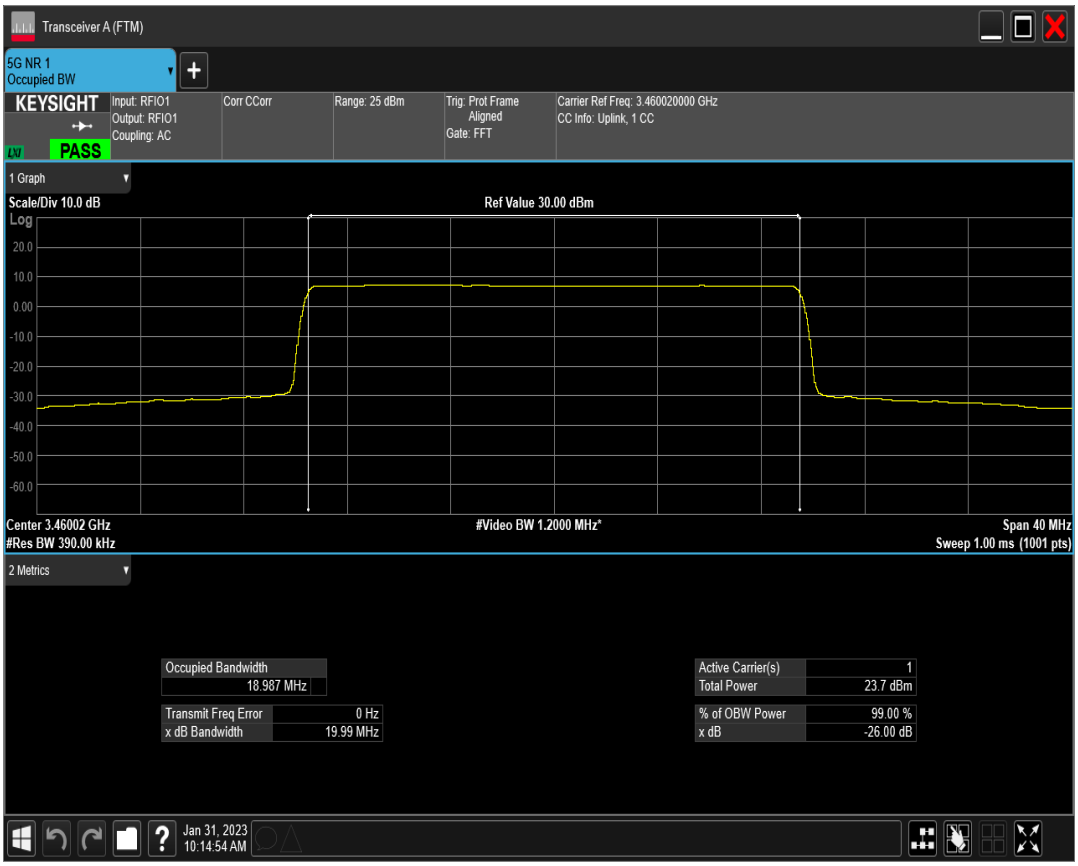
n77(3450-3550) SCS=15kHz DFT_QAM64 BW=20MHz Channel=630668 RB=100@0



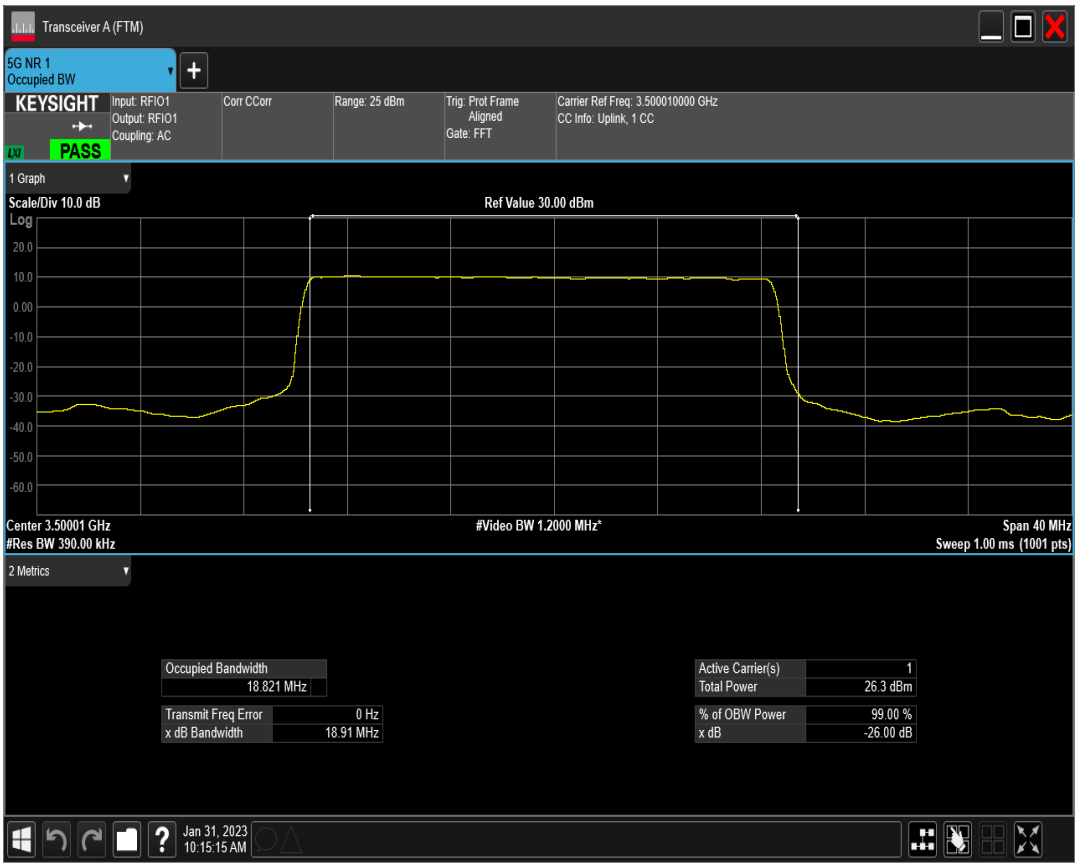
n77(3450-3550) SCS=15kHz DFT_QAM256 BW=20MHz Channel=630668 RB=100@0



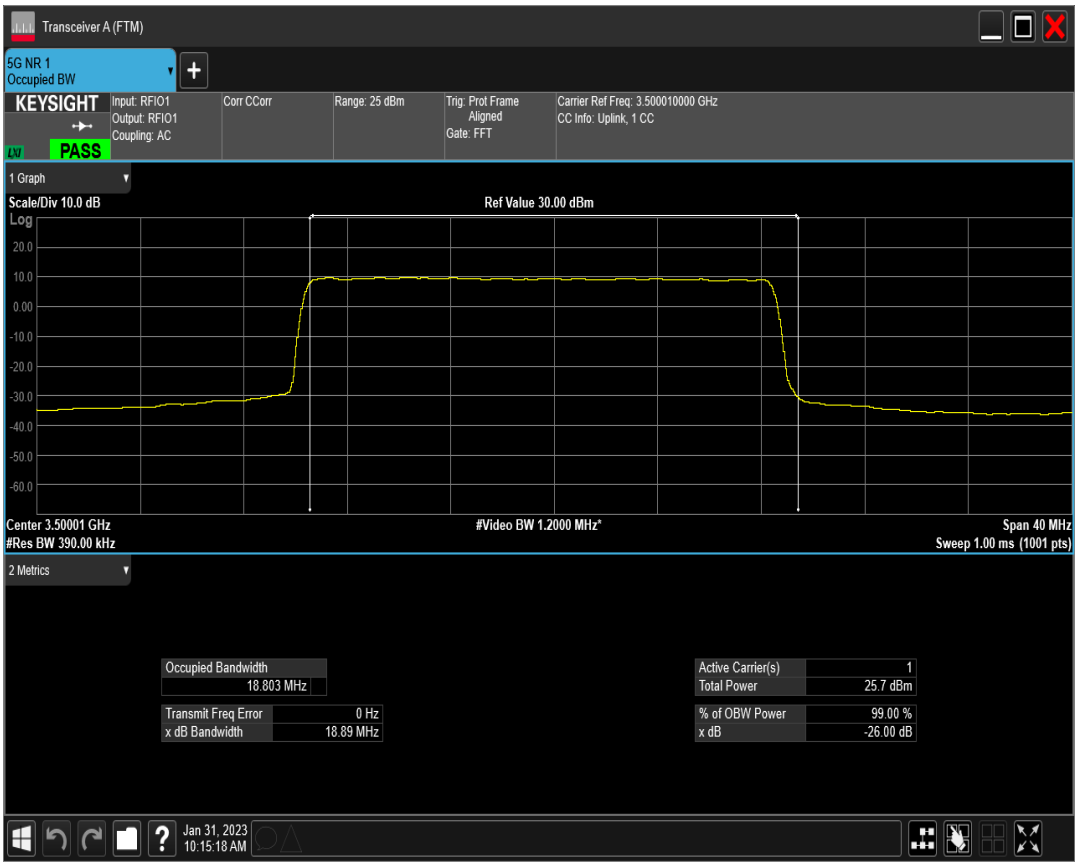
n77(3450-3550) SCS=15kHz CP_QPSK BW=20MHz Channel=630668 RB=106@0



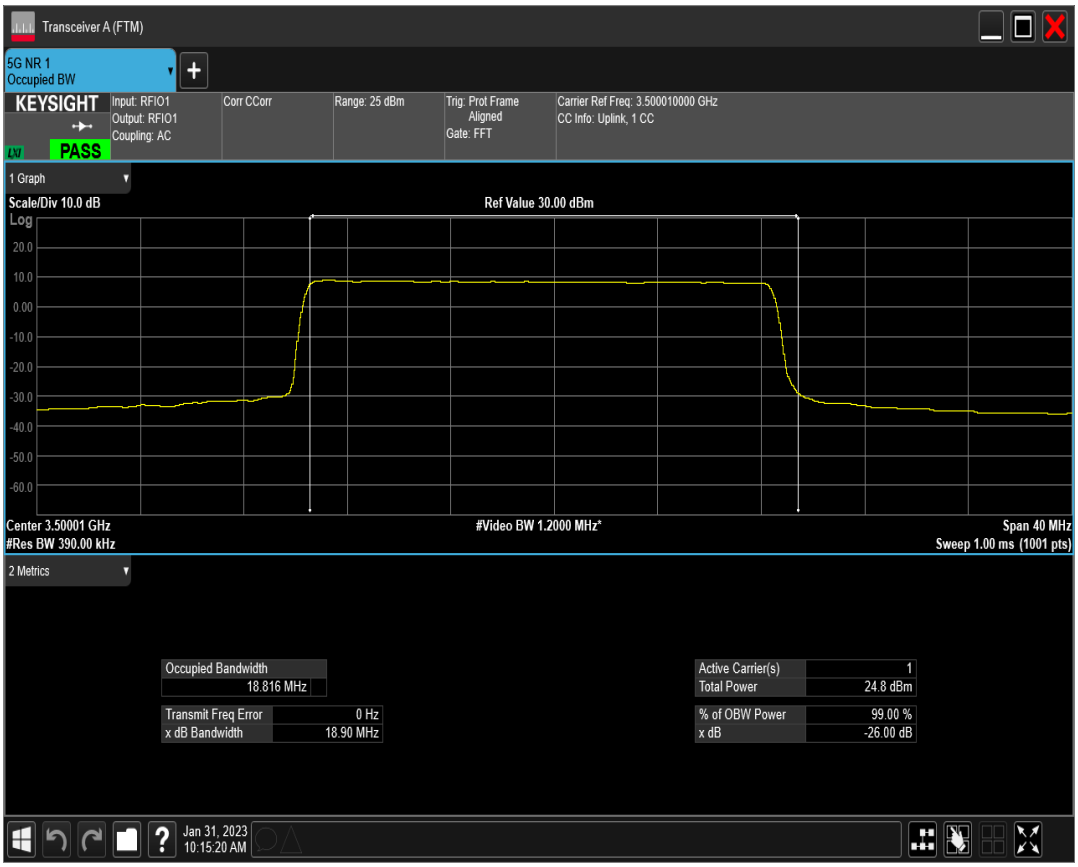
n77(3450-3550) SCS=15kHz DFT_BPSK BW=20MHz Channel=633334 RB=100@0



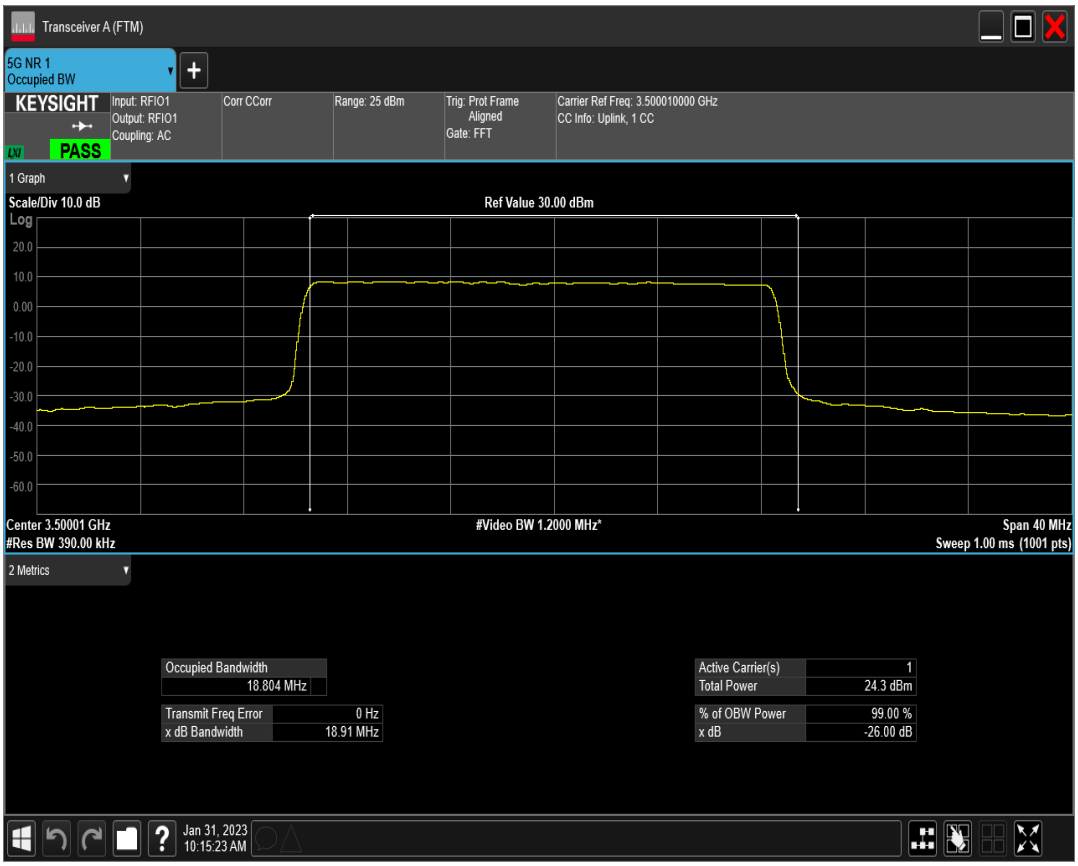
n77(3450-3550) SCS=15kHz DFT_QPSK BW=20MHz Channel=633334 RB=100@0



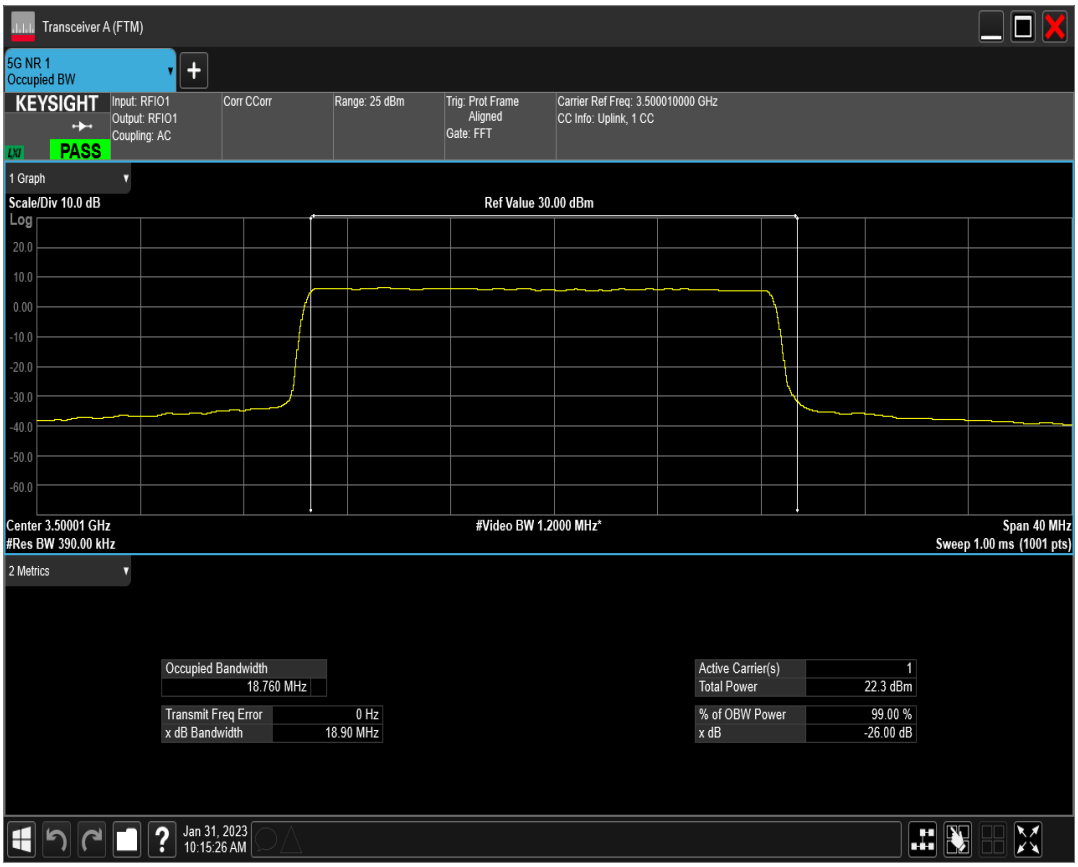
n77(3450-3550) SCS=15kHz DFT_QAM16 BW=20MHz Channel=633334 RB=100@0



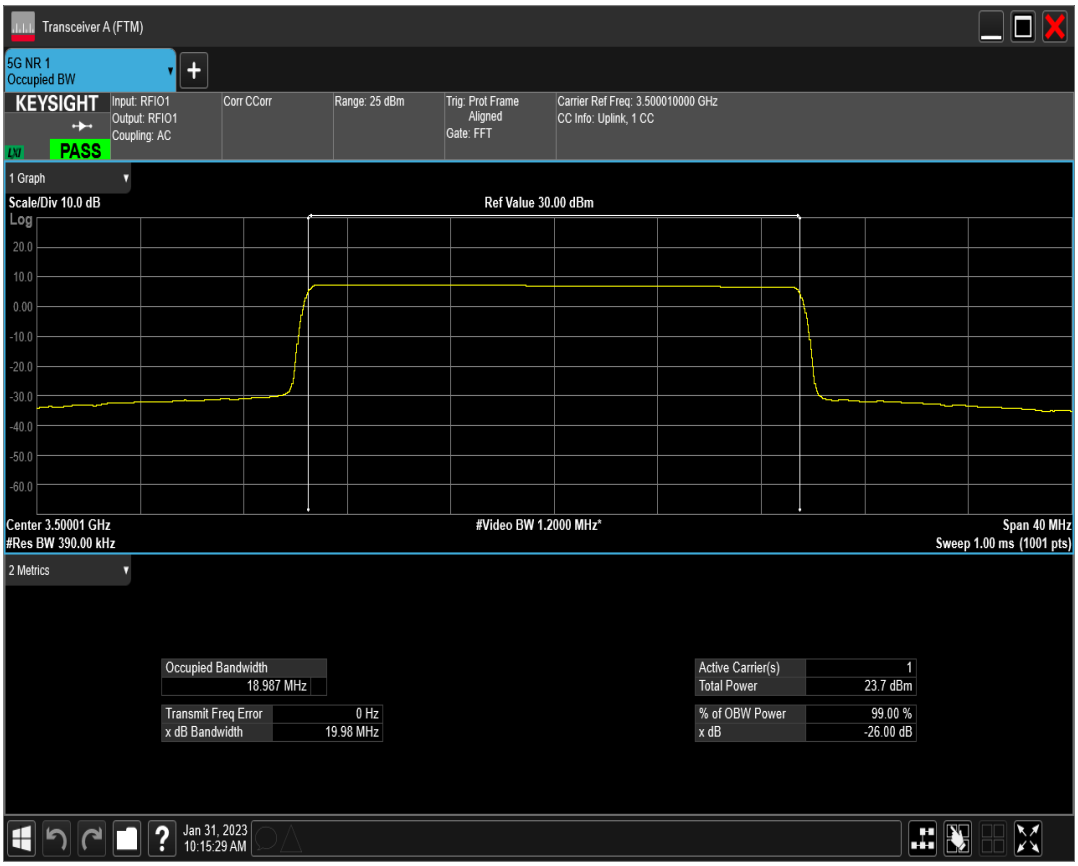
n77(3450-3550) SCS=15kHz DFT_QAM64 BW=20MHz Channel=633334 RB=100@0



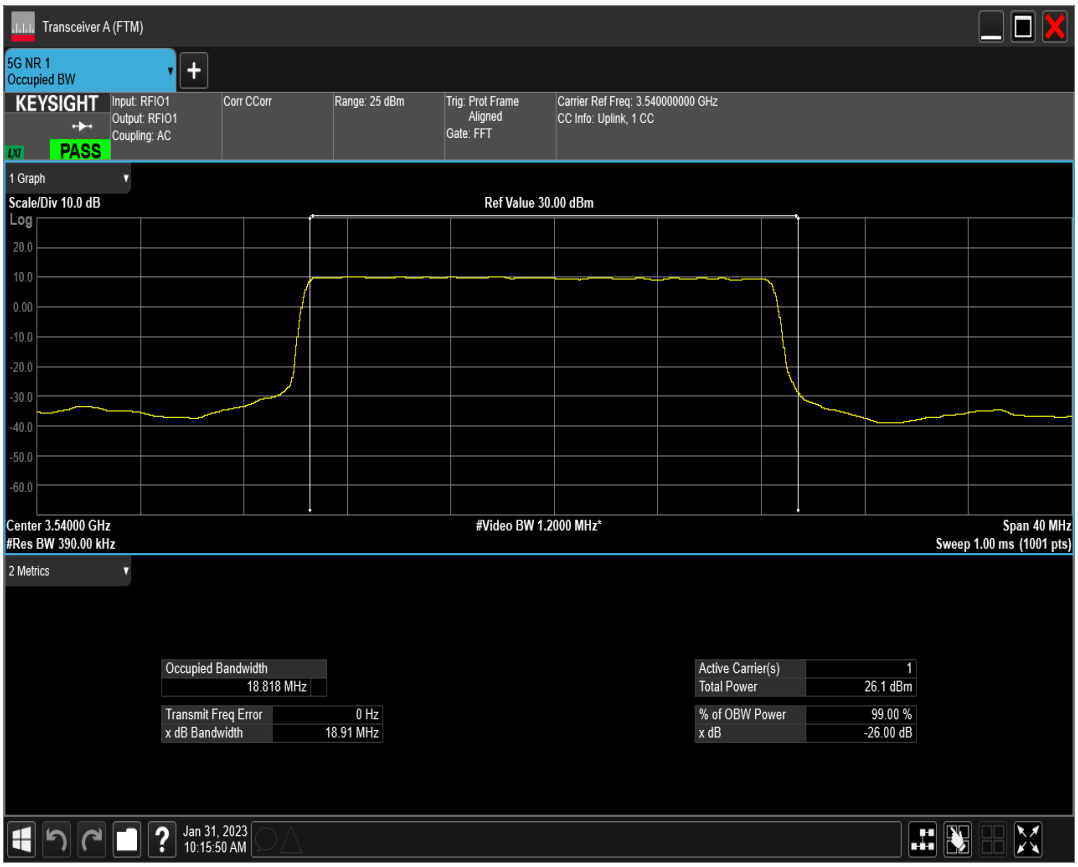
n77(3450-3550) SCS=15kHz DFT_QAM256 BW=20MHz Channel=633334 RB=100@0



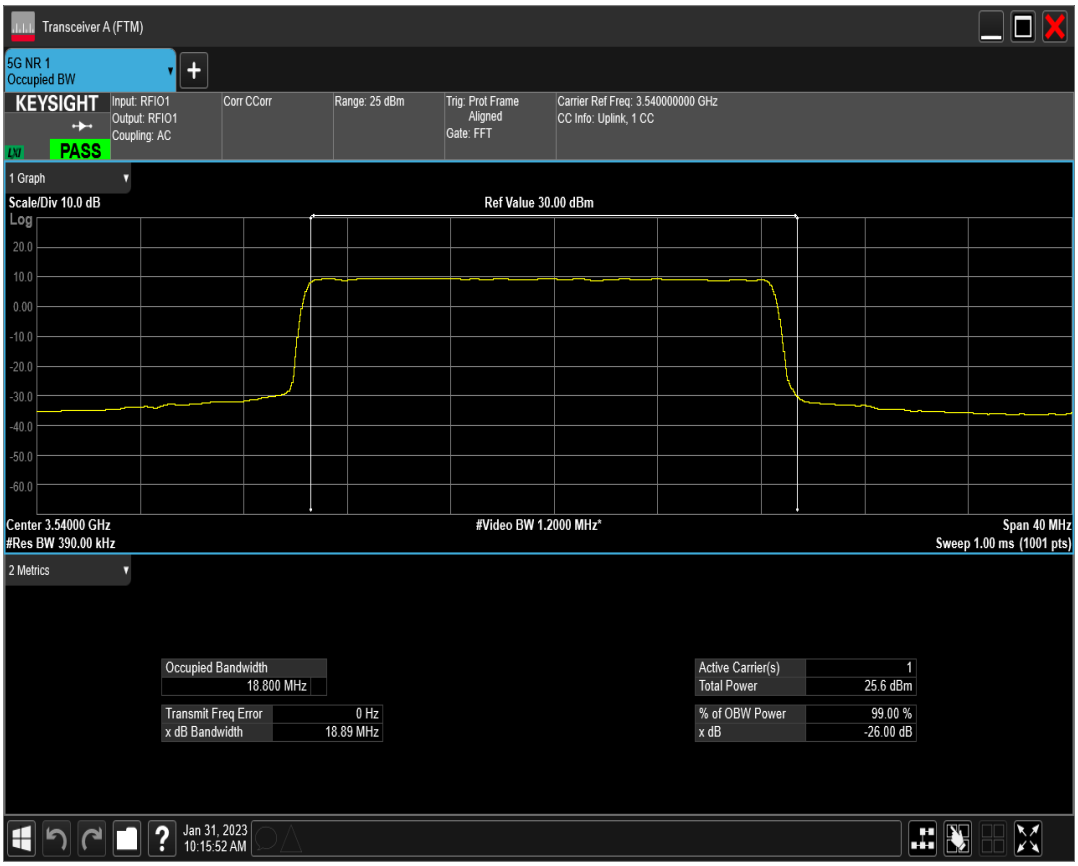
n77(3450-3550) SCS=15kHz CP_QPSK BW=20MHz Channel=633334 RB=106@0



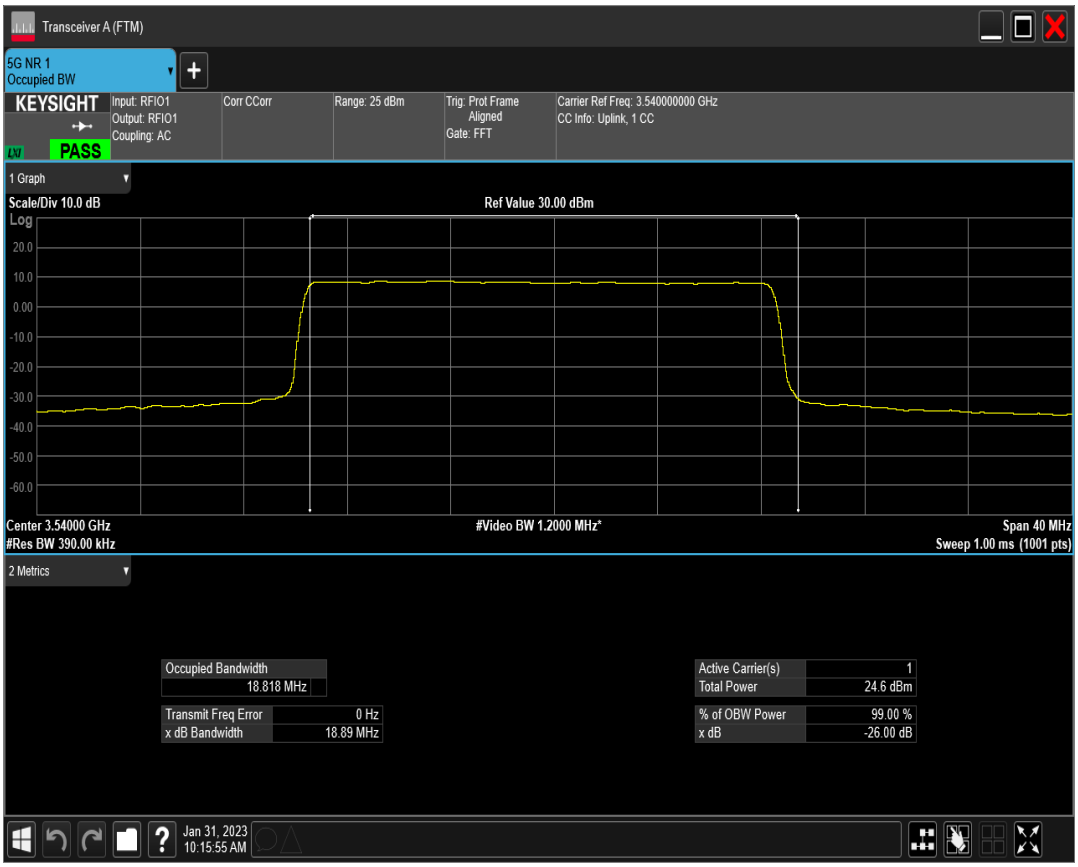
n77(3450-3550) SCS=15kHz DFT_BPSK BW=20MHz Channel=636000 RB=100@0



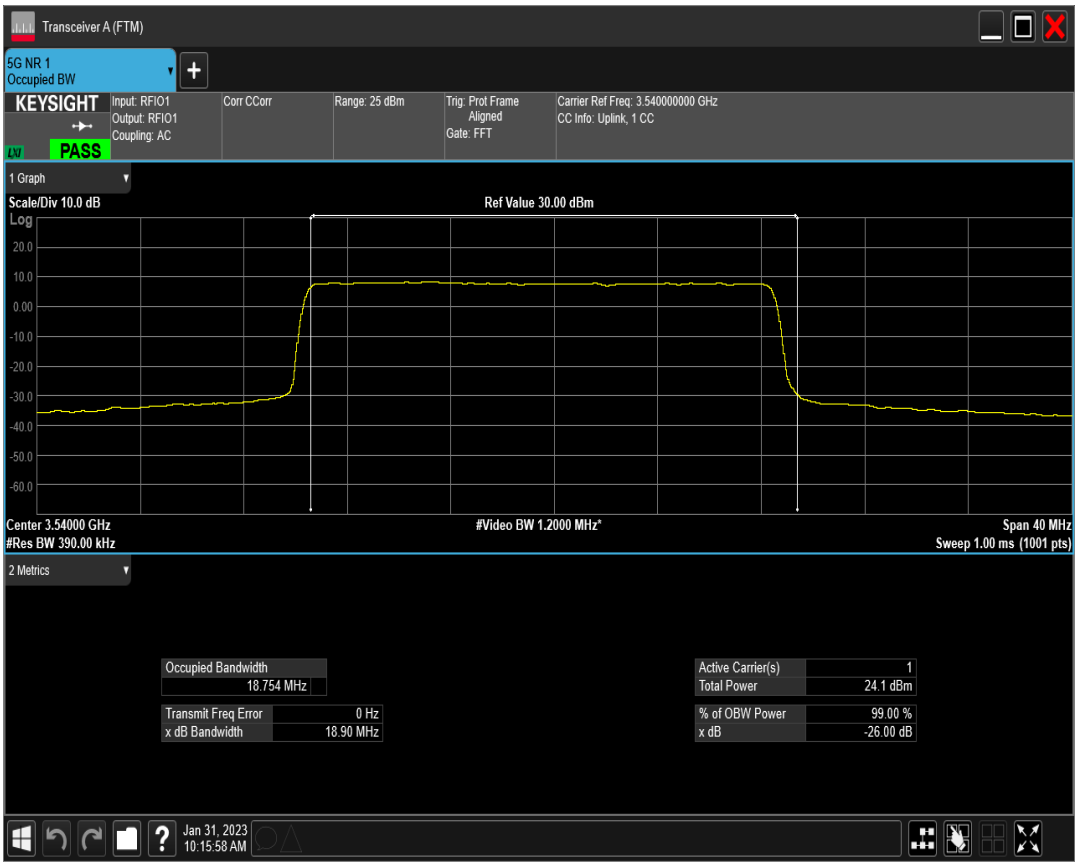
n77(3450-3550) SCS=15kHz DFT_QPSK BW=20MHz Channel=636000 RB=100@0



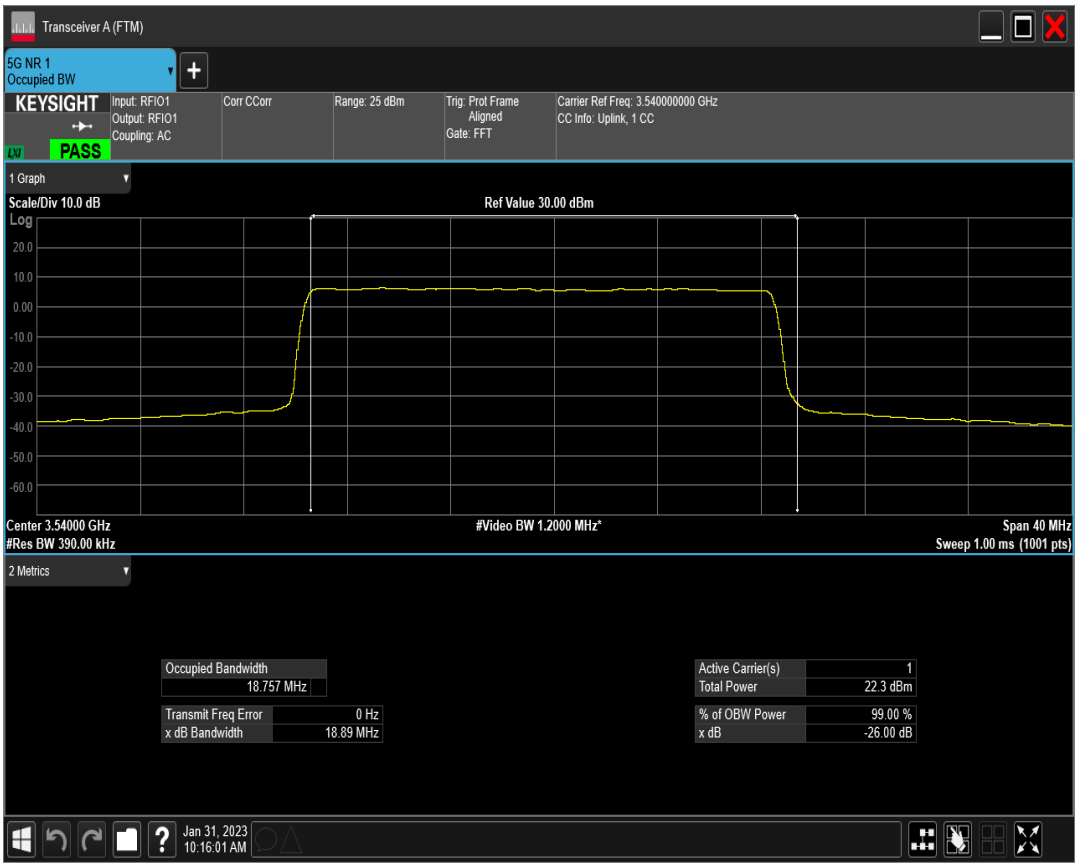
n77(3450-3550) SCS=15kHz DFT_QAM16 BW=20MHz Channel=636000 RB=100@0



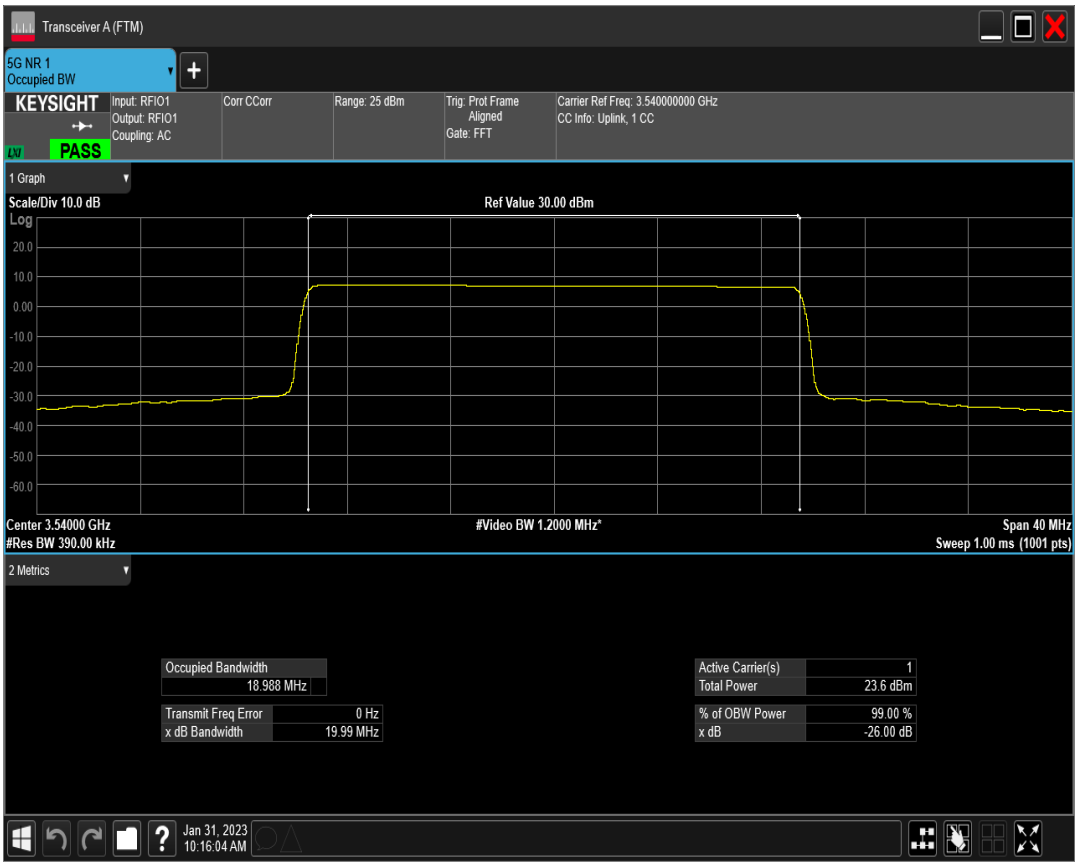
n77(3450-3550) SCS=15kHz DFT_QAM64 BW=20MHz Channel=636000 RB=100@0



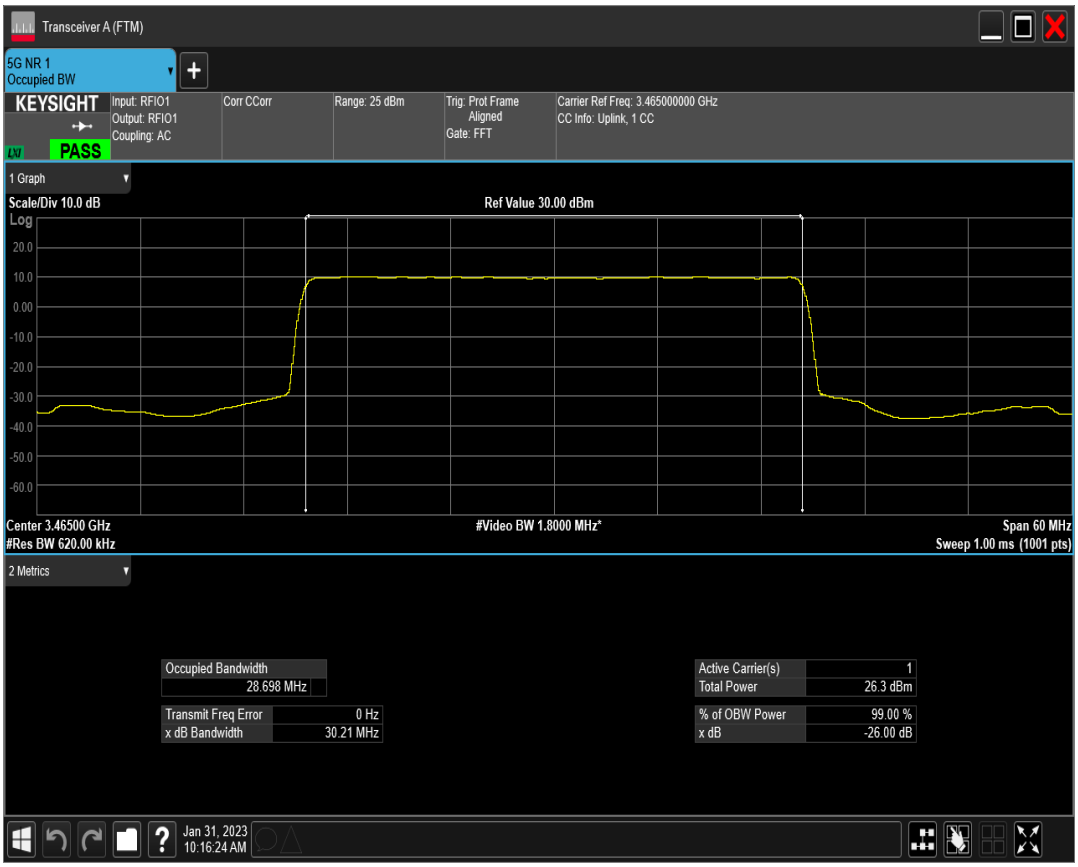
n77(3450-3550) SCS=15kHz DFT_QAM256 BW=20MHz Channel=636000 RB=100@0



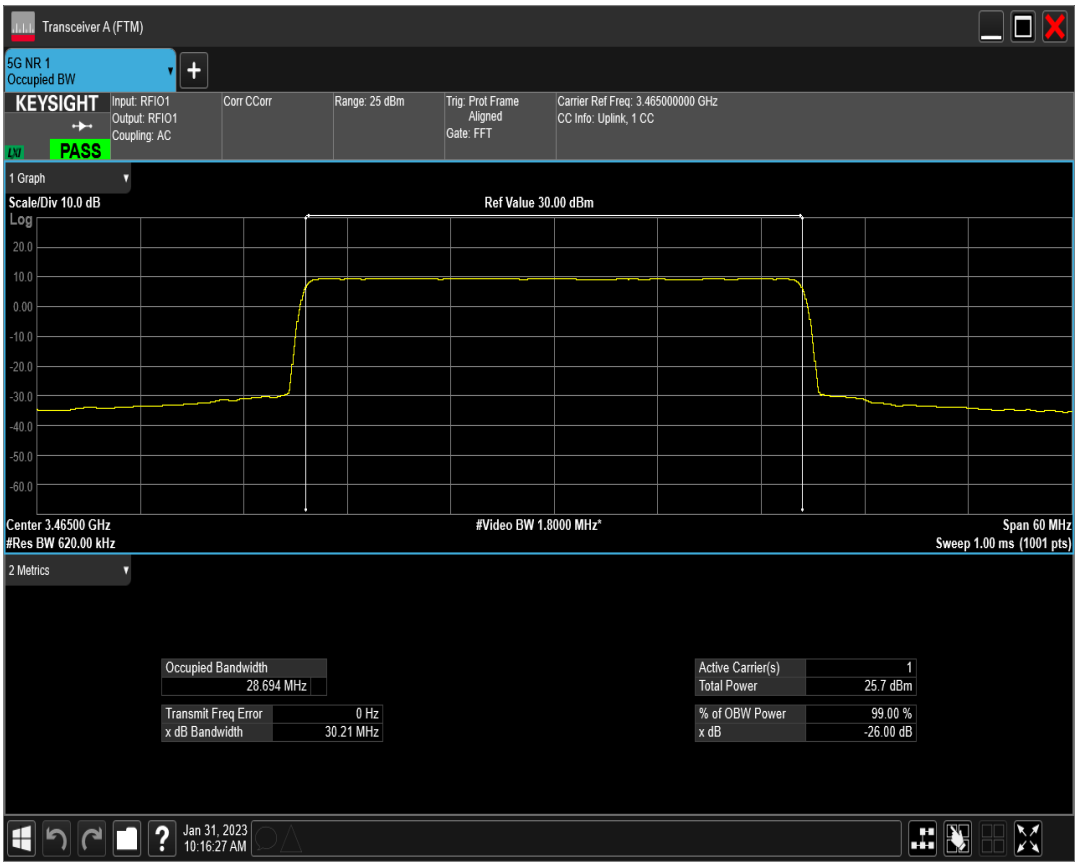
n77(3450-3550) SCS=15kHz CP_QPSK BW=20MHz Channel=636000 RB=106@0



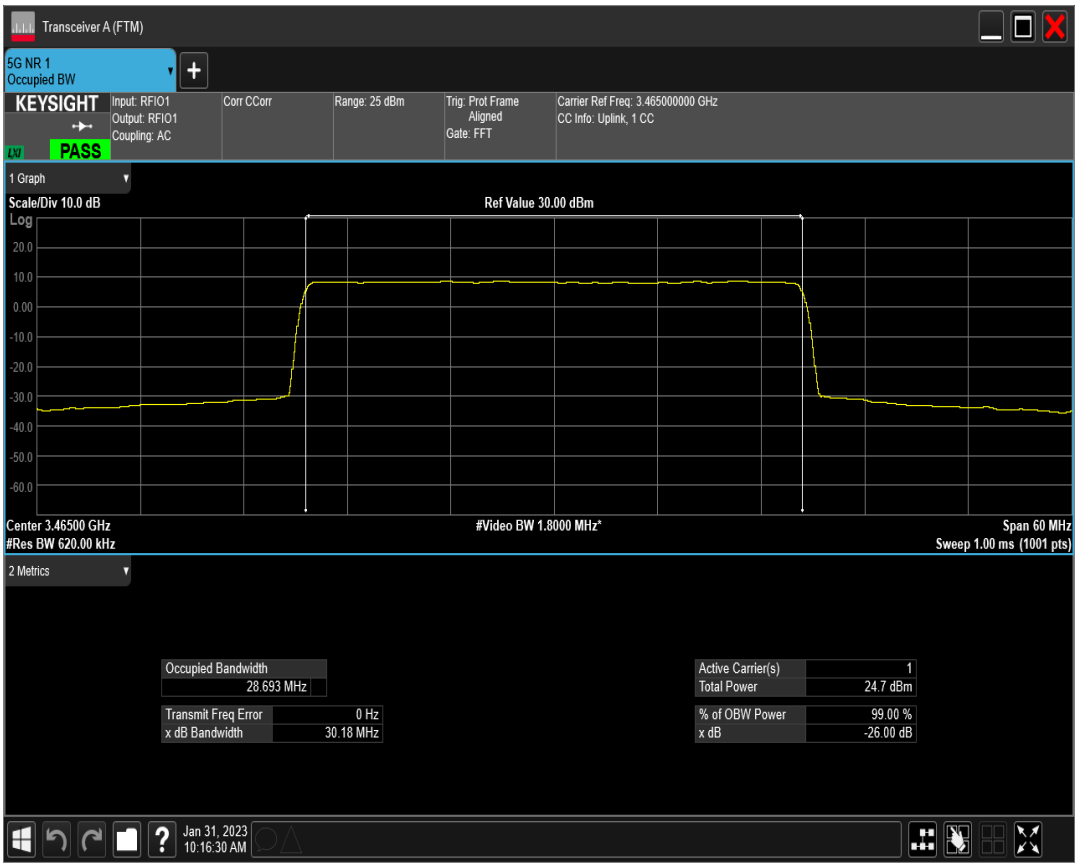
n77(3450-3550) SCS=15kHz DFT_BPSK BW=30MHz Channel=631000 RB=160@0



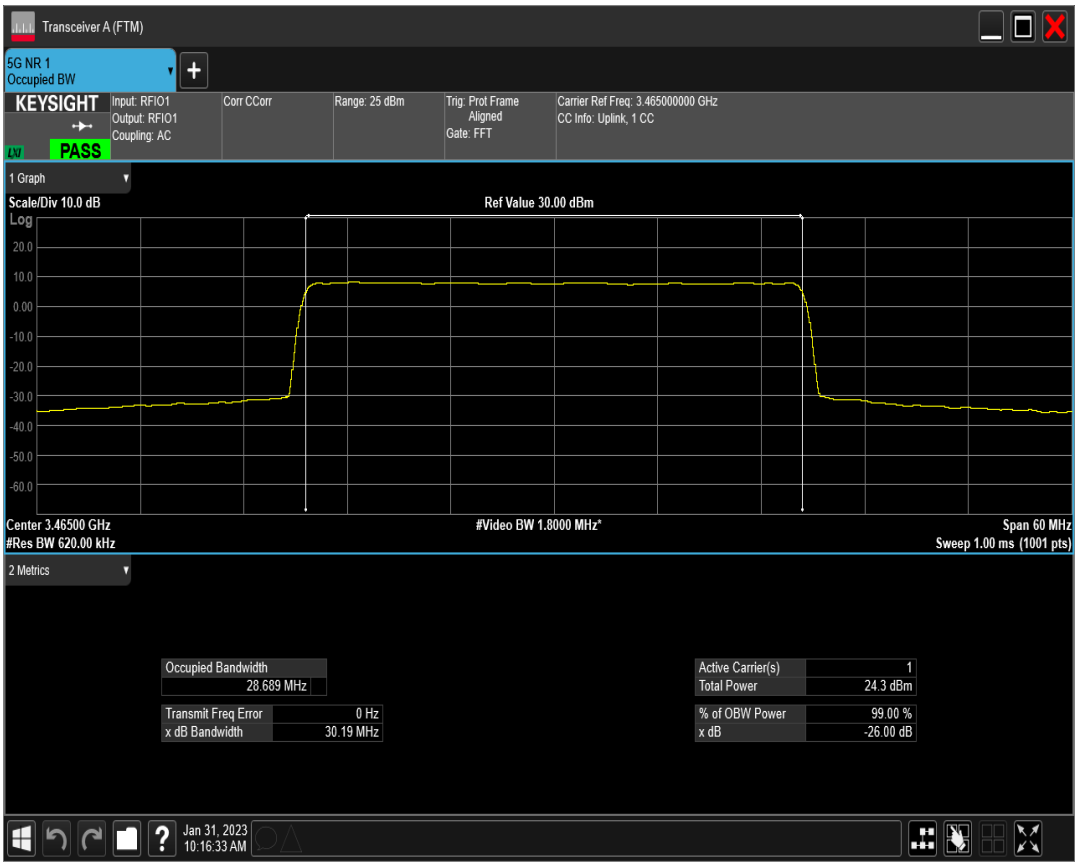
n77(3450-3550) SCS=15kHz DFT_QPSK BW=30MHz Channel=631000 RB=160@0



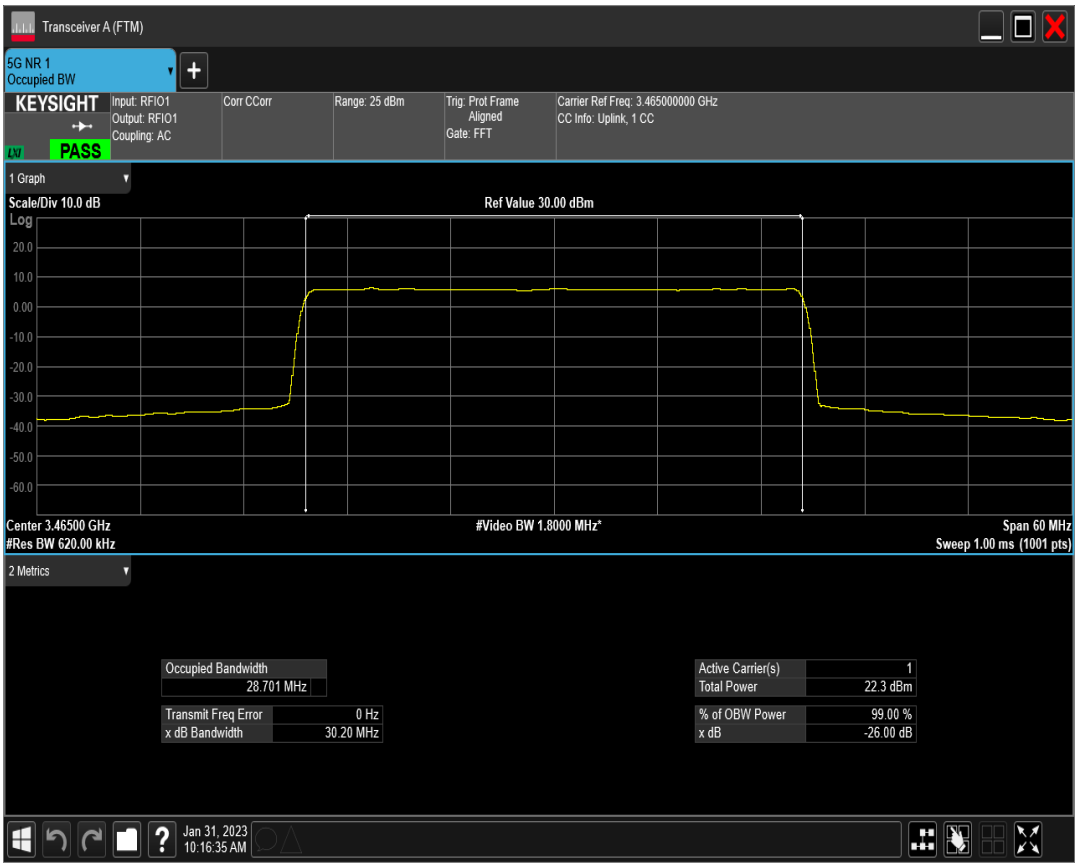
n77(3450-3550) SCS=15kHz DFT_QAM16 BW=30MHz Channel=631000 RB=160@0



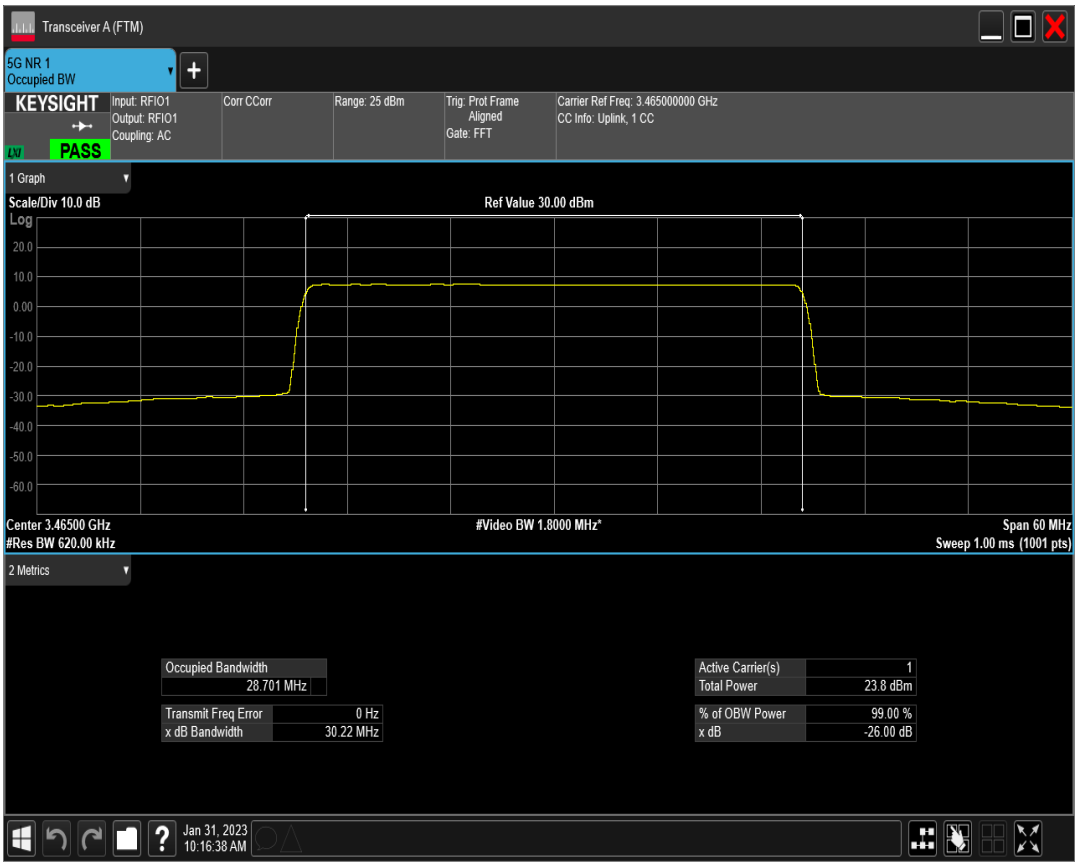
n77(3450-3550) SCS=15kHz DFT_QAM64 BW=30MHz Channel=631000 RB=160@0



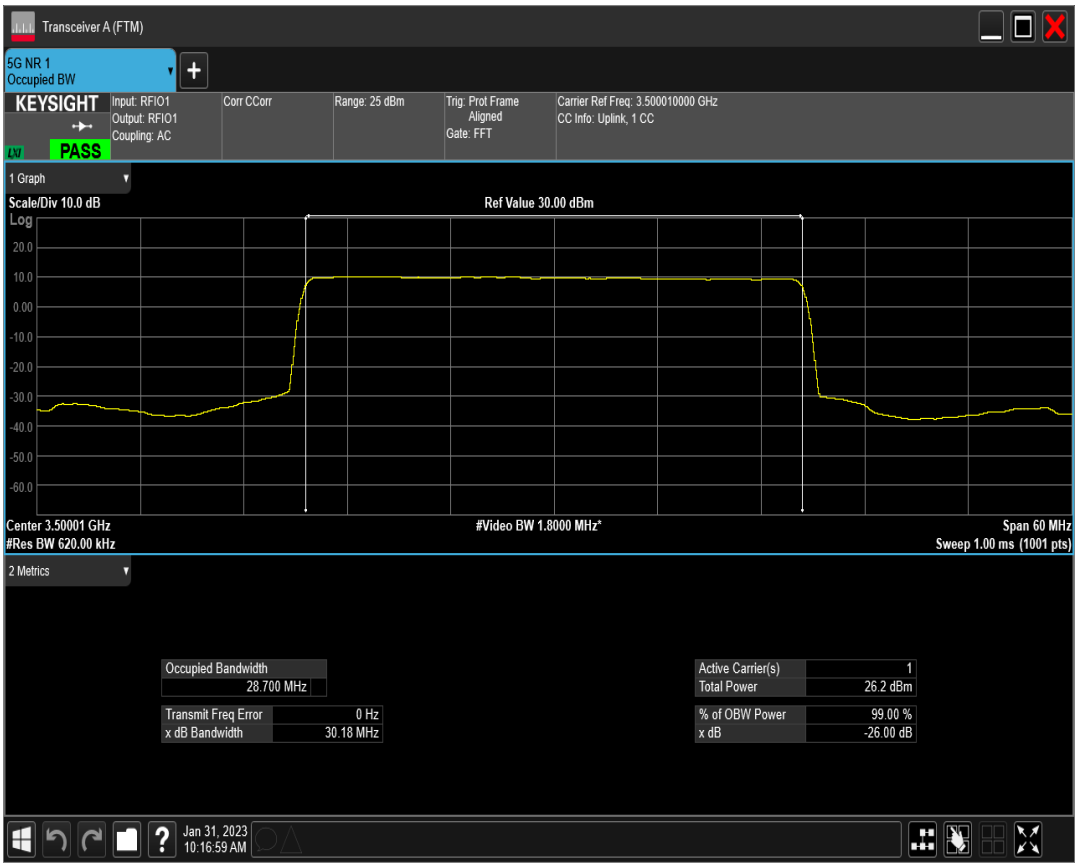
n77(3450-3550) SCS=15kHz DFT_QAM256 BW=30MHz Channel=631000 RB=160@0



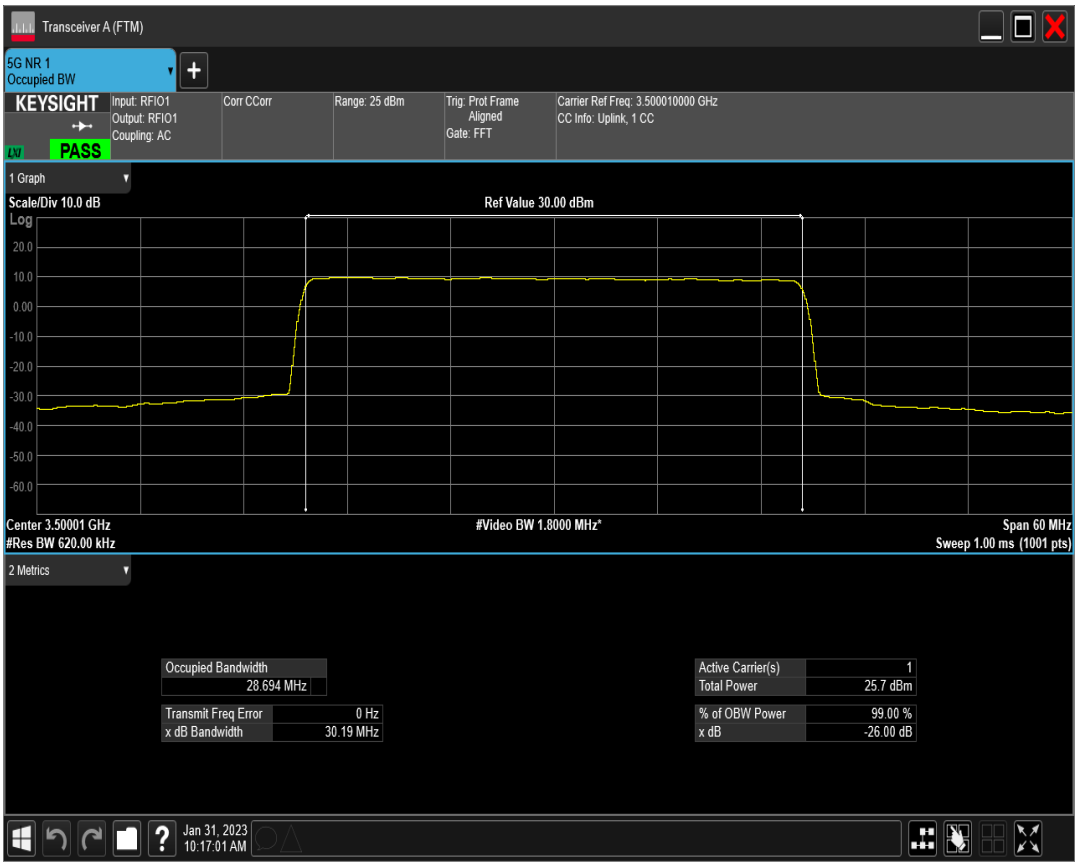
n77(3450-3550) SCS=15kHz CP_QPSK BW=30MHz Channel=631000 RB=160@0



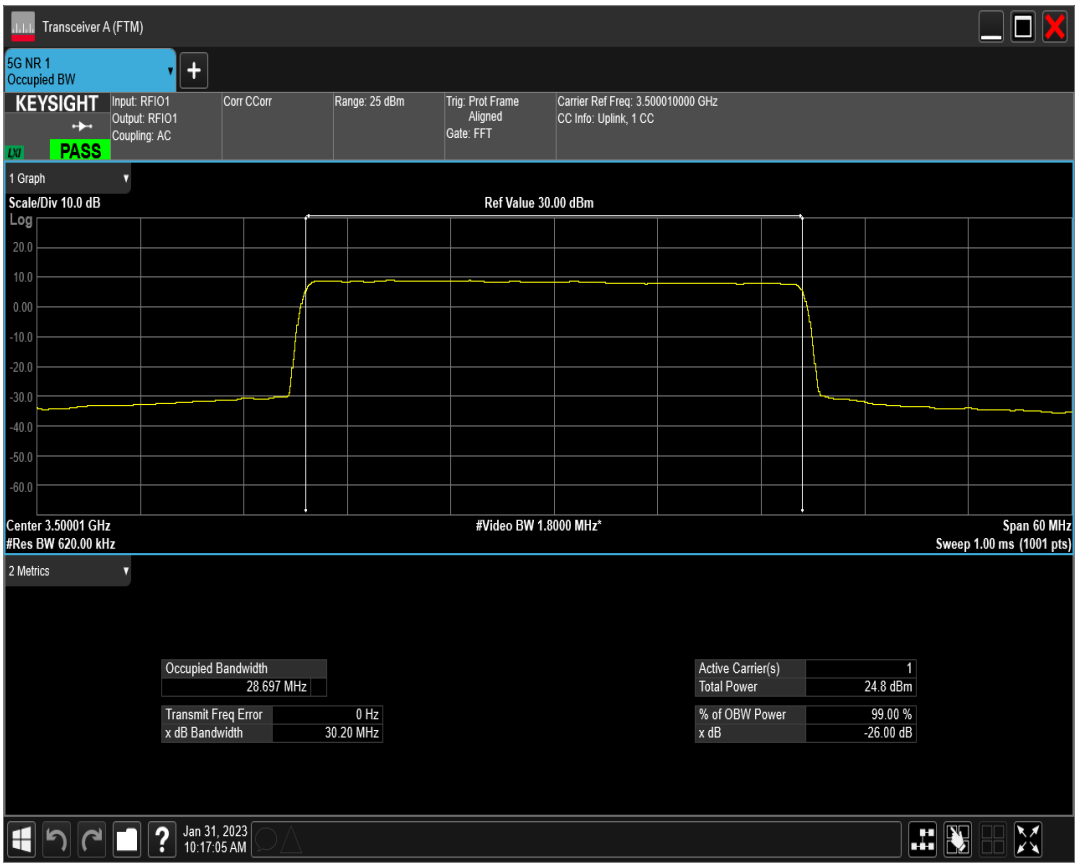
n77(3450-3550) SCS=15kHz DFT_BPSK BW=30MHz Channel=633334 RB=160@0



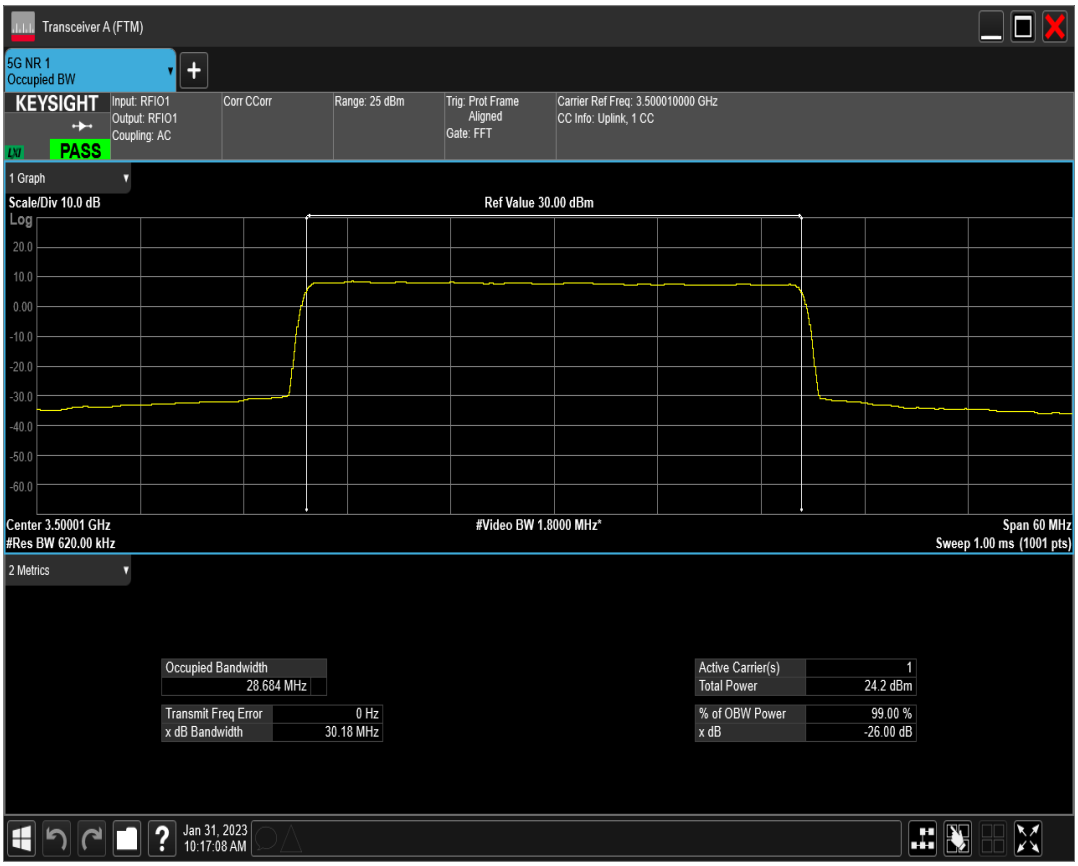
n77(3450-3550) SCS=15kHz DFT_QPSK BW=30MHz Channel=633334 RB=160@0



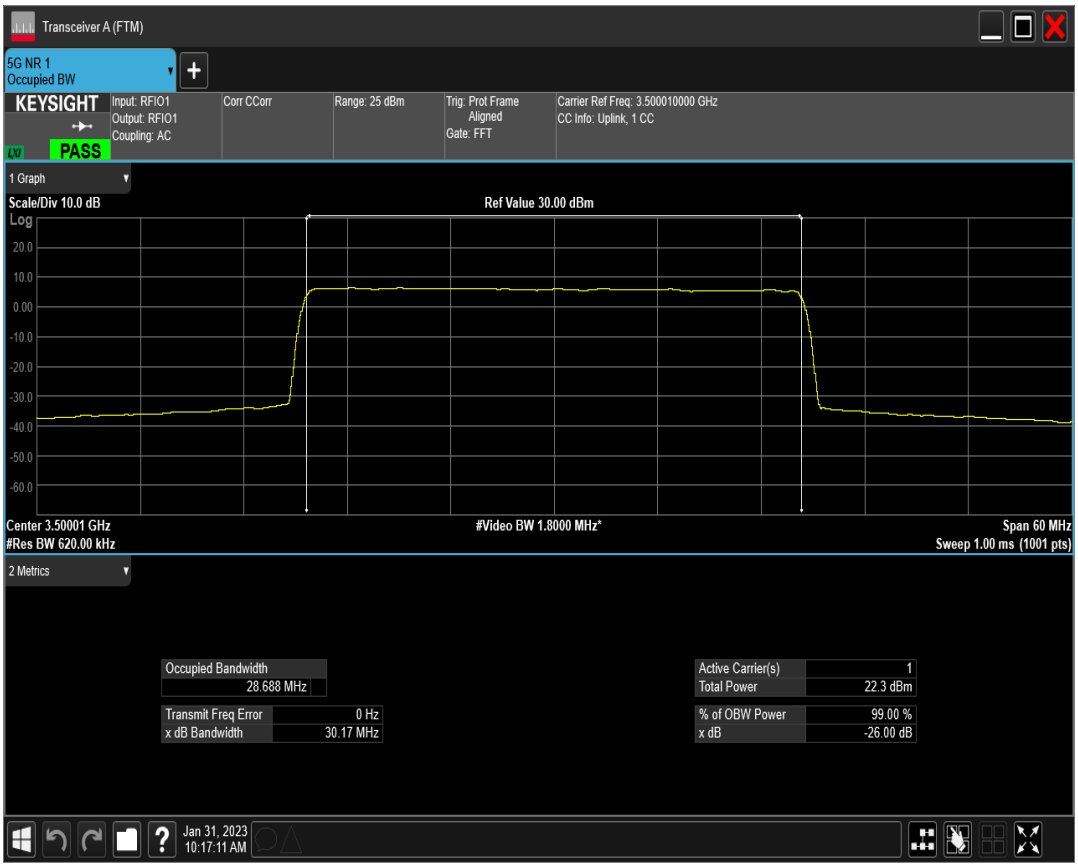
n77(3450-3550) SCS=15kHz DFT_QAM16 BW=30MHz Channel=633334 RB=160@0



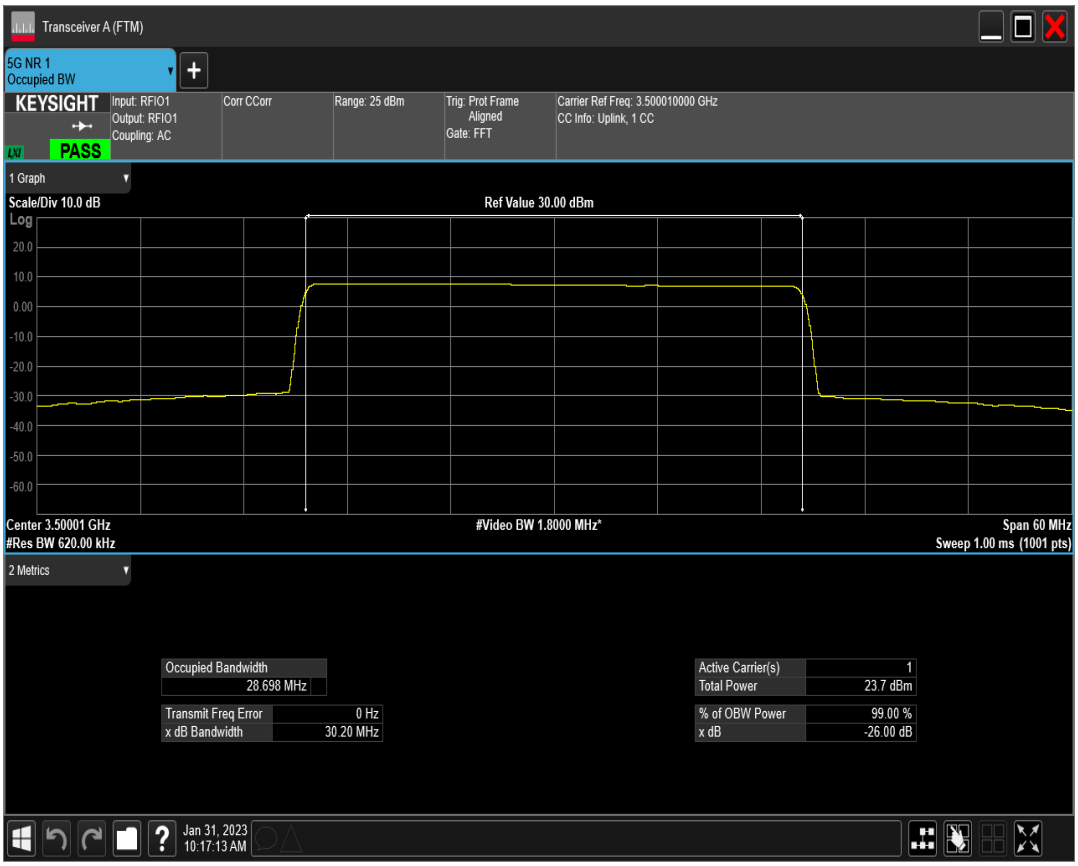
n77(3450-3550) SCS=15kHz DFT_QAM64 BW=30MHz Channel=633334 RB=160@0



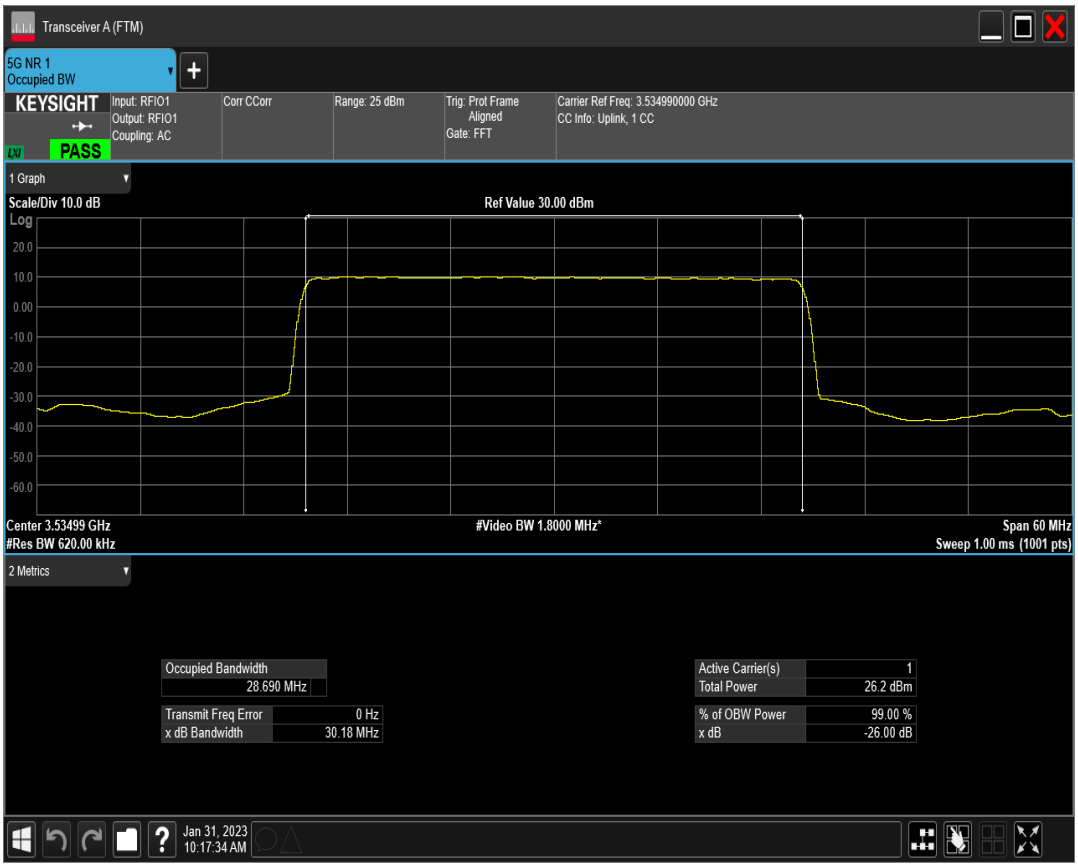
n77(3450-3550) SCS=15kHz DFT_QAM256 BW=30MHz Channel=633334 RB=160@0



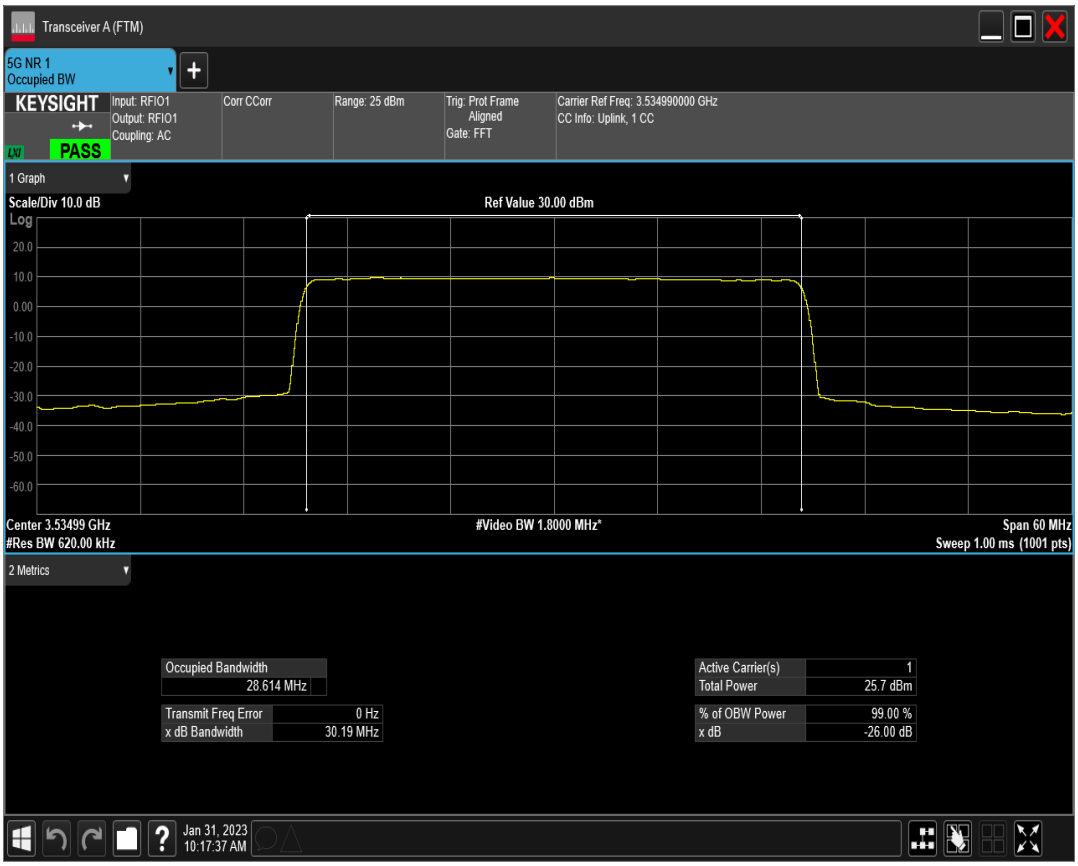
n77(3450-3550) SCS=15kHz CP_QPSK BW=30MHz Channel=633334 RB=160@0



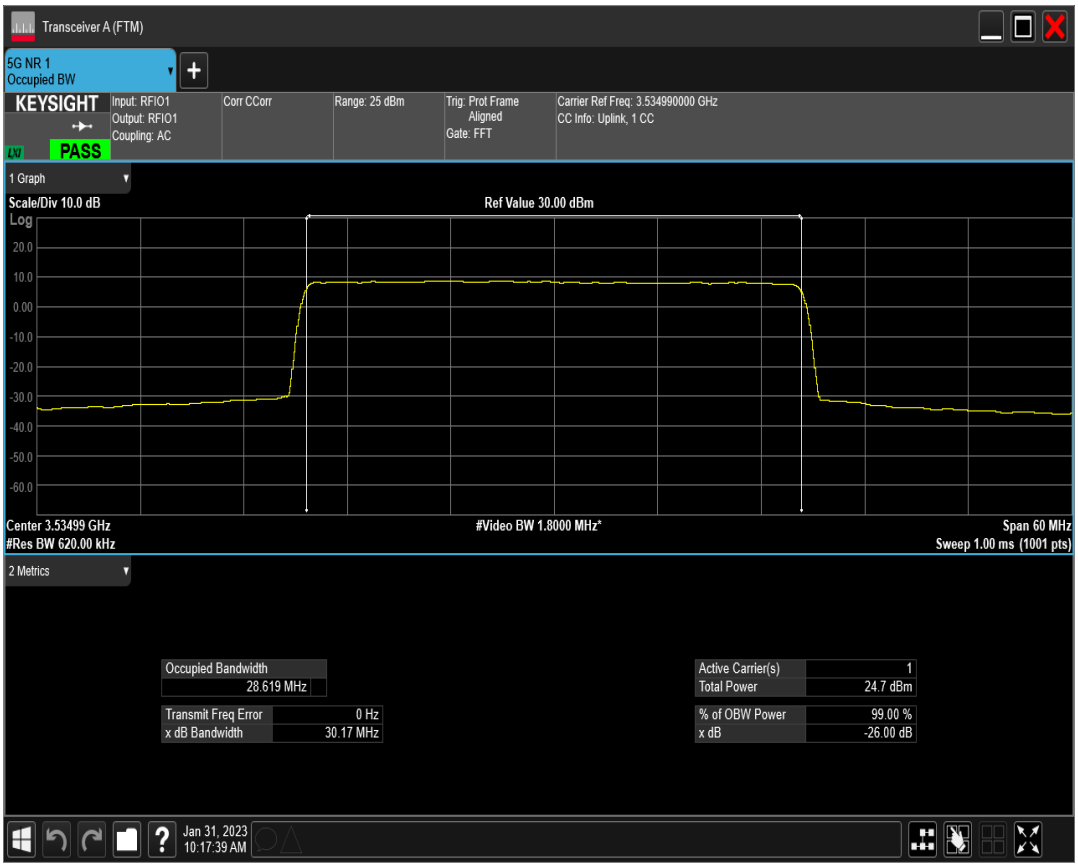
n77(3450-3550) SCS=15kHz DFT_BPSK BW=30MHz Channel=635666 RB=160@0



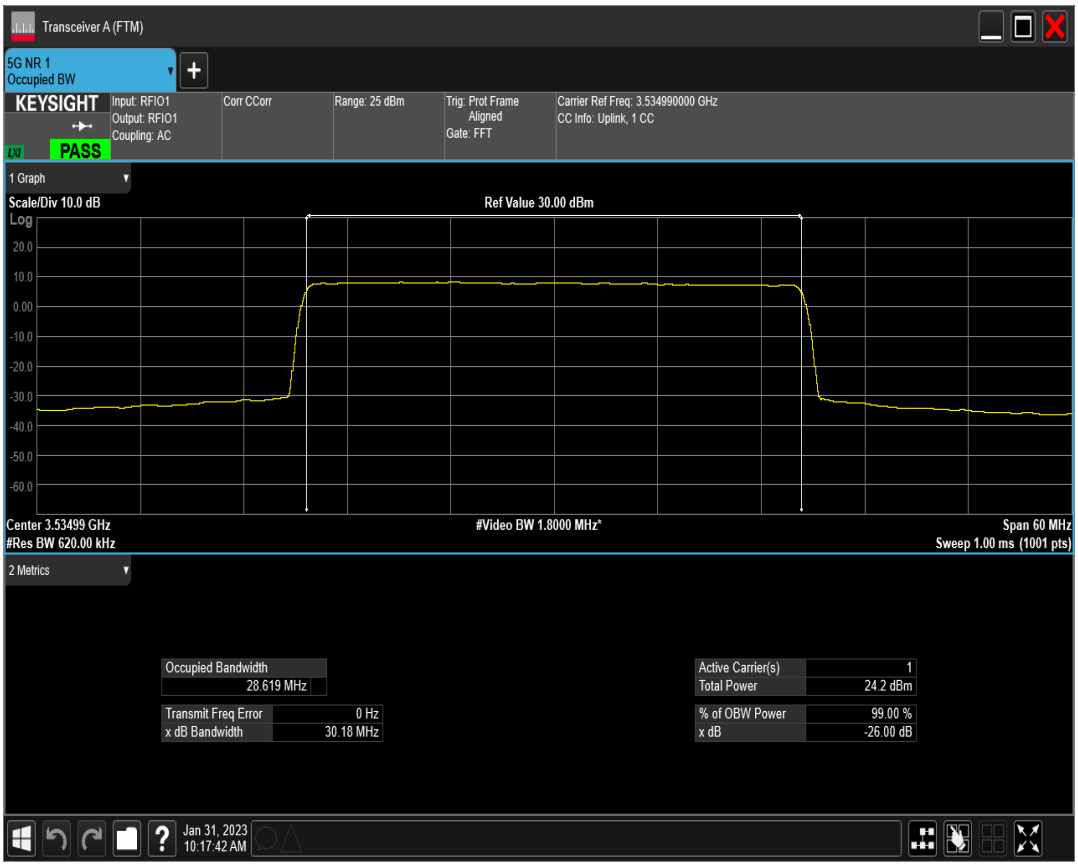
n77(3450-3550) SCS=15kHz DFT_QPSK BW=30MHz Channel=635666 RB=160@0



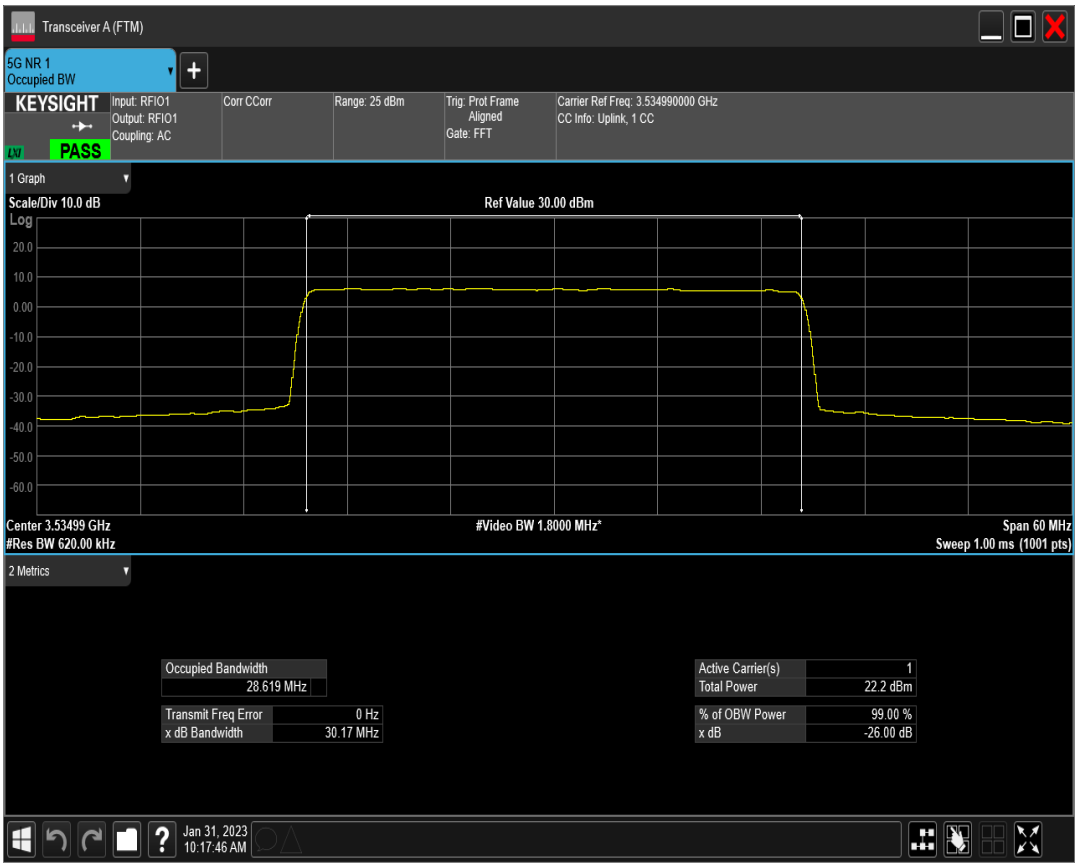
n77(3450-3550) SCS=15kHz DFT_QAM16 BW=30MHz Channel=635666 RB=160@0



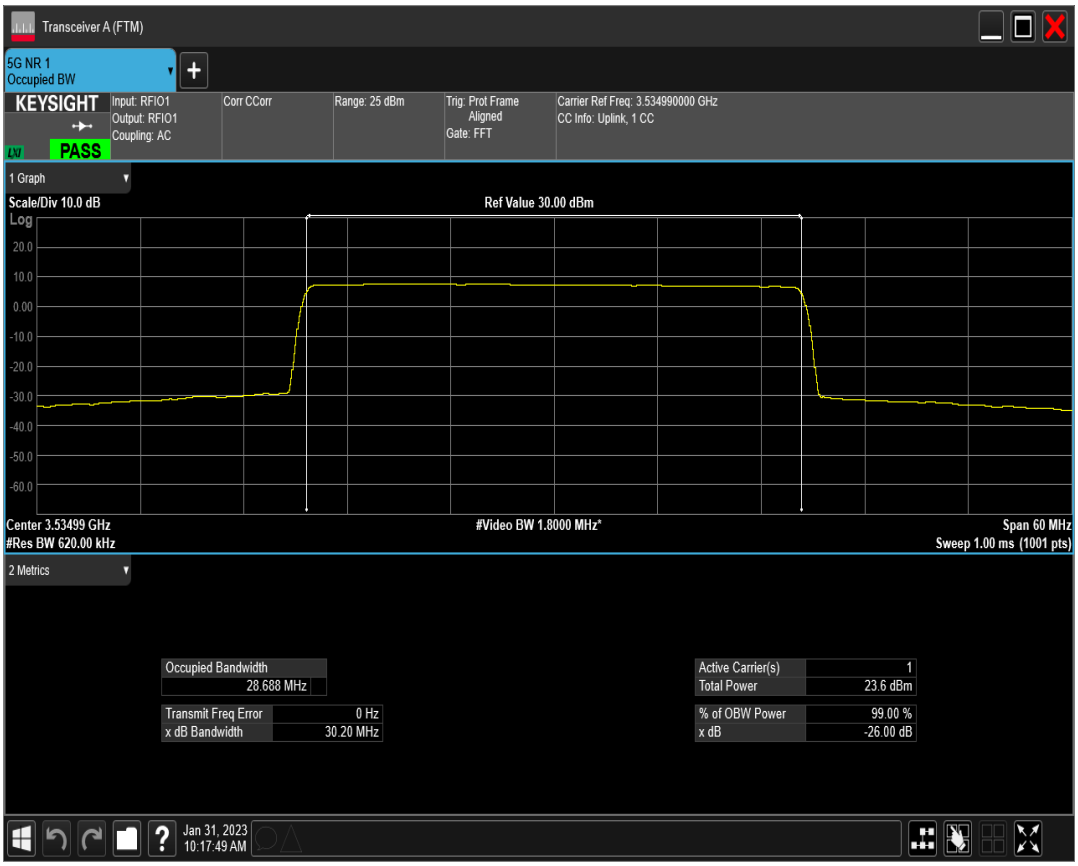
n77(3450-3550) SCS=15kHz DFT_QAM64 BW=30MHz Channel=635666 RB=160@0



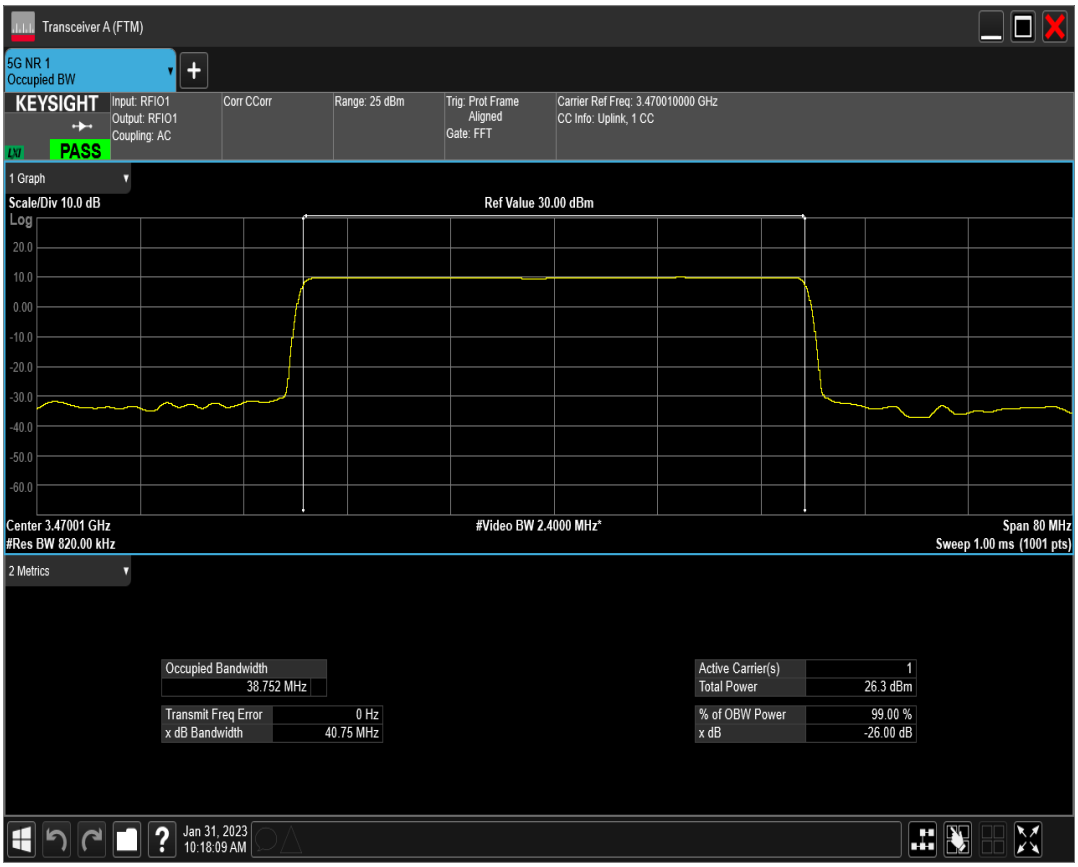
n77(3450-3550) SCS=15kHz DFT_QAM256 BW=30MHz Channel=635666 RB=160@0



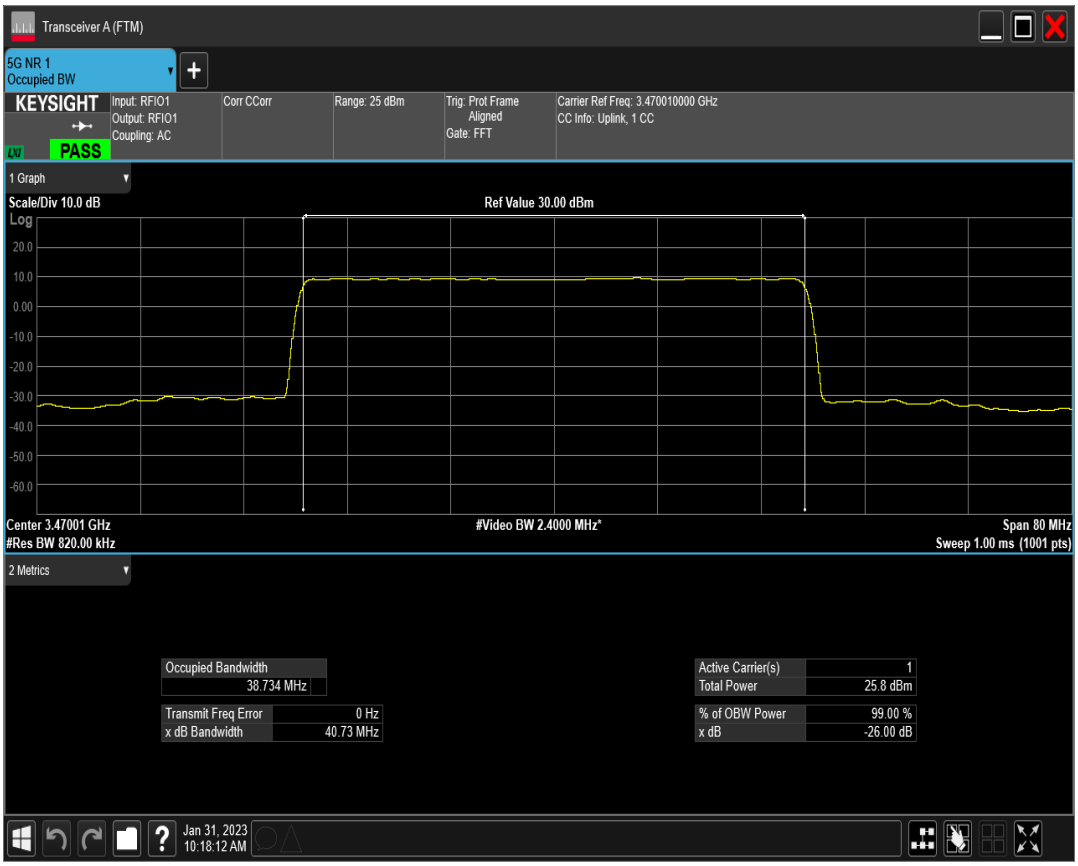
n77(3450-3550) SCS=15kHz CP_QPSK BW=30MHz Channel=635666 RB=160@0



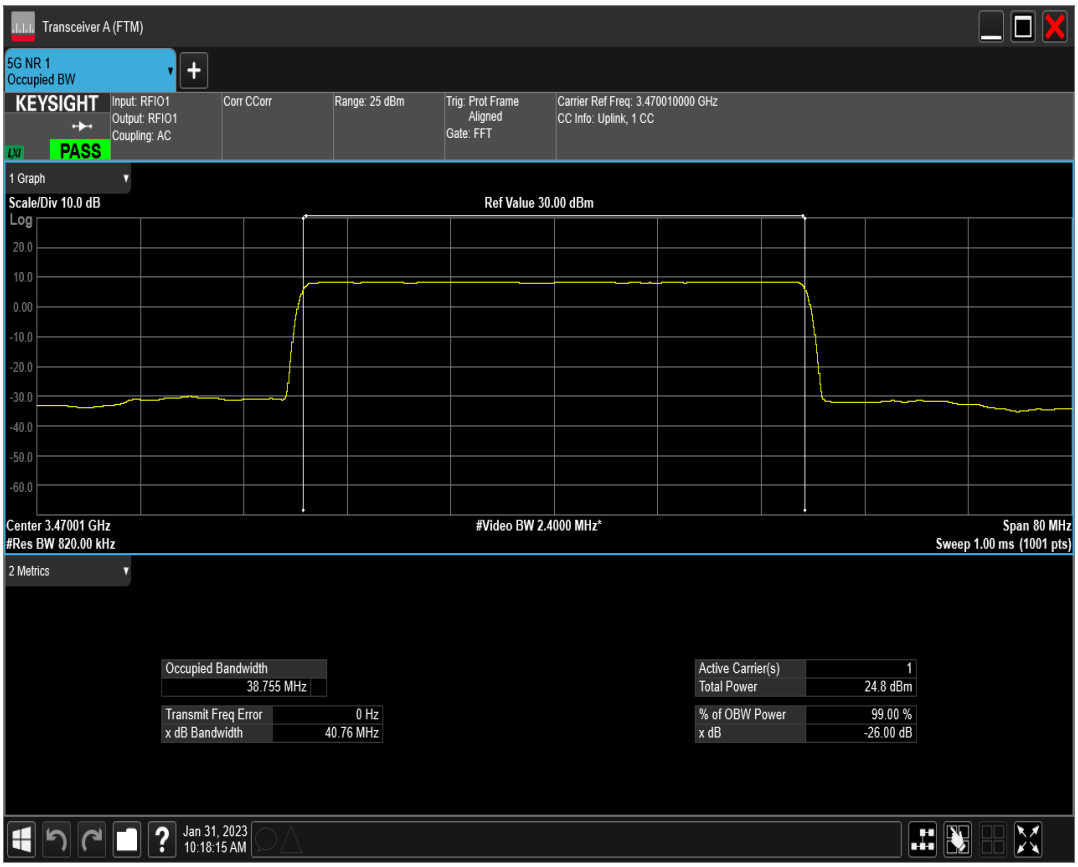
n77(3450-3550) SCS=15kHz DFT_BPSK BW=40MHz Channel=631334 RB=216@0



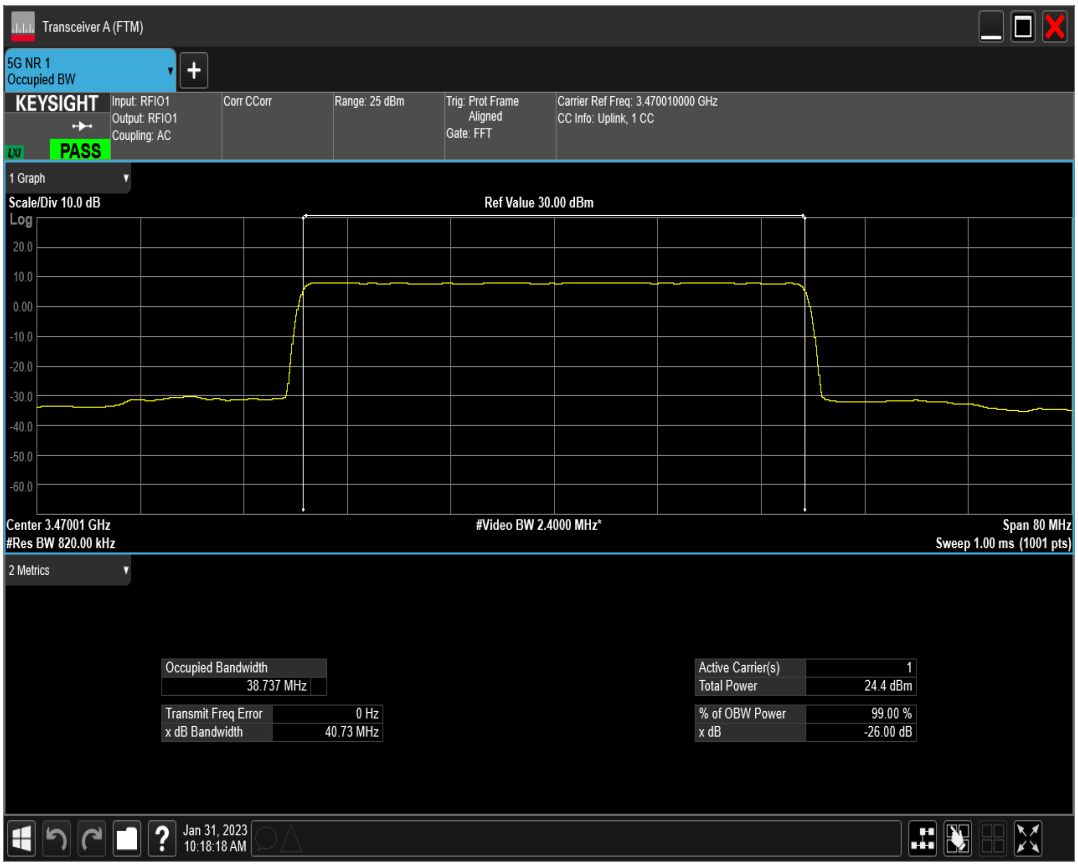
n77(3450-3550) SCS=15kHz DFT_QPSK BW=40MHz Channel=631334 RB=216@0



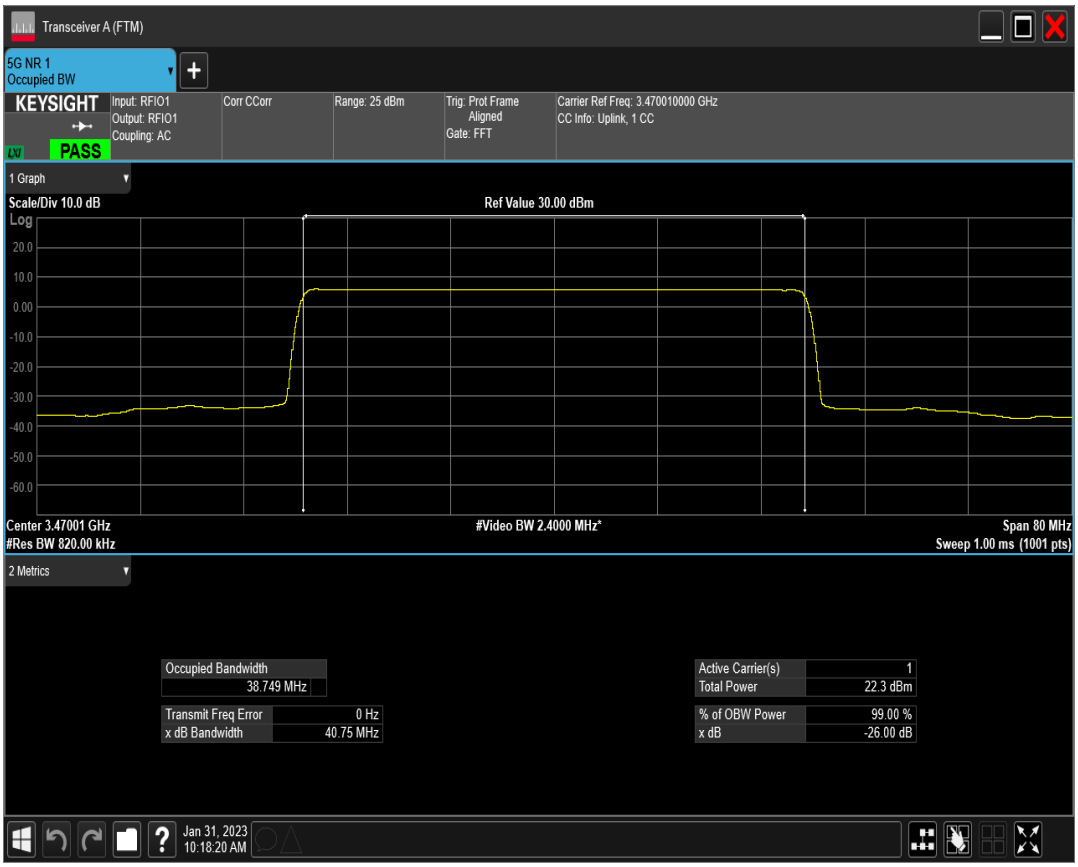
n77(3450-3550) SCS=15kHz DFT_QAM16 BW=40MHz Channel=631334 RB=216@0



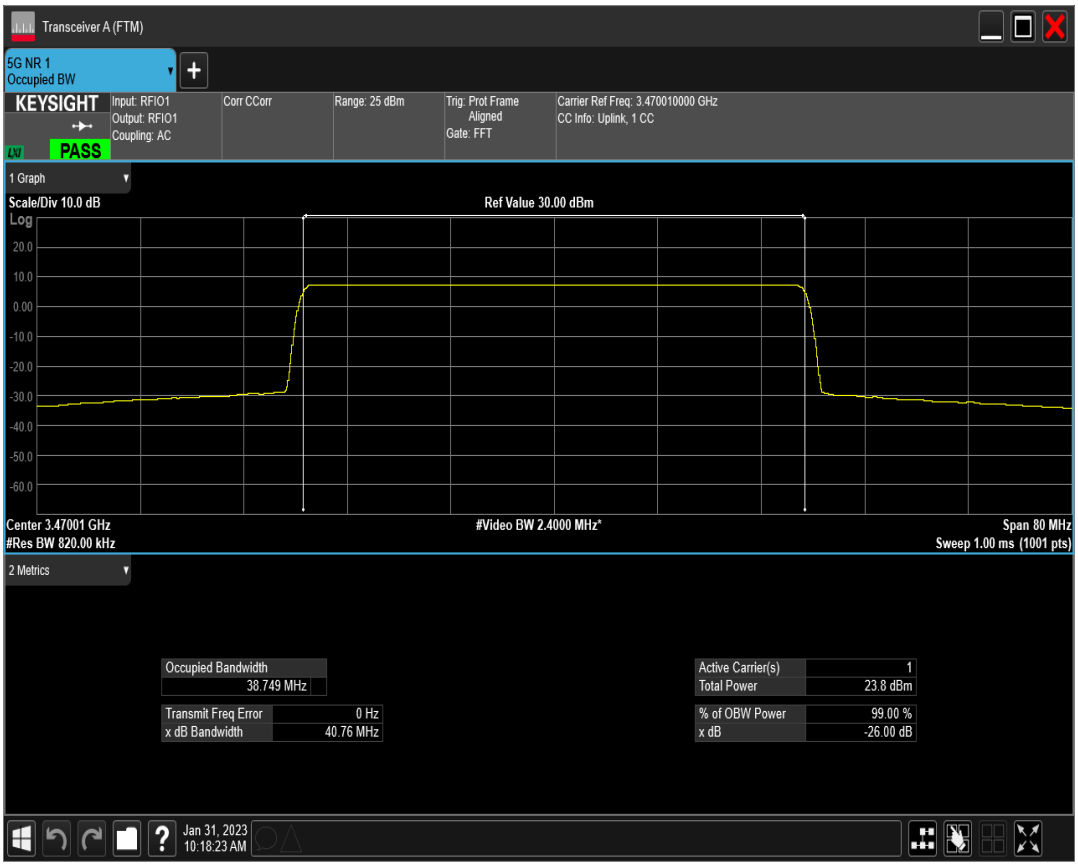
n77(3450-3550) SCS=15kHz DFT_QAM64 BW=40MHz Channel=631334 RB=216@0



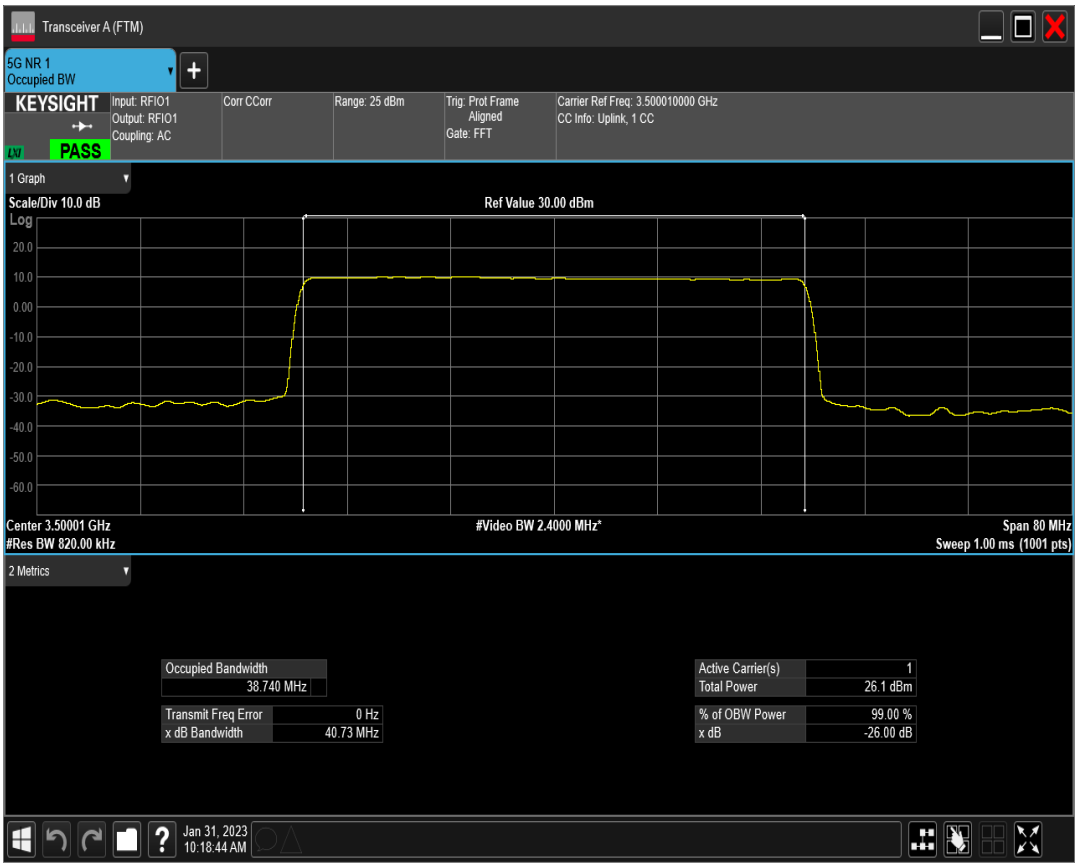
n77(3450-3550) SCS=15kHz DFT_QAM256 BW=40MHz Channel=631334 RB=216@0



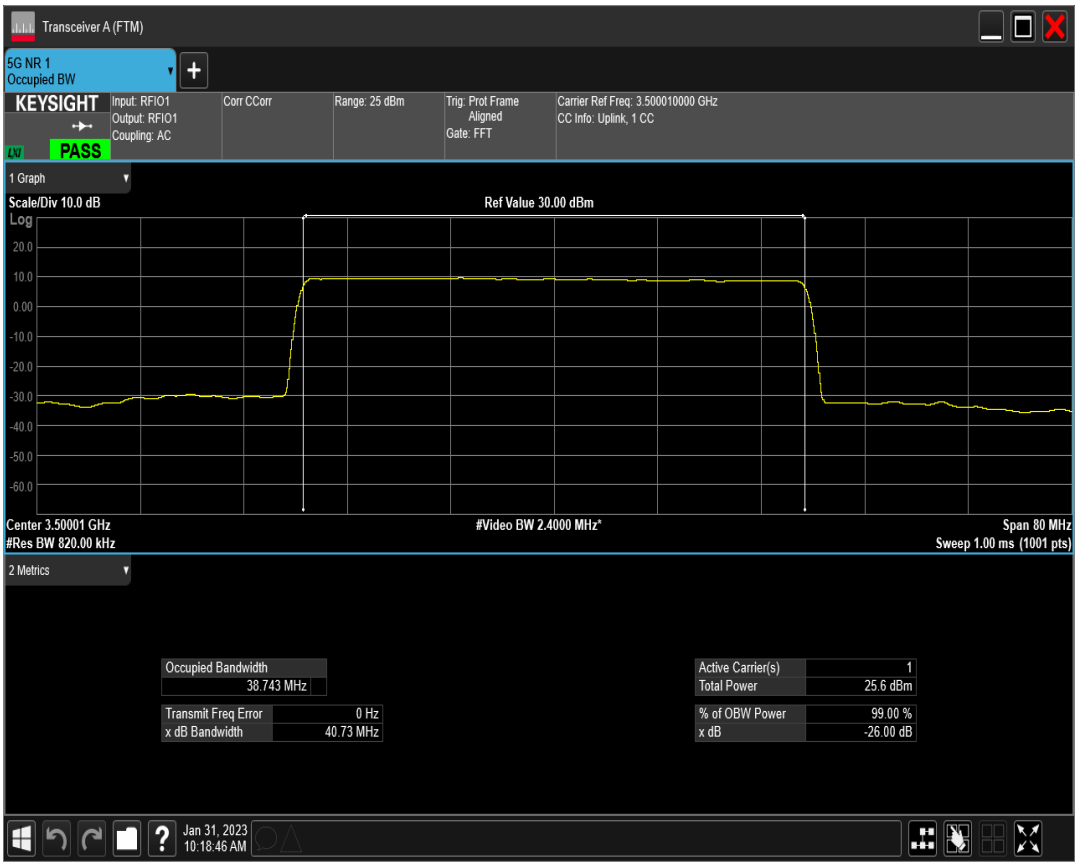
n77(3450-3550) SCS=15kHz CP_QPSK BW=40MHz Channel=631334 RB=216@0



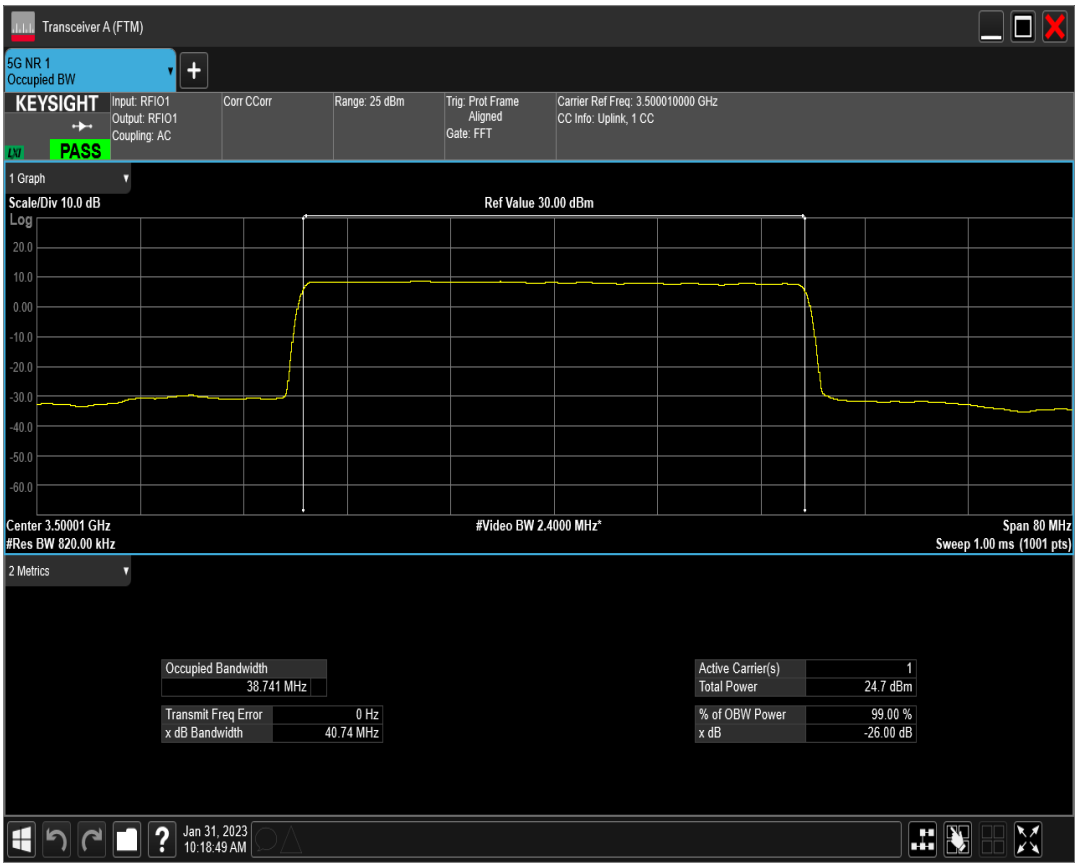
n77(3450-3550) SCS=15kHz DFT_BPSK BW=40MHz Channel=633334 RB=216@0



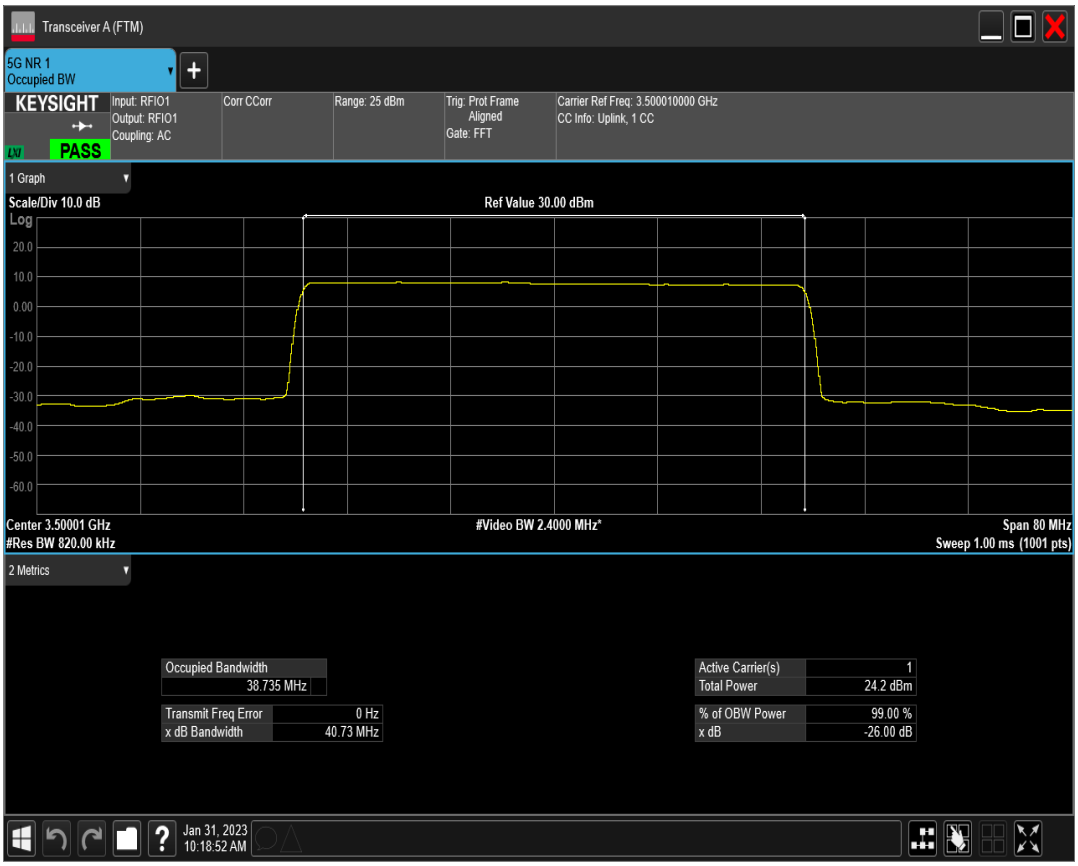
n77(3450-3550) SCS=15kHz DFT_QPSK BW=40MHz Channel=633334 RB=216@0



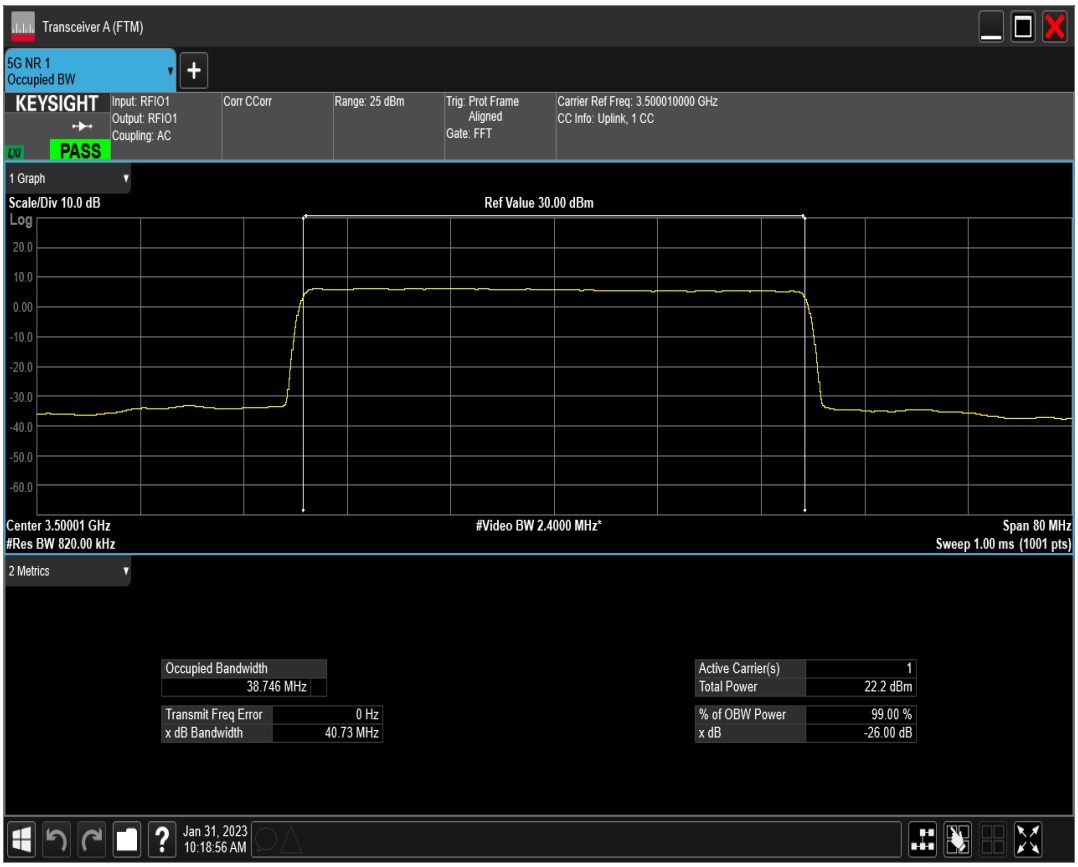
n77(3450-3550) SCS=15kHz DFT_QAM16 BW=40MHz Channel=633334 RB=216@0



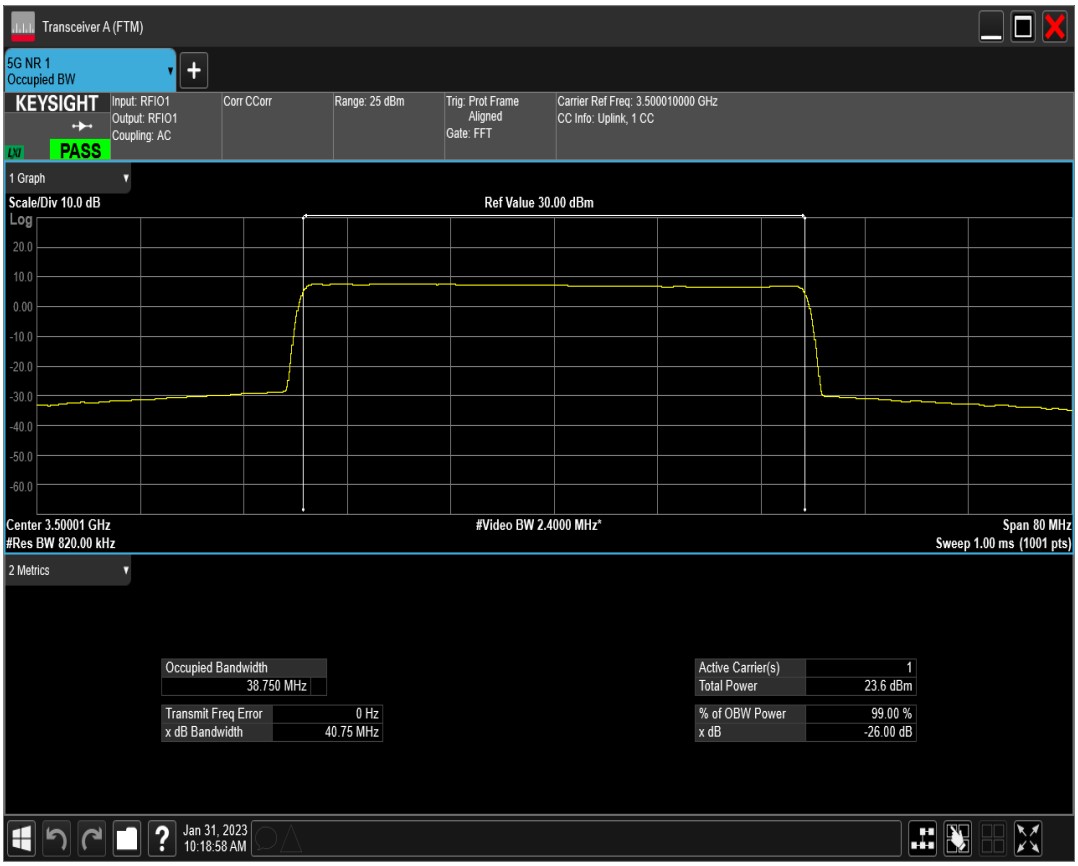
n77(3450-3550) SCS=15kHz DFT_QAM64 BW=40MHz Channel=633334 RB=216@0



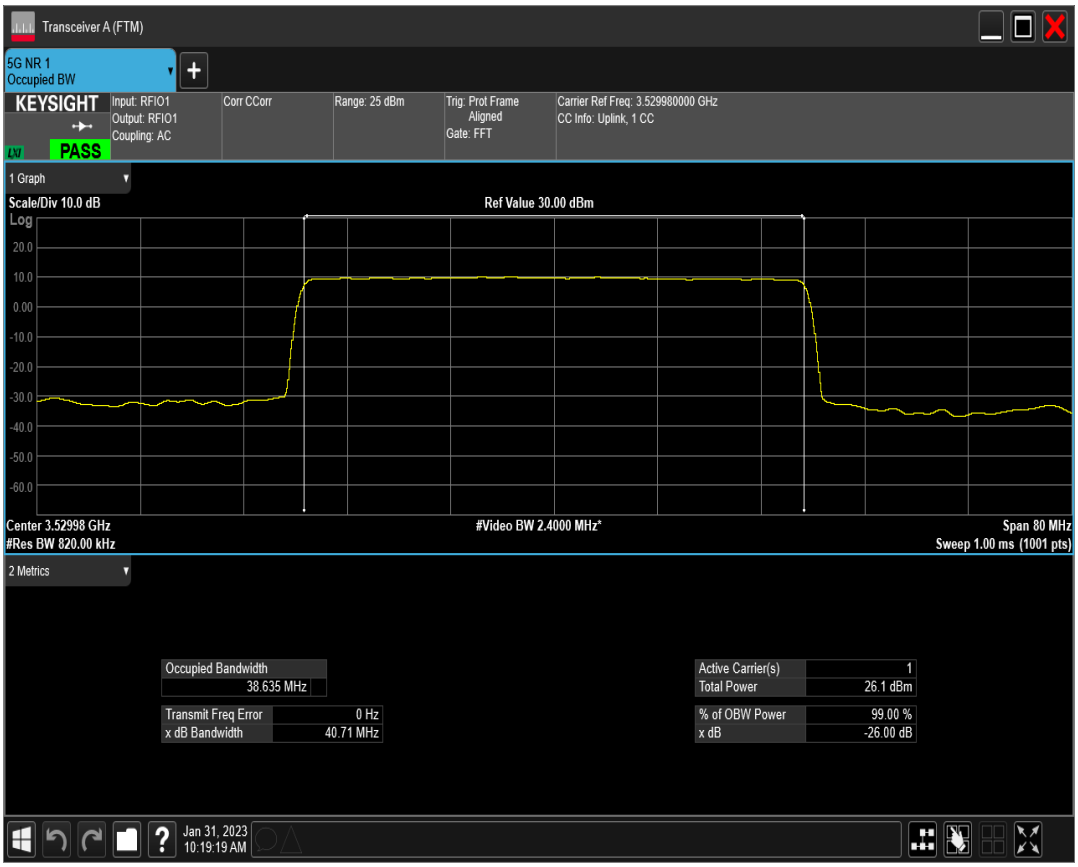
n77(3450-3550) SCS=15kHz DFT_QAM256 BW=40MHz Channel=633334 RB=216@0



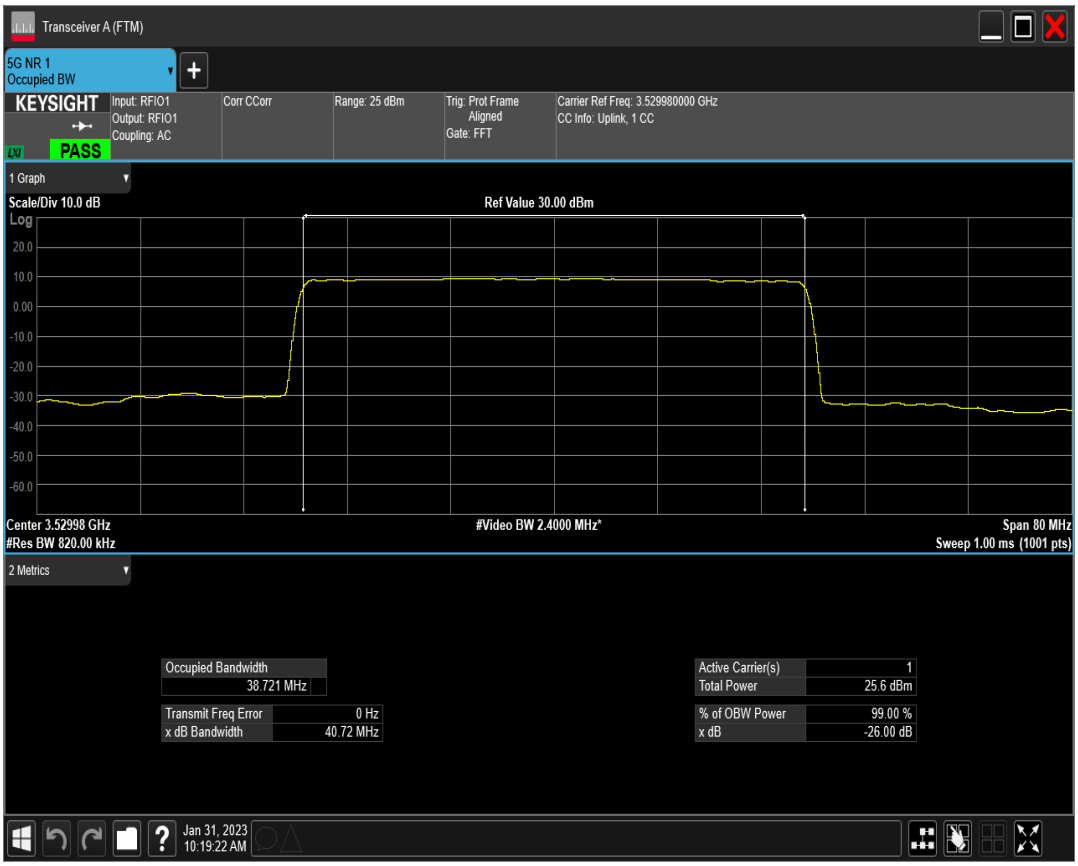
n77(3450-3550) SCS=15kHz CP_QPSK BW=40MHz Channel=633334 RB=216@0



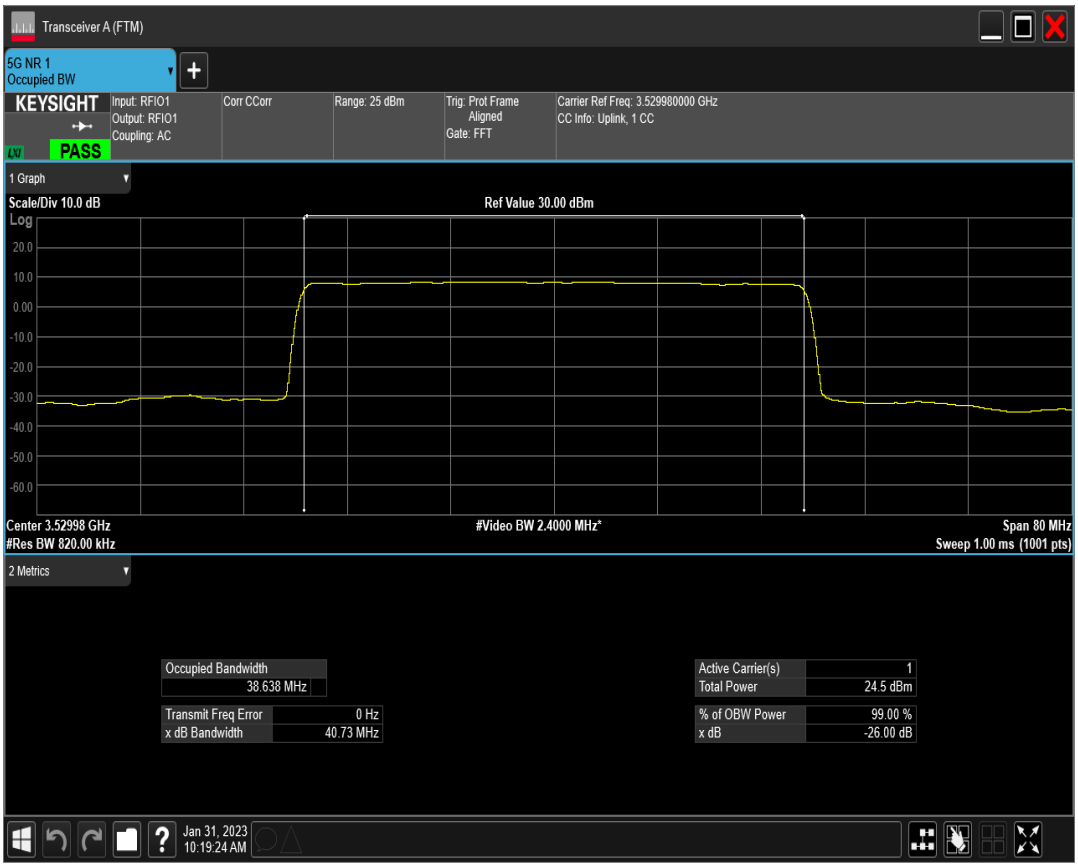
n77(3450-3550) SCS=15kHz DFT_BPSK BW=40MHz Channel=635332 RB=216@0



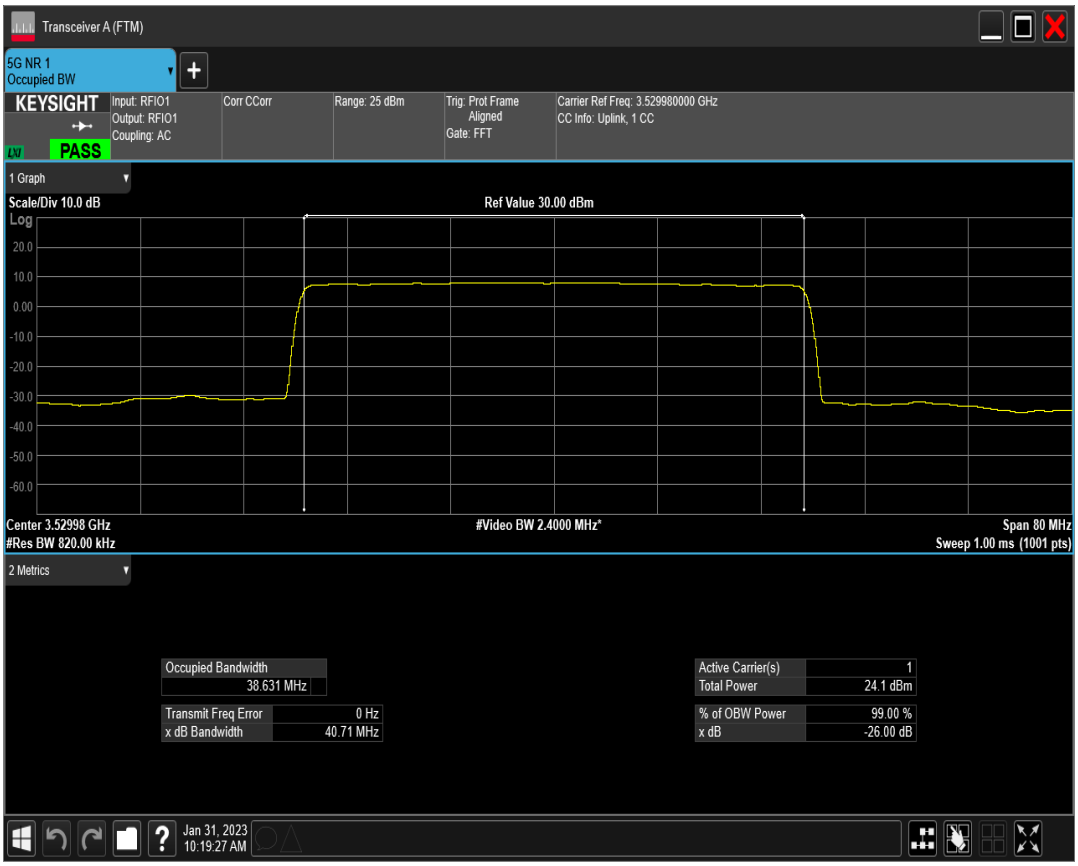
n77(3450-3550) SCS=15kHz DFT_QPSK BW=40MHz Channel=635332 RB=216@0



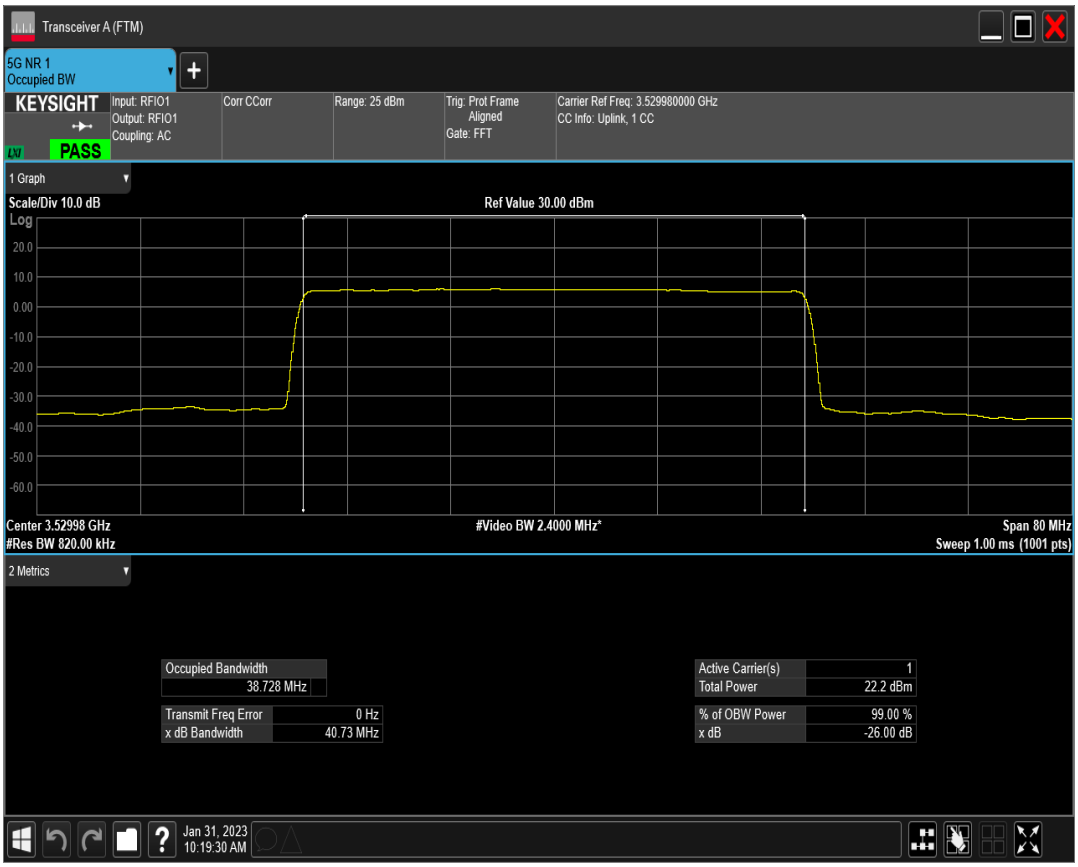
n77(3450-3550) SCS=15kHz DFT_QAM16 BW=40MHz Channel=635332 RB=216@0



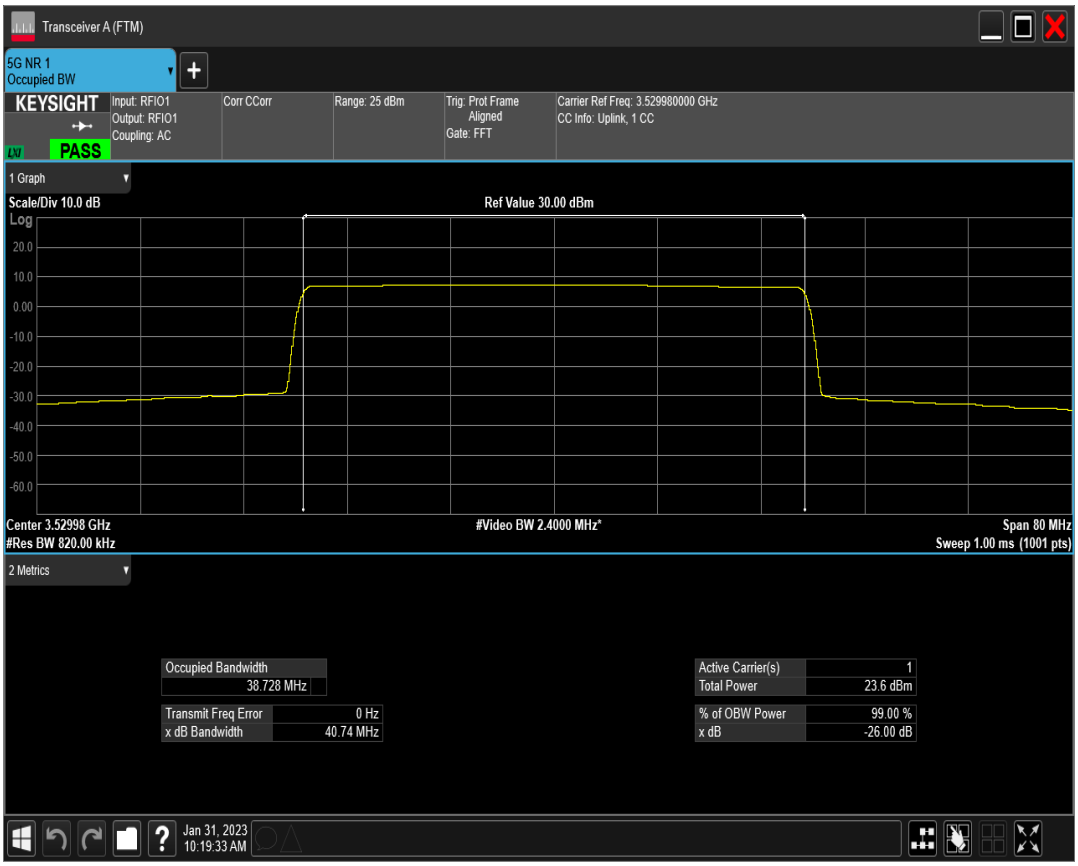
n77(3450-3550) SCS=15kHz DFT_QAM64 BW=40MHz Channel=635332 RB=216@0



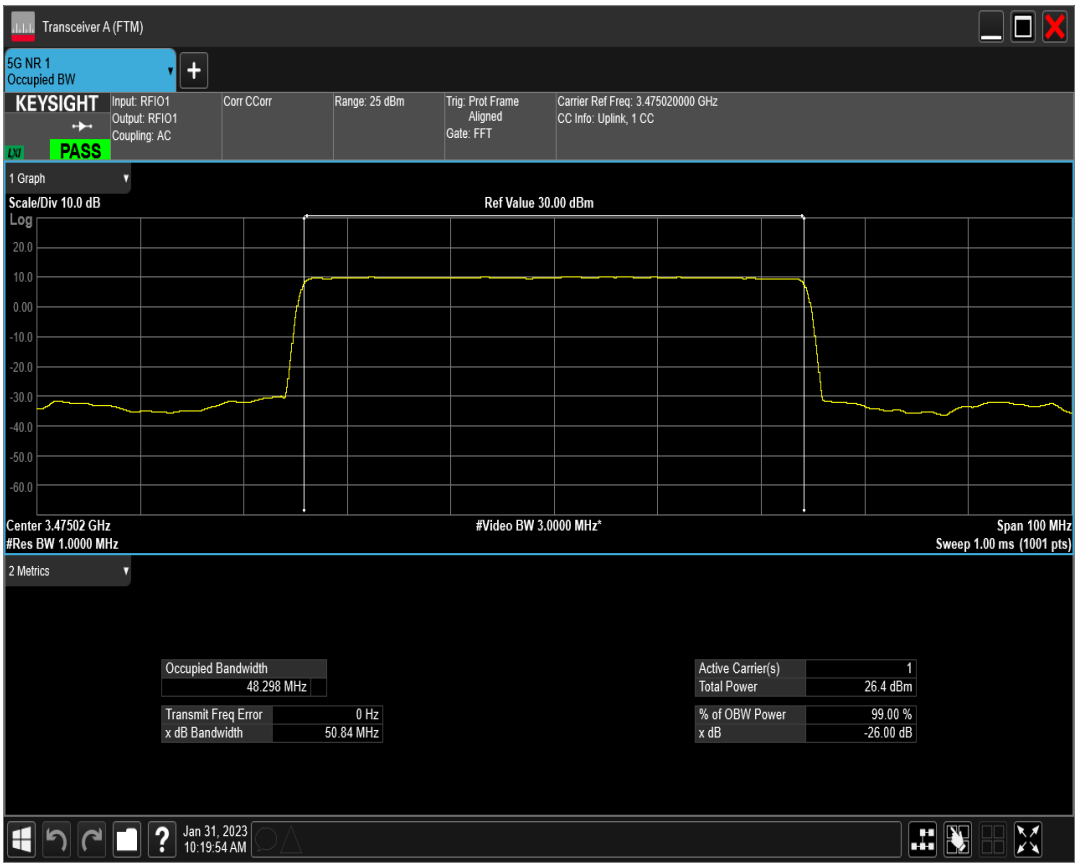
n77(3450-3550) SCS=15kHz DFT_QAM256 BW=40MHz Channel=635332 RB=216@0



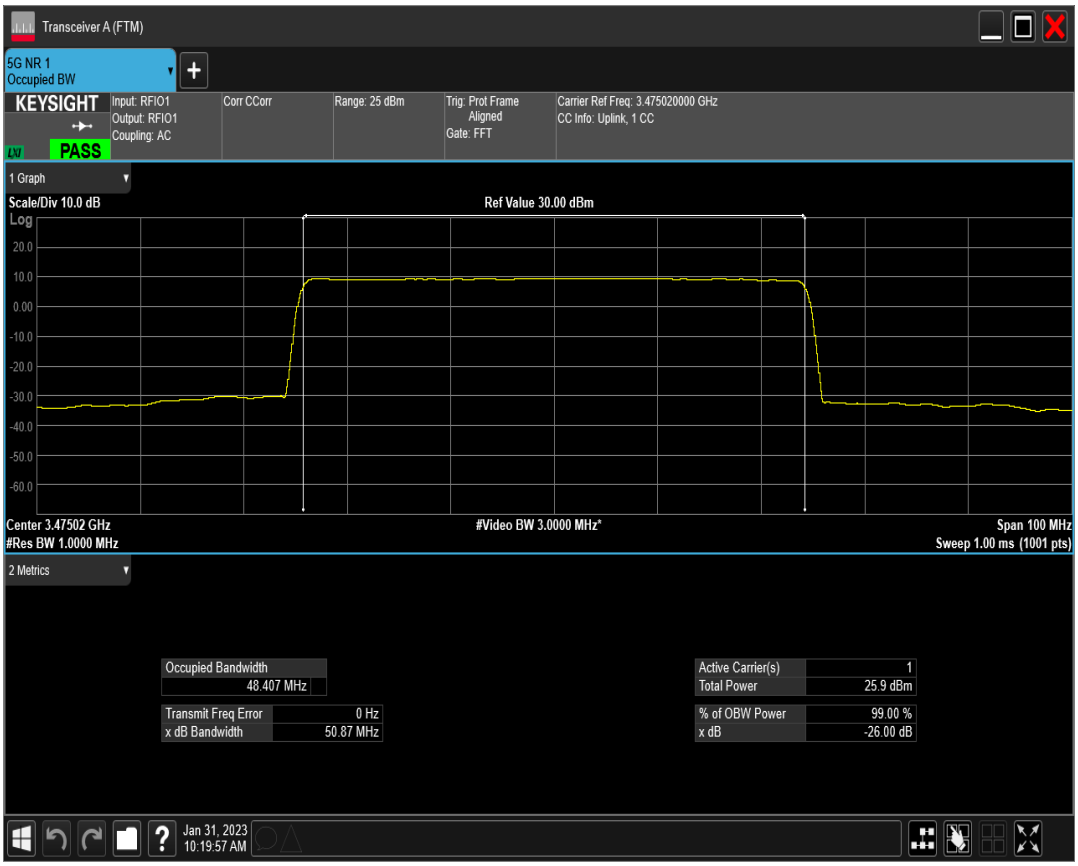
n77(3450-3550) SCS=15kHz CP_QPSK BW=40MHz Channel=635332 RB=216@0



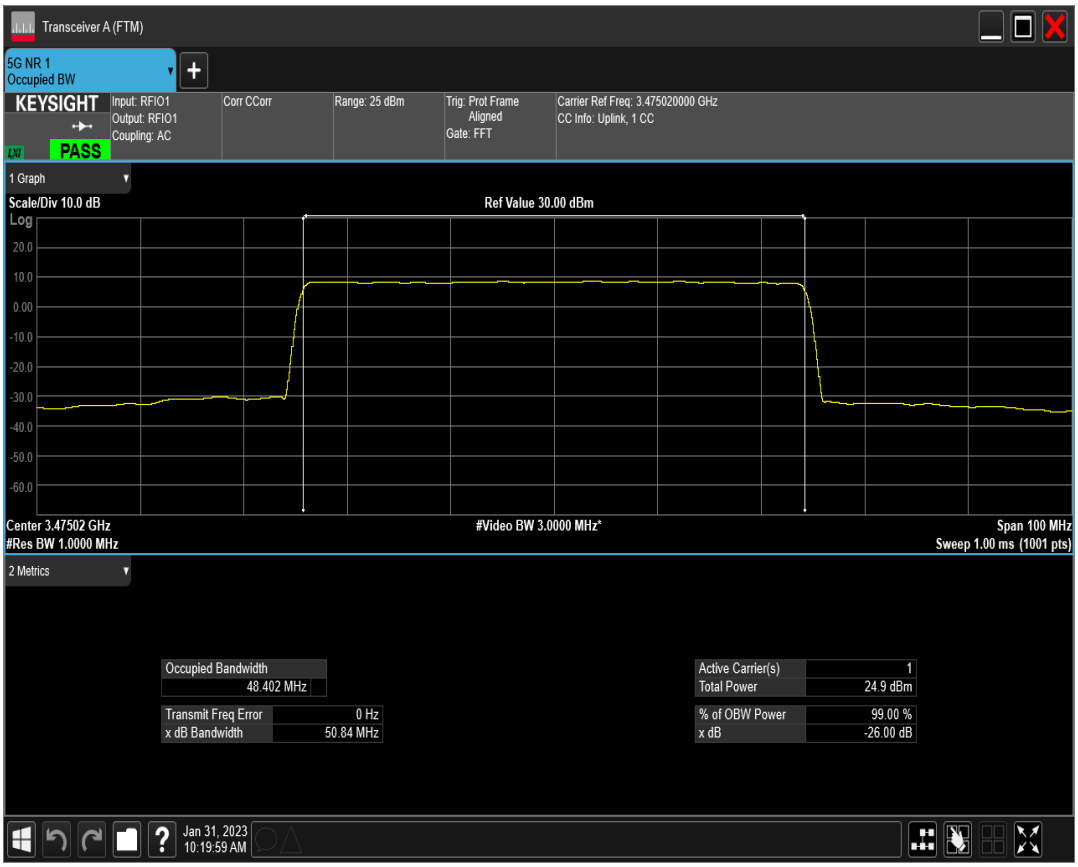
n77(3450-3550) SCS=15kHz DFT_BPSK BW=50MHz Channel=631668 RB=270@0



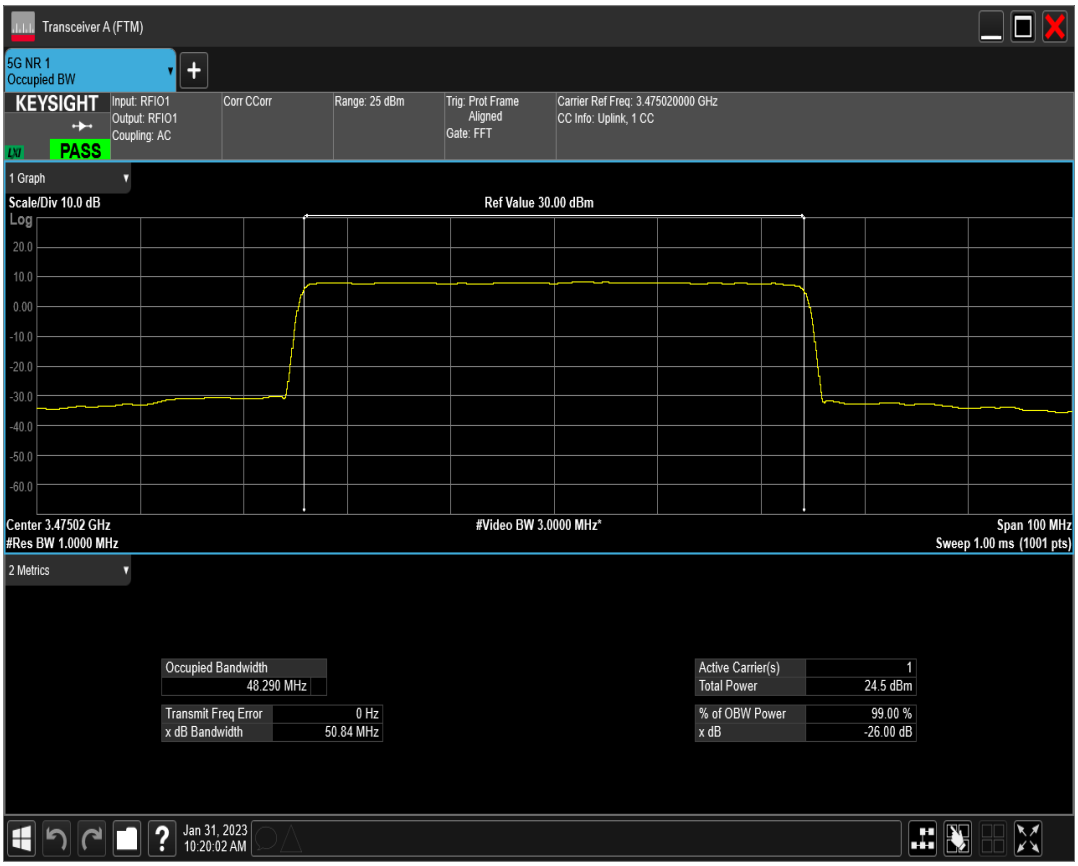
n77(3450-3550) SCS=15kHz DFT_QPSK BW=50MHz Channel=631668 RB=270@0



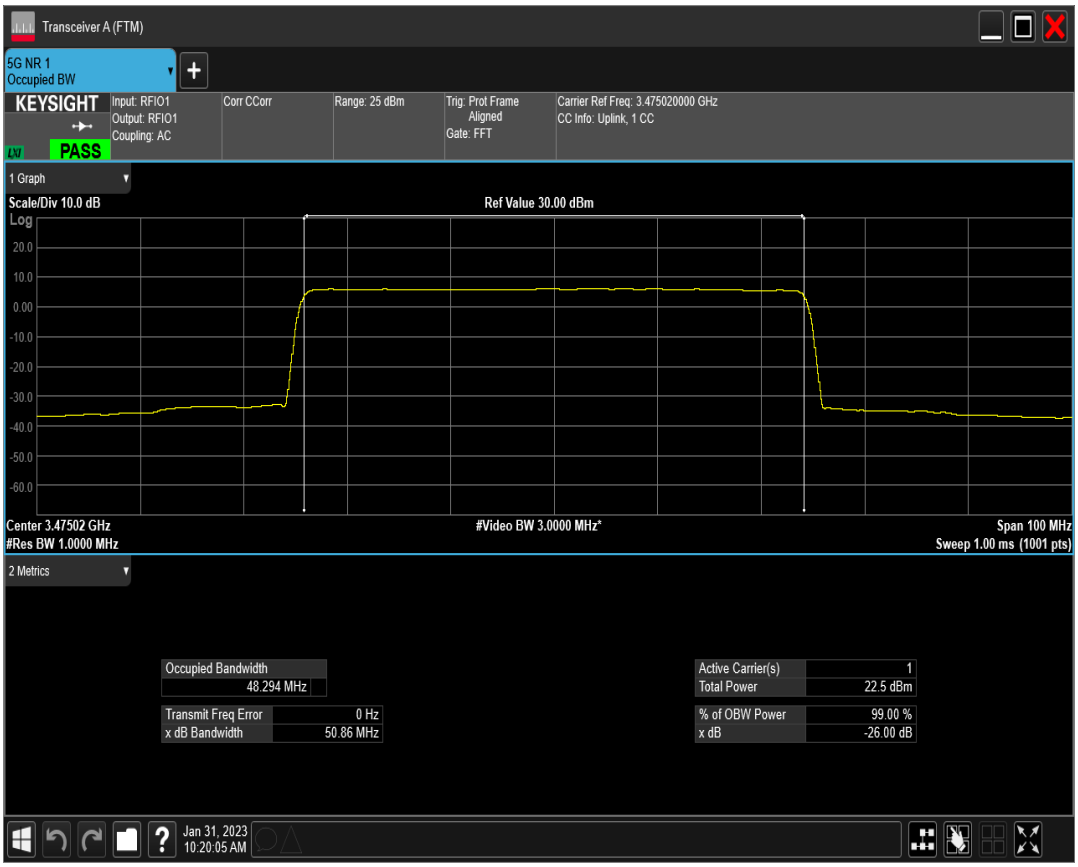
n77(3450-3550) SCS=15kHz DFT_QAM16 BW=50MHz Channel=631668 RB=270@0



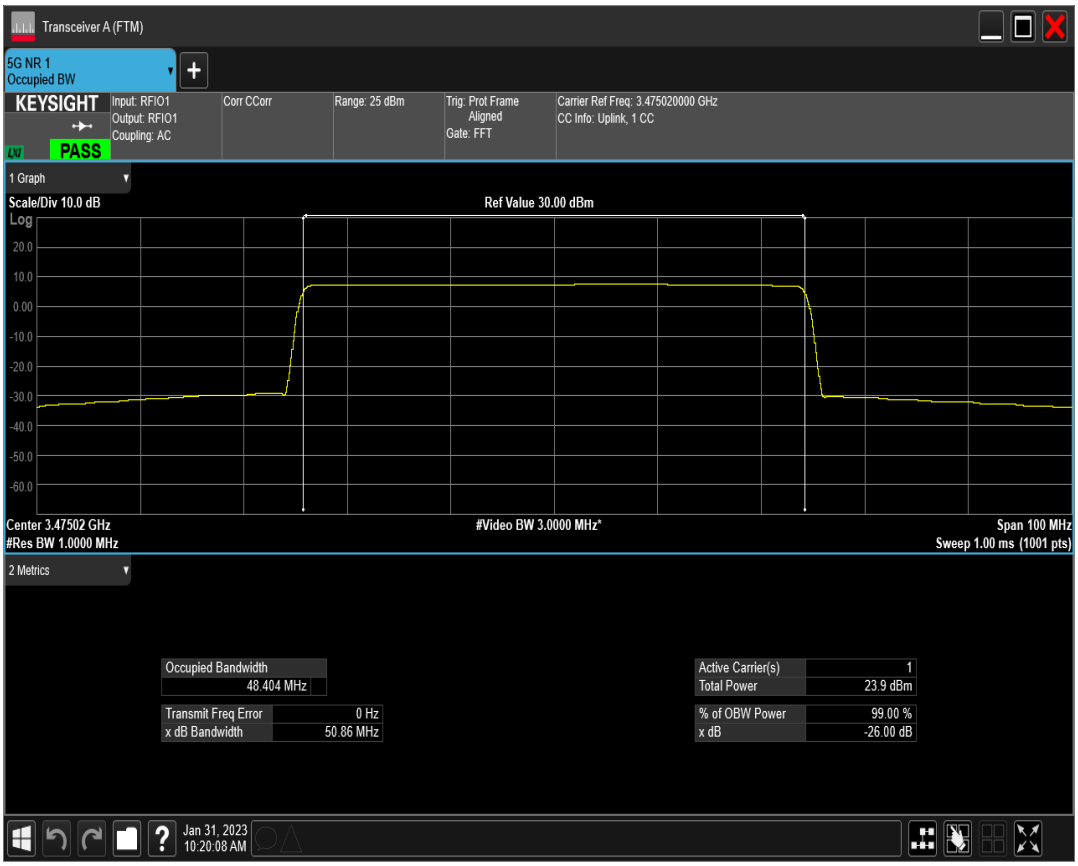
n77(3450-3550) SCS=15kHz DFT_QAM64 BW=50MHz Channel=631668 RB=270@0



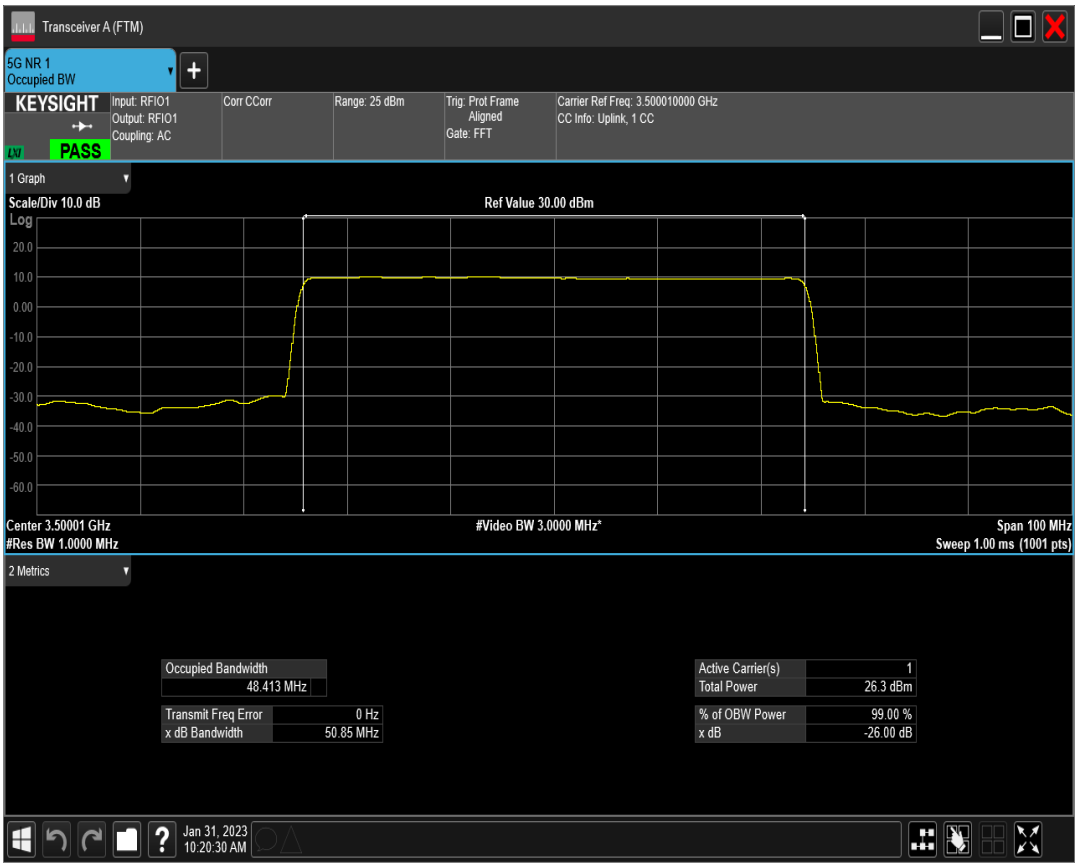
n77(3450-3550) SCS=15kHz DFT_QAM256 BW=50MHz Channel=631668 RB=270@0



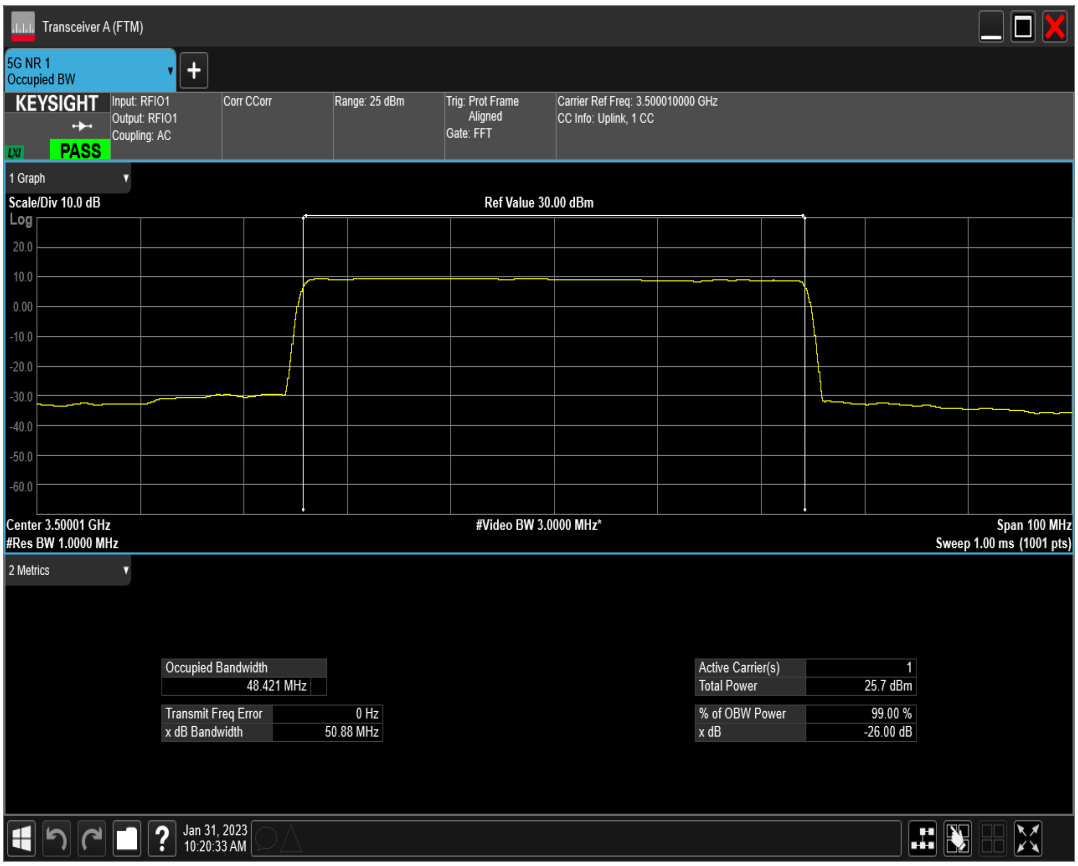
n77(3450-3550) SCS=15kHz CP_QPSK BW=50MHz Channel=631668 RB=270@0



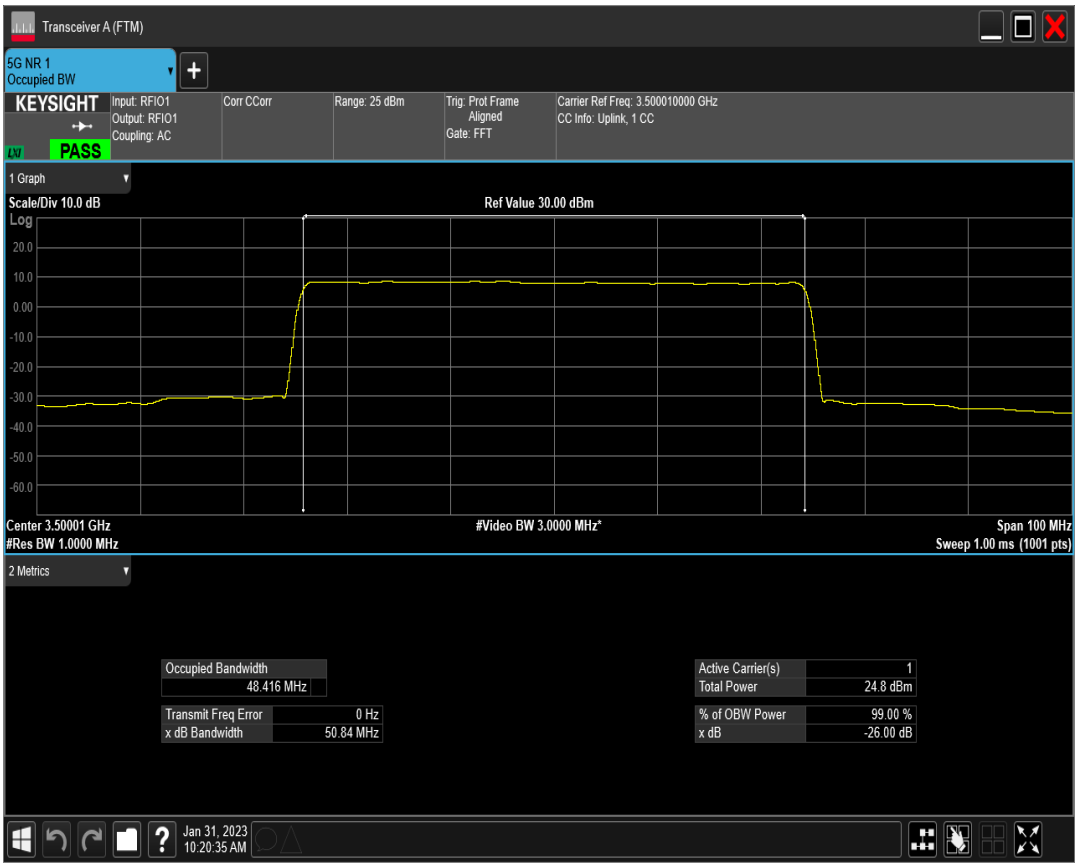
n77(3450-3550) SCS=15kHz DFT_BPSK BW=50MHz Channel=633334 RB=270@0



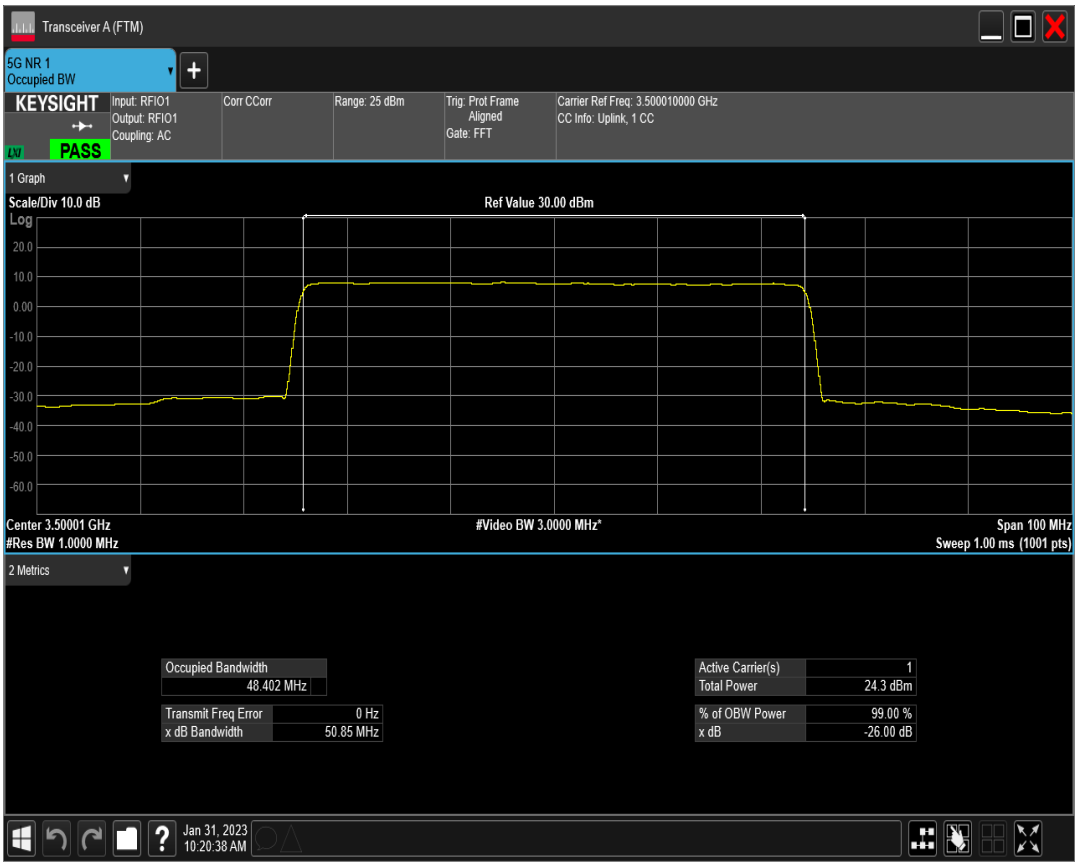
n77(3450-3550) SCS=15kHz DFT_QPSK BW=50MHz Channel=633334 RB=270@0



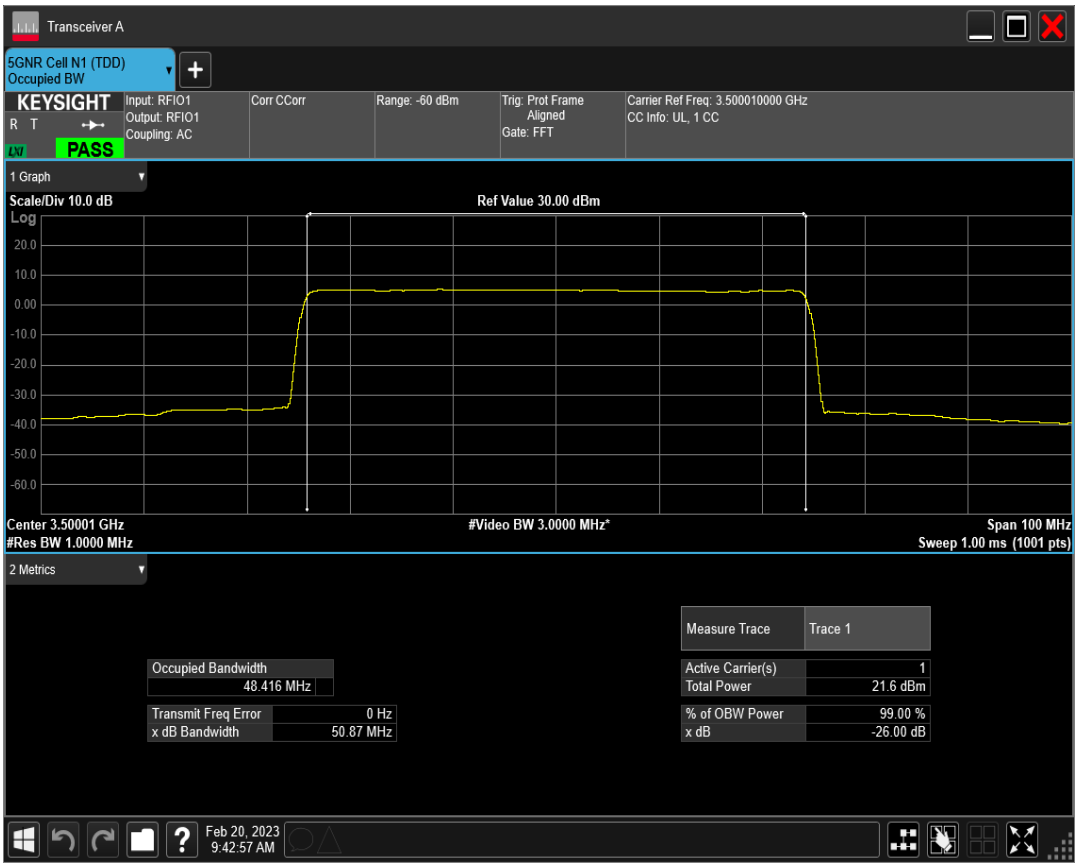
n77(3450-3550) SCS=15kHz DFT_QAM16 BW=50MHz Channel=633334 RB=270@0



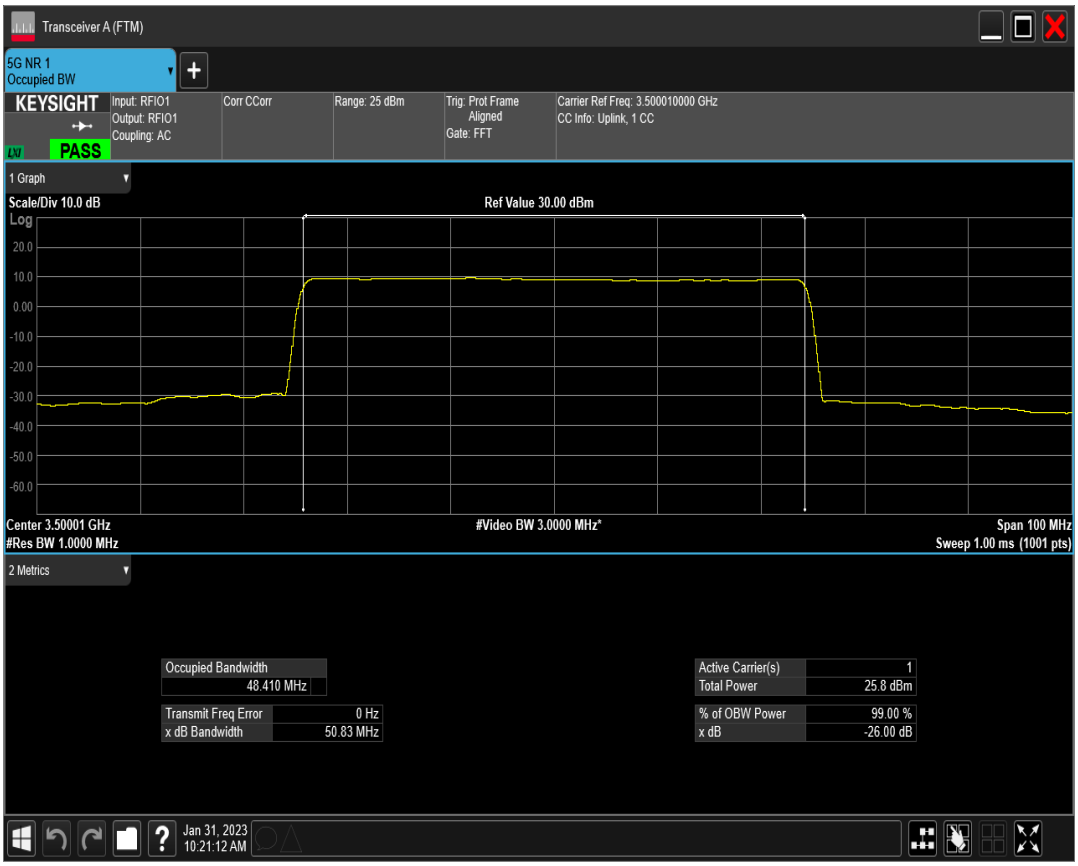
n77(3450-3550) SCS=15kHz DFT_QAM64 BW=50MHz Channel=633334 RB=270@0



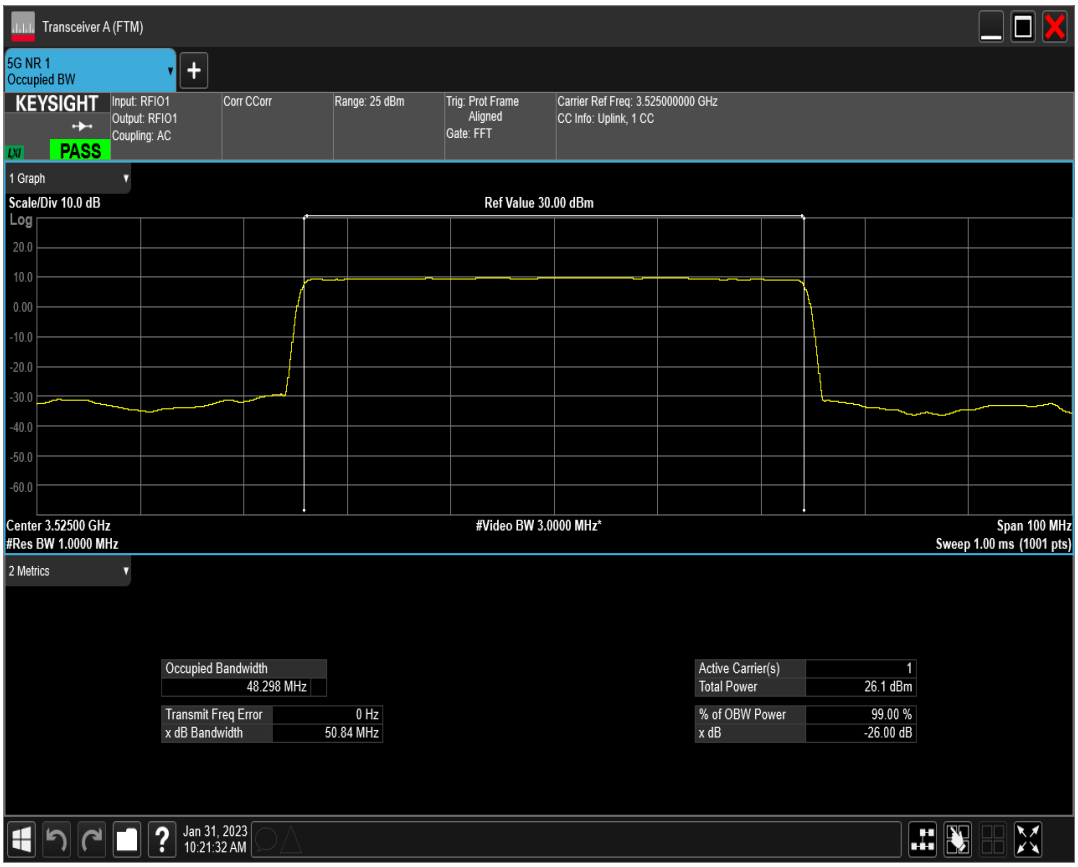
n77(3450-3550) SCS=15kHz DFT_QAM256 BW=50MHz Channel=633334 RB=270@0



n77(3450-3550) SCS=15kHz CP_QPSK BW=50MHz Channel=633334 RB=270@0

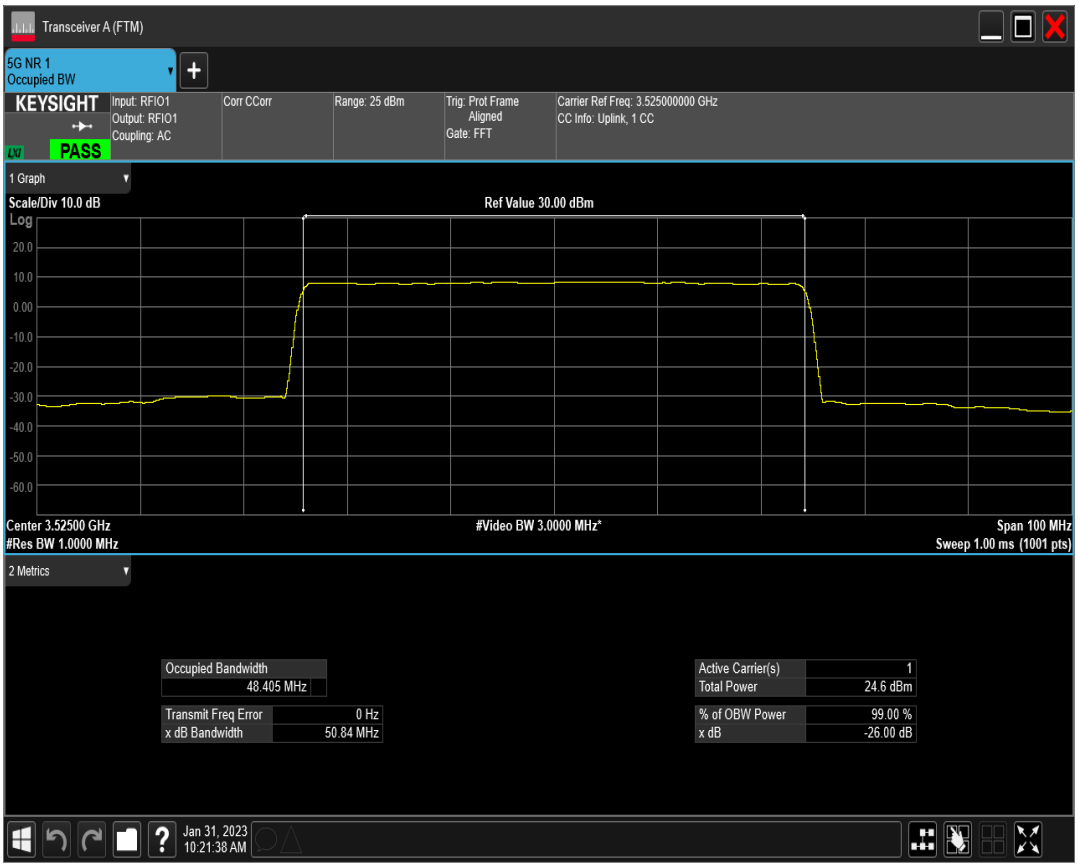


n77(3450-3550) SCS=15kHz DFT_BPSK BW=50MHz Channel=635000 RB=270@0

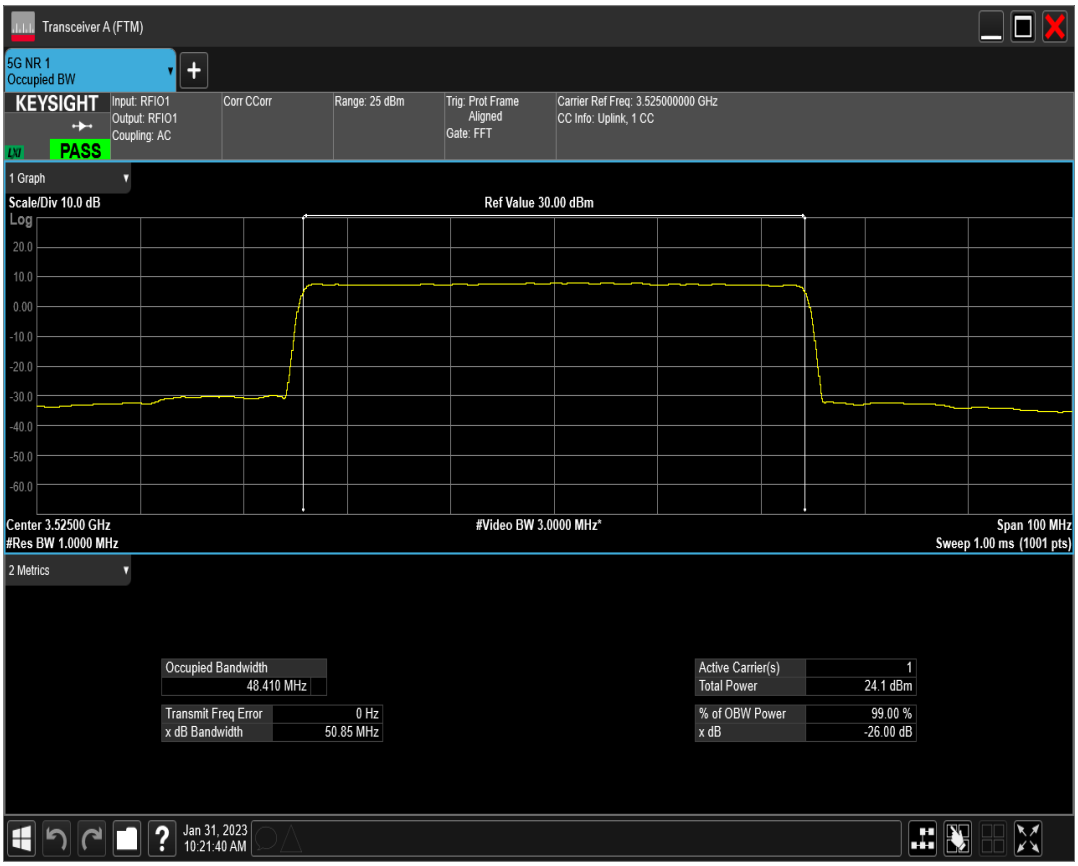


n77(3450-3550) SCS=15kHz DFT_QPSK BW=50MHz Channel=635000 RB=270@0

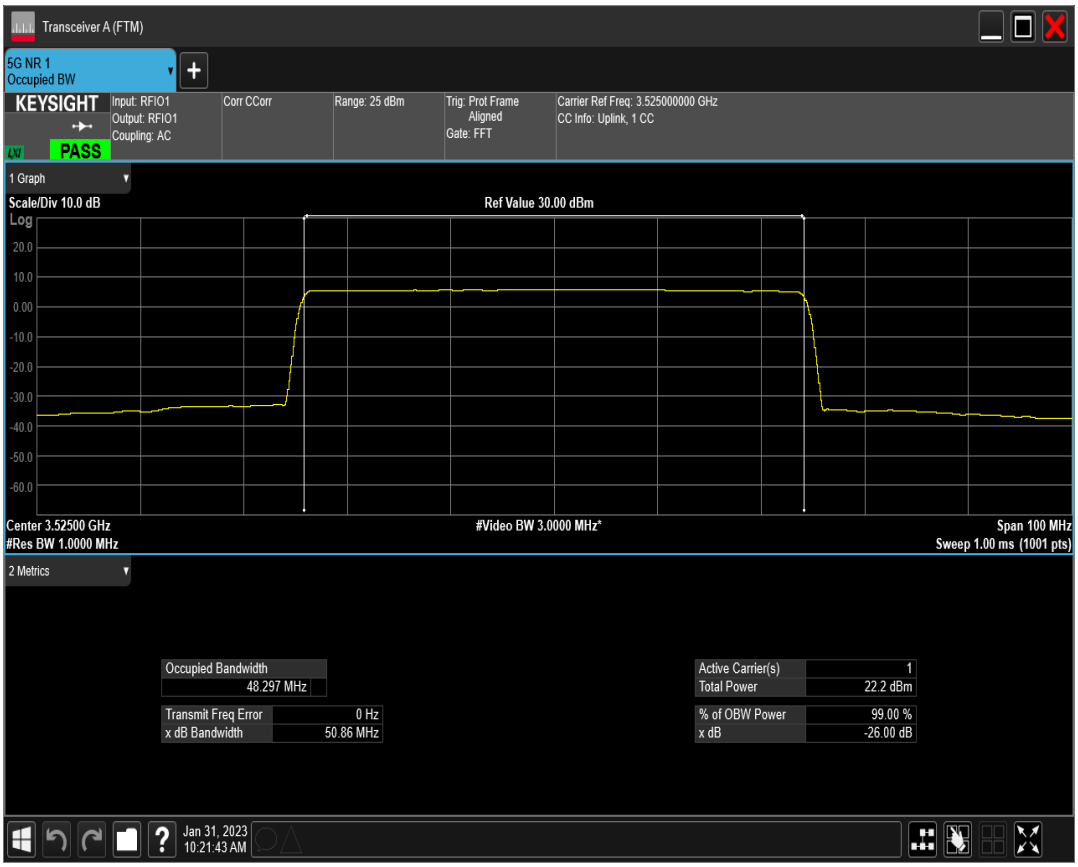
n77(3450-3550) SCS=15kHz DFT_QAM16 BW=50MHz Channel=635000 RB=270@0



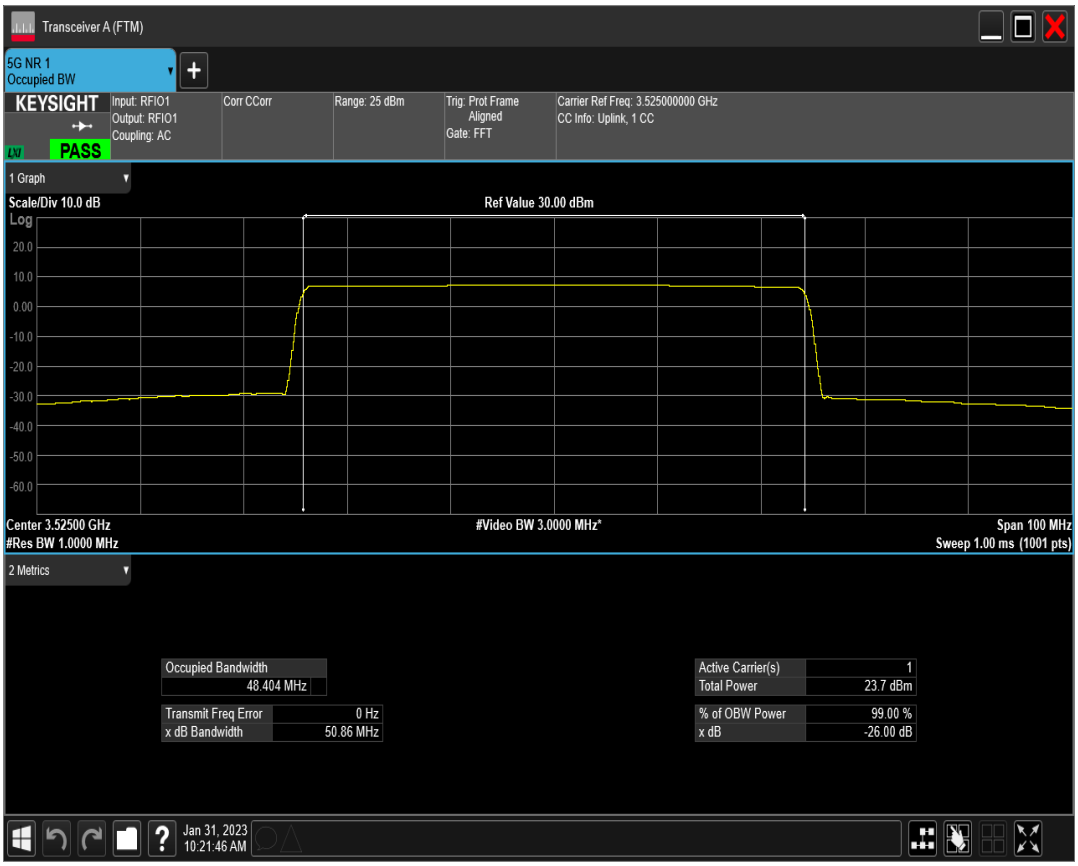
n77(3450-3550) SCS=15kHz DFT_QAM64 BW=50MHz Channel=635000 RB=270@0



n77(3450-3550) SCS=15kHz DFT_QAM256 BW=50MHz Channel=635000 RB=270@0



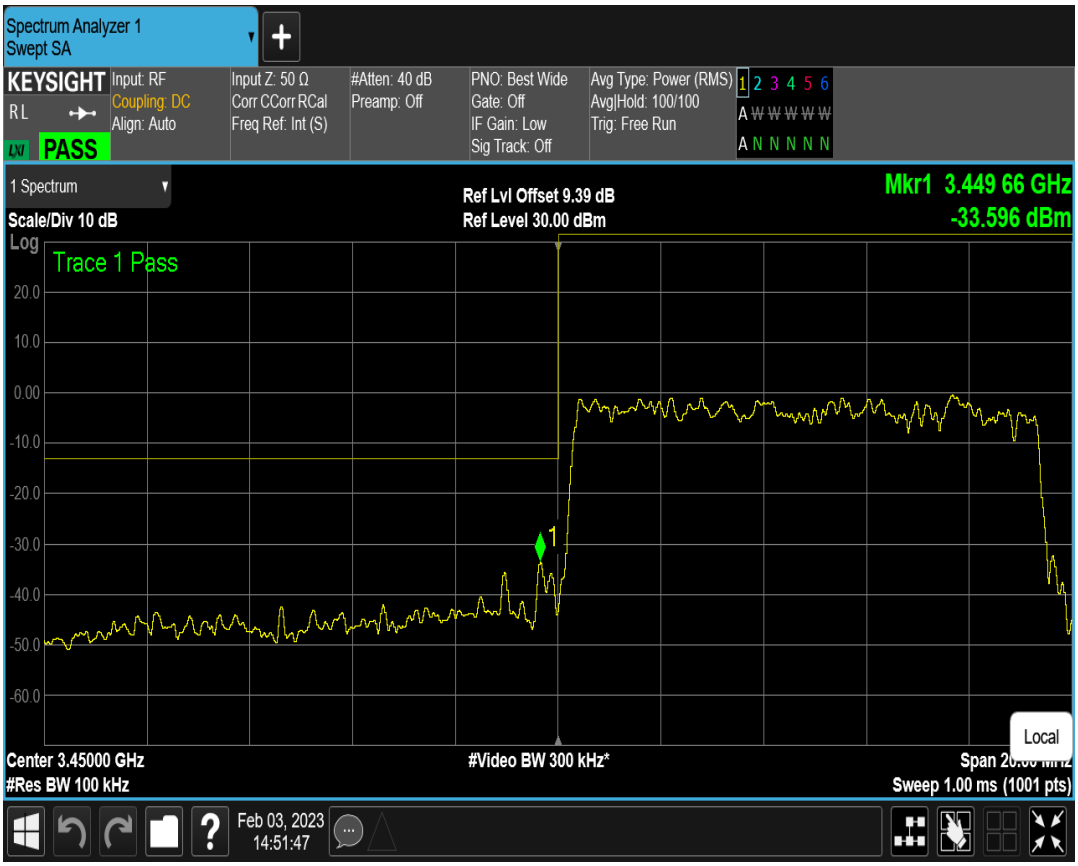
n77(3450-3550) SCS=15kHz CP_QPSK BW=50MHz Channel=635000 RB=270@0



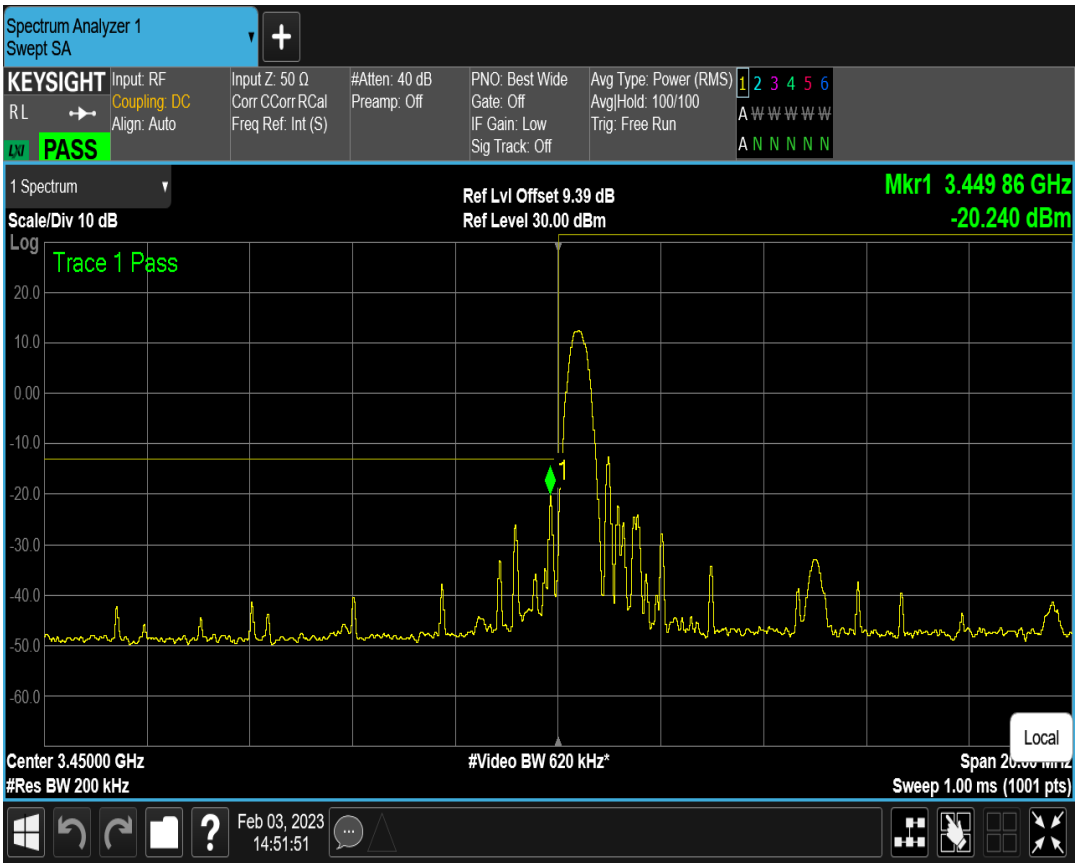
5 Band edge for NR FR1

Band	SCS (kHz)	Bandwidth (MHz)	UL Channel	RB Allocation	Modulation	Spur Freq (MHz)	Spur Level (dBm)	Limit (dBm)	Verdict
n77(3450-3550)	15	10	630334	50@0	DFT_QPSK	3449.66	-33.59	-13	PASS
n77(3450-3550)	15	10	630334	1@0	DFT_QPSK	3449.86	-20.23	-13	PASS
n77(3450-3550)	15	10	636332	50@0	DFT_QPSK	3552.54	-40.93	-13	PASS
n77(3450-3550)	15	10	636332	1@51	DFT_QPSK	3550.06	-15.94	-13	PASS
n77(3450-3550)	15	50	631668	270@0	DFT_QPSK	3450.00	-36.49	-13	PASS
n77(3450-3550)	15	50	631668	1@0	DFT_QPSK	3449.30	-30.90	-13	PASS
n77(3450-3550)	15	50	635000	270@0	DFT_QPSK	3550.20	-35.74	-13	PASS
n77(3450-3550)	15	50	635000	1@269	DFT_QPSK	3550.00	-42.45	-13	PASS

n77(3450-3550) SCS=15kHz DFT_QPSK BW=10MHz Channel=630334 RB=50@0

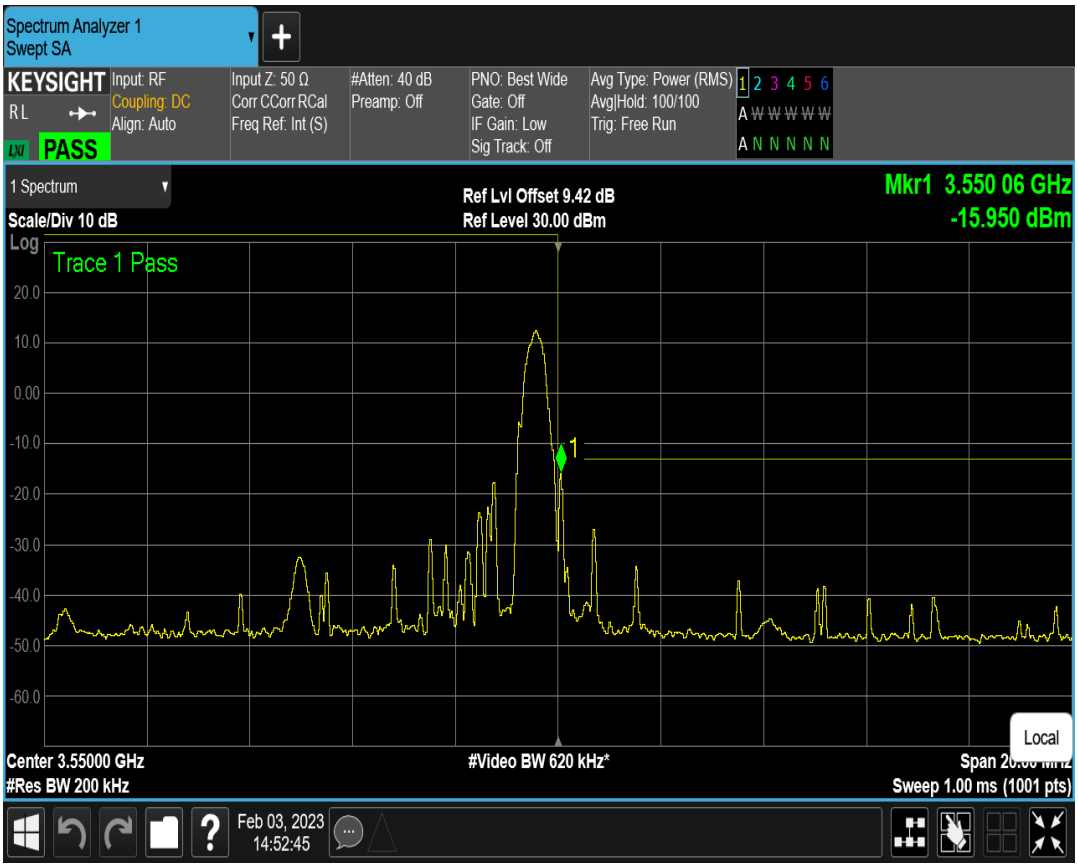


n77(3450-3550) SCS=15kHz DFT_QPSK BW=10MHz Channel=630334 RB=1@0

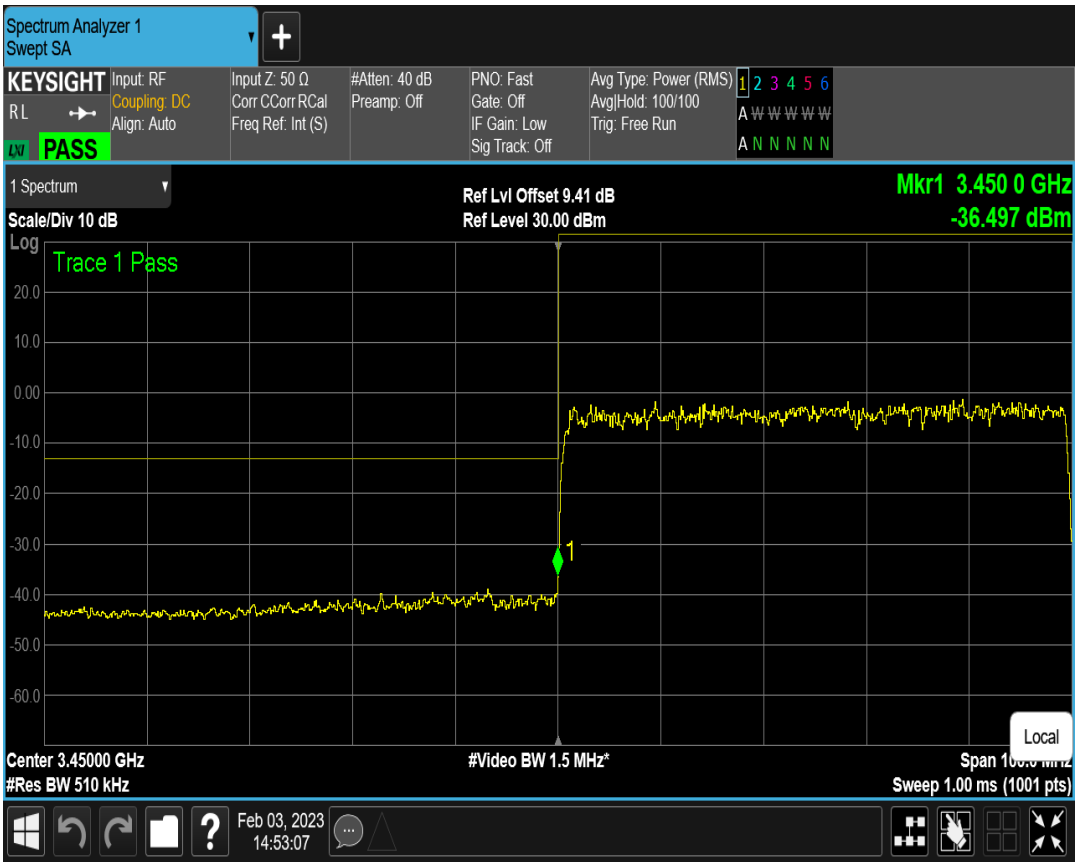


n77(3450-3550) SCS=15kHz DFT_QPSK BW=10MHz Channel=636332 RB=50@0

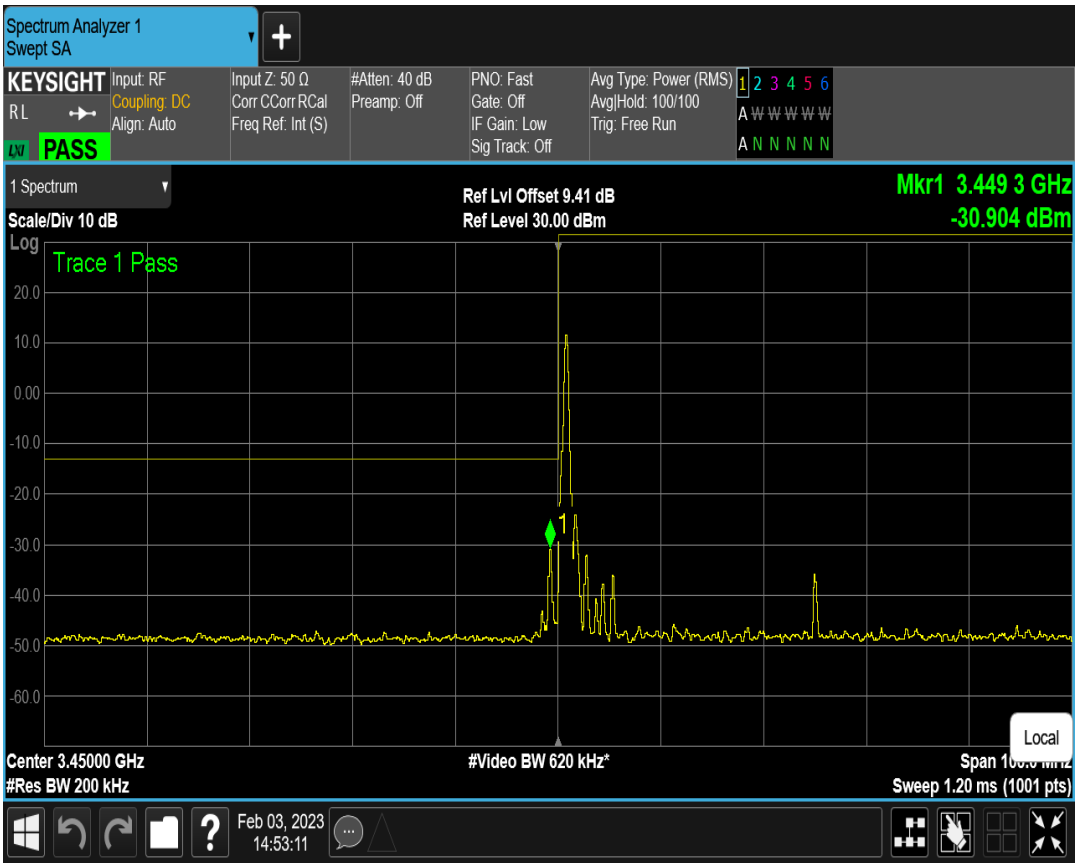
n77(3450-3550) SCS=15kHz DFT_QPSK BW=10MHz Channel=636332 RB=1@51



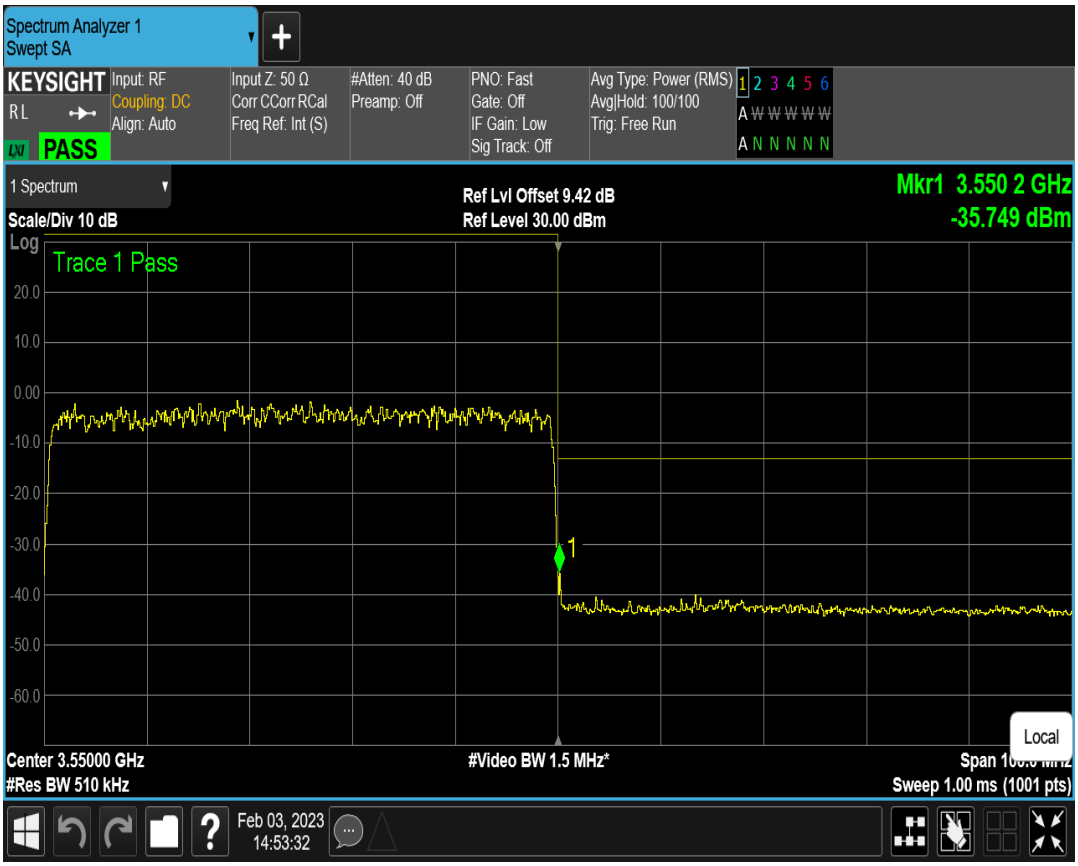
n77(3450-3550) SCS=15kHz DFT_QPSK BW=50MHz Channel=631668 RB=270@0



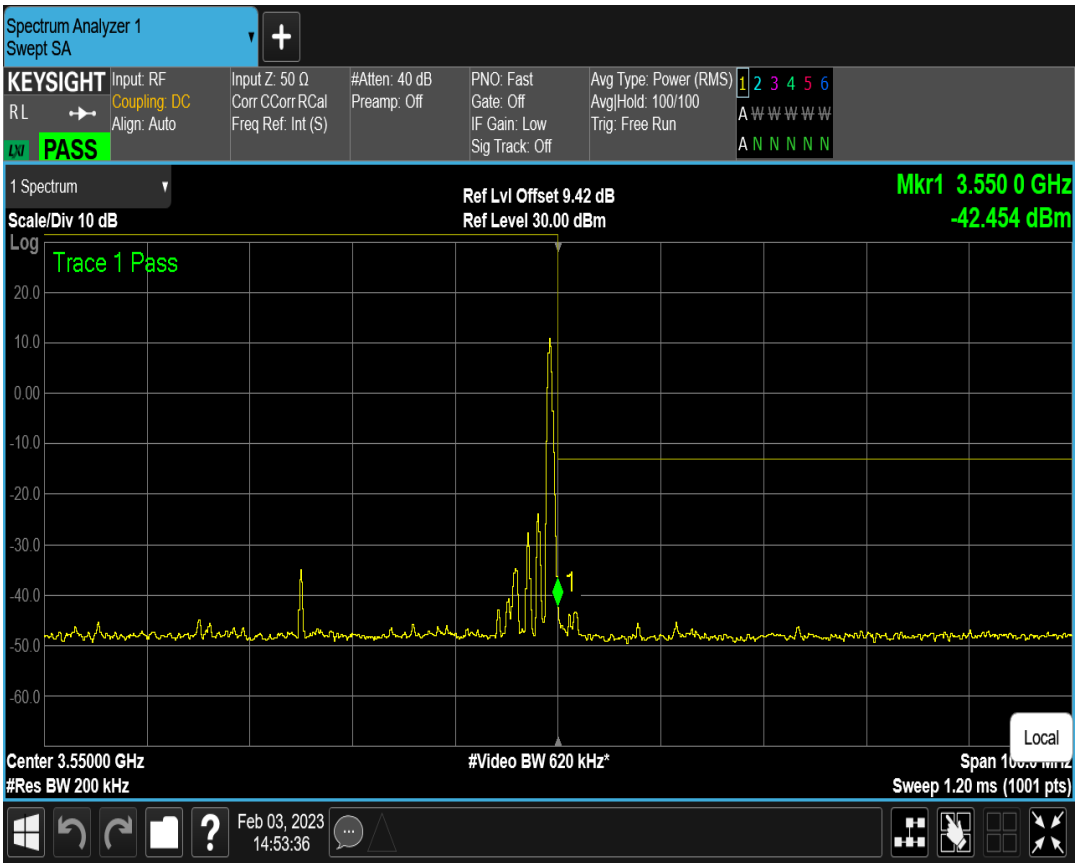
n77(3450-3550) SCS=15kHz DFT_QPSK BW=50MHz Channel=631668 RB=1@0



n77(3450-3550) SCS=15kHz DFT_QPSK BW=50MHz Channel=635000 RB=270@0



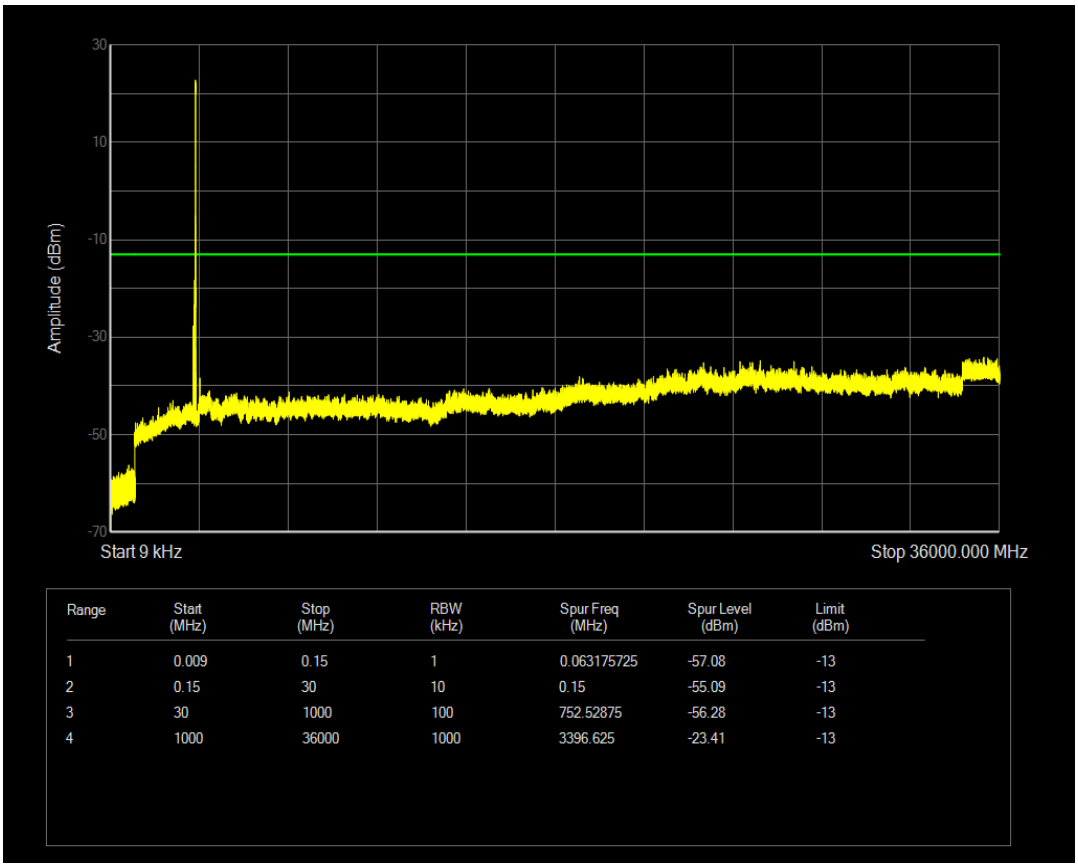
n77(3450-3550) SCS=15kHz DFT_QPSK BW=50MHz Channel=635000 RB=1@269


Spectrum Analyzer 1
Swept SA
KEYSIGHT
Input: RF
Coupling: DC
Align: Auto
Input Z: 50 Ω
Corr CCorr RCal
Freq Ref: Int (S)
#Atten: 40 dB
Preamp: Off
PNO: Fast
Gate: Off
IF Gain: Low
Sig Track: Off
Avg Type: Power (RMS)
Avg|Hold: 100/100
Trig: Free Run
PASS
1 Spectrum
Scale/Div 10 dB
Log
Ref Lvl Offset 9.42 dB
Ref Level 30.00 dBm
Mkr1 3.550 0 GHz
-42.454 dBm
Trace 1 Pass
20.0
10.0
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
Local
Center 3.55000 GHz
#Res BW 200 kHz
#Video BW 620 kHz*
Sweep 1.20 ms (1001 pts)
Feb 03, 2023
14:53:36

6 Out-of-band emissions for NR FR1

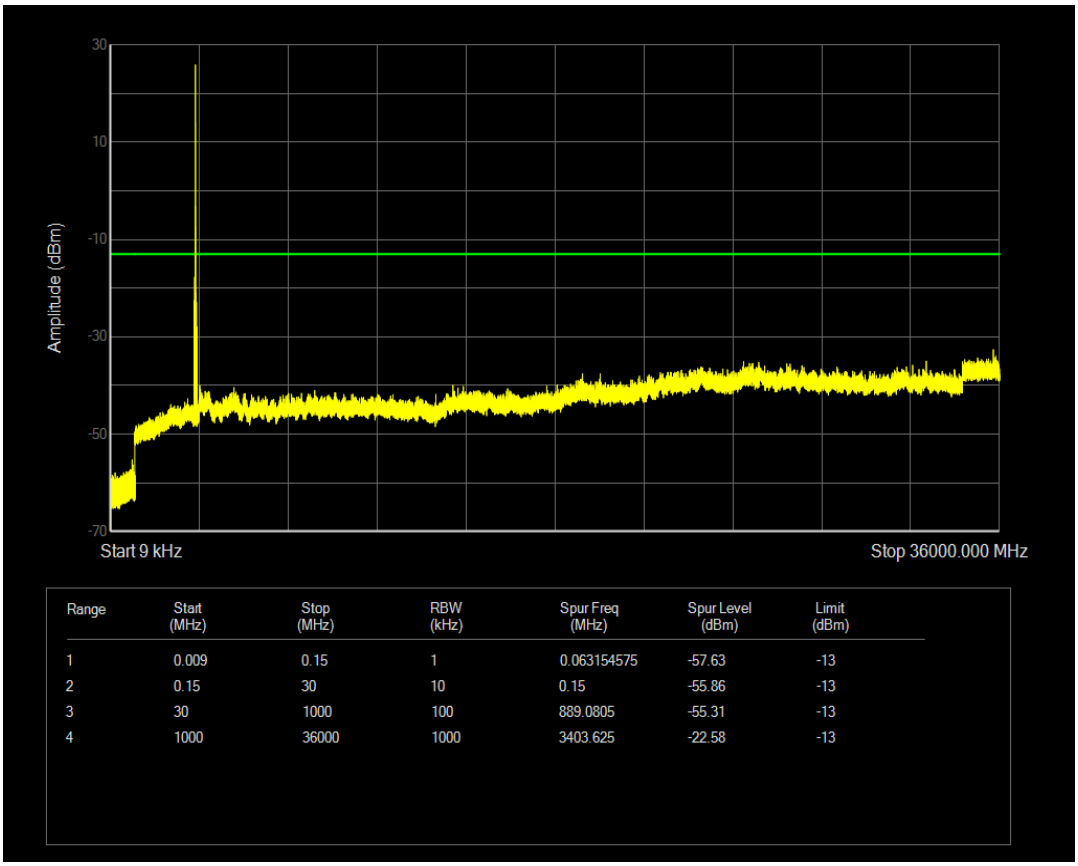
Band	SCS (kHz)	Bandwidth (MHz)	UL Channel	RB Allocation	Modulation	Spur Freq (MHz)	Spur Level (dBm)	Limit (dBm)	Verdict
n77(3450-3550)	15	10	630334	50@0	DFT_QPSK	3396.63	-23.41	-13	PASS
n77(3450-3550)	15	10	630334	1@0	DFT_QPSK	3403.63	-22.58	-13	PASS
n77(3450-3550)	15	10	630334	1@51	DFT_QPSK	3382.63	-28.45	-13	PASS
n77(3450-3550)	15	10	633334	50@0	DFT_QPSK	3598.75	-29.42	-13	PASS
n77(3450-3550)	15	10	633334	1@0	DFT_QPSK	3395.75	-31.77	-13	PASS
n77(3450-3550)	15	10	633334	1@51	DFT_QPSK	35860.88	-33.28	-13	PASS
n77(3450-3550)	15	10	636332	50@0	DFT_QPSK	3601.38	-25.86	-13	PASS
n77(3450-3550)	15	10	636332	1@0	DFT_QPSK	3601.38	-25.39	-13	PASS
n77(3450-3550)	15	10	636332	1@51	DFT_QPSK	3645.13	-32.08	-13	PASS
n77(3450-3550)	15	50	631668	270@0	DFT_QPSK	35740.13	-34.08	-13	PASS
n77(3450-3550)	15	50	631668	1@0	DFT_QPSK	35731.38	-33.88	-13	PASS
n77(3450-3550)	15	50	631668	1@269	DFT_QPSK	35784.75	-34.21	-13	PASS
n77(3450-3550)	15	50	633334	270@0	DFT_QPSK	35372.63	-33.03	-13	PASS
n77(3450-3550)	15	50	633334	1@0	DFT_QPSK	35620.25	-34.50	-13	PASS
n77(3450-3550)	15	50	633334	1@269	DFT_QPSK	34725.13	-33.87	-13	PASS
n77(3450-3550)	15	50	635000	270@0	DFT_QPSK	35755.88	-33.65	-13	PASS
n77(3450-3550)	15	50	635000	1@0	DFT_QPSK	35617.63	-33.66	-13	PASS
n77(3450-3550)	15	50	635000	1@269	DFT_QPSK	35792.63	-33.80	-13	PASS

n77(3450-3550) SCS=15kHz DFT_QPSK BW=10MHz Channel=630334 RB=50@0



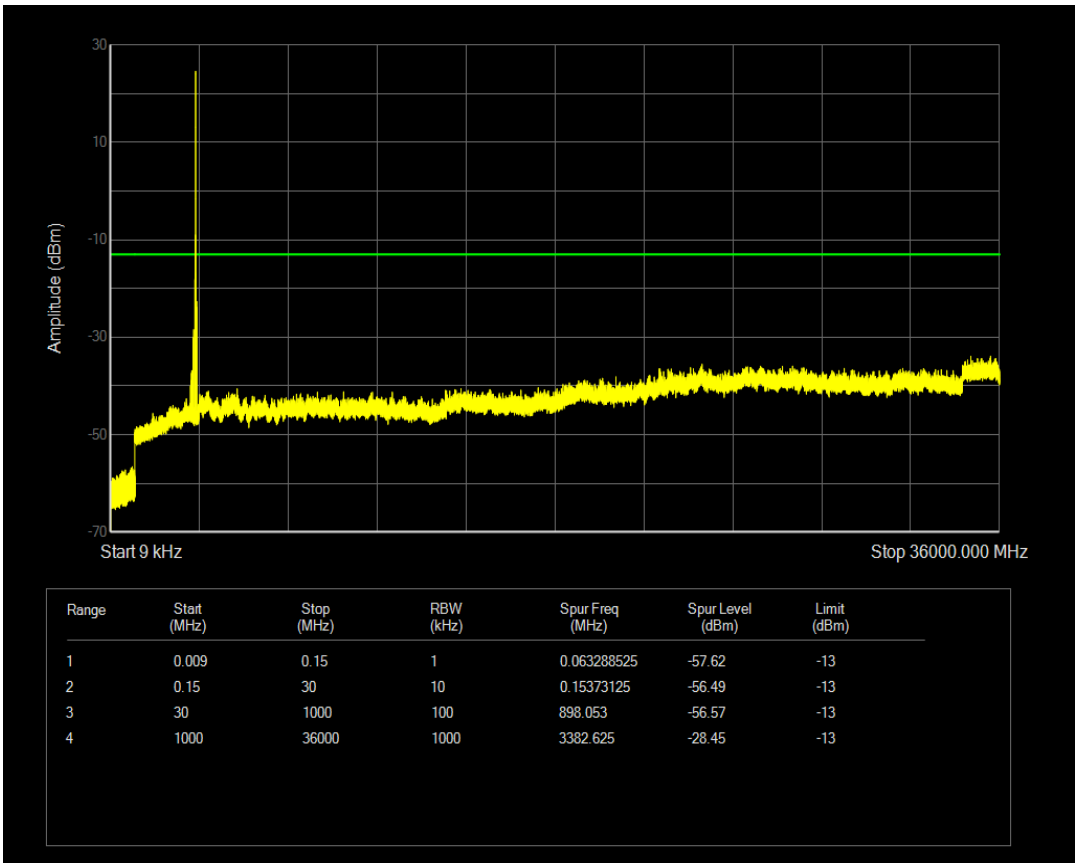
Range	Start (MHz)	Stop (MHz)	RBW (kHz)	Spur Freq (MHz)	Spur Level (dBm)	Limit (dBm)
1	0.009	0.15	1	0.063175725	-57.08	-13
2	0.15	30	10	0.15	-55.09	-13
3	30	1000	100	752.52875	-56.28	-13
4	1000	36000	1000	3396.625	-23.41	-13

n77(3450-3550) SCS=15kHz DFT_QPSK BW=10MHz Channel=630334 RB=1@0



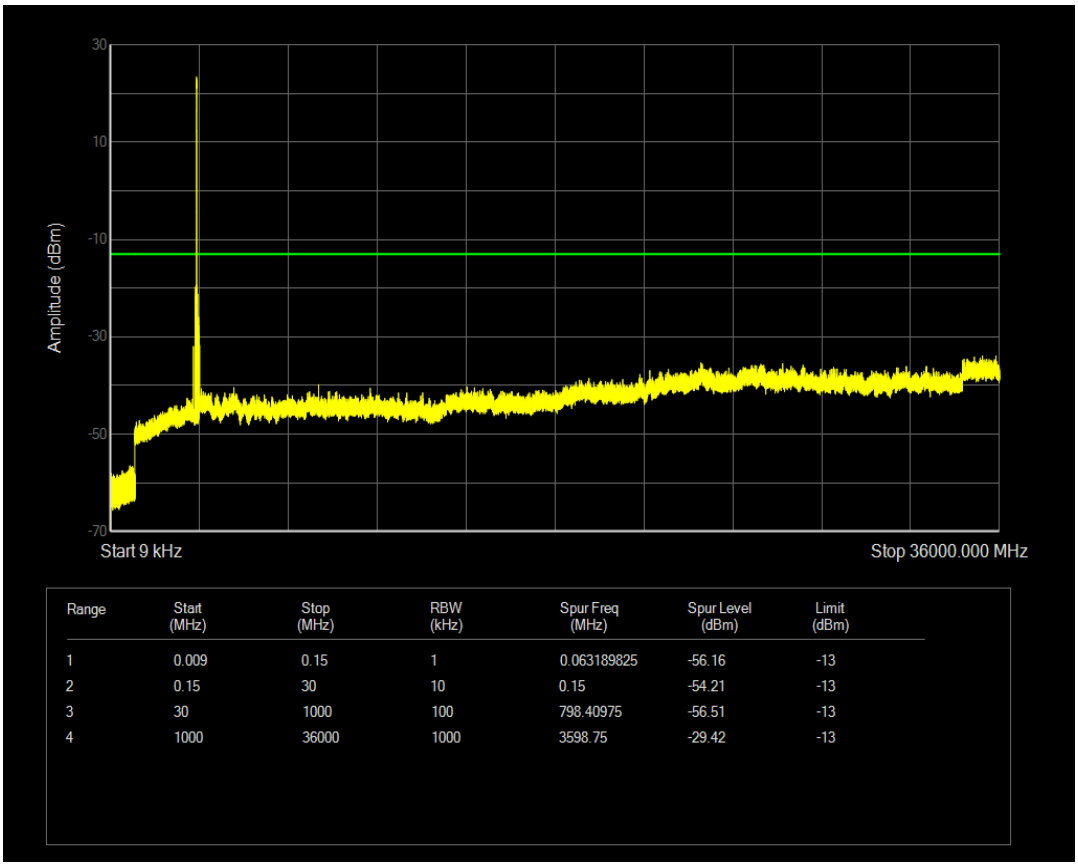
Range	Start (MHz)	Stop (MHz)	RBW (kHz)	Spur Freq (MHz)	Spur Level (dBm)	Limit (dBm)
1	0.009	0.15	1	0.063154575	-57.63	-13
2	0.15	30	10	0.15	-55.86	-13
3	30	1000	100	889.0805	-55.31	-13
4	1000	36000	1000	3403.625	-22.58	-13

n77(3450-3550) SCS=15kHz DFT_QPSK BW=10MHz Channel=630334 RB=1@51



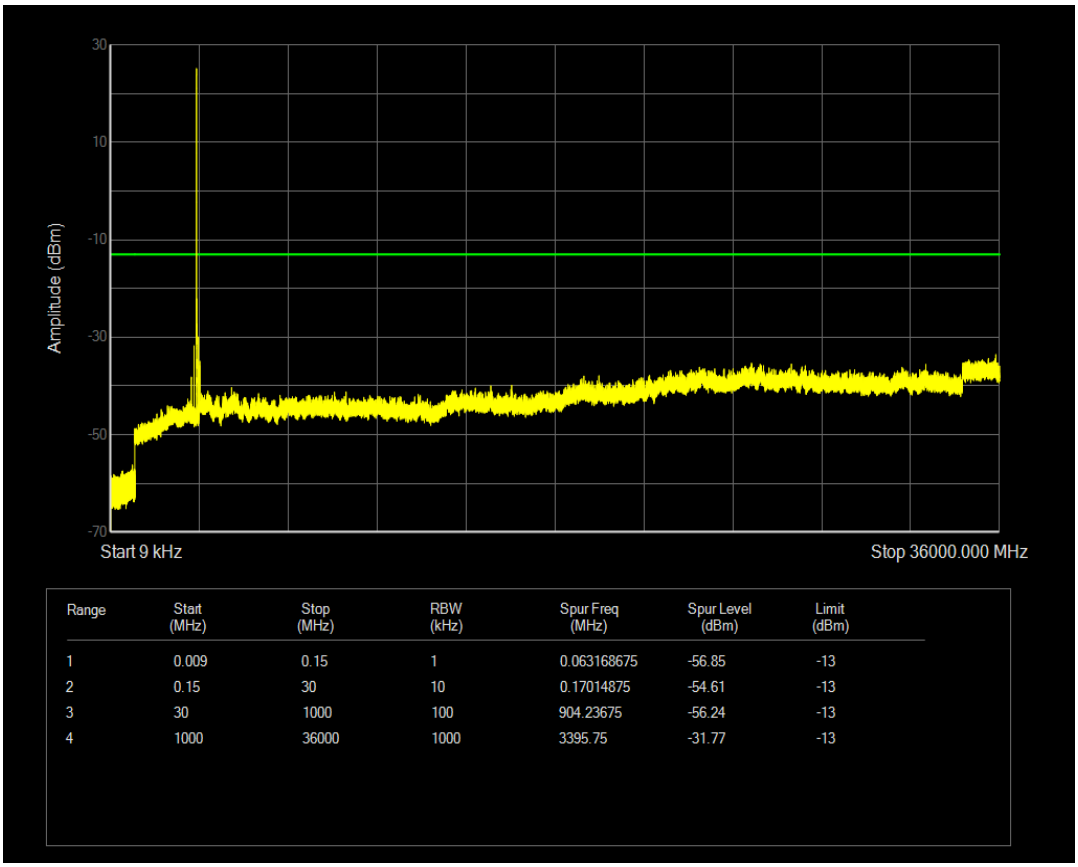
Range	Start (MHz)	Stop (MHz)	RBW (kHz)	Spur Freq (MHz)	Spur Level (dBm)	Limit (dBm)
1	0.009	0.15	1	0.063288525	-57.62	-13
2	0.15	30	10	0.15373125	-56.49	-13
3	30	1000	100	898.053	-56.57	-13
4	1000	36000	1000	3382.625	-28.45	-13

n77(3450-3550) SCS=15kHz DFT_QPSK BW=10MHz Channel=633334 RB=50@0



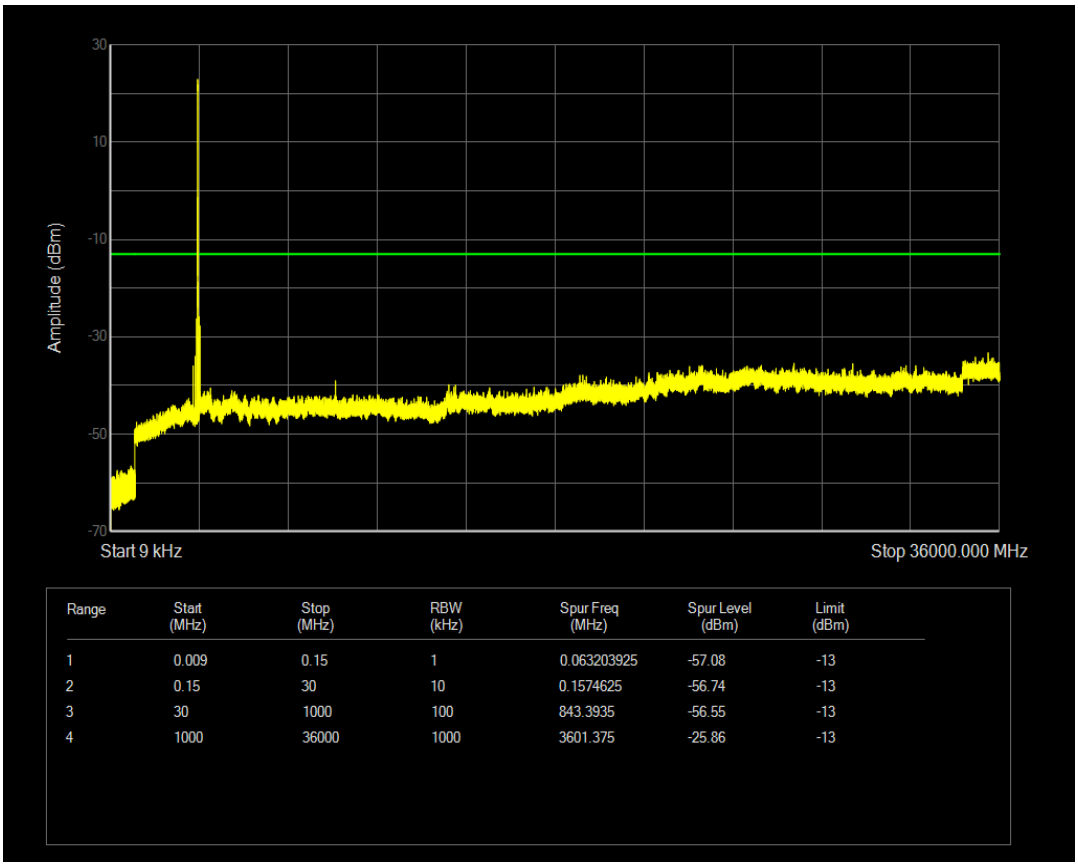
Range	Start (MHz)	Stop (MHz)	RBW (kHz)	Spur Freq (MHz)	Spur Level (dBm)	Limit (dBm)
1	0.009	0.15	1	0.063189825	-56.16	-13
2	0.15	30	10	0.15	-54.21	-13
3	30	1000	100	798.40975	-56.51	-13
4	1000	36000	1000	3598.75	-29.42	-13

n77(3450-3550) SCS=15kHz DFT_QPSK BW=10MHz Channel=633334 RB=1@0



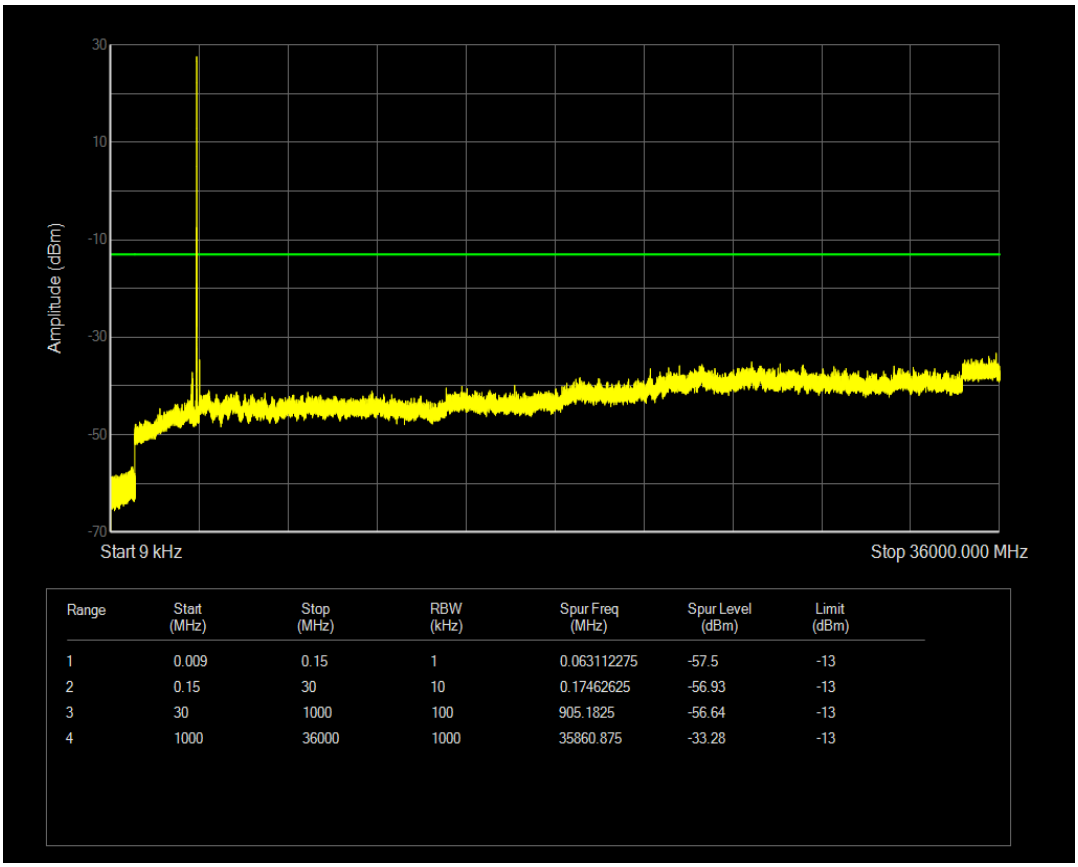
Range	Start (MHz)	Stop (MHz)	RBW (kHz)	Spur Freq (MHz)	Spur Level (dBm)	Limit (dBm)
1	0.009	0.15	1	0.063168675	-56.85	-13
2	0.15	30	10	0.17014875	-54.61	-13
3	30	1000	100	904.23675	-56.24	-13
4	1000	36000	1000	3395.75	-31.77	-13

n77(3450-3550) SCS=15kHz DFT_QPSK BW=10MHz Channel=636332 RB=50@0



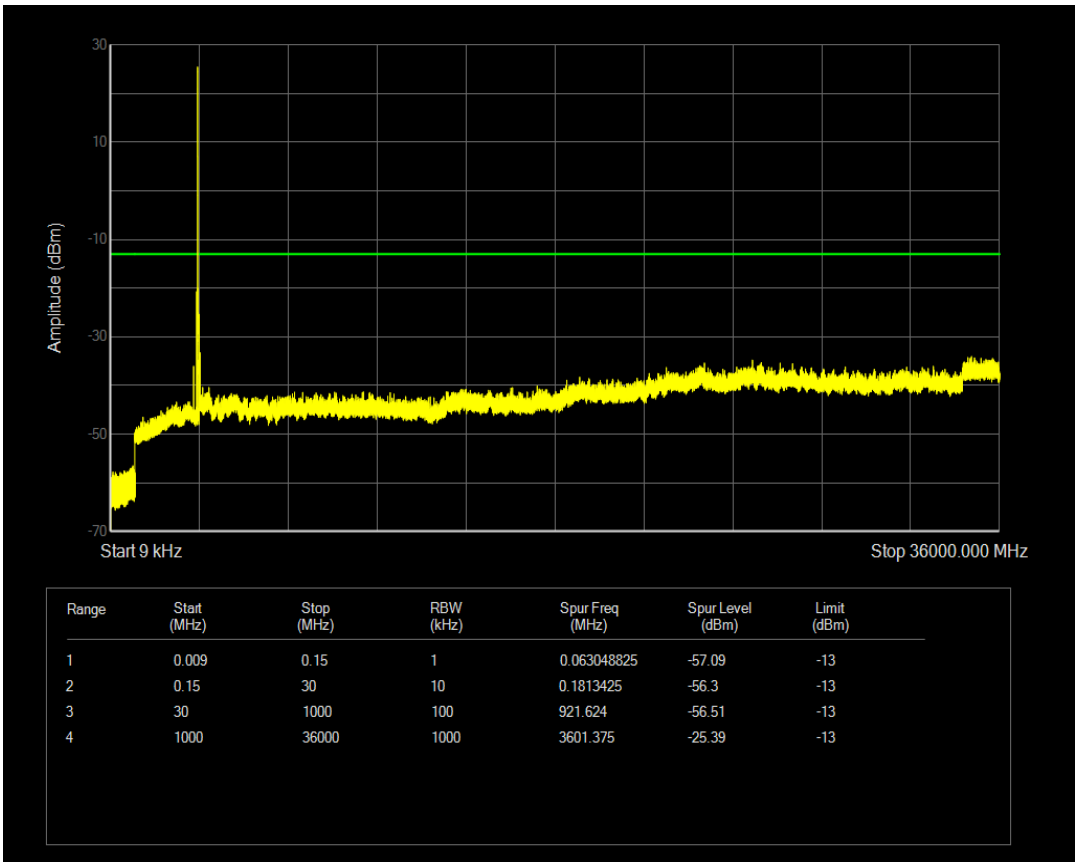
Range	Start (MHz)	Stop (MHz)	RBW (kHz)	Spur Freq (MHz)	Spur Level (dBm)	Limit (dBm)
1	0.009	0.15	1	0.063203925	-57.08	-13
2	0.15	30	10	0.1574625	-56.74	-13
3	30	1000	100	843.3935	-56.55	-13
4	1000	36000	1000	3601.375	-25.86	-13

n77(3450-3550) SCS=15kHz DFT_QPSK BW=10MHz Channel=633334 RB=1@51



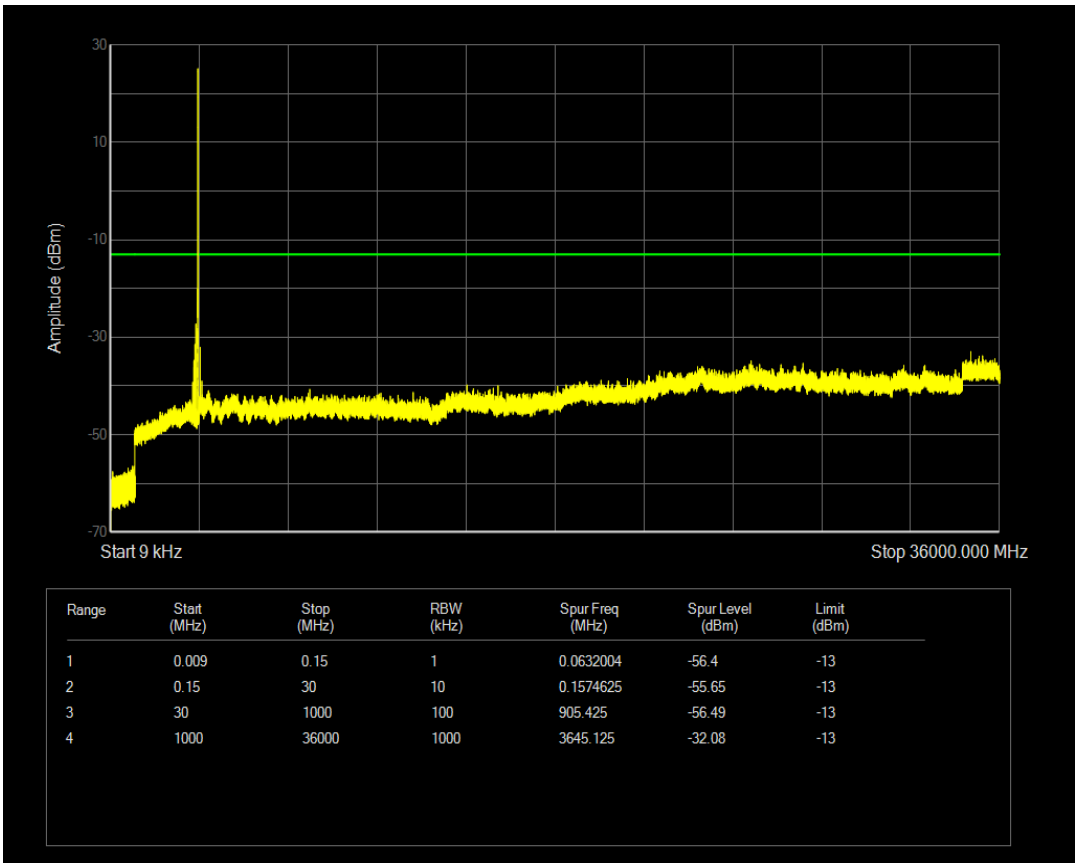
Range	Start (MHz)	Stop (MHz)	RBW (kHz)	Spur Freq (MHz)	Spur Level (dBm)	Limit (dBm)
1	0.009	0.15	1	0.063112275	-57.5	-13
2	0.15	30	10	0.17462625	-56.93	-13
3	30	1000	100	905.1825	-56.64	-13
4	1000	36000	1000	35860.875	-33.28	-13

n77(3450-3550) SCS=15kHz DFT_QPSK BW=10MHz Channel=636332 RB=1@0



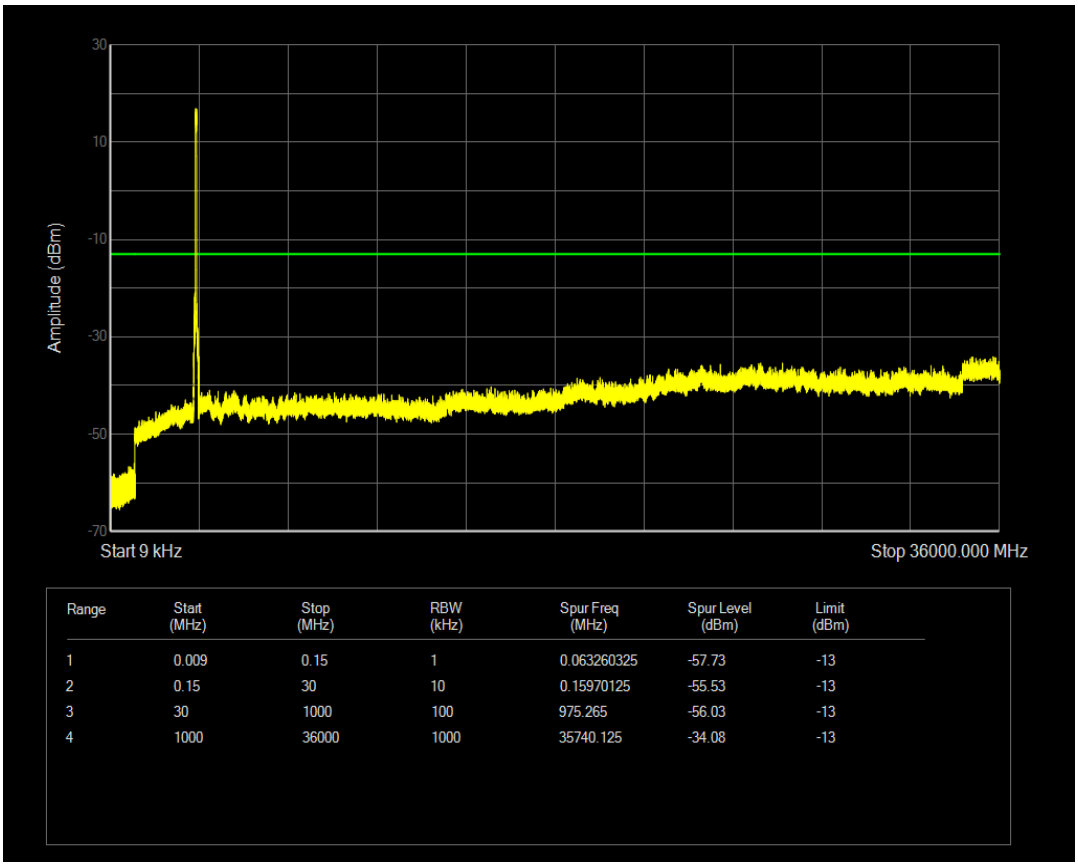
Range	Start (MHz)	Stop (MHz)	RBW (kHz)	Spur Freq (MHz)	Spur Level (dBm)	Limit (dBm)
1	0.009	0.15	1	0.063048825	-57.09	-13
2	0.15	30	10	0.1813425	-56.3	-13
3	30	1000	100	921.624	-56.51	-13
4	1000	36000	1000	3601.375	-25.39	-13

n77(3450-3550) SCS=15kHz DFT_QPSK BW=10MHz Channel=636332 RB=1@51



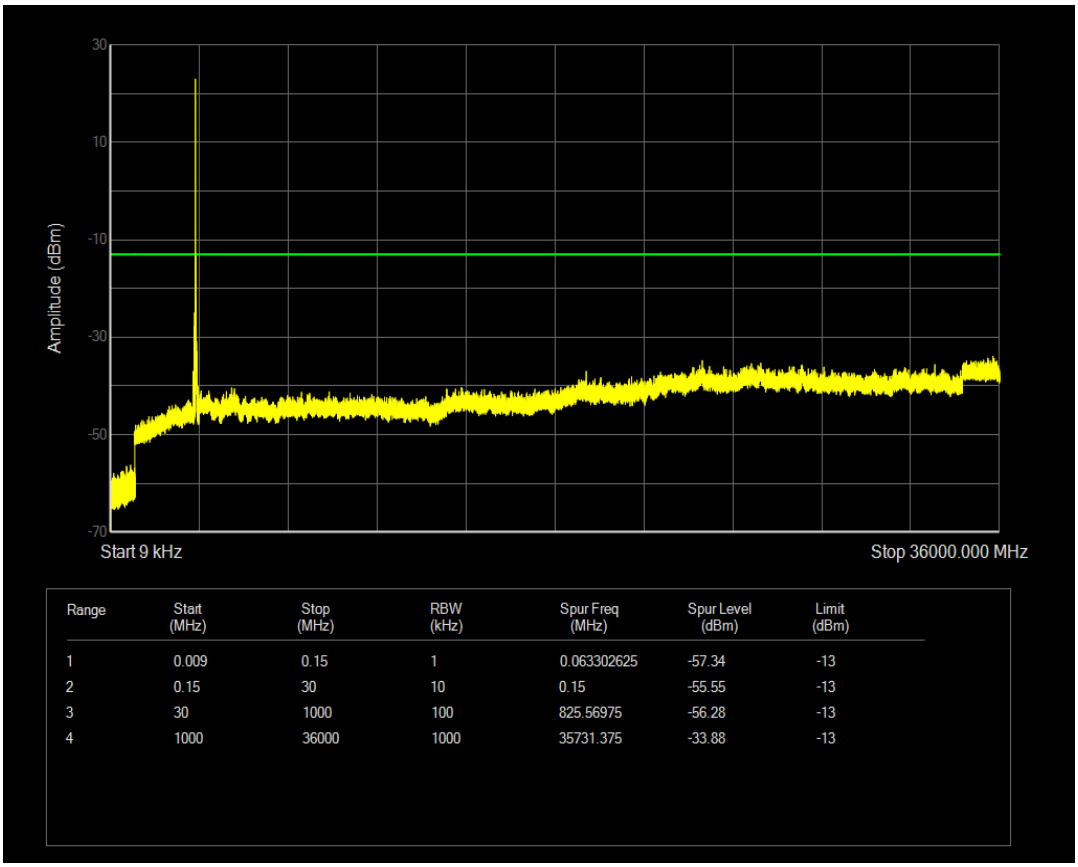
Range	Start (MHz)	Stop (MHz)	RBW (kHz)	Spur Freq (MHz)	Spur Level (dBm)	Limit (dBm)
1	0.009	0.15	1	0.0632004	-56.4	-13
2	0.15	30	10	0.1574625	-55.65	-13
3	30	1000	100	905.425	-56.49	-13
4	1000	36000	1000	3645.125	-32.08	-13

n77(3450-3550) SCS=15kHz DFT_QPSK BW=50MHz Channel=631668 RB=270@0



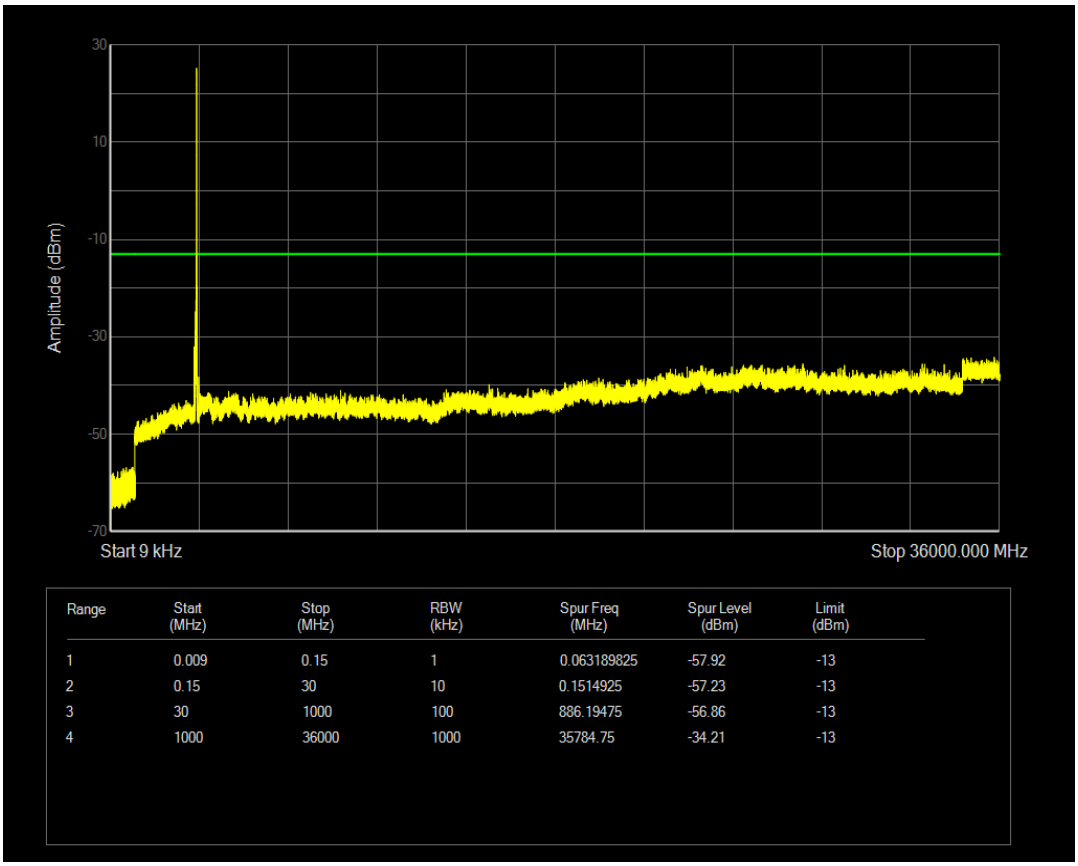
Range	Start (MHz)	Stop (MHz)	RBW (kHz)	Spur Freq (MHz)	Spur Level (dBm)	Limit (dBm)
1	0.009	0.15	1	0.063260325	-57.73	-13
2	0.15	30	10	0.15970125	-55.53	-13
3	30	1000	100	975.265	-56.03	-13
4	1000	36000	1000	35740.125	-34.08	-13

n77(3450-3550) SCS=15kHz DFT_QPSK BW=50MHz Channel=631668 RB=1@0



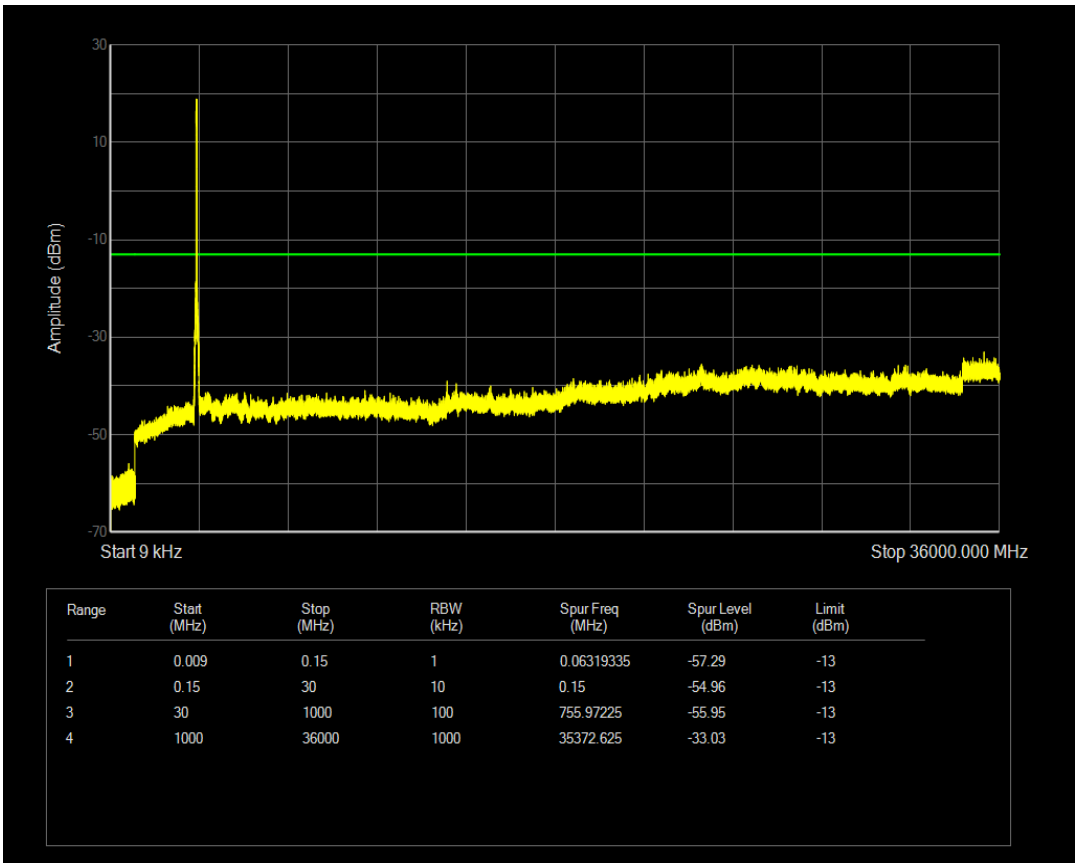
Range	Start (MHz)	Stop (MHz)	RBW (kHz)	Spur Freq (MHz)	Spur Level (dBm)	Limit (dBm)
1	0.009	0.15	1	0.063302625	-57.34	-13
2	0.15	30	10	0.15	-55.55	-13
3	30	1000	100	825.56975	-56.28	-13
4	1000	36000	1000	35731.375	-33.88	-13

n77(3450-3550) SCS=15kHz DFT_QPSK BW=50MHz Channel=631668 RB=1@269



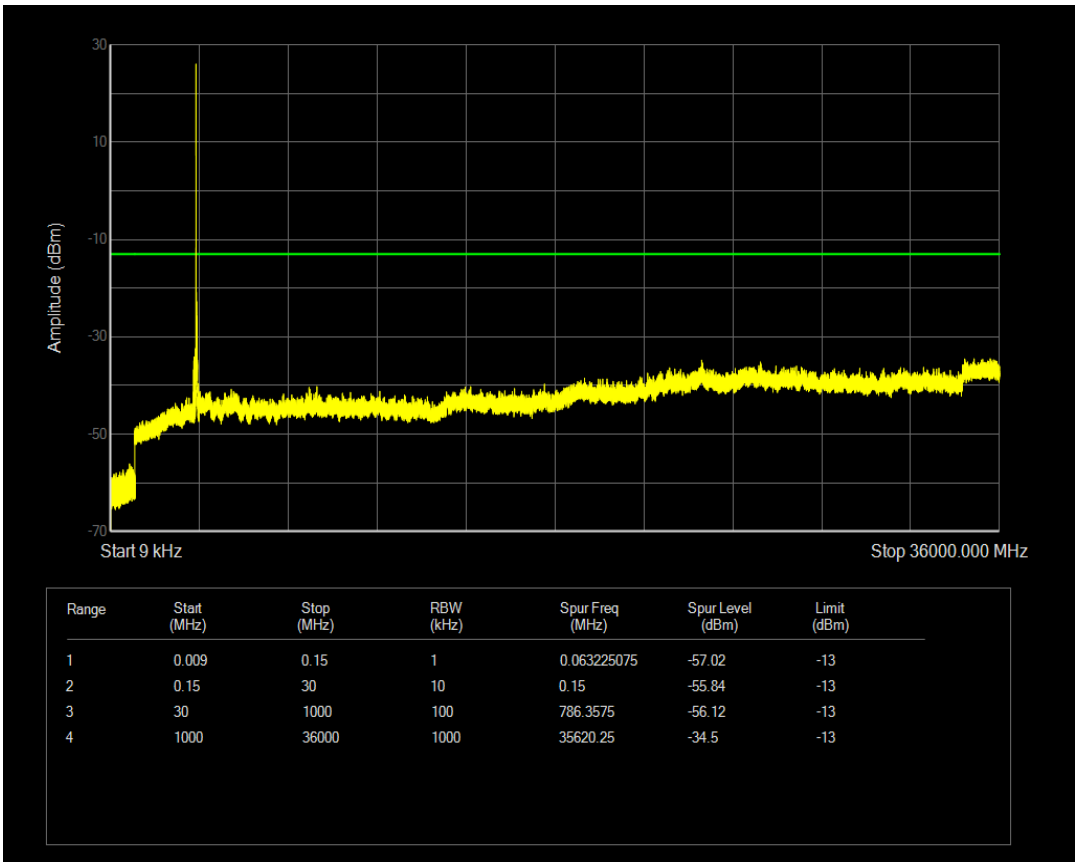
Range	Start (MHz)	Stop (MHz)	RBW (kHz)	Spur Freq (MHz)	Spur Level (dBm)	Limit (dBm)
1	0.009	0.15	1	0.063189825	-57.92	-13
2	0.15	30	10	0.1514925	-57.23	-13
3	30	1000	100	886.19475	-56.86	-13
4	1000	36000	1000	35784.75	-34.21	-13

n77(3450-3550) SCS=15kHz DFT_QPSK BW=50MHz Channel=633334 RB=270@0



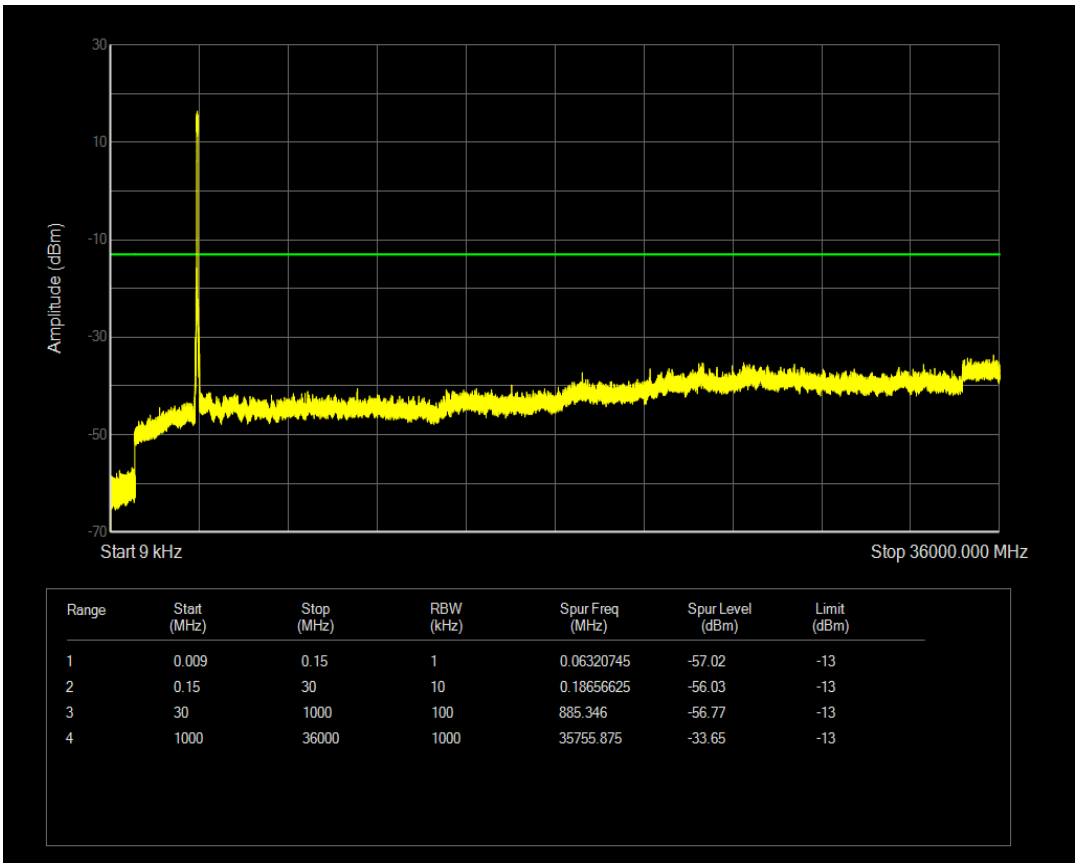
Range	Start (MHz)	Stop (MHz)	RBW (kHz)	Spur Freq (MHz)	Spur Level (dBm)	Limit (dBm)
1	0.009	0.15	1	0.06319335	-57.29	-13
2	0.15	30	10	0.15	-54.96	-13
3	30	1000	100	755.97225	-55.95	-13
4	1000	36000	1000	35372.625	-33.03	-13

n77(3450-3550) SCS=15kHz DFT_QPSK BW=50MHz Channel=633334 RB=1@0



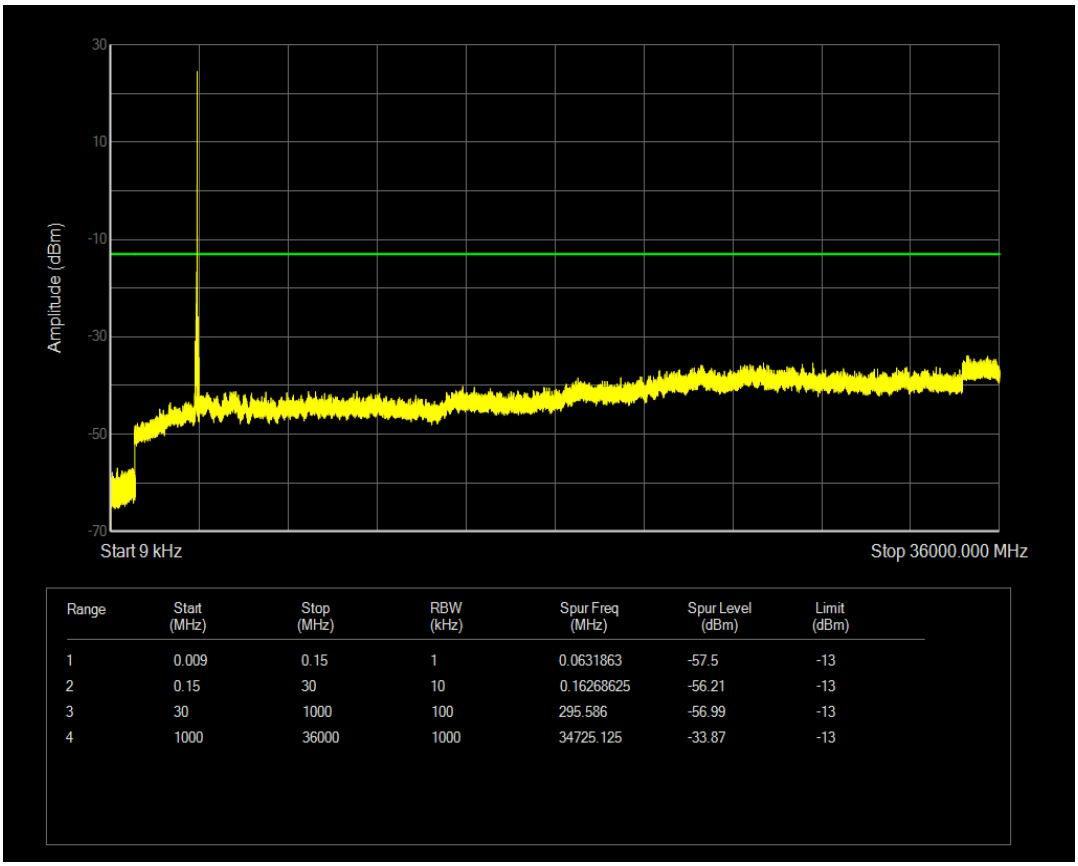
Range	Start (MHz)	Stop (MHz)	RBW (kHz)	Spur Freq (MHz)	Spur Level (dBm)	Limit (dBm)
1	0.009	0.15	1	0.063225075	-57.02	-13
2	0.15	30	10	0.15	-55.84	-13
3	30	1000	100	786.3575	-56.12	-13
4	1000	36000	1000	35620.25	-34.5	-13

n77(3450-3550) SCS=15kHz DFT_QPSK BW=50MHz Channel=635000 RB=270@0



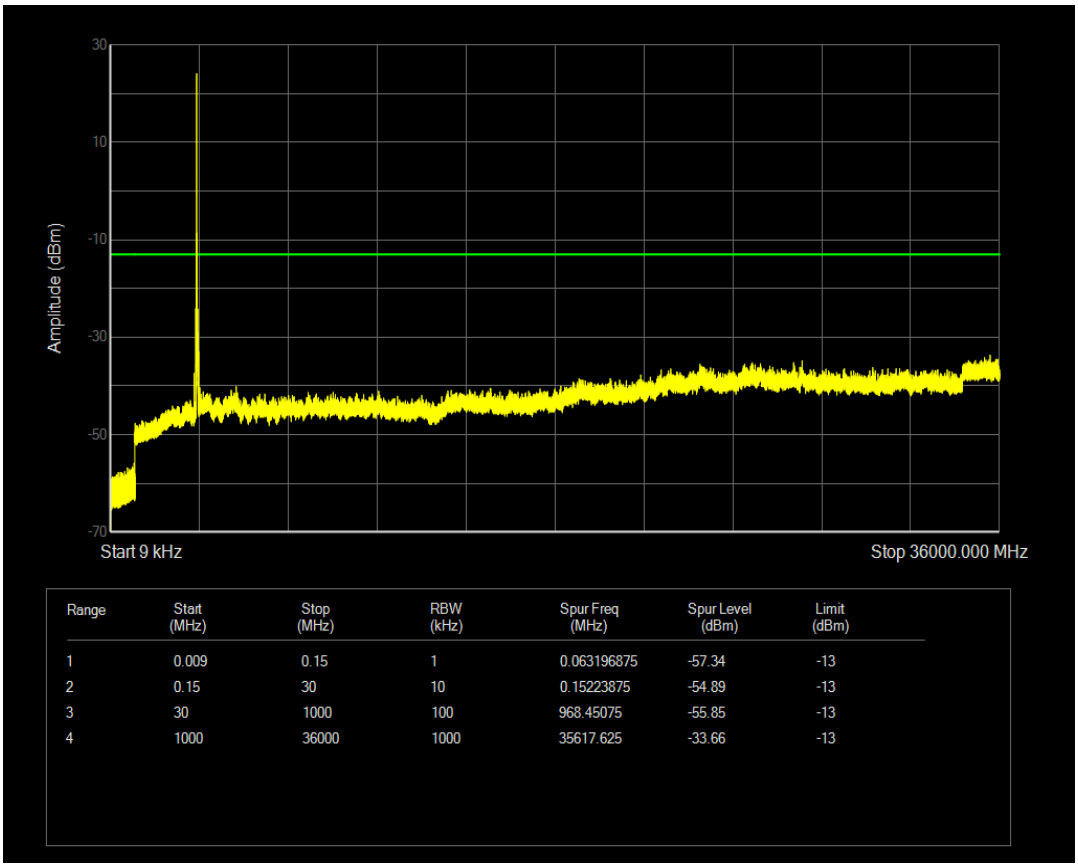
Range	Start (MHz)	Stop (MHz)	RBW (kHz)	Spur Freq (MHz)	Spur Level (dBm)	Limit (dBm)
1	0.009	0.15	1	0.06320745	-57.02	-13
2	0.15	30	10	0.18656625	-56.03	-13
3	30	1000	100	885.346	-56.77	-13
4	1000	36000	1000	35755.875	-33.65	-13

n77(3450-3550) SCS=15kHz DFT_QPSK BW=50MHz Channel=633334 RB=1@269



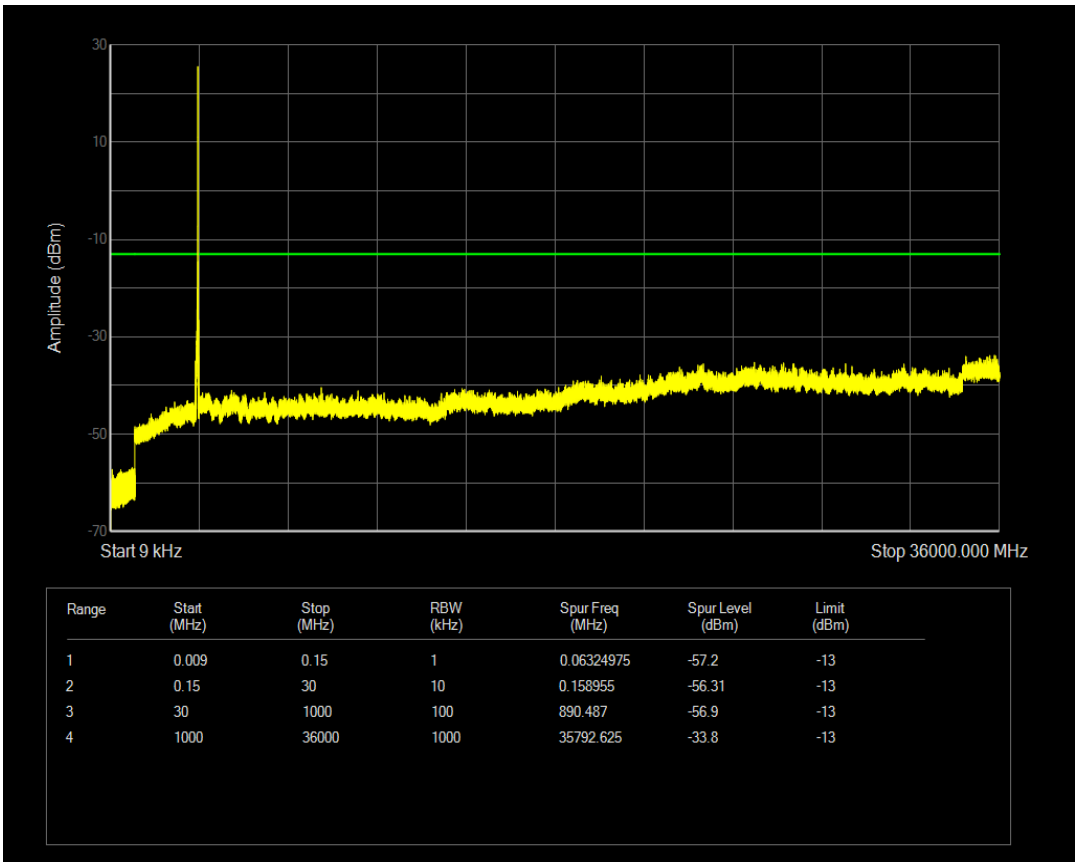
Range	Start (MHz)	Stop (MHz)	RBW (kHz)	Spur Freq (MHz)	Spur Level (dBm)	Limit (dBm)
1	0.009	0.15	1	0.0631863	-57.5	-13
2	0.15	30	10	0.16268625	-56.21	-13
3	30	1000	100	295.586	-56.99	-13
4	1000	36000	1000	34725.125	-33.87	-13

n77(3450-3550) SCS=15kHz DFT_QPSK BW=50MHz Channel=635000 RB=1@0



Range	Start (MHz)	Stop (MHz)	RBW (kHz)	Spur Freq (MHz)	Spur Level (dBm)	Limit (dBm)
1	0.009	0.15	1	0.063196875	-57.34	-13
2	0.15	30	10	0.15223875	-54.89	-13
3	30	1000	100	968.45075	-55.85	-13
4	1000	36000	1000	35617.625	-33.66	-13

n77(3450-3550) SCS=15kHz DFT_QPSK BW=50MHz Channel=635000 RB=1@269



Range	Start (MHz)	Stop (MHz)	RBW (kHz)	Spur Freq (MHz)	Spur Level (dBm)	Limit (dBm)
1	0.009	0.15	1	0.06324975	-57.2	-13
2	0.15	30	10	0.158955	-56.31	-13
3	30	1000	100	890.487	-56.9	-13
4	1000	36000	1000	35792.625	-33.8	-13