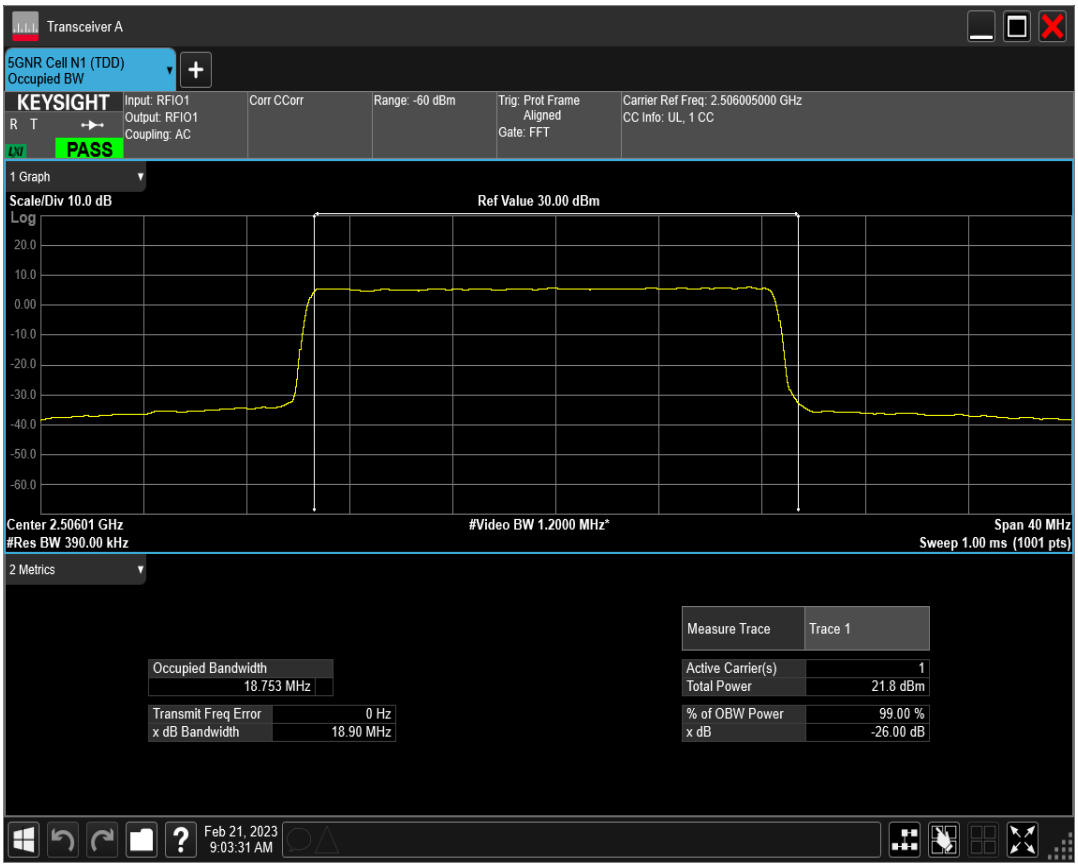
n41 SCS=15kHz DFT_QPSK BW=20MHz Channel=501201 RB=100@0

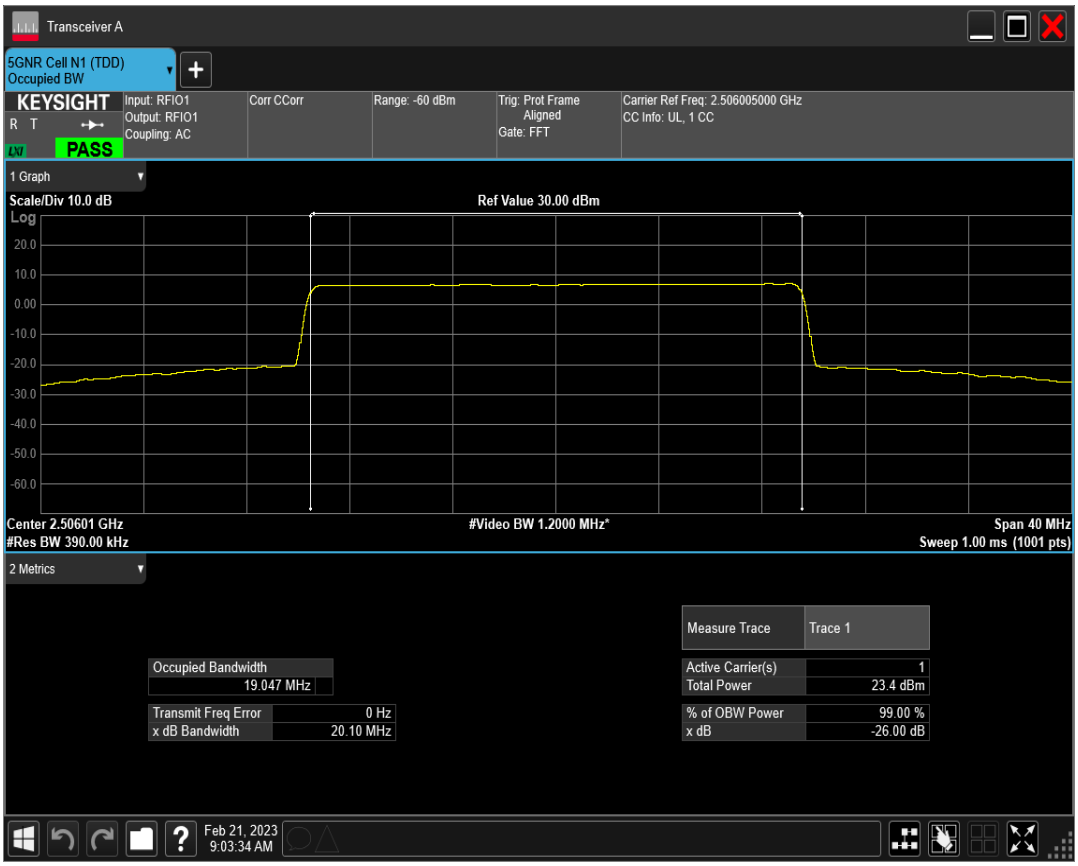
n41 SCS=15kHz DFT_QAM16 BW=20MHz Channel=501201 RB=100@0

n41 SCS=15kHz DFT_QAM64 BW=20MHz Channel=501201 RB=100@0

n41 SCS=15kHz DFT_QAM256 BW=20MHz Channel=501201 RB=100@0



n41 SCS=15kHz CP_QPSK BW=20MHz Channel=501201 RB=106@0

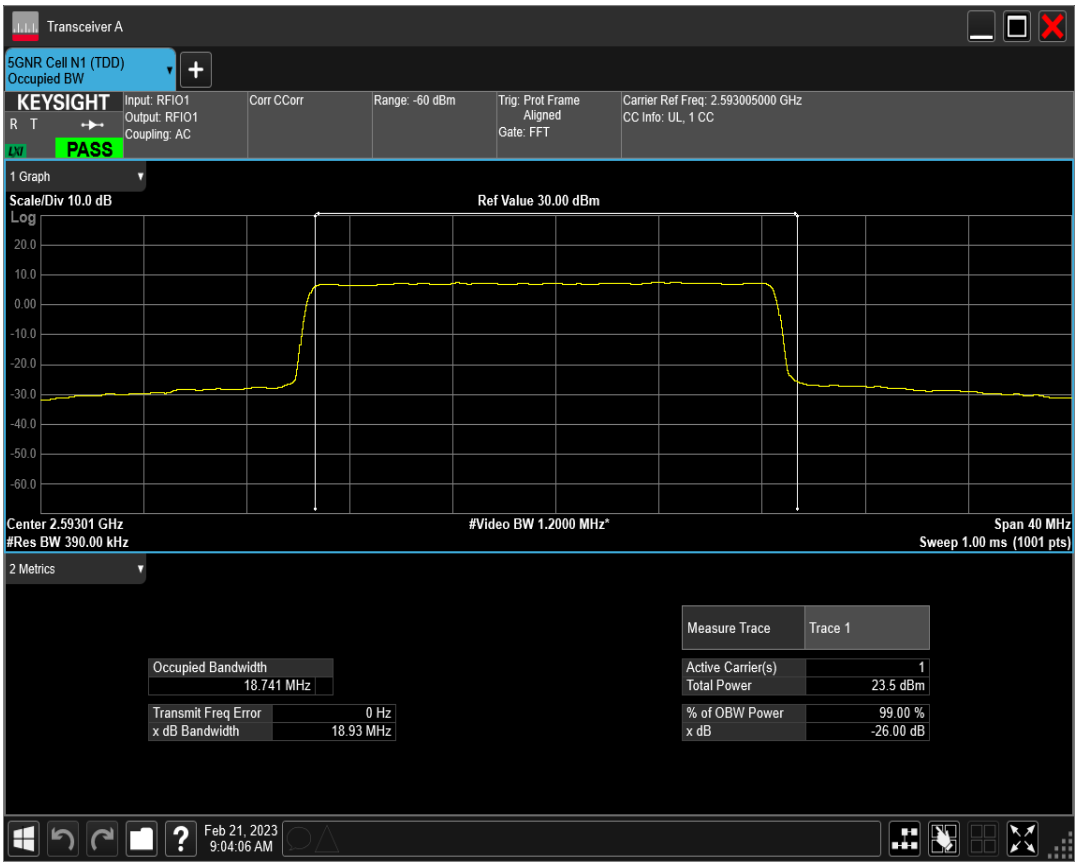


n41 SCS=15kHz DFT_BPSK BW=20MHz Channel=518601 RB=100@0

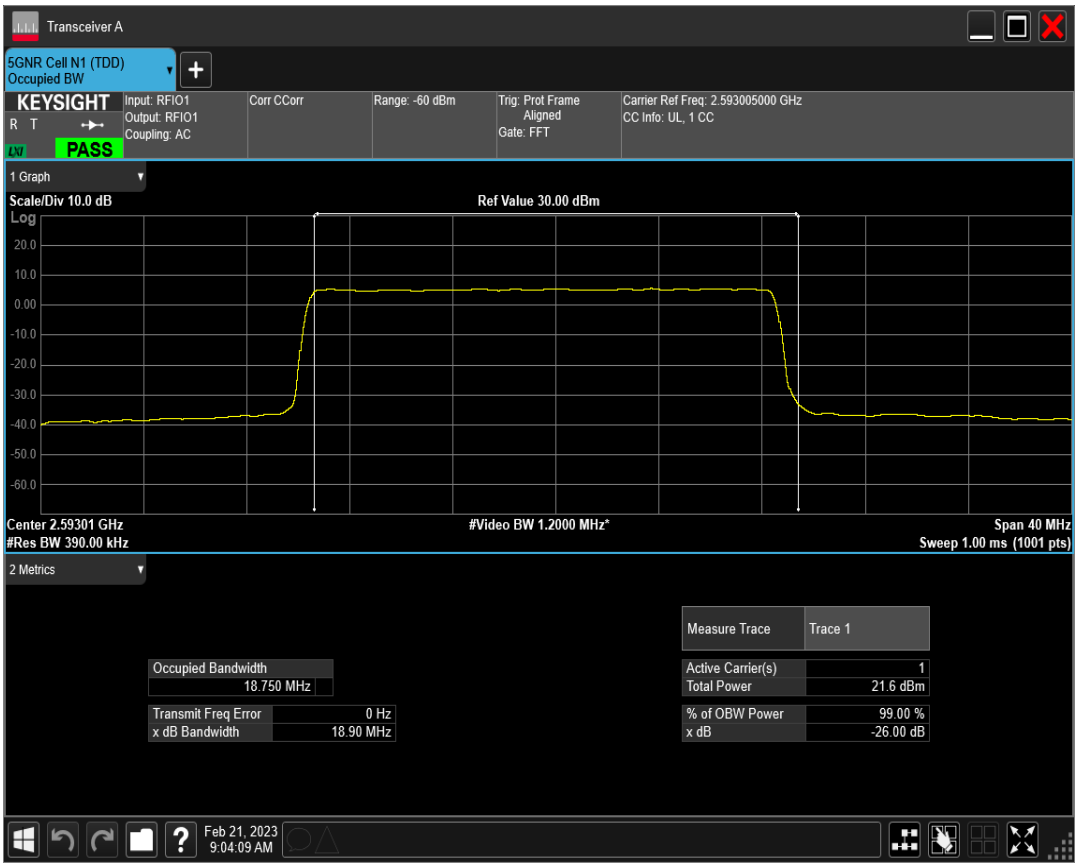
n41 SCS=15kHz DFT_QPSK BW=20MHz Channel=518601 RB=100@0

n41 SCS=15kHz DFT_QAM16 BW=20MHz Channel=518601 RB=100@0

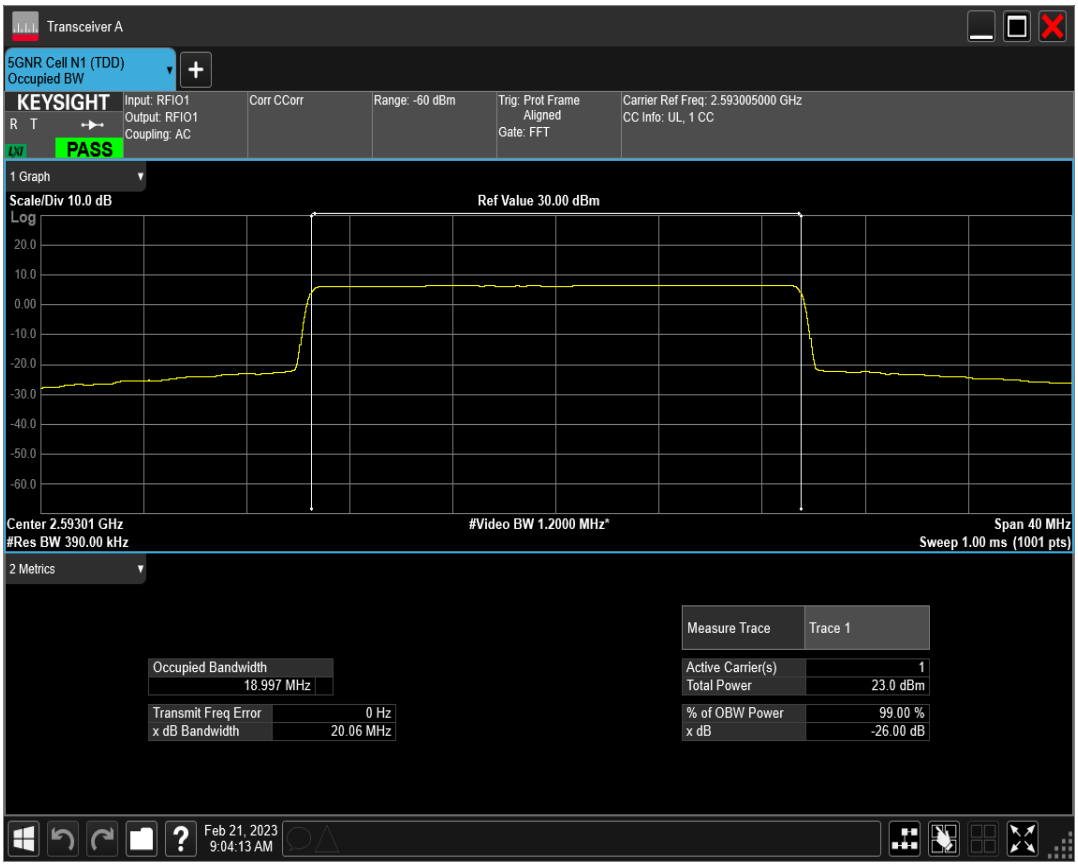
n41 SCS=15kHz DFT_QAM64 BW=20MHz Channel=518601 RB=100@0



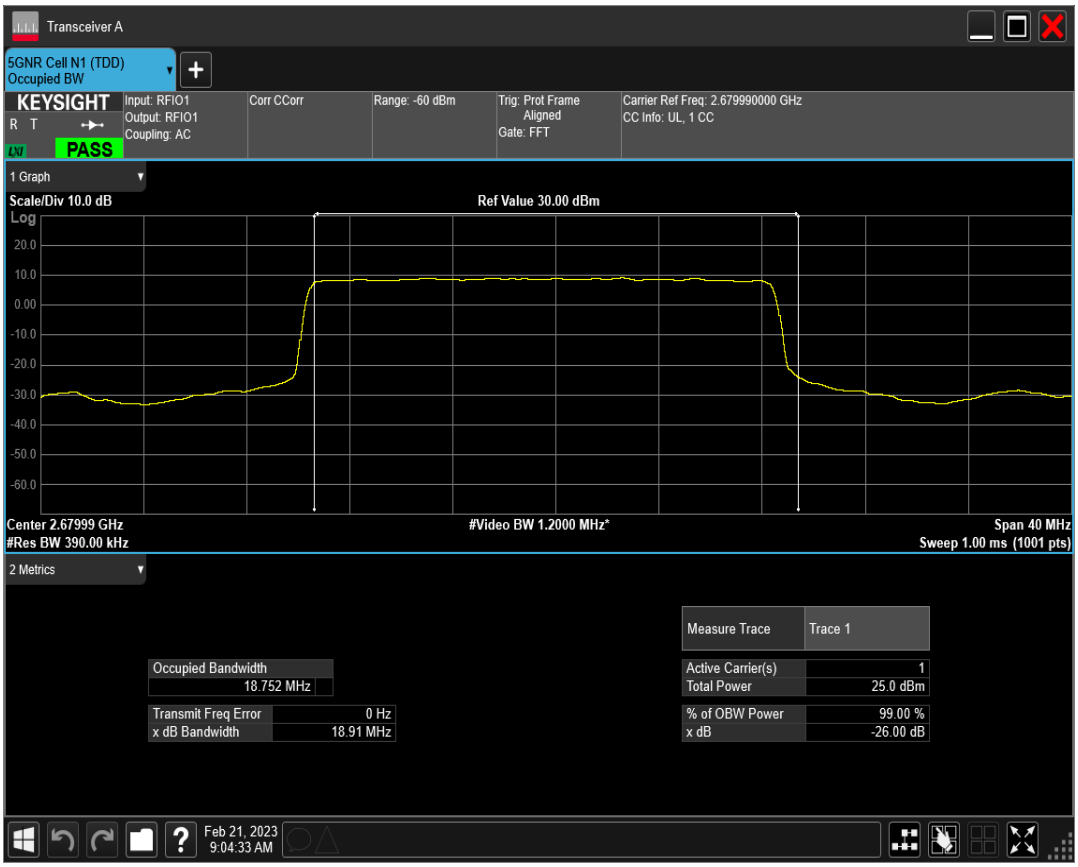
n41 SCS=15kHz DFT_QAM256 BW=20MHz Channel=518601 RB=100@0



n41 SCS=15kHz CP_QPSK BW=20MHz Channel=518601 RB=106@0

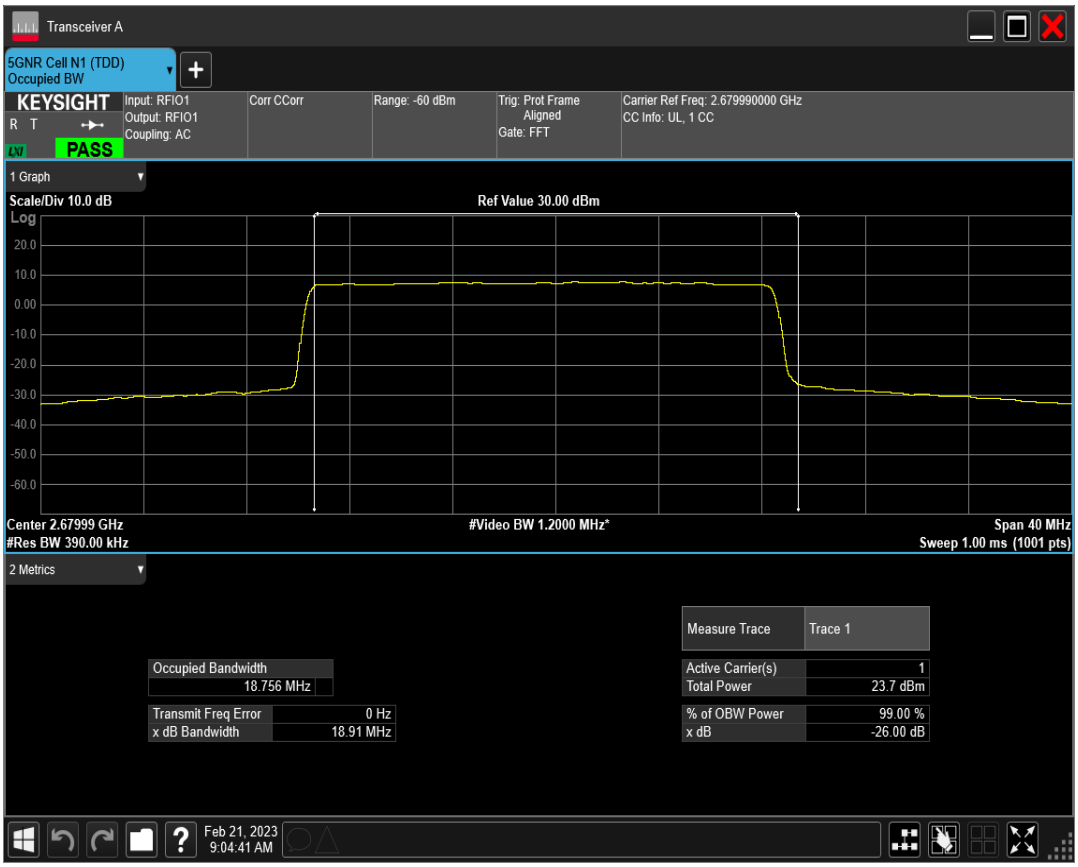


n41 SCS=15kHz DFT_BPSK BW=20MHz Channel=535998 RB=100@0



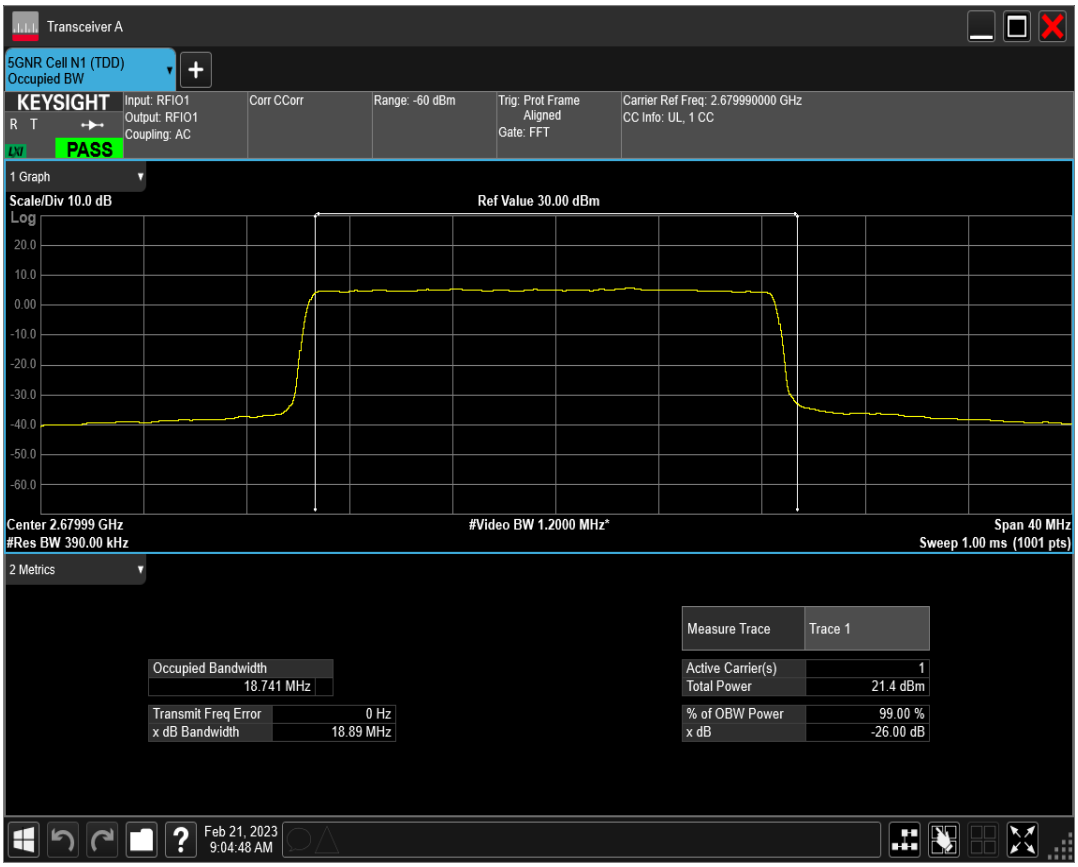
n41 SCS=15kHz DFT_QPSK BW=20MHz Channel=535998 RB=100@0

n41 SCS=15kHz DFT_QAM16 BW=20MHz Channel=535998 RB=100@0

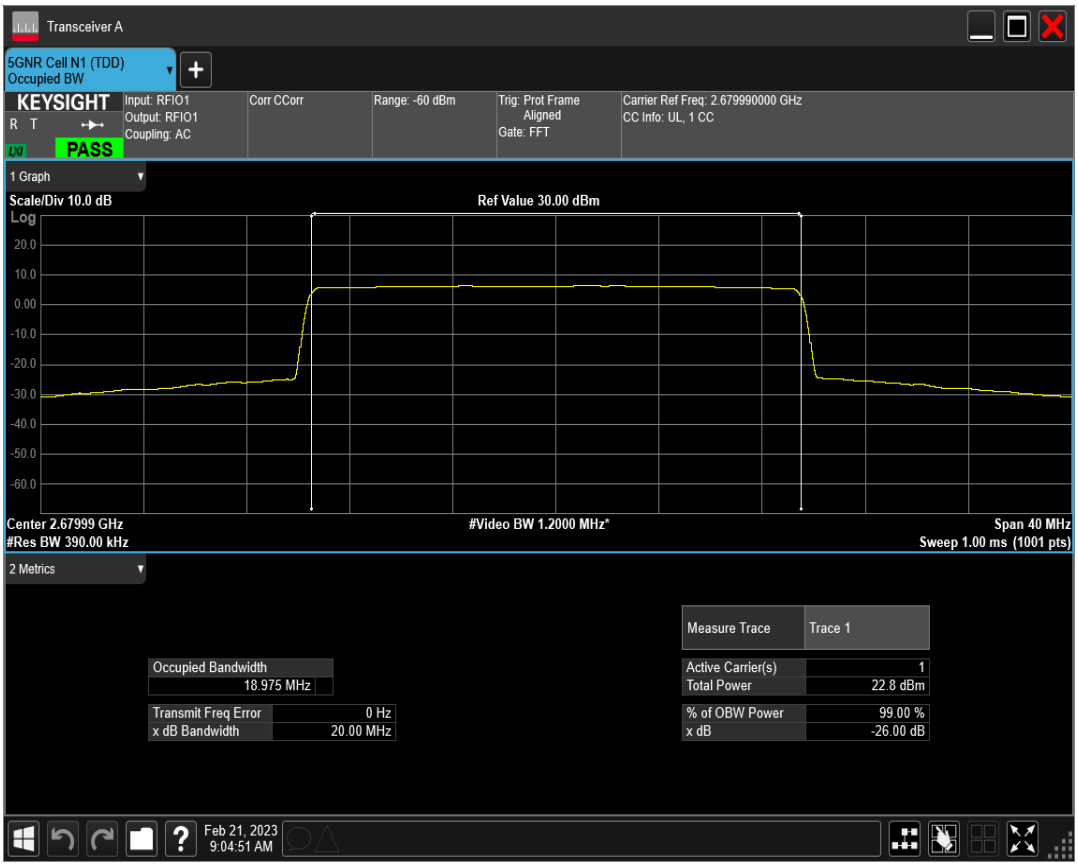


n41 SCS=15kHz DFT_QAM64 BW=20MHz Channel=535998 RB=100@0

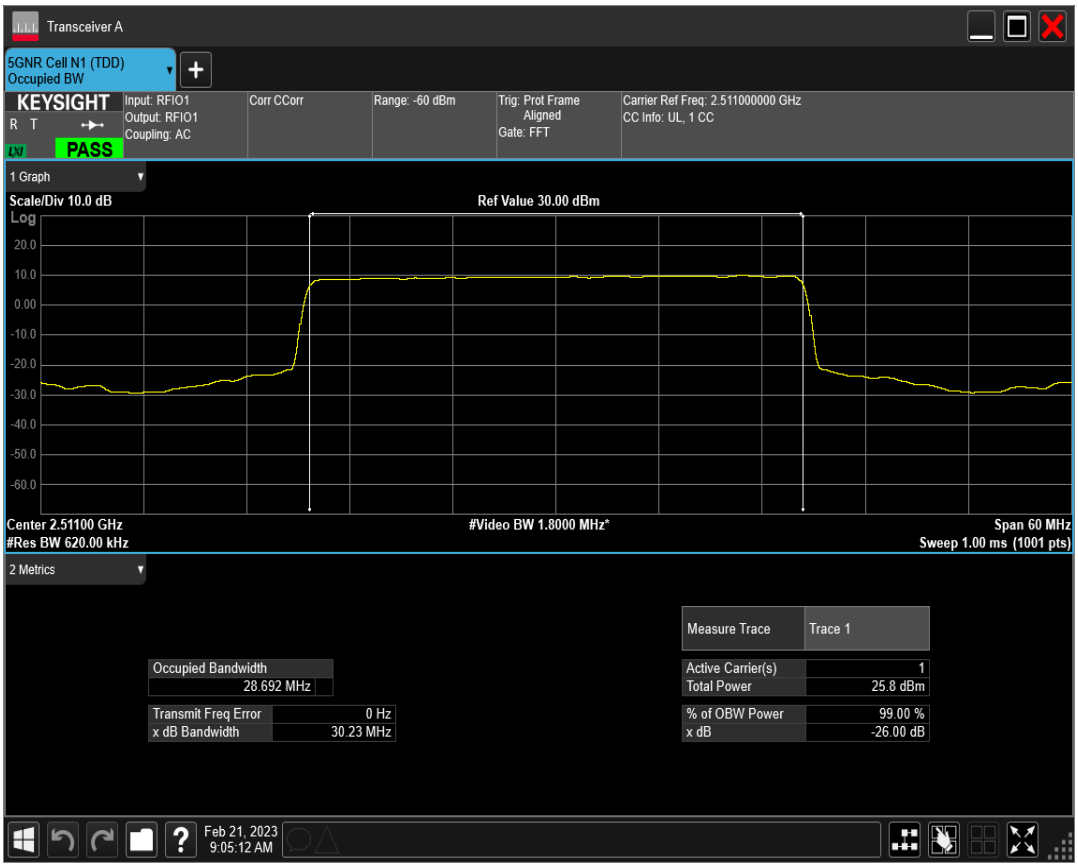
n41 SCS=15kHz DFT_QAM256 BW=20MHz Channel=535998 RB=100@0



n41 SCS=15kHz CP_QPSK BW=20MHz Channel=535998 RB=106@0



n41 SCS=15kHz DFT_BPSK BW=30MHz Channel=502200 RB=160@0

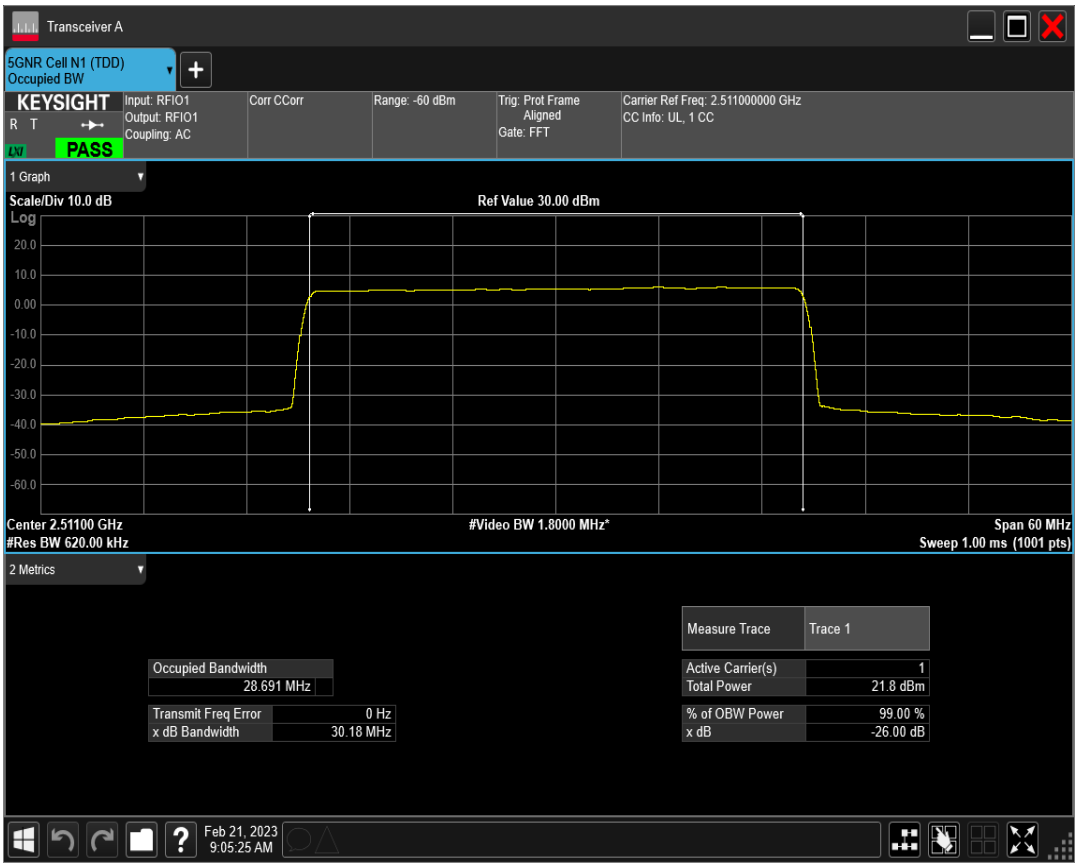


n41 SCS=15kHz DFT_QPSK BW=30MHz Channel=502200 RB=160@0

n41 SCS=15kHz DFT_QAM16 BW=30MHz Channel=502200 RB=160@0

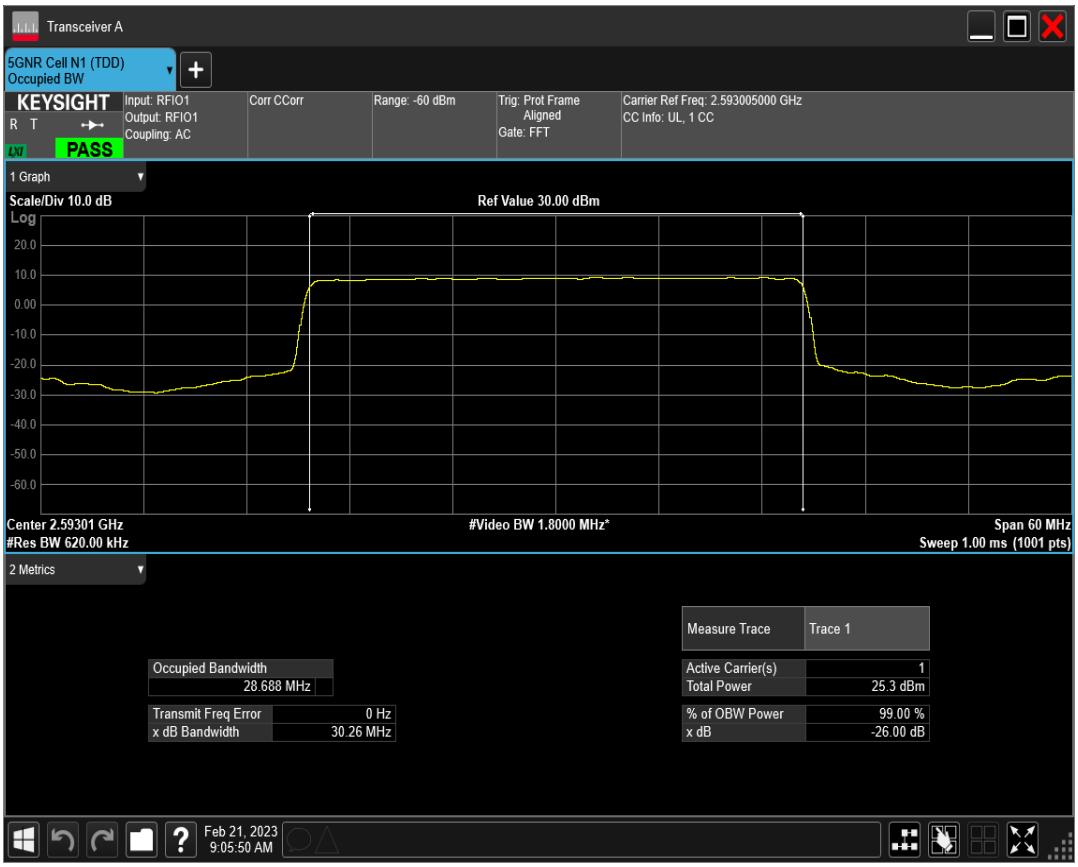
n41 SCS=15kHz DFT_QAM64 BW=30MHz Channel=502200 RB=160@0

n41 SCS=15kHz DFT_QAM256 BW=30MHz Channel=502200 RB=160@0



n41 SCS=15kHz CP_QPSK BW=30MHz Channel=502200 RB=160@0

n41 SCS=15kHz DFT_BPSK BW=30MHz Channel=518601 RB=160@0



n41 SCS=15kHz DFT_QPSK BW=30MHz Channel=518601 RB=160@0

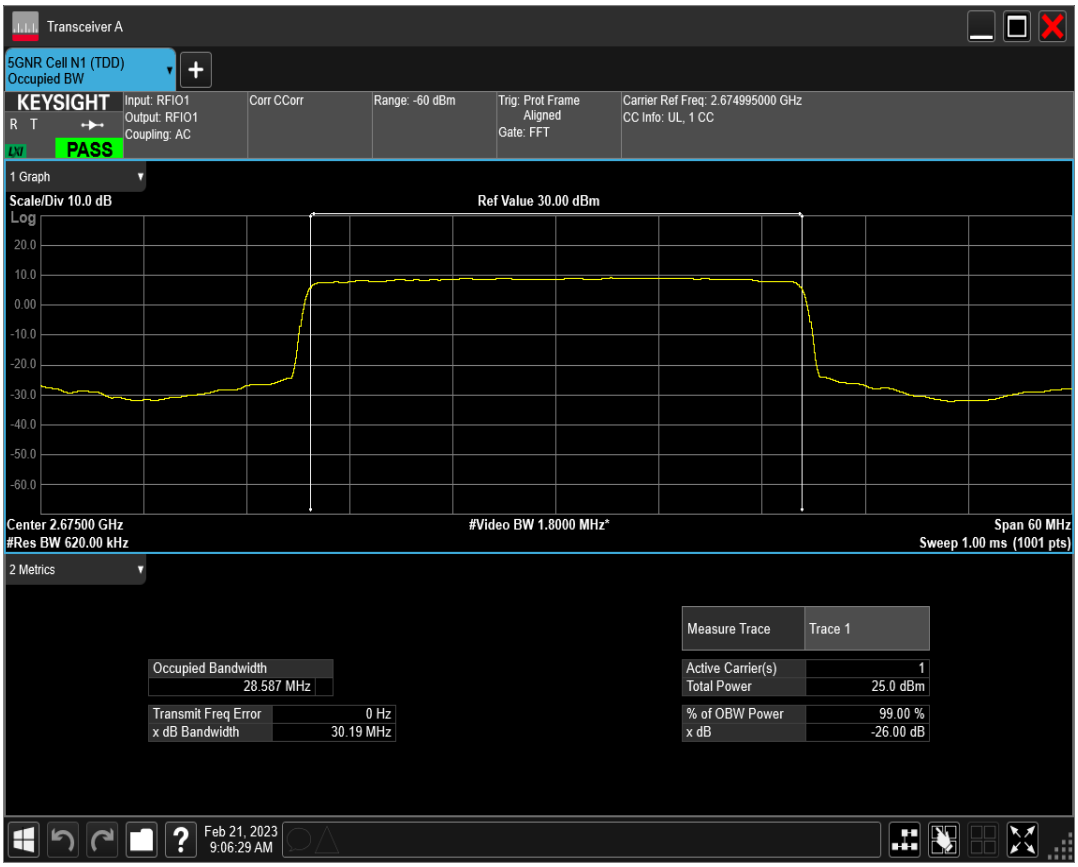
n41 SCS=15kHz DFT_QAM16 BW=30MHz Channel=518601 RB=160@0

n41 SCS=15kHz DFT_QAM64 BW=30MHz Channel=518601 RB=160@0

n41 SCS=15kHz DFT_QAM256 BW=30MHz Channel=518601 RB=160@0

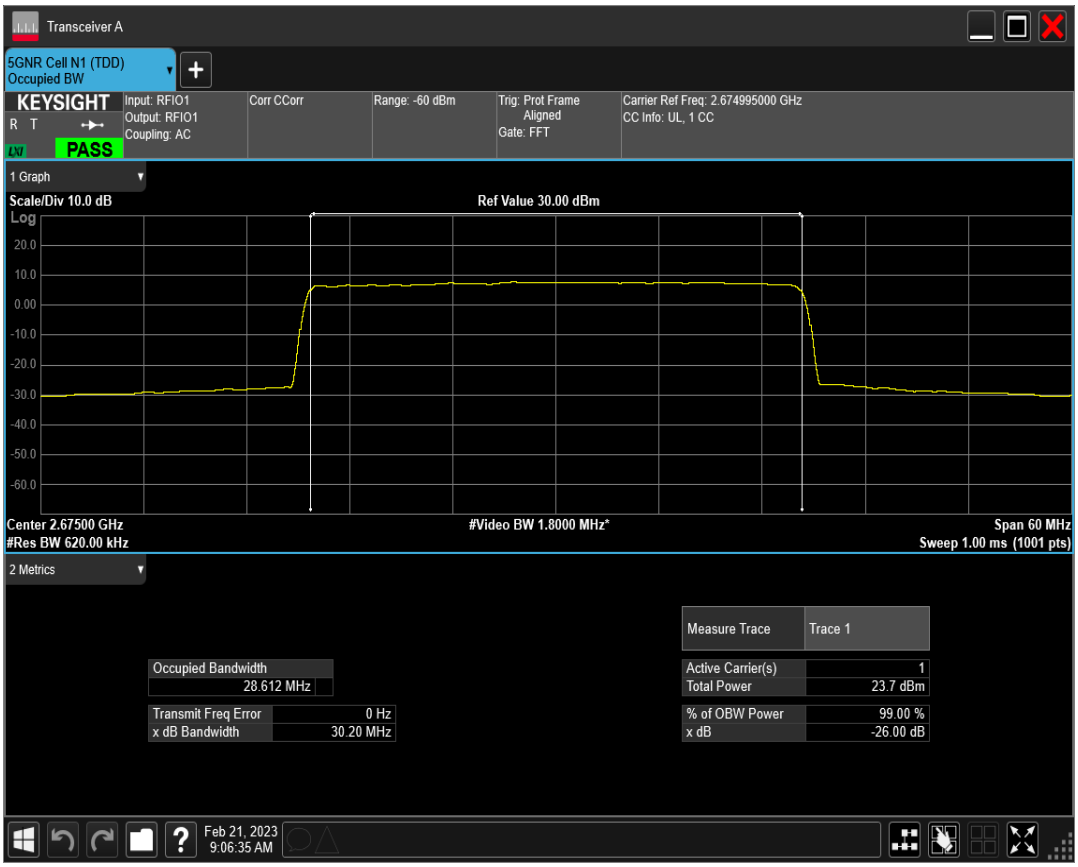
n41 SCS=15kHz CP_QPSK BW=30MHz Channel=518601 RB=160@0

n41 SCS=15kHz DFT_BPSK BW=30MHz Channel=534999 RB=160@0

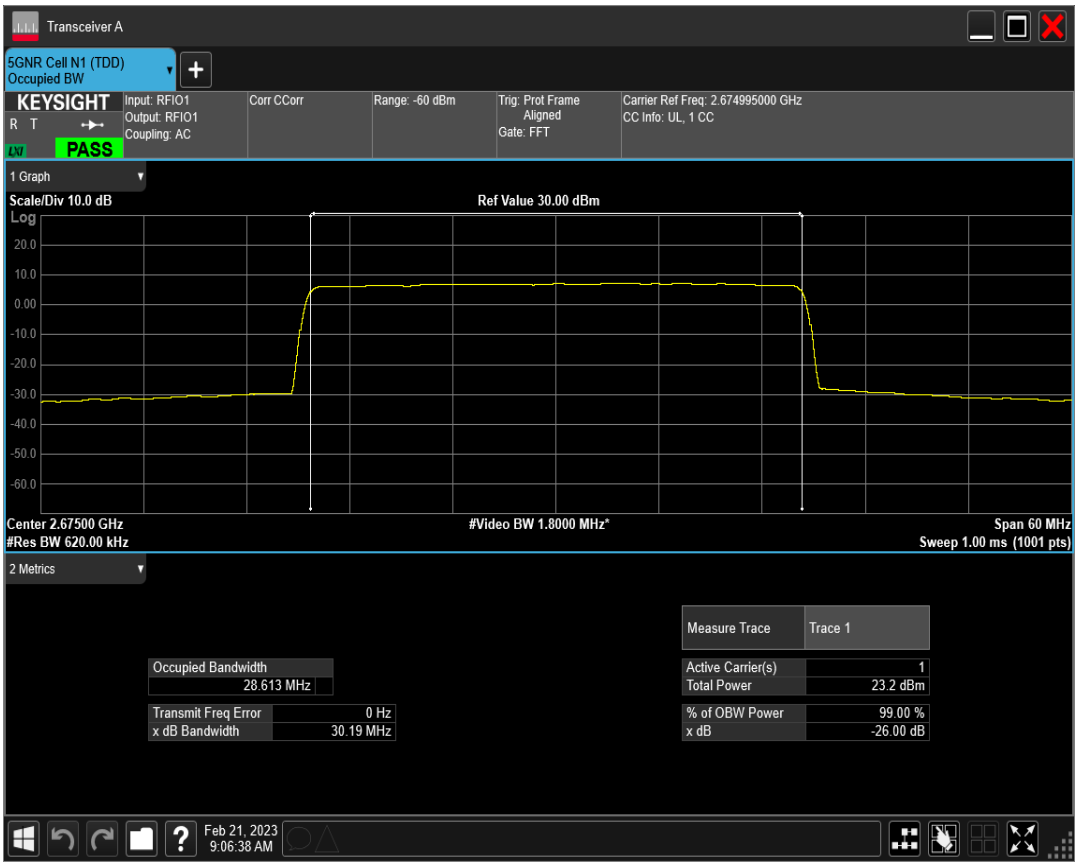


n41 SCS=15kHz DFT_QPSK BW=30MHz Channel=534999 RB=160@0

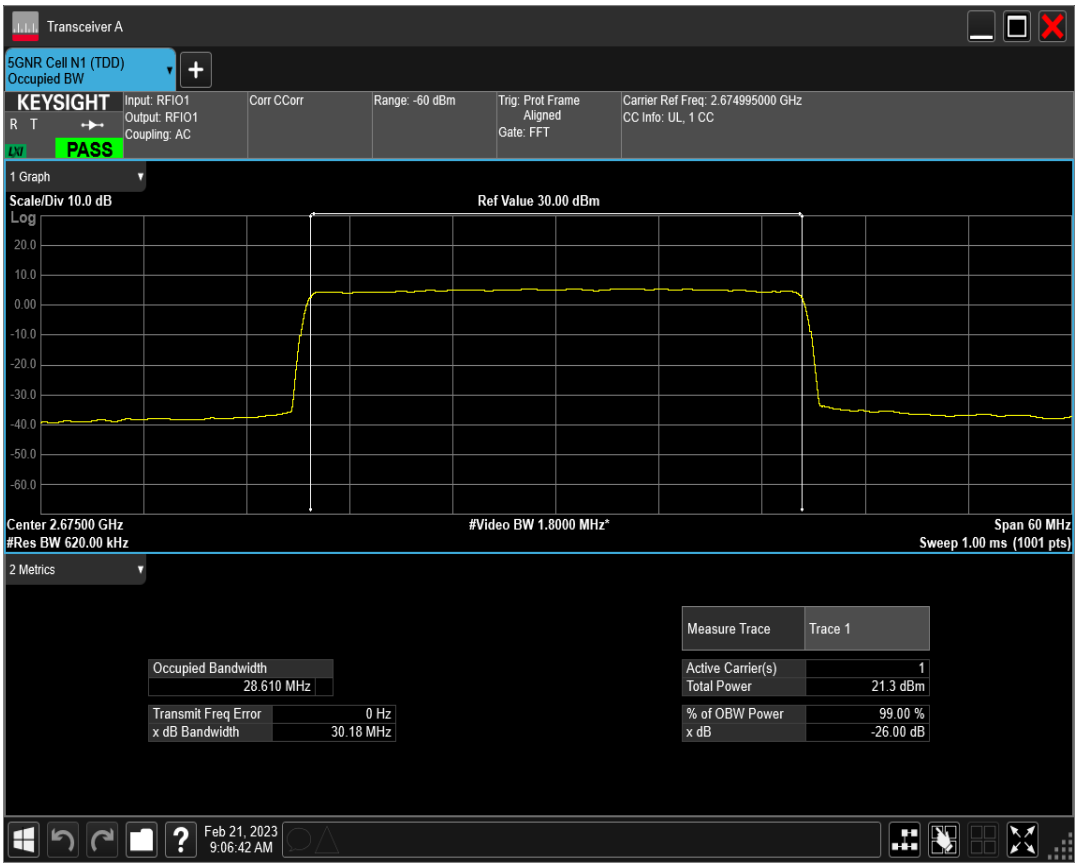
n41 SCS=15kHz DFT_QAM16 BW=30MHz Channel=534999 RB=160@0



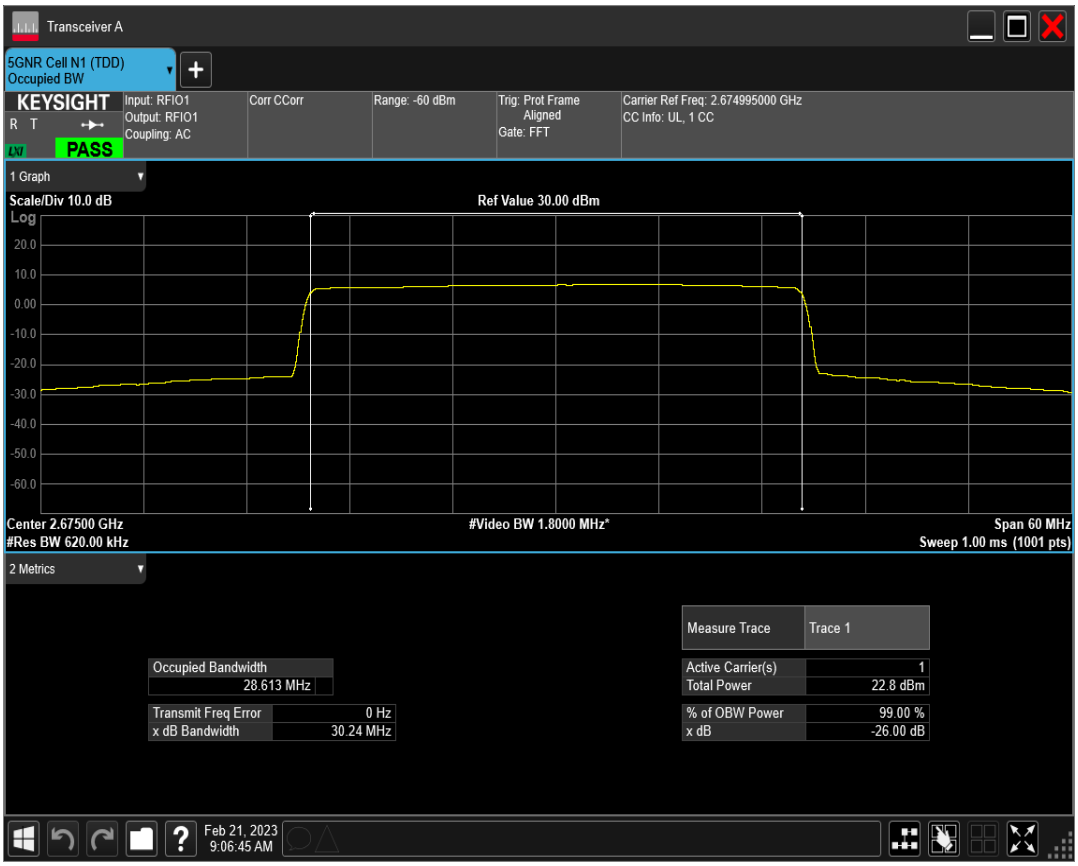
n41 SCS=15kHz DFT_QAM64 BW=30MHz Channel=534999 RB=160@0



n41 SCS=15kHz DFT_QAM256 BW=30MHz Channel=534999 RB=160@0



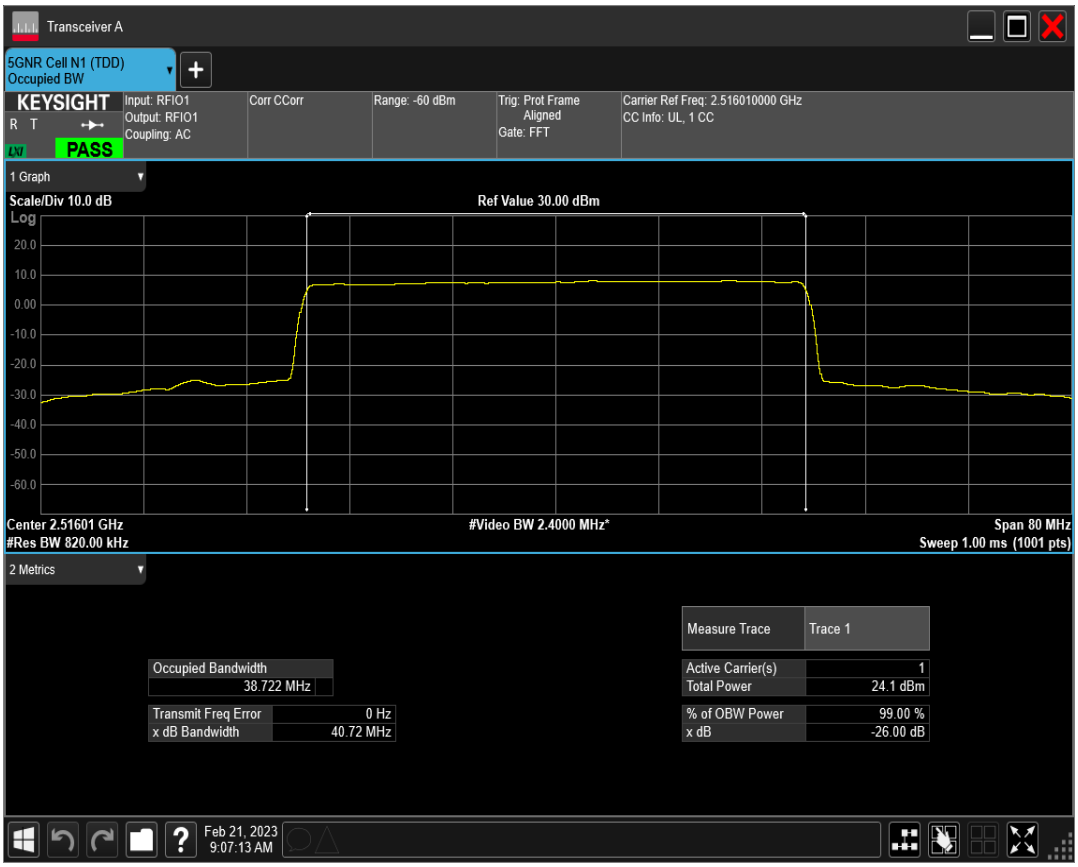
n41 SCS=15kHz CP_QPSK BW=30MHz Channel=534999 RB=160@0



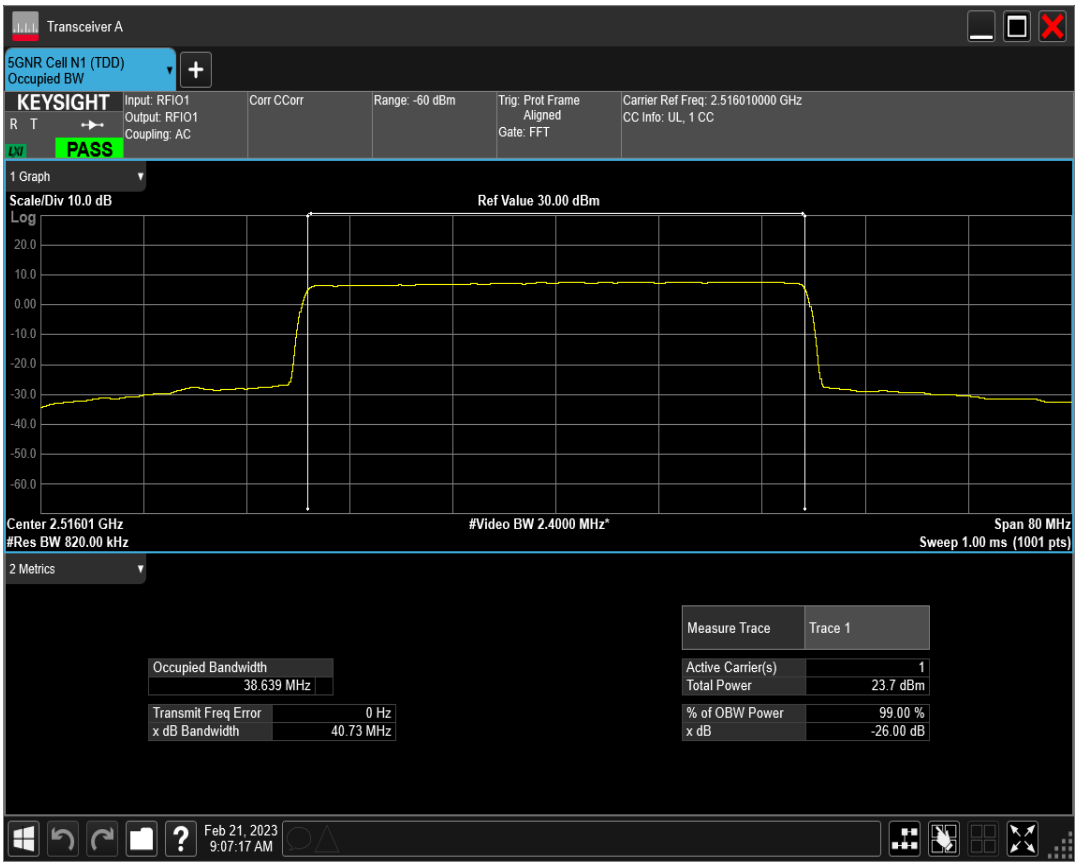
n41 SCS=15kHz DFT_BPSK BW=40MHz Channel=503202 RB=216@0

n41 SCS=15kHz DFT_QPSK BW=40MHz Channel=503202 RB=216@0

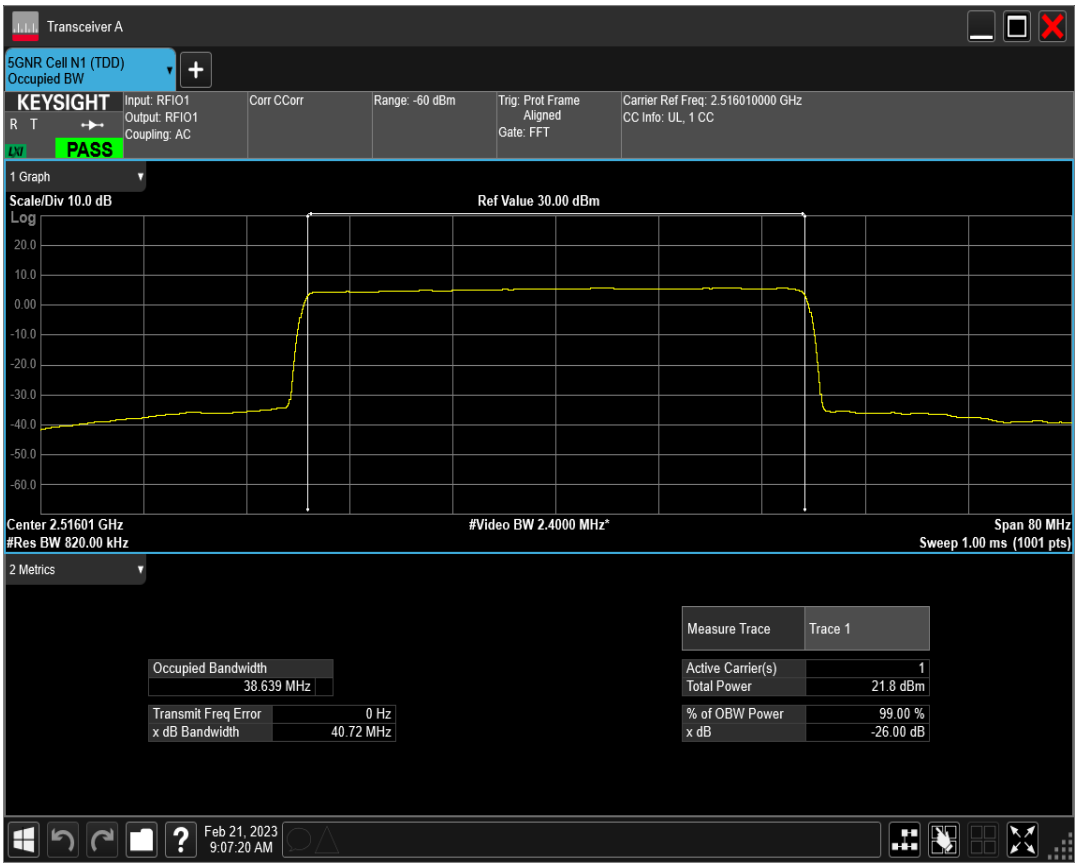
n41 SCS=15kHz DFT_QAM16 BW=40MHz Channel=503202 RB=216@0



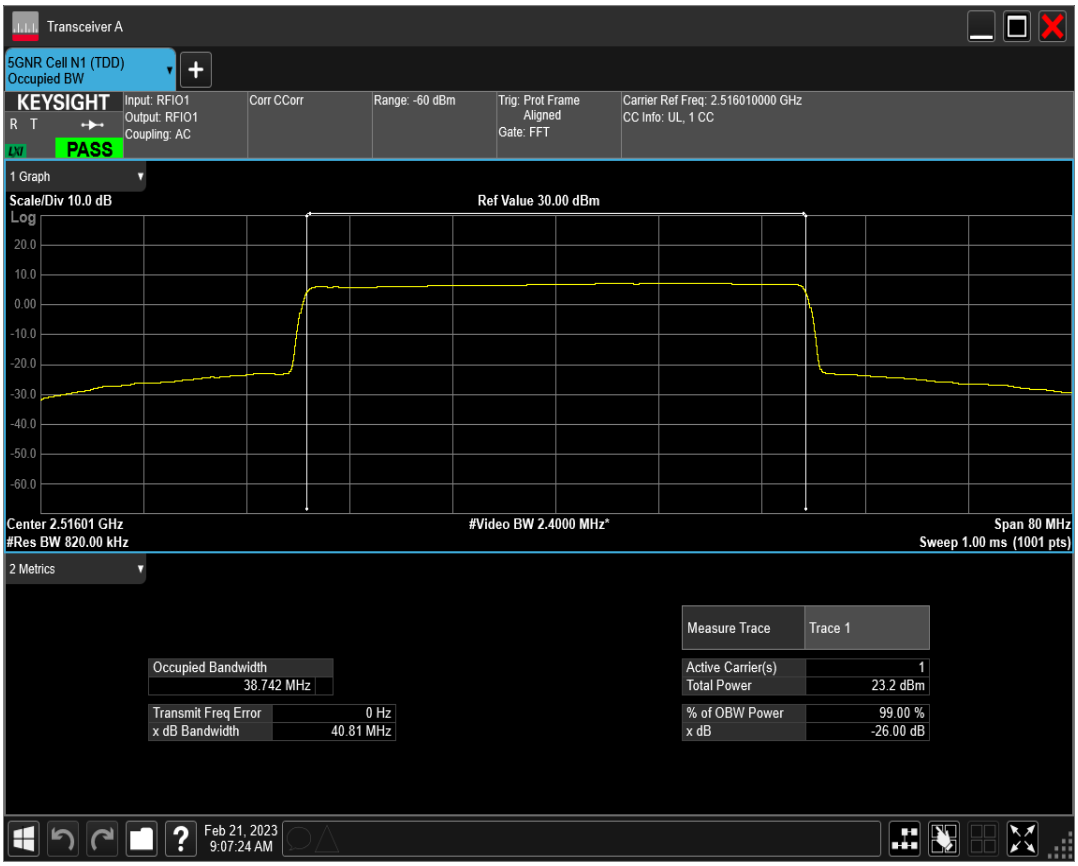
n41 SCS=15kHz DFT_QAM64 BW=40MHz Channel=503202 RB=216@0



n41 SCS=15kHz DFT_QAM256 BW=40MHz Channel=503202 RB=216@0



n41 SCS=15kHz CP_QPSK BW=40MHz Channel=503202 RB=216@0

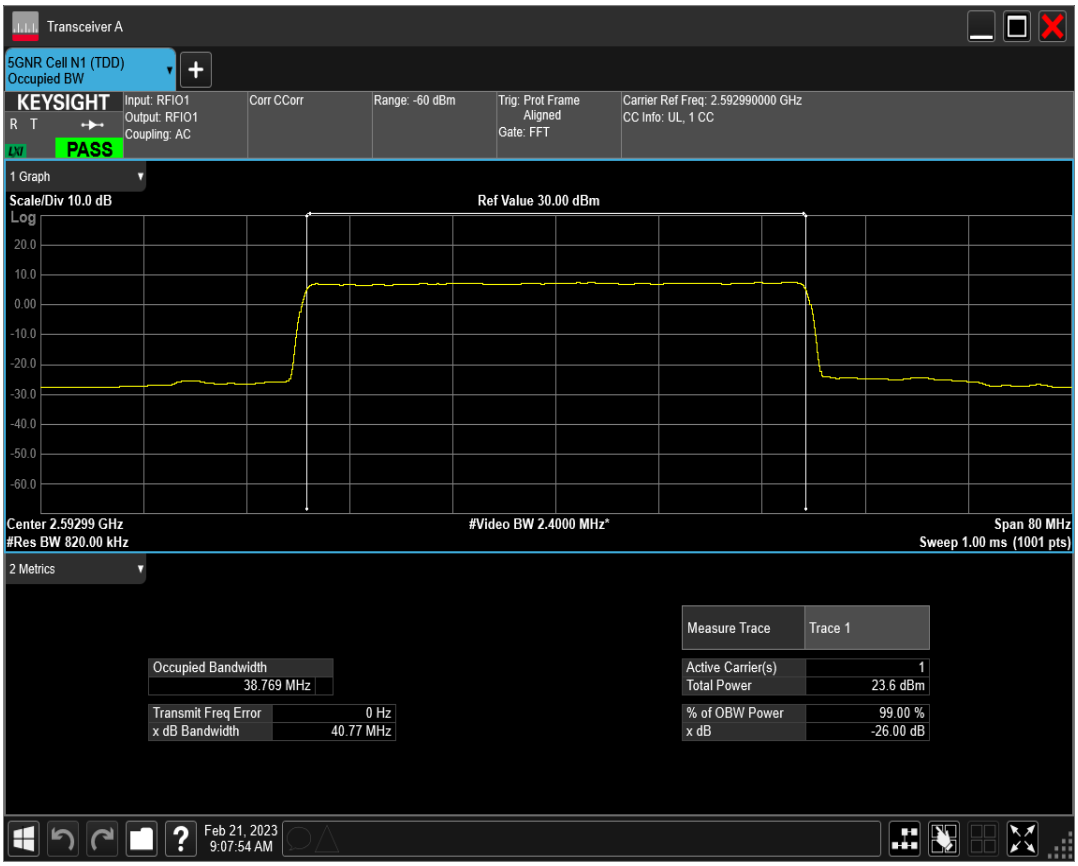


n41 SCS=15kHz DFT_BPSK BW=40MHz Channel=518598 RB=216@0

n41 SCS=15kHz DFT_QPSK BW=40MHz Channel=518598 RB=216@0

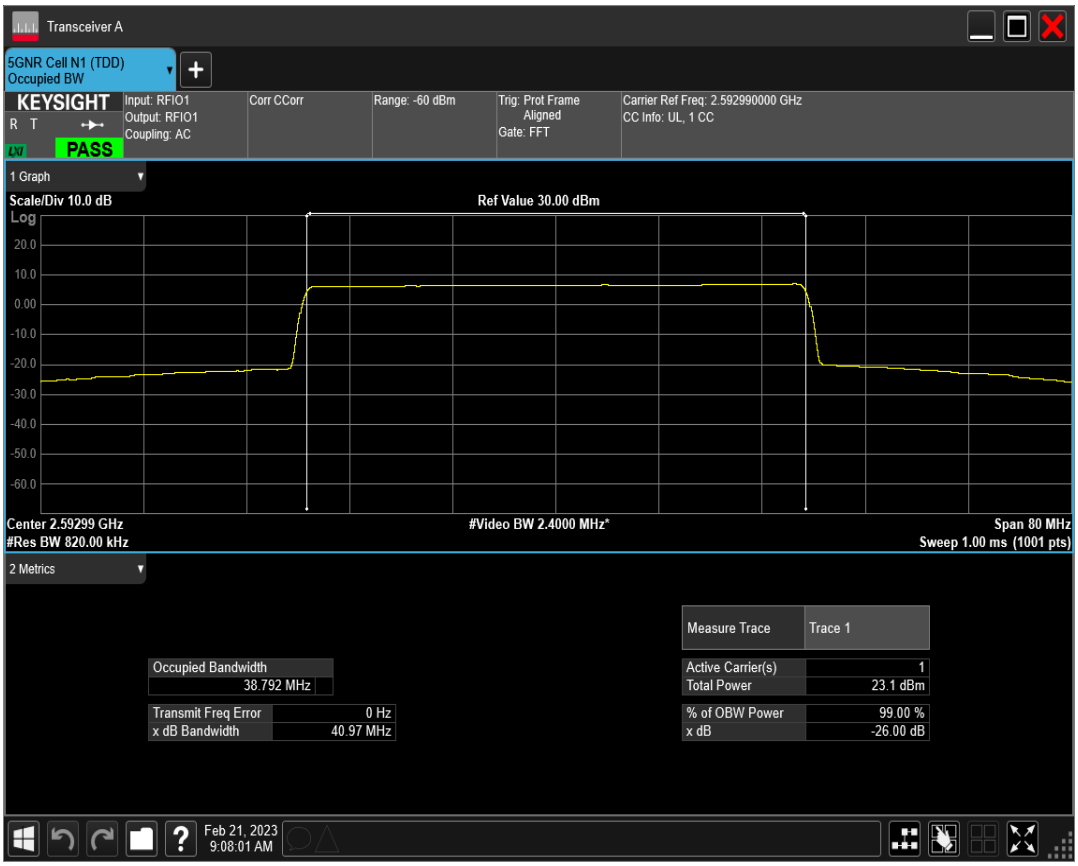
n41 SCS=15kHz DFT_QAM16 BW=40MHz Channel=518598 RB=216@0

n41 SCS=15kHz DFT_QAM64 BW=40MHz Channel=518598 RB=216@0



n41 SCS=15kHz DFT_QAM256 BW=40MHz Channel=518598 RB=216@0

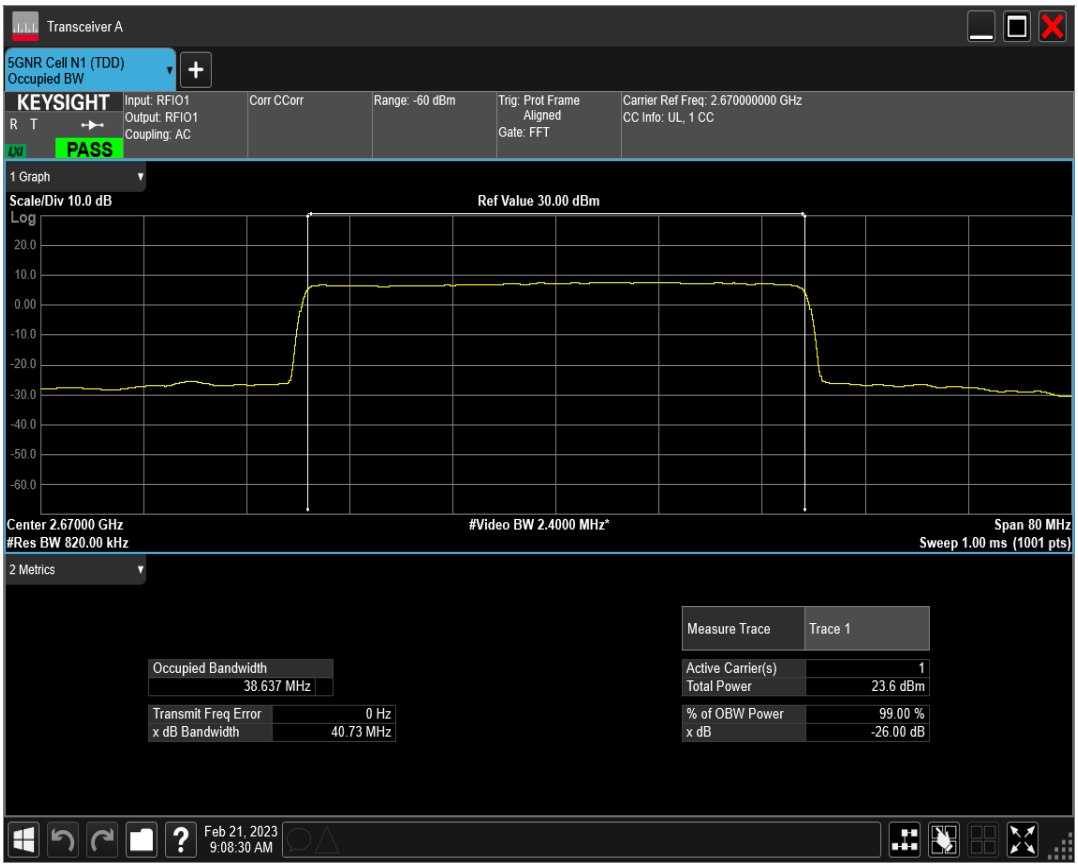
n41 SCS=15kHz CP_QPSK BW=40MHz Channel=518598 RB=216@0



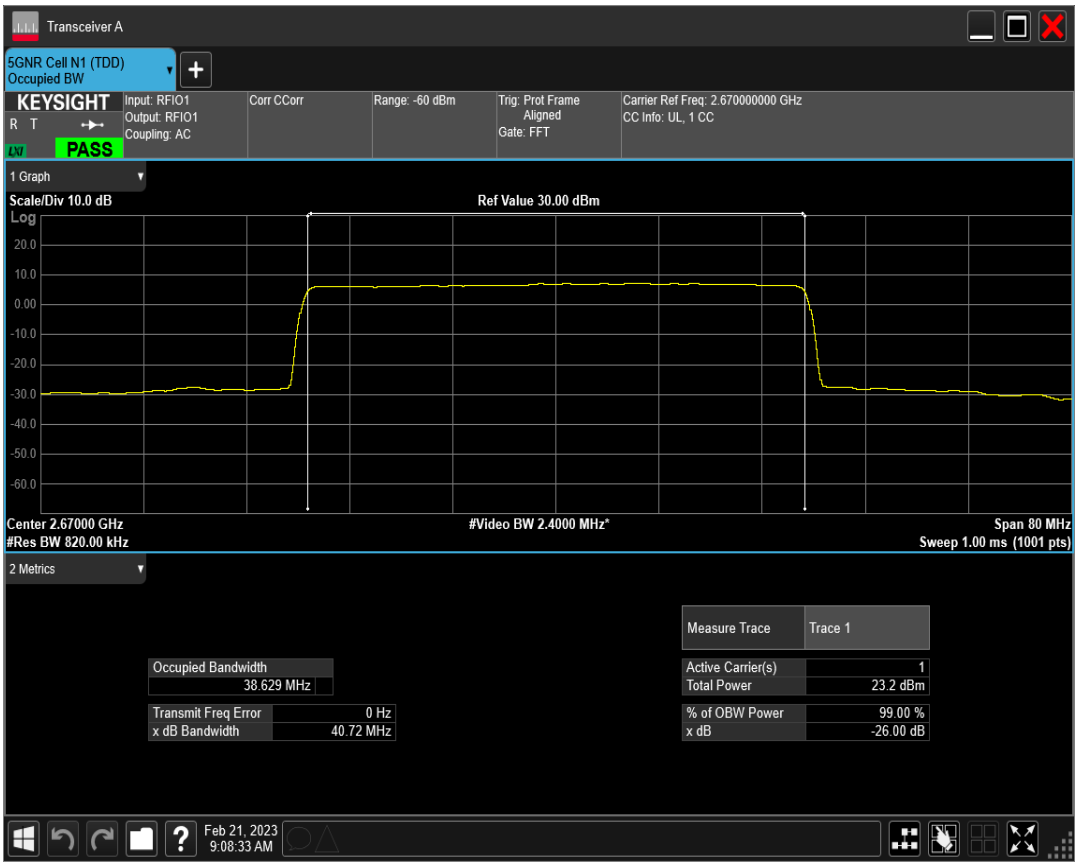
n41 SCS=15kHz DFT_BPSK BW=40MHz Channel=534000 RB=216@0

n41 SCS=15kHz DFT_QPSK BW=40MHz Channel=534000 RB=216@0

n41 SCS=15kHz DFT_QAM16 BW=40MHz Channel=534000 RB=216@0

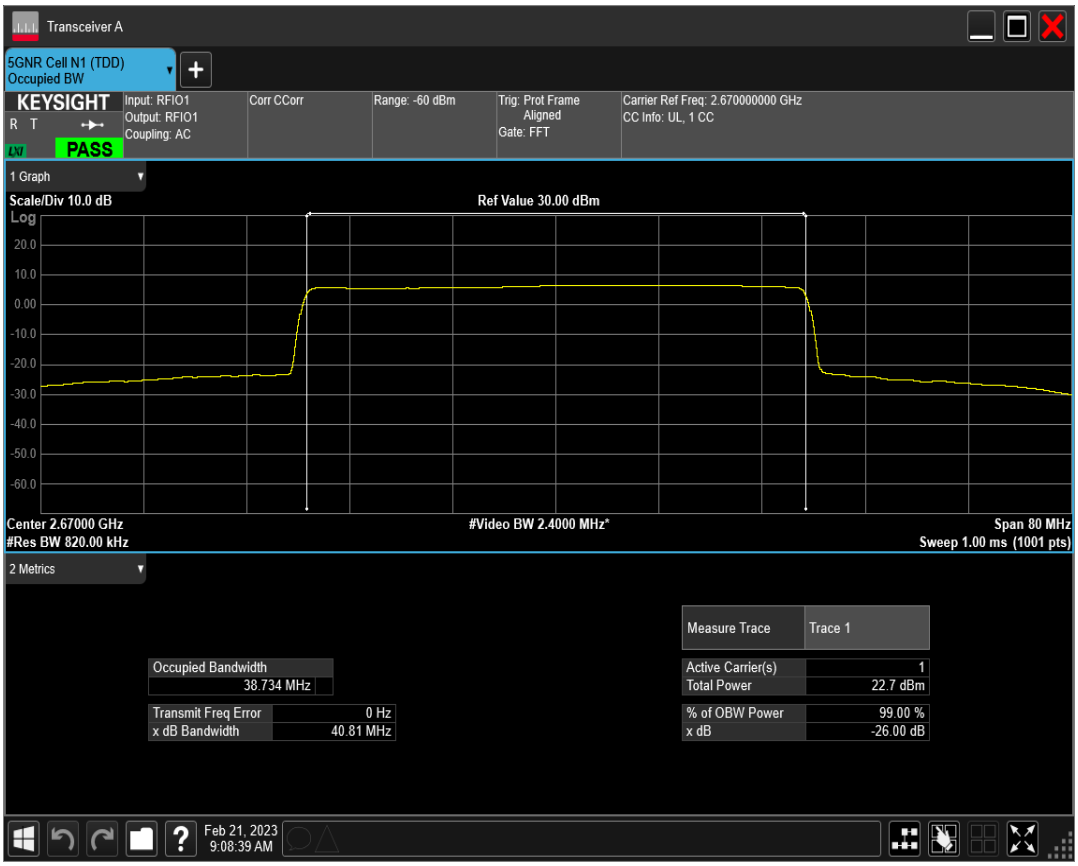


n41 SCS=15kHz DFT_QAM64 BW=40MHz Channel=534000 RB=216@0



n41 SCS=15kHz DFT_QAM256 BW=40MHz Channel=534000 RB=216@0

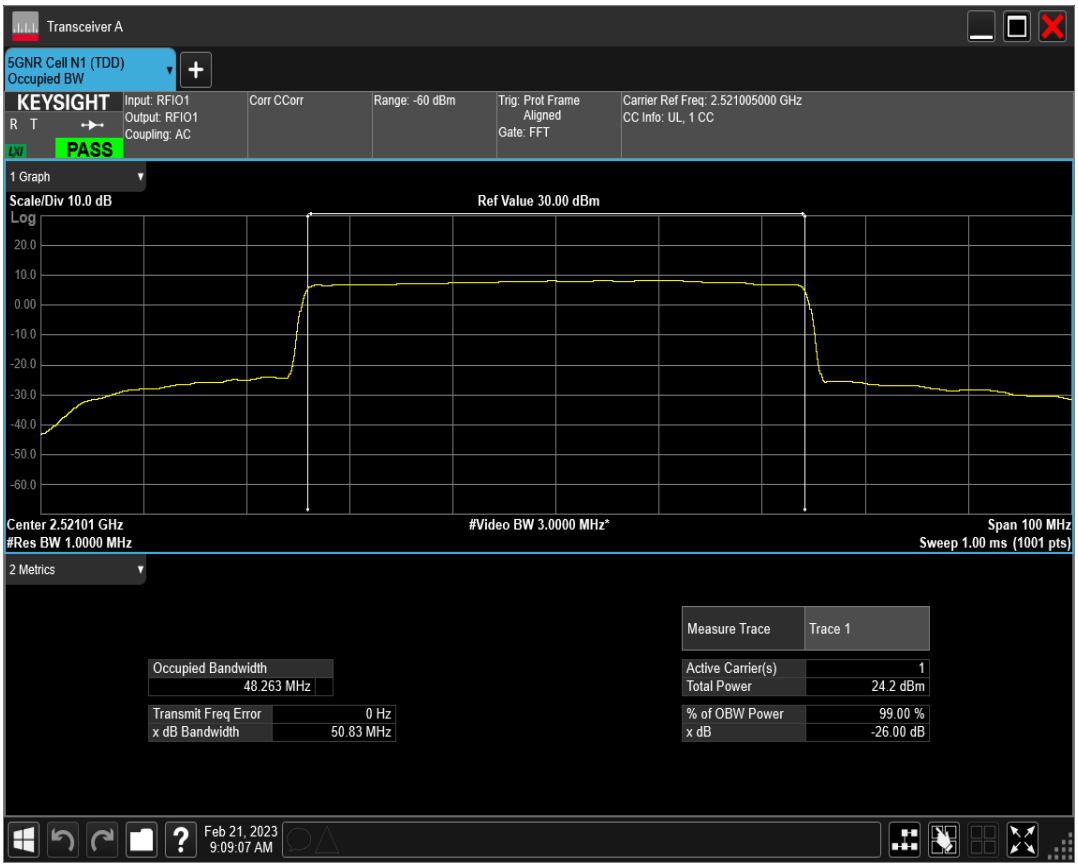
n41 SCS=15kHz CP_QPSK BW=40MHz Channel=534000 RB=216@0



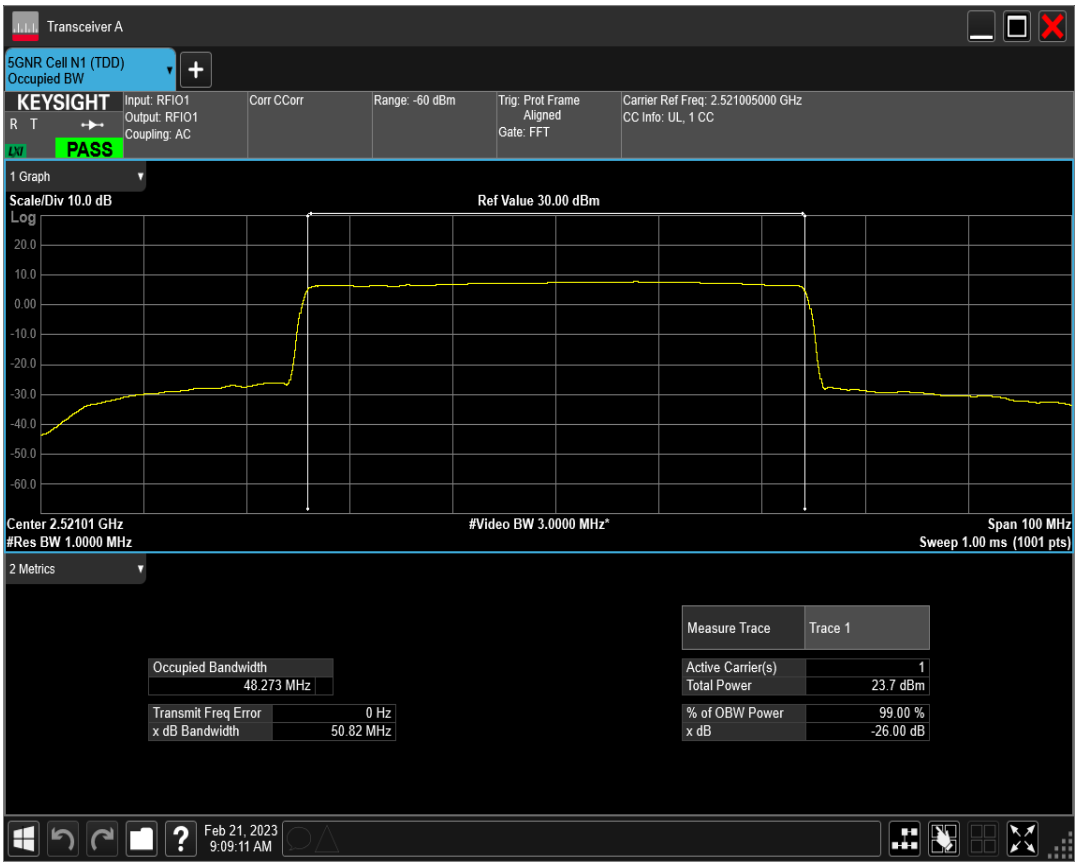
n41 SCS=15kHz DFT_BPSK BW=50MHz Channel=504201 RB=270@0

n41 SCS=15kHz DFT_QPSK BW=50MHz Channel=504201 RB=270@0

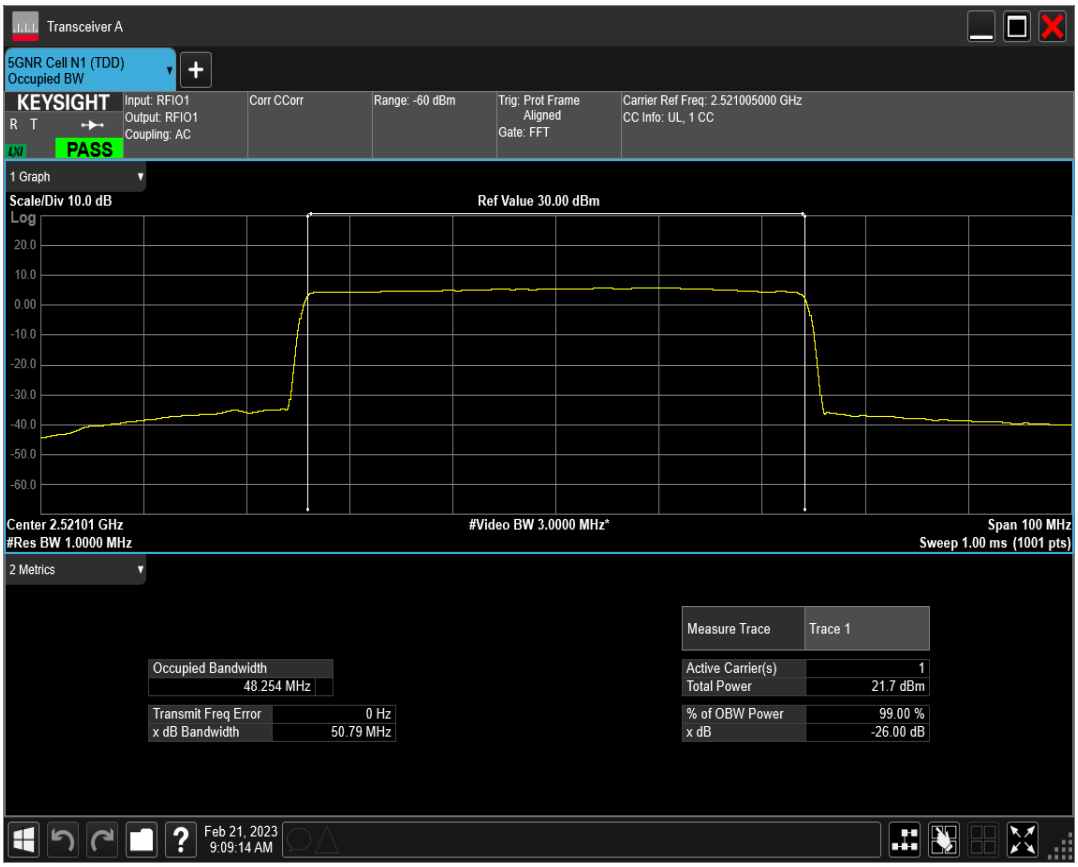
n41 SCS=15kHz DFT_QAM16 BW=50MHz Channel=504201 RB=270@0



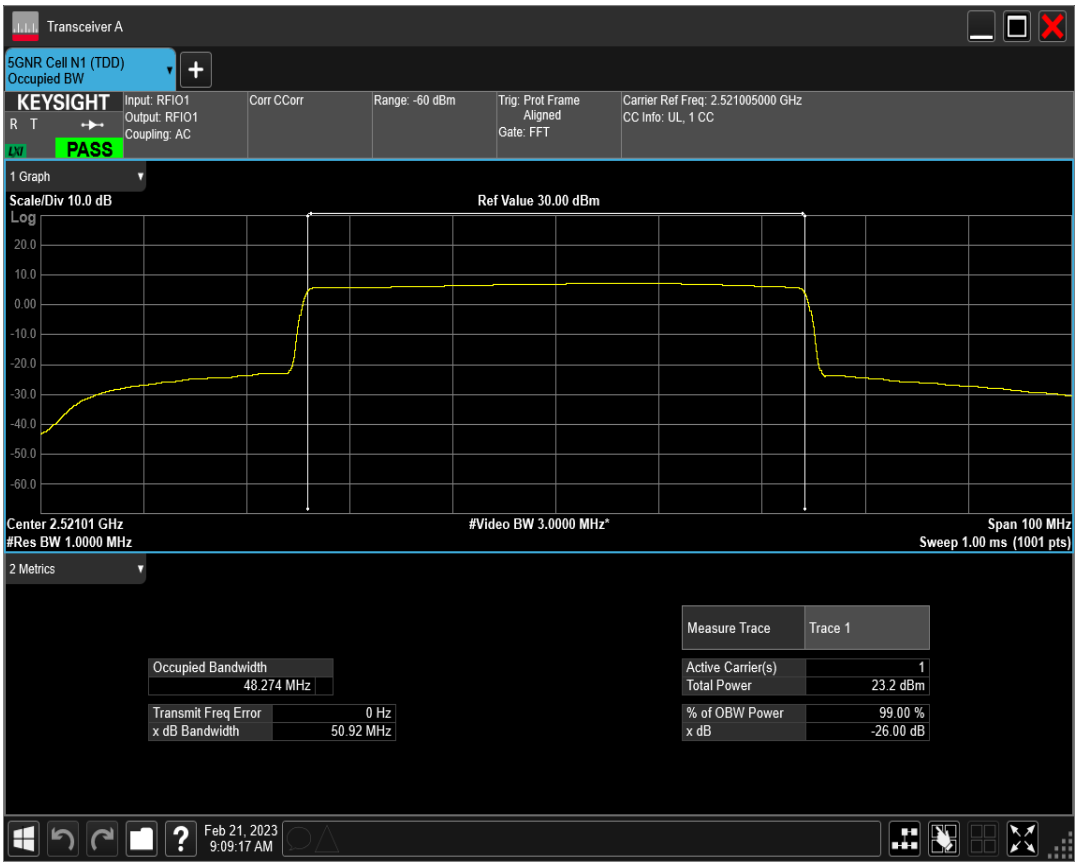
n41 SCS=15kHz DFT_QAM64 BW=50MHz Channel=504201 RB=270@0



n41 SCS=15kHz DFT_QAM256 BW=50MHz Channel=504201 RB=270@0



n41 SCS=15kHz CP_QPSK BW=50MHz Channel=504201 RB=270@0



n41 SCS=15kHz DFT_BPSK BW=50MHz Channel=518601 RB=270@0

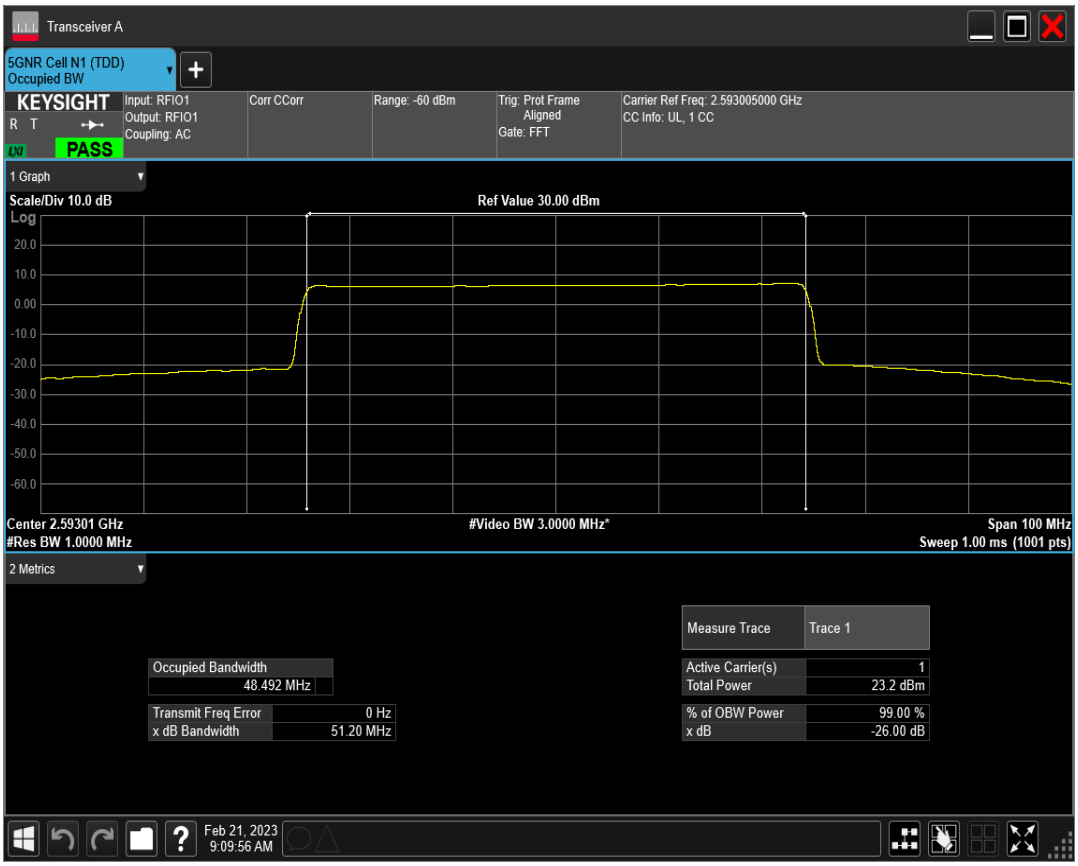
n41 SCS=15kHz DFT_QPSK BW=50MHz Channel=518601 RB=270@0

n41 SCS=15kHz DFT_QAM16 BW=50MHz Channel=518601 RB=270@0

n41 SCS=15kHz DFT_QAM64 BW=50MHz Channel=518601 RB=270@0

n41 SCS=15kHz DFT_QAM256 BW=50MHz Channel=518601 RB=270@0

n41 SCS=15kHz CP_QPSK BW=50MHz Channel=518601 RB=270@0



n41 SCS=15kHz DFT_BPSK BW=50MHz Channel=532998 RB=270@0

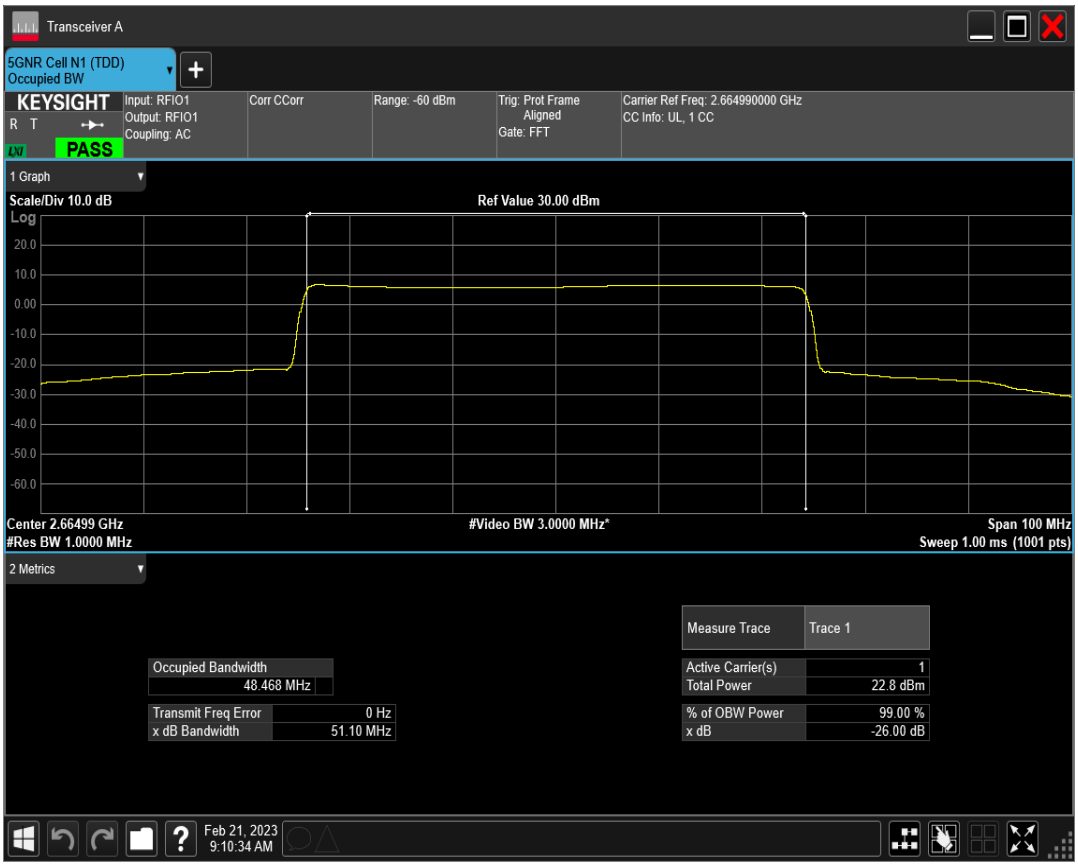
n41 SCS=15kHz DFT_QPSK BW=50MHz Channel=532998 RB=270@0

n41 SCS=15kHz DFT_QAM16 BW=50MHz Channel=532998 RB=270@0

n41 SCS=15kHz DFT_QAM64 BW=50MHz Channel=532998 RB=270@0

n41 SCS=15kHz DFT_QAM256 BW=50MHz Channel=532998 RB=270@0

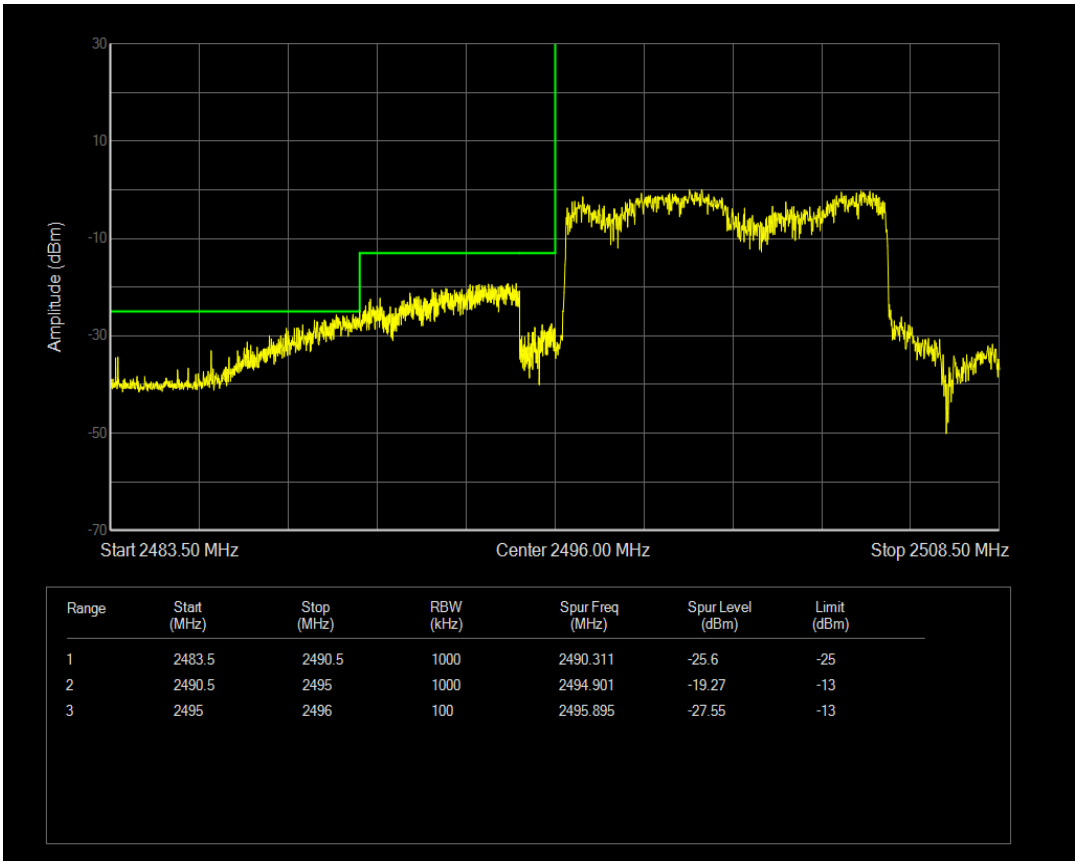
n41 SCS=15kHz CP_QPSK BW=50MHz Channel=532998 RB=270@0



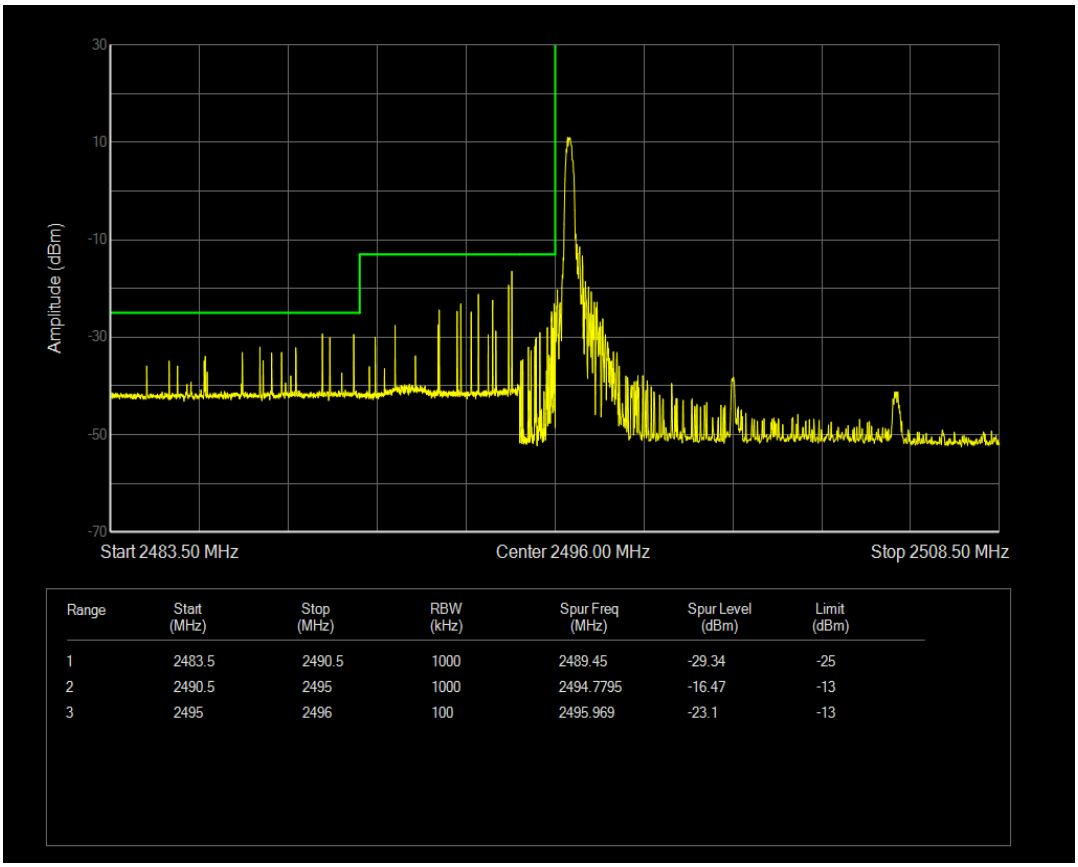
5 Band edge for NR FR1

Band	SCS (kHz)	Bandwidth (MHz)	UL Channel	RB Allocation	Modulation	Spur Freq (MHz)	Spur Level (dBm)	Limit (dBm)	Verdict
n41	15	10	500202	50@0	DFT_QPSK	2490.31	-25.60	-25	PASS
n41	15	10	500202	1@0	DFT_QPSK	2494.78	-16.47	-13	PASS
n41	15	10	537000	50@0	DFT_QPSK	2701.90	-35.50	-25	PASS
n41	15	10	537000	1@51	DFT_QPSK	2700.40	-35.39	-25	PASS
n41	15	50	504201	270@0	DFT_QPSK	2488.39	-30.83	-25	PASS
n41	15	50	504201	1@0	DFT_QPSK	2490.16	-32.97	-25	PASS
n41	15	50	532998	270@0	DFT_QPSK	2690	-20.78	-10	PASS
n41	15	50	532998	1@269	DFT_QPSK	2691.44	-21.43	-10	PASS

n41 SCS=15kHz DFT_QPSK BW=10MHz Channel=500202 RB=50@0

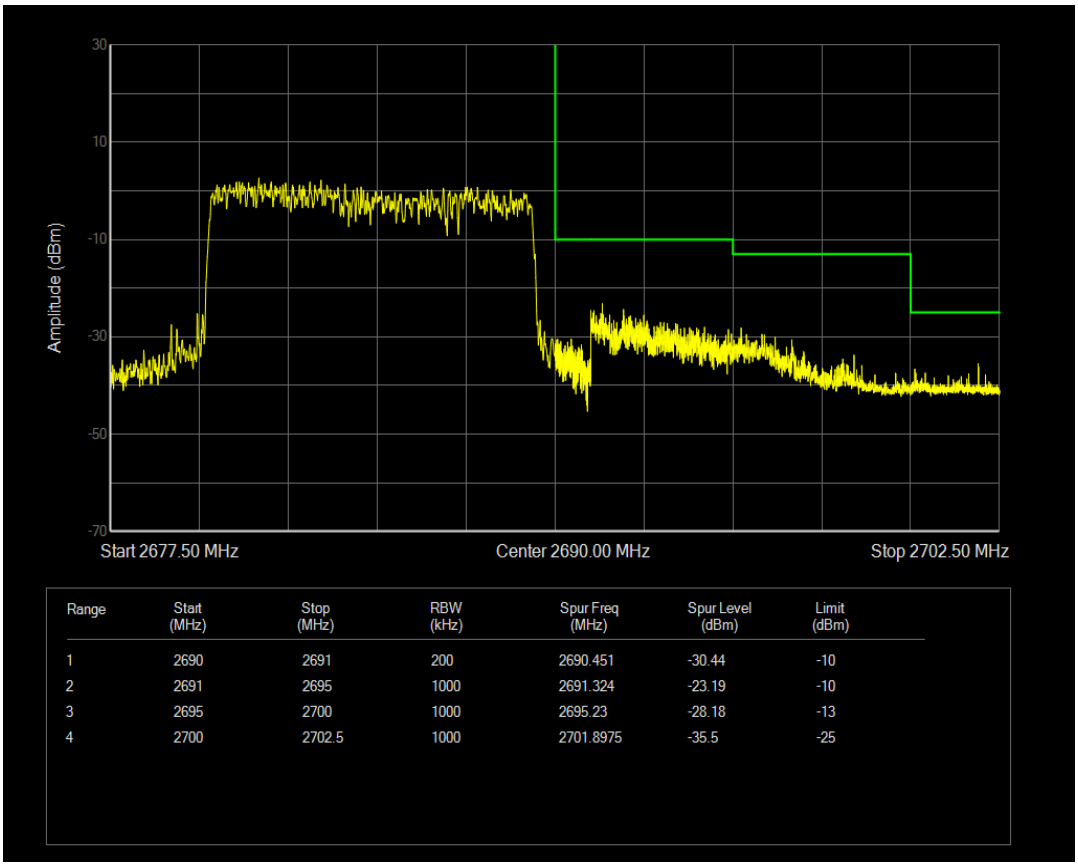


n41 SCS=15kHz DFT_QPSK BW=10MHz Channel=500202 RB=1@0



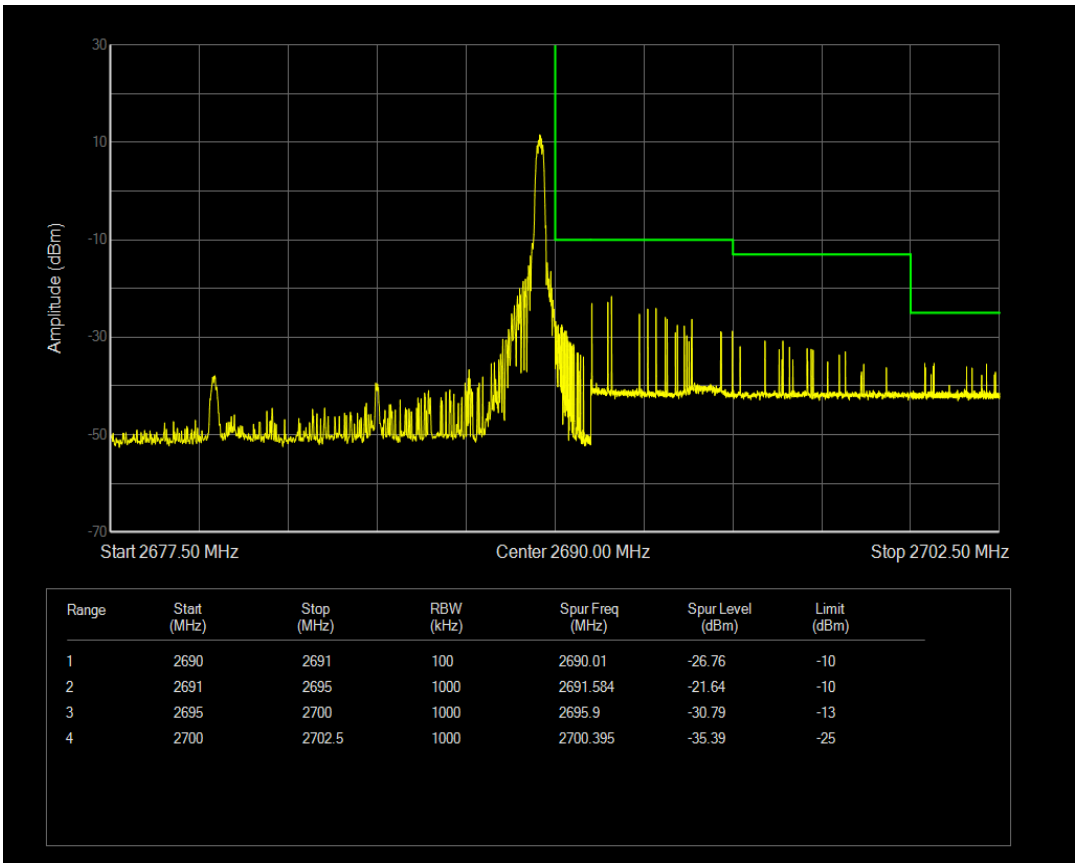
Range	Start (MHz)	Stop (MHz)	RBW (kHz)	Spur Freq (MHz)	Spur Level (dBm)	Limit (dBm)
1	2483.5	2490.5	1000	2489.45	-29.34	-25
2	2490.5	2495	1000	2494.7795	-16.47	-13
3	2495	2496	100	2495.969	-23.1	-13

n41 SCS=15kHz DFT_QPSK BW=10MHz Channel=537000 RB=50@0



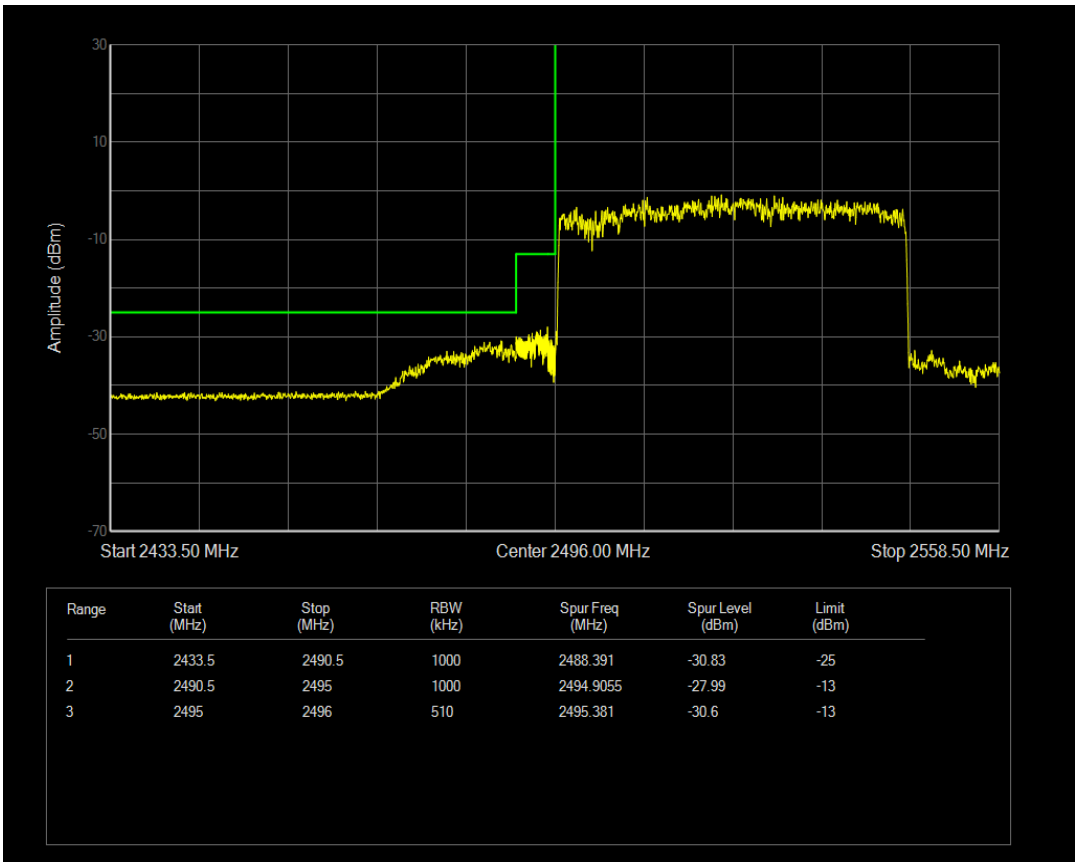
Range	Start (MHz)	Stop (MHz)	RBW (kHz)	Spur Freq (MHz)	Spur Level (dBm)	Limit (dBm)
1	2690	2691	200	2690.451	-30.44	-10
2	2691	2695	1000	2691.324	-23.19	-10
3	2695	2700	1000	2695.23	-28.18	-13
4	2700	2702.5	1000	2701.8975	-35.5	-25

n41 SCS=15kHz DFT_QPSK BW=10MHz Channel=537000 RB=1@51



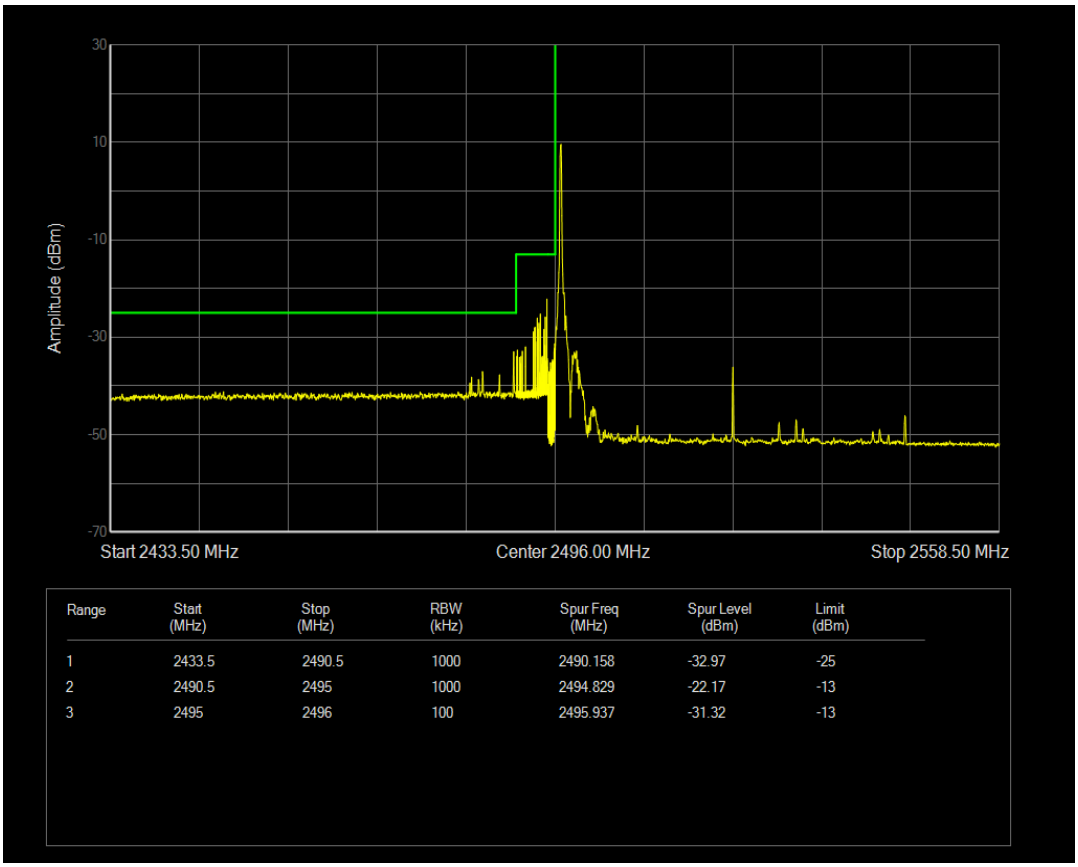
Range	Start (MHz)	Stop (MHz)	RBW (kHz)	Spur Freq (MHz)	Spur Level (dBm)	Limit (dBm)
1	2690	2691	100	2690.01	-26.76	-10
2	2691	2695	1000	2691.584	-21.64	-10
3	2695	2700	1000	2695.9	-30.79	-13
4	2700	2702.5	1000	2700.395	-35.39	-25

n41 SCS=15kHz DFT_QPSK BW=50MHz Channel=504201 RB=270@0



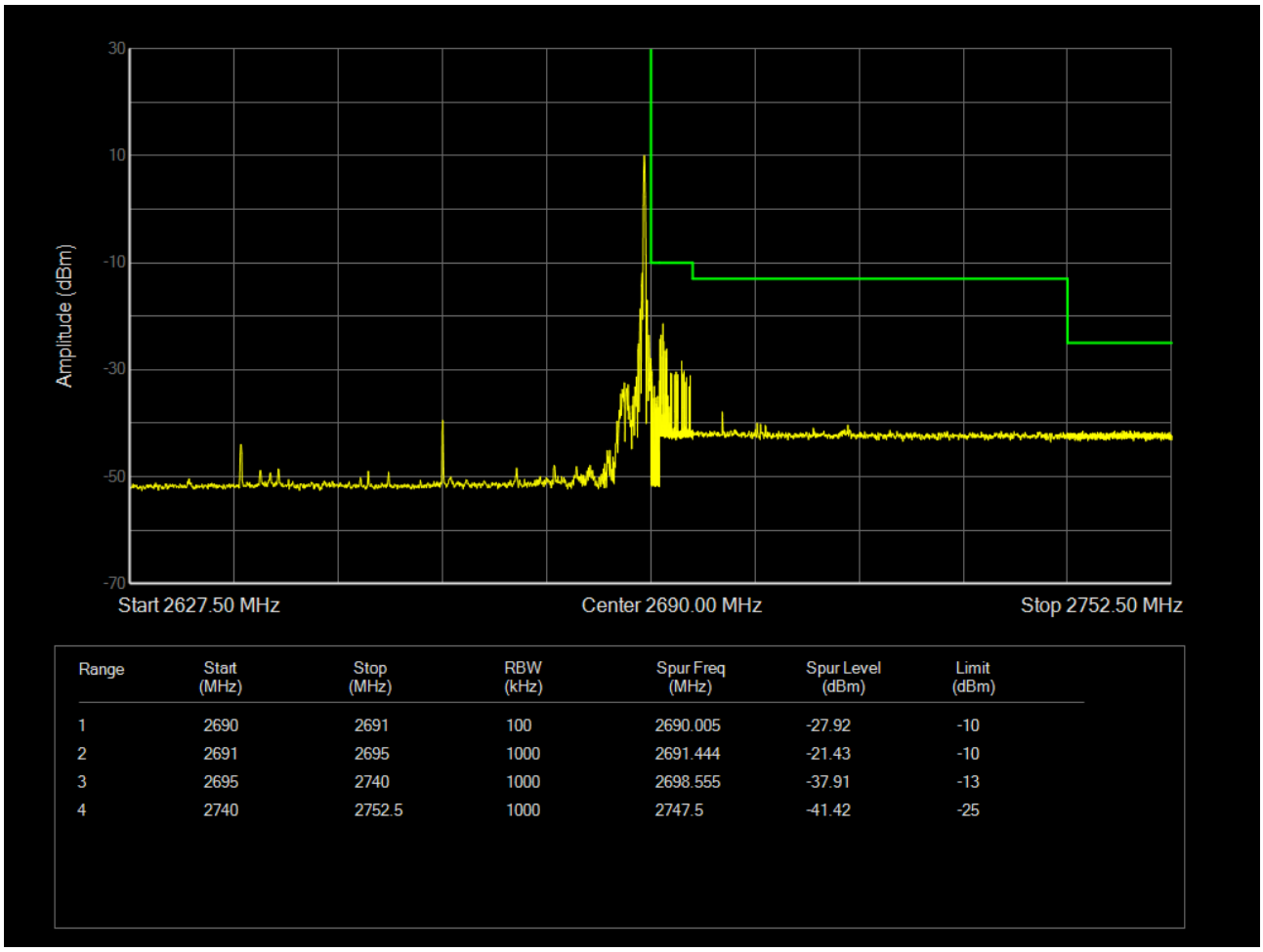
Range	Start (MHz)	Stop (MHz)	RBW (kHz)	Spur Freq (MHz)	Spur Level (dBm)	Limit (dBm)
1	2433.5	2490.5	1000	2488.391	-30.83	-25
2	2490.5	2495	1000	2494.9055	-27.99	-13
3	2495	2496	510	2495.381	-30.6	-13

n41 SCS=15kHz DFT_QPSK BW=50MHz Channel=504201 RB=1@0



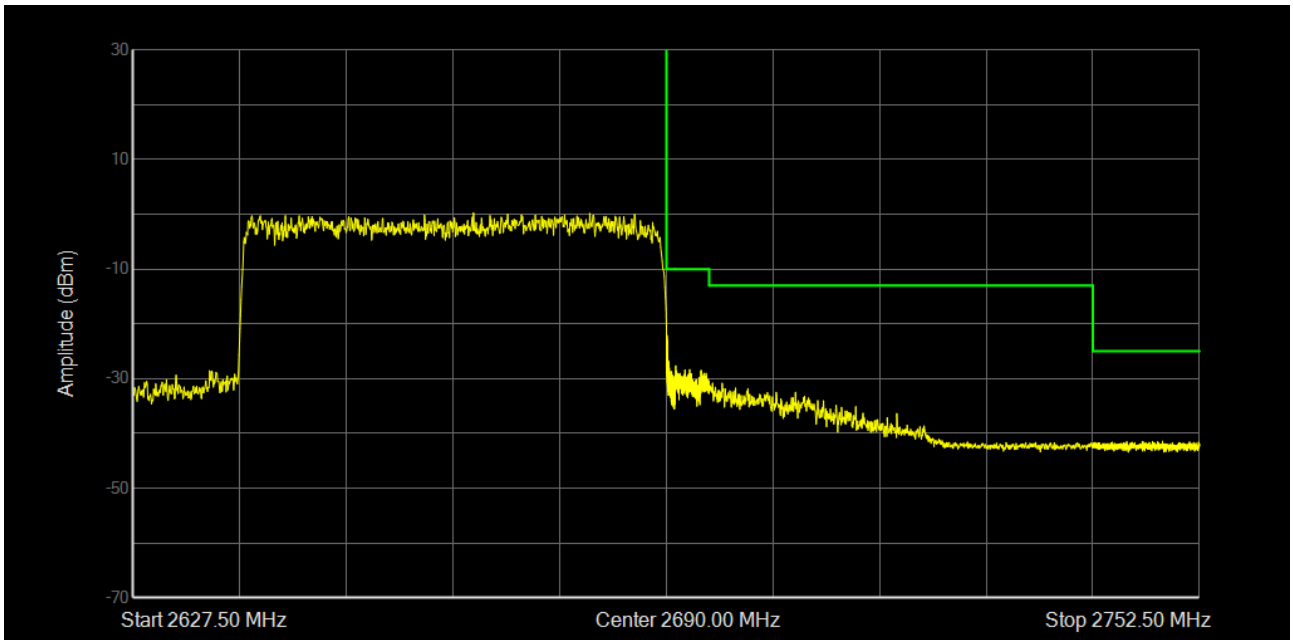
Range	Start (MHz)	Stop (MHz)	RBW (kHz)	Spur Freq (MHz)	Spur Level (dBm)	Limit (dBm)
1	2433.5	2490.5	1000	2490.158	-32.97	-25
2	2490.5	2495	1000	2494.829	-22.17	-13
3	2495	2496	100	2495.937	-31.32	-13

n41 SCS=15kHz DFT_QPSK BW=50MHz Channel=532998 RB=270@0



Range	Start (MHz)	Stop (MHz)	RBW (kHz)	Spur Freq (MHz)	Spur Level (dBm)	Limit (dBm)
1	2690	2691	100	2690.005	-27.92	-10
2	2691	2695	1000	2691.444	-21.43	-10
3	2695	2740	1000	2698.555	-37.91	-13
4	2740	2752.5	1000	2747.5	-41.42	-25

n41 SCS=15kHz DFT_QPSK BW=50MHz Channel=532998 RB=1@269

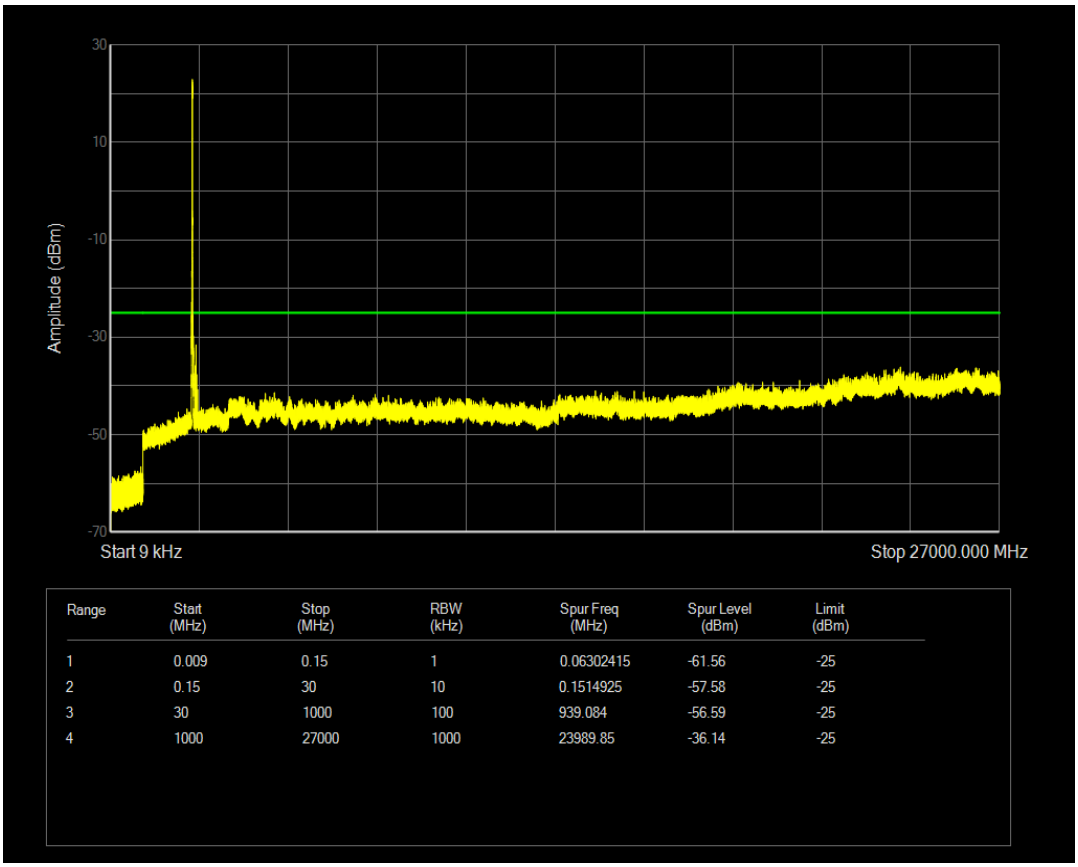


Range	Start (MHz)	Stop (MHz)	RBW (kHz)	Spur Freq (MHz)	Spur Level (dBm)	Limit (dBm)
1	2690	2691	1000	2690.001	-20.78	-10
2	2691	2695	1000	2691.088	-27.65	-10
3	2695	2740	1000	2695.405	-30.82	-13
4	2740	2752.5	1000	2748.1625	-41.41	-25

6 Out-of-band emissions for NR FR1

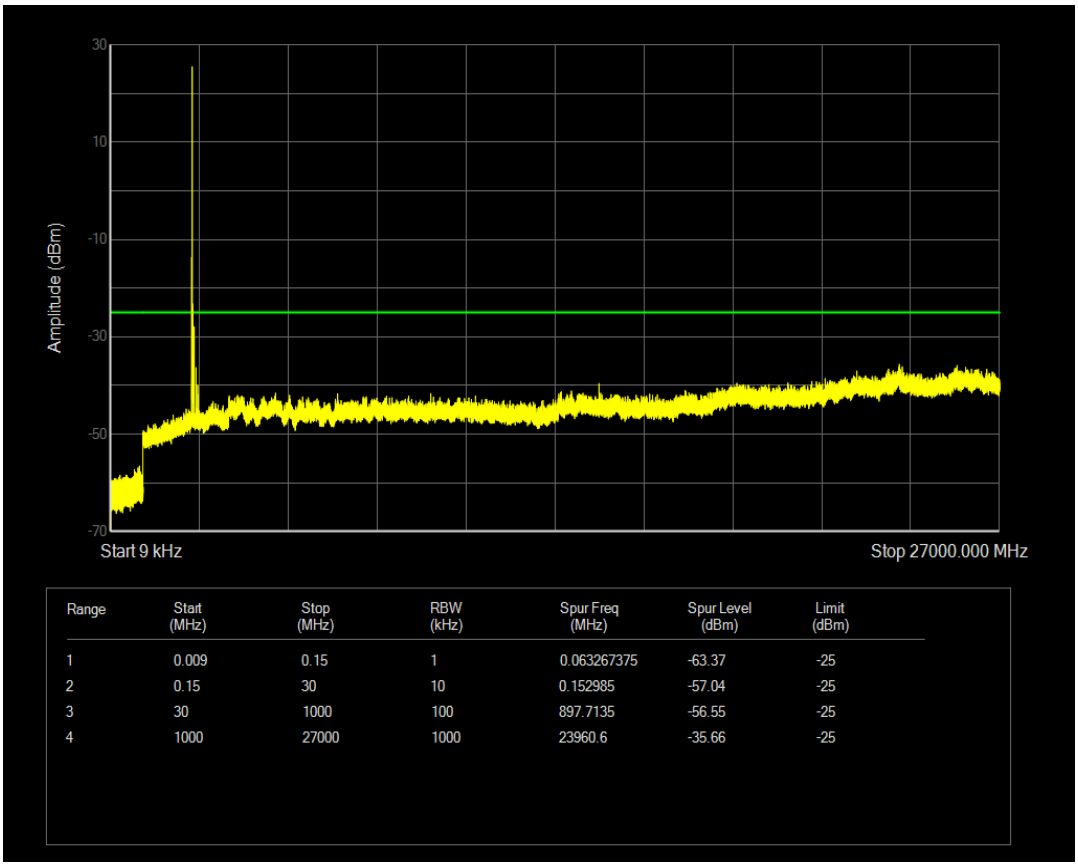
Band	SCS (kHz)	Bandwidth (MHz)	UL Channel	RB Allocation	Modulation	Spur Freq (MHz)	Spur Level (dBm)	Limit (dBm)	Verdict
n41	15	10	500202	50@0	DFT_QPSK	23989.85	-36.14	-25	PASS
n41	15	10	500202	1@0	DFT_QPSK	23960.60	-35.66	-25	PASS
n41	15	10	500202	1@51	DFT_QPSK	26373.40	-35.96	-25	PASS
n41	15	10	518601	50@0	DFT_QPSK	25583.00	-35.69	-25	PASS
n41	15	10	518601	1@0	DFT_QPSK	26296.05	-35.72	-25	PASS
n41	15	10	518601	1@51	DFT_QPSK	26326.60	-35.36	-25	PASS
n41	15	10	537000	50@0	DFT_QPSK	26306.45	-35.67	-25	PASS
n41	15	10	537000	1@0	DFT_QPSK	26340.90	-35.83	-25	PASS
n41	15	10	537000	1@51	DFT_QPSK	26379.25	-36.12	-25	PASS
n41	15	50	504201	270@0	DFT_QPSK	23768.20	-35.89	-25	PASS
n41	15	50	504201	1@0	DFT_QPSK	26261.60	-35.52	-25	PASS
n41	15	50	504201	1@269	DFT_QPSK	25966.50	-35.29	-25	PASS
n41	15	50	518601	270@0	DFT_QPSK	25646.05	-35.64	-25	PASS
n41	15	50	518601	1@0	DFT_QPSK	25893.70	-36.15	-25	PASS
n41	15	50	518601	1@269	DFT_QPSK	23950.20	-35.06	-25	PASS
n41	15	50	532998	270@0	DFT_QPSK	26372.10	-35.87	-25	PASS
n41	15	50	532998	1@0	DFT_QPSK	23958.00	-35.58	-25	PASS
n41	15	50	532998	1@269	DFT_QPSK	23945.00	-35.89	-25	PASS

n41 SCS=15kHz DFT_QPSK BW=10MHz Channel=500202 RB=50@0



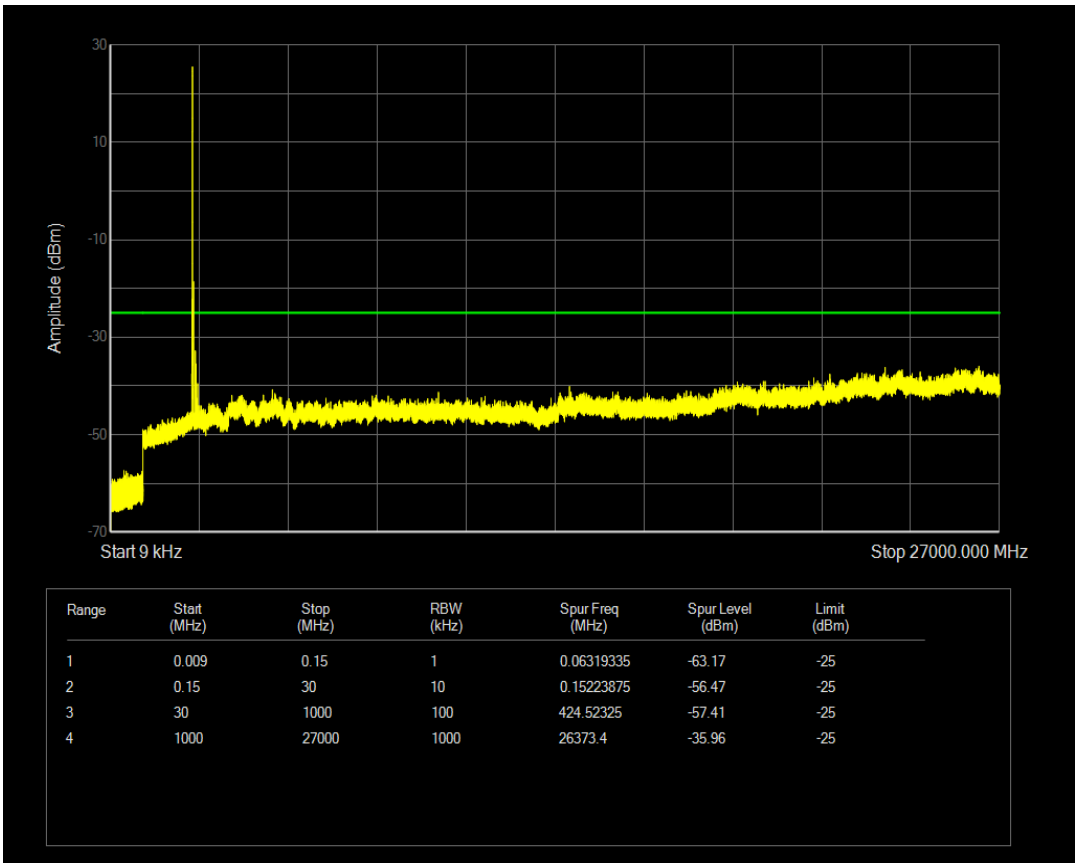
Range	Start (MHz)	Stop (MHz)	RBW (kHz)	Spur Freq (MHz)	Spur Level (dBm)	Limit (dBm)
1	0.009	0.15	1	0.06302415	-61.56	-25
2	0.15	30	10	0.1514925	-57.58	-25
3	30	1000	100	939.084	-56.59	-25
4	1000	27000	1000	23989.85	-36.14	-25

n41 SCS=15kHz DFT_QPSK BW=10MHz Channel=500202 RB=1@0



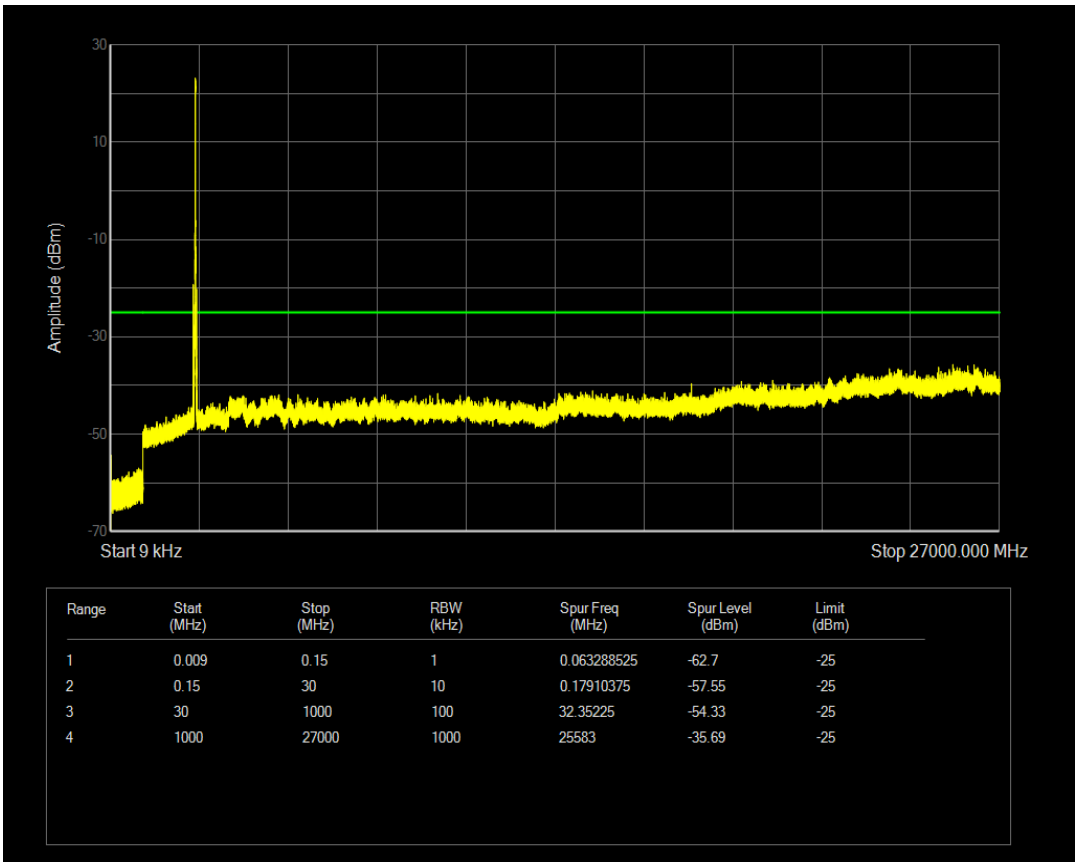
Range	Start (MHz)	Stop (MHz)	RBW (kHz)	Spur Freq (MHz)	Spur Level (dBm)	Limit (dBm)
1	0.009	0.15	1	0.063267375	-63.37	-25
2	0.15	30	10	0.152985	-57.04	-25
3	30	1000	100	897.7135	-56.55	-25
4	1000	27000	1000	23960.6	-35.66	-25

n41 SCS=15kHz DFT_QPSK BW=10MHz Channel=500202 RB=1@51



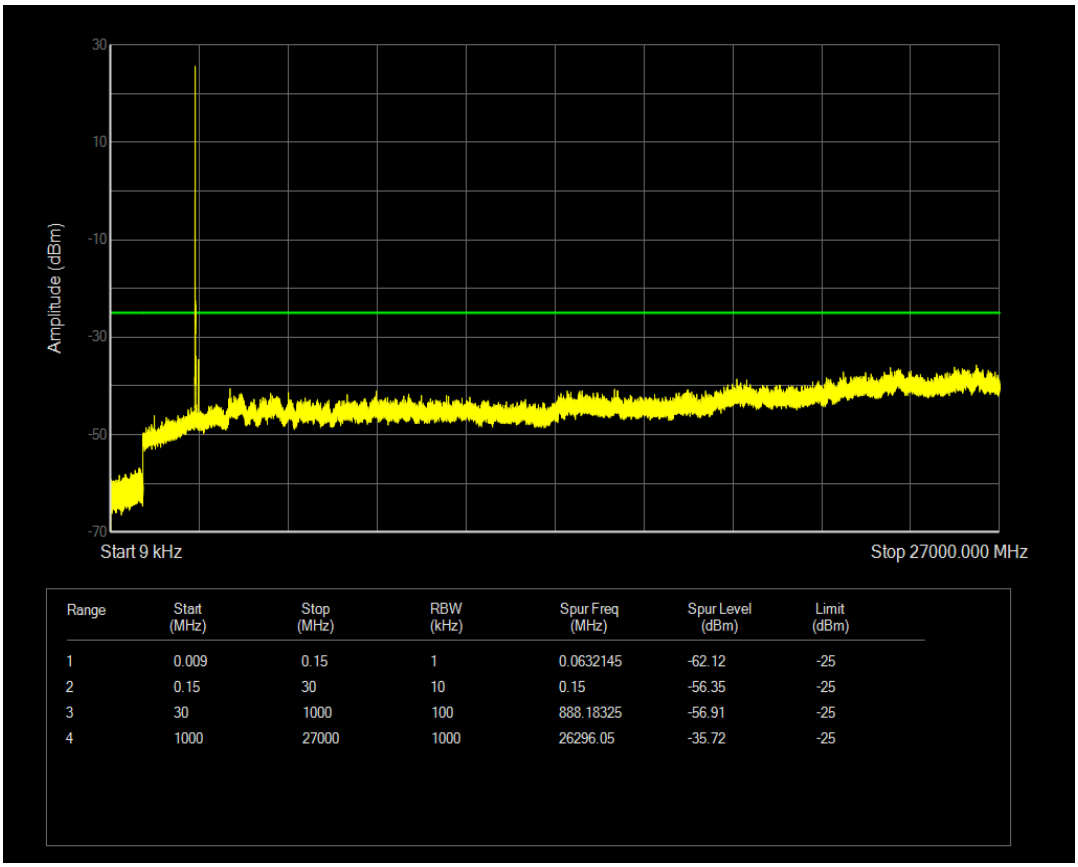
Range	Start (MHz)	Stop (MHz)	RBW (kHz)	Spur Freq (MHz)	Spur Level (dBm)	Limit (dBm)
1	0.009	0.15	1	0.06319335	-63.17	-25
2	0.15	30	10	0.15223875	-56.47	-25
3	30	1000	100	424.52325	-57.41	-25
4	1000	27000	1000	26373.4	-35.96	-25

n41 SCS=15kHz DFT_QPSK BW=10MHz Channel=518601 RB=50@0



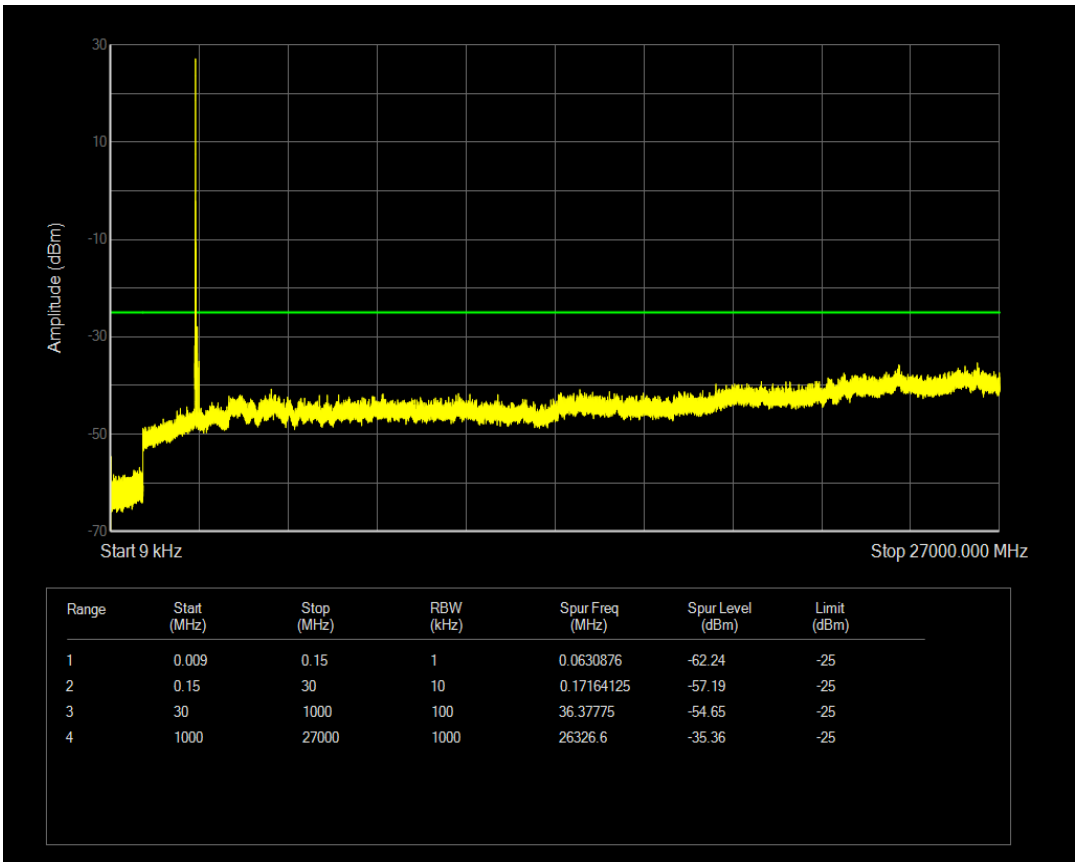
Range	Start (MHz)	Stop (MHz)	RBW (kHz)	Spur Freq (MHz)	Spur Level (dBm)	Limit (dBm)
1	0.009	0.15	1	0.063288525	-62.7	-25
2	0.15	30	10	0.17910375	-57.55	-25
3	30	1000	100	32.35225	-54.33	-25
4	1000	27000	1000	25583	-35.69	-25

n41 SCS=15kHz DFT_QPSK BW=10MHz Channel=518601 RB=1@0



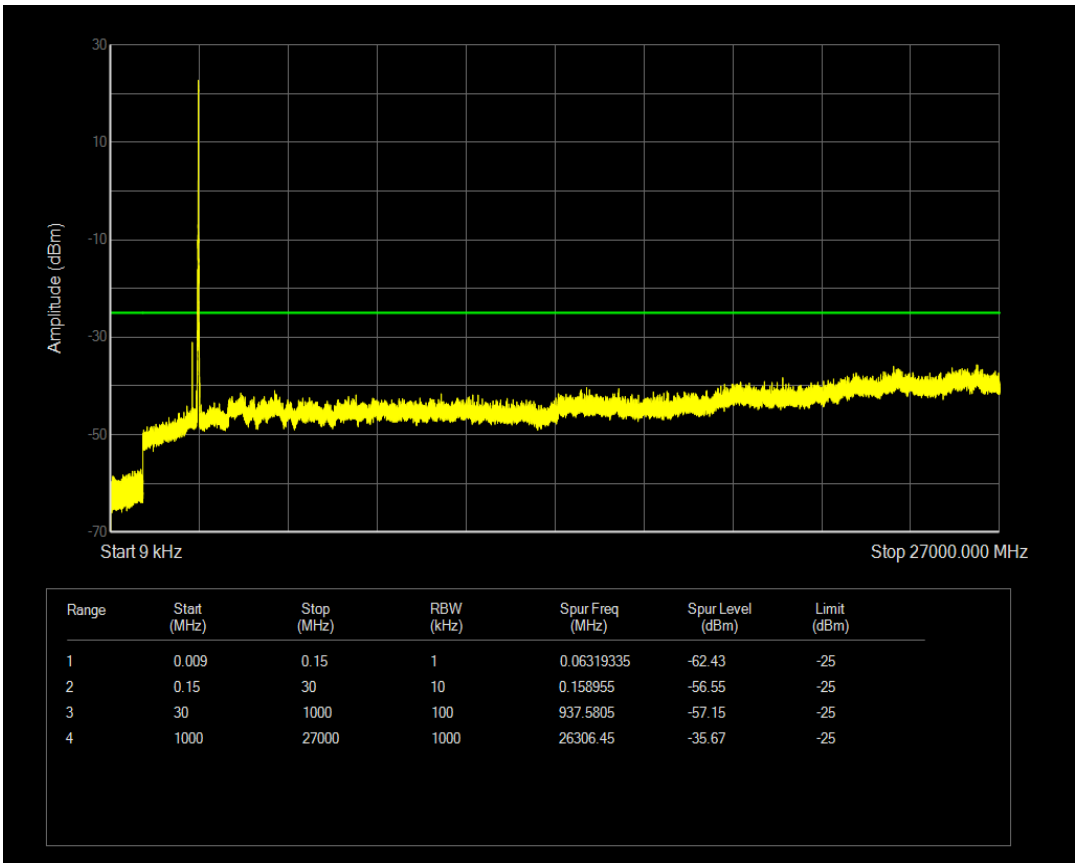
Range	Start (MHz)	Stop (MHz)	RBW (kHz)	Spur Freq (MHz)	Spur Level (dBm)	Limit (dBm)
1	0.009	0.15	1	0.0632145	-62.12	-25
2	0.15	30	10	0.15	-56.35	-25
3	30	1000	100	888.18325	-56.91	-25
4	1000	27000	1000	26296.05	-35.72	-25

n41 SCS=15kHz DFT_QPSK BW=10MHz Channel=518601 RB=1@51



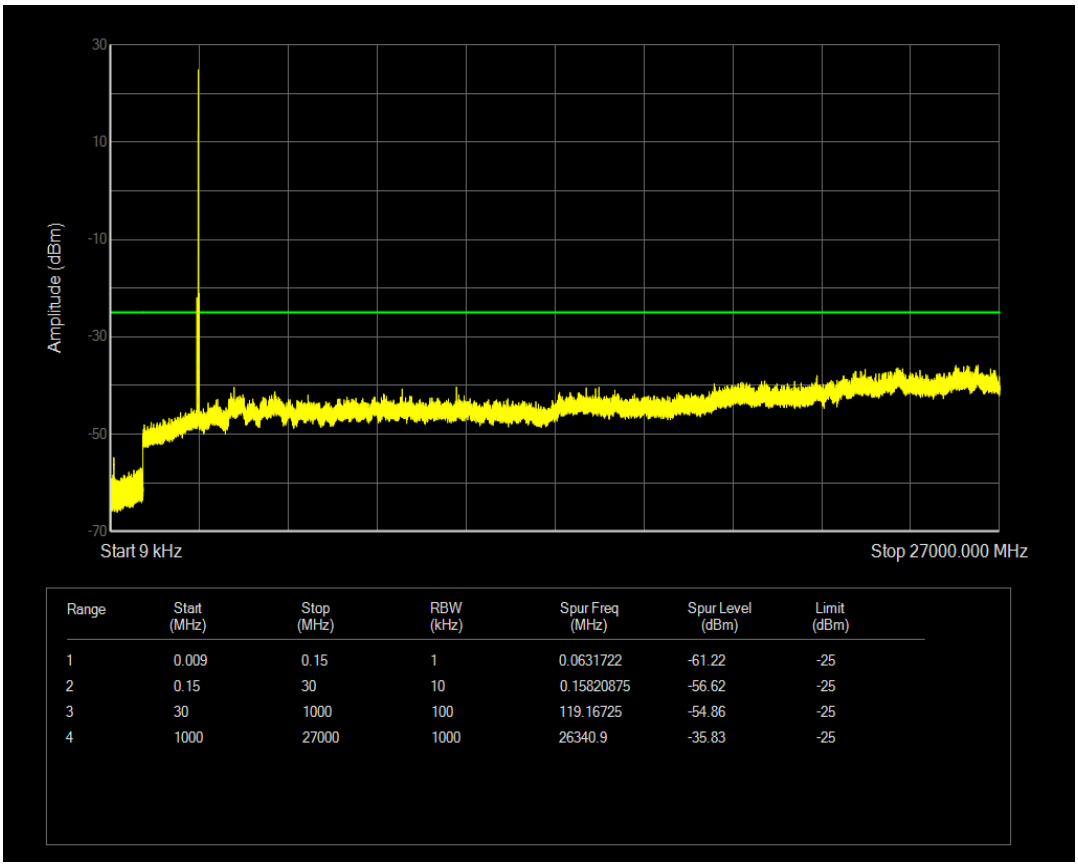
Range	Start (MHz)	Stop (MHz)	RBW (kHz)	Spur Freq (MHz)	Spur Level (dBm)	Limit (dBm)
1	0.009	0.15	1	0.0630876	-62.24	-25
2	0.15	30	10	0.17164125	-57.19	-25
3	30	1000	100	36.37775	-54.65	-25
4	1000	27000	1000	26326.6	-35.36	-25

n41 SCS=15kHz DFT_QPSK BW=10MHz Channel=537000 RB=50@0



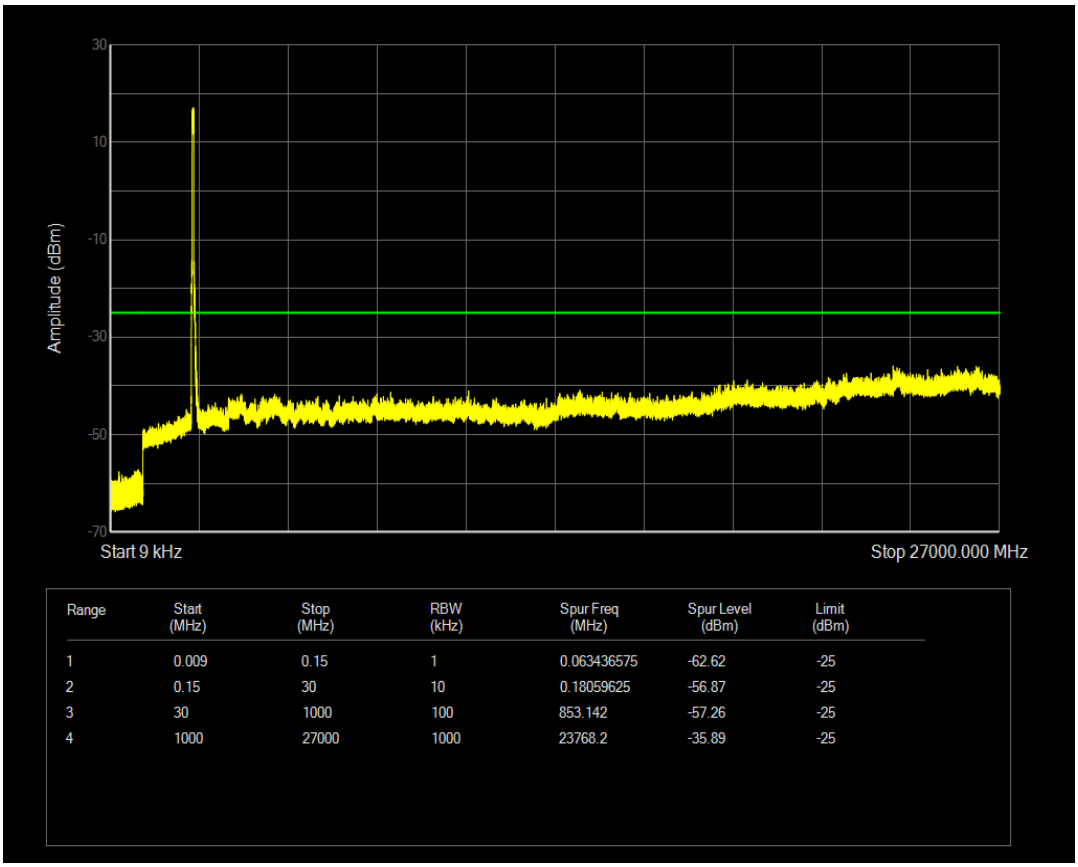
Range	Start (MHz)	Stop (MHz)	RBW (kHz)	Spur Freq (MHz)	Spur Level (dBm)	Limit (dBm)
1	0.009	0.15	1	0.06319335	-62.43	-25
2	0.15	30	10	0.158955	-56.55	-25
3	30	1000	100	937.5805	-57.15	-25
4	1000	27000	1000	26306.45	-35.67	-25

n41 SCS=15kHz DFT_QPSK BW=10MHz Channel=537000 RB=1@0



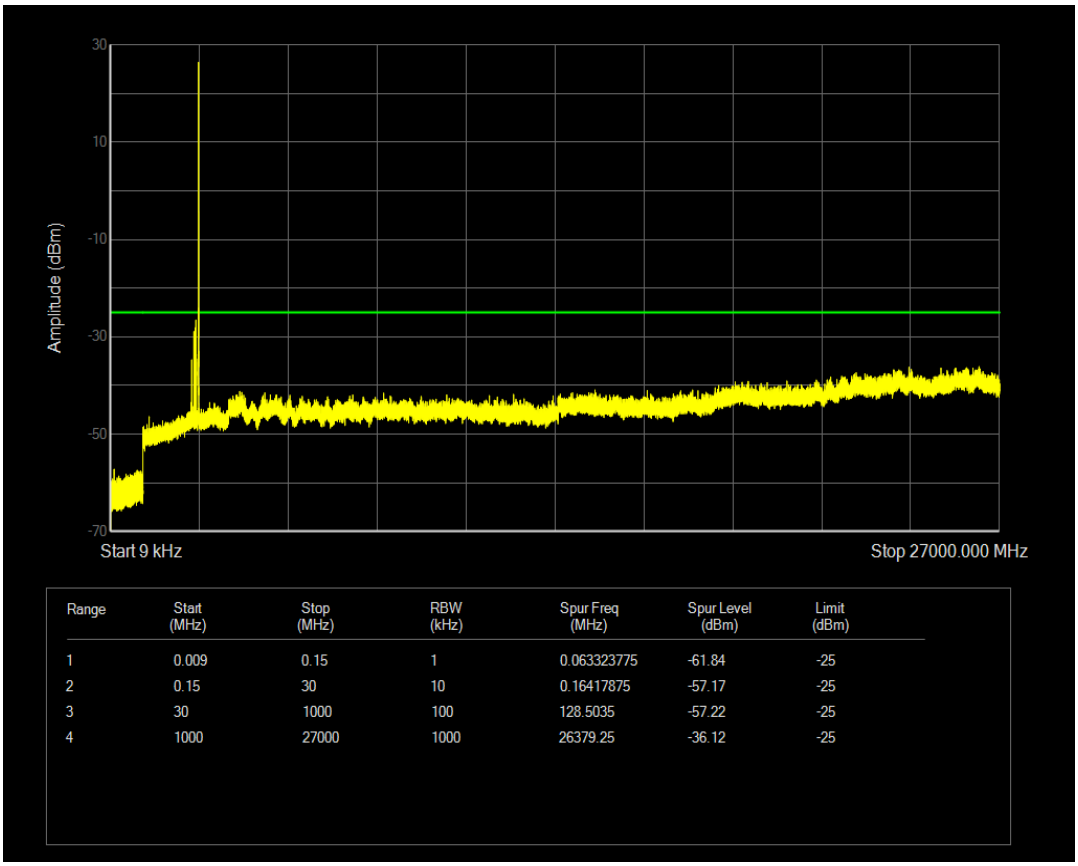
Range	Start (MHz)	Stop (MHz)	RBW (kHz)	Spur Freq (MHz)	Spur Level (dBm)	Limit (dBm)
1	0.009	0.15	1	0.0631722	-61.22	-25
2	0.15	30	10	0.15820875	-56.62	-25
3	30	1000	100	119.16725	-54.86	-25
4	1000	27000	1000	26340.9	-35.83	-25

n41 SCS=15kHz DFT_QPSK BW=50MHz Channel=504201 RB=270@0



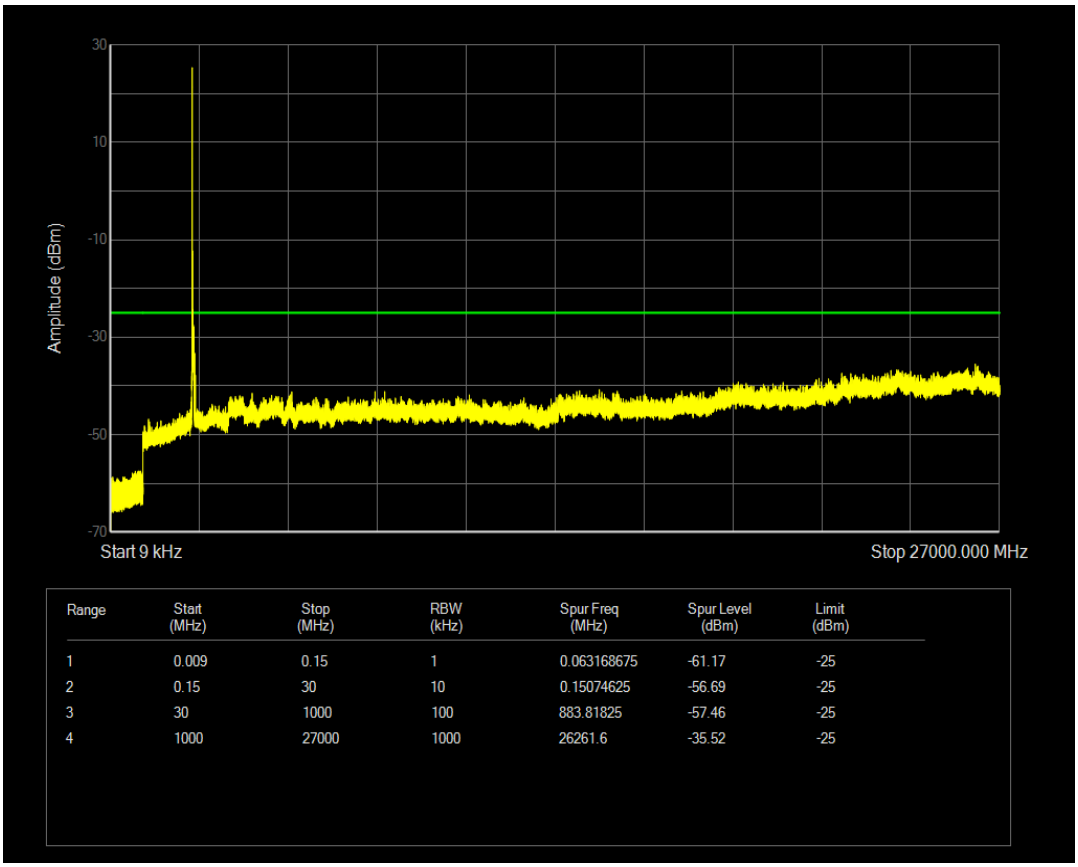
Range	Start (MHz)	Stop (MHz)	RBW (kHz)	Spur Freq (MHz)	Spur Level (dBm)	Limit (dBm)
1	0.009	0.15	1	0.063436575	-62.62	-25
2	0.15	30	10	0.18059625	-56.87	-25
3	30	1000	100	853.142	-57.26	-25
4	1000	27000	1000	23768.2	-35.89	-25

n41 SCS=15kHz DFT_QPSK BW=10MHz Channel=537000 RB=1@51



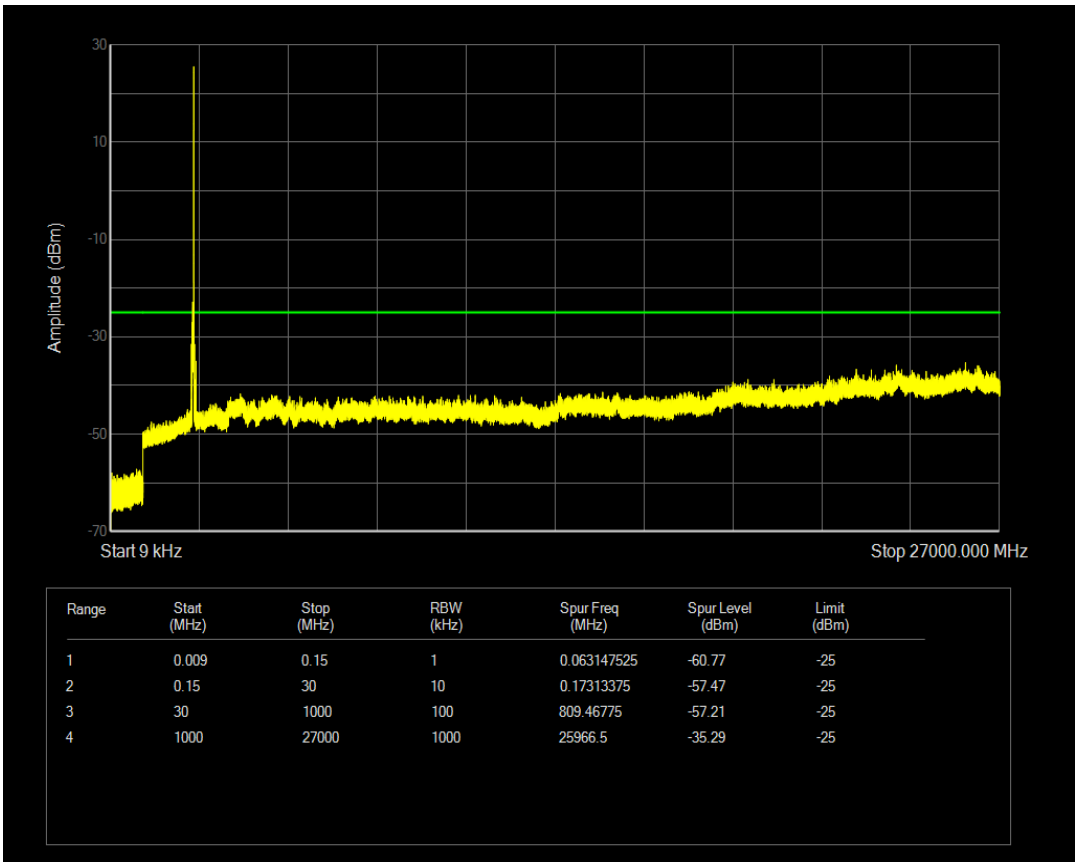
Range	Start (MHz)	Stop (MHz)	RBW (kHz)	Spur Freq (MHz)	Spur Level (dBm)	Limit (dBm)
1	0.009	0.15	1	0.063323775	-61.84	-25
2	0.15	30	10	0.16417875	-57.17	-25
3	30	1000	100	128.5035	-57.22	-25
4	1000	27000	1000	26379.25	-36.12	-25

n41 SCS=15kHz DFT_QPSK BW=50MHz Channel=504201 RB=1@0



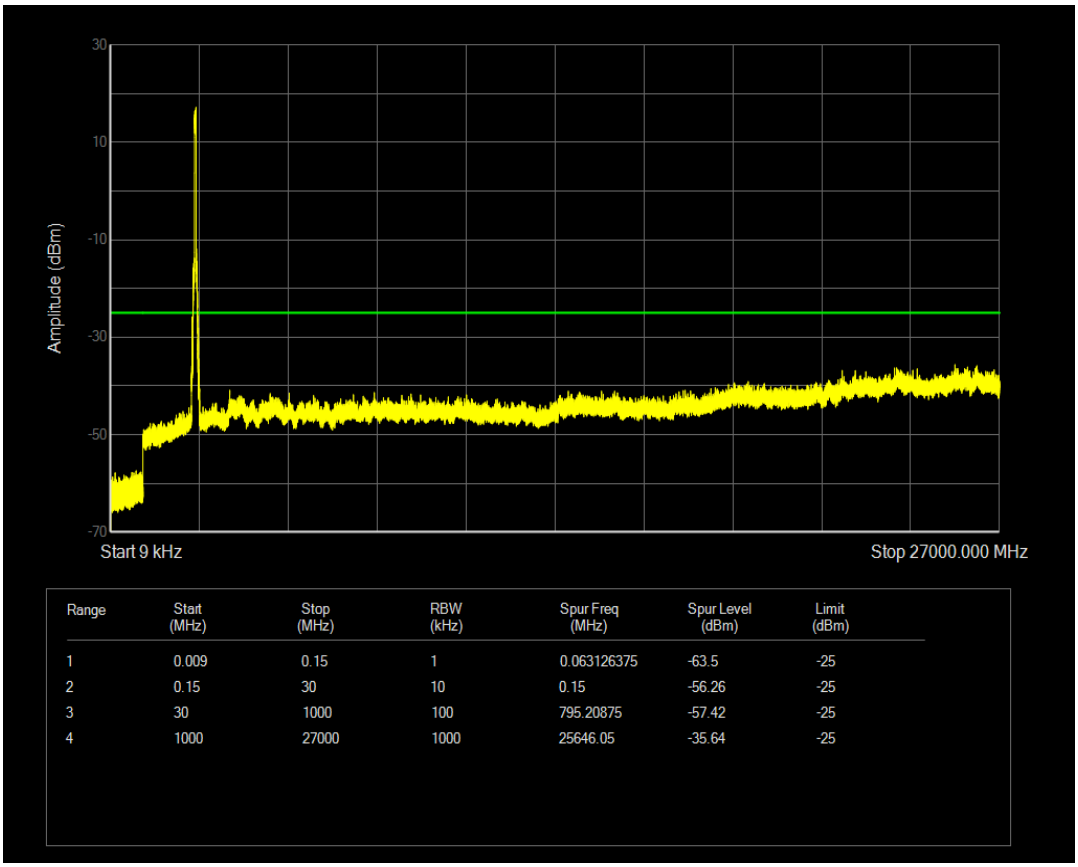
Range	Start (MHz)	Stop (MHz)	RBW (kHz)	Spur Freq (MHz)	Spur Level (dBm)	Limit (dBm)
1	0.009	0.15	1	0.063168675	-61.17	-25
2	0.15	30	10	0.15074625	-56.69	-25
3	30	1000	100	883.81825	-57.46	-25
4	1000	27000	1000	26261.6	-35.52	-25

n41 SCS=15kHz DFT_QPSK BW=50MHz Channel=504201 RB=1@269



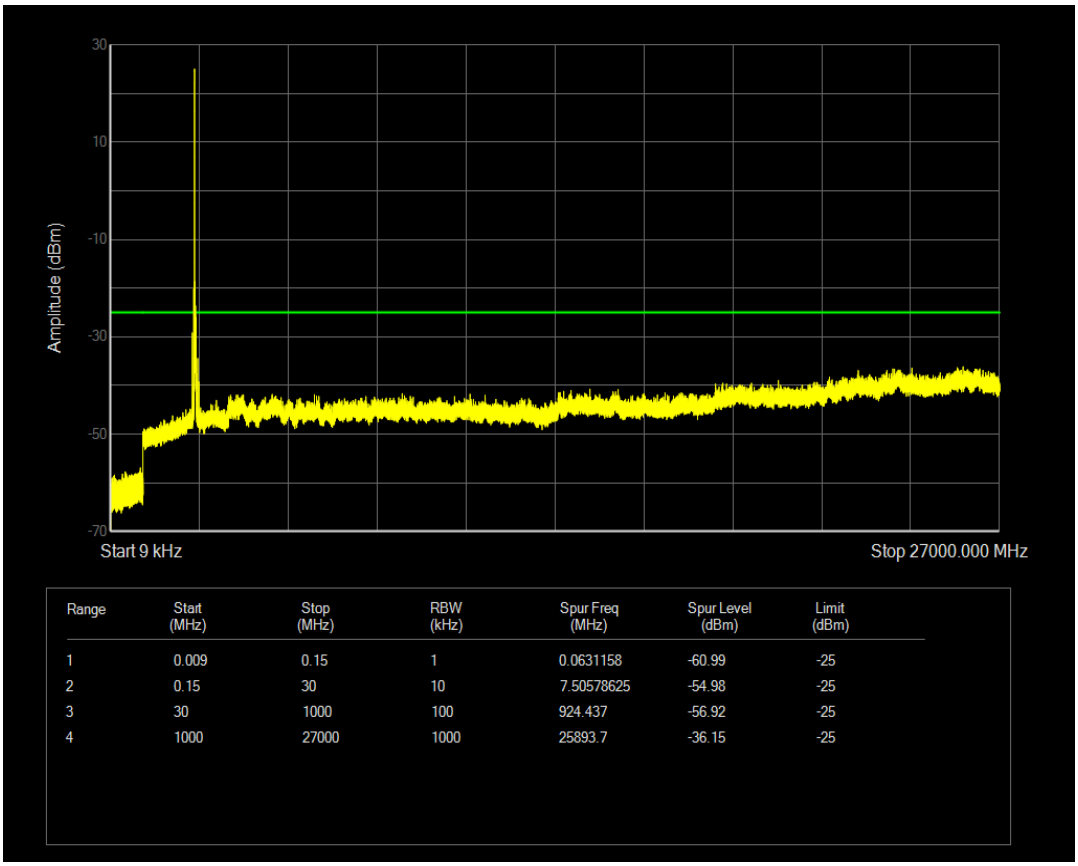
Range	Start (MHz)	Stop (MHz)	RBW (kHz)	Spur Freq (MHz)	Spur Level (dBm)	Limit (dBm)
1	0.009	0.15	1	0.063147525	-60.77	-25
2	0.15	30	10	0.17313375	-57.47	-25
3	30	1000	100	809.46775	-57.21	-25
4	1000	27000	1000	25966.5	-35.29	-25

n41 SCS=15kHz DFT_QPSK BW=50MHz Channel=518601 RB=270@0



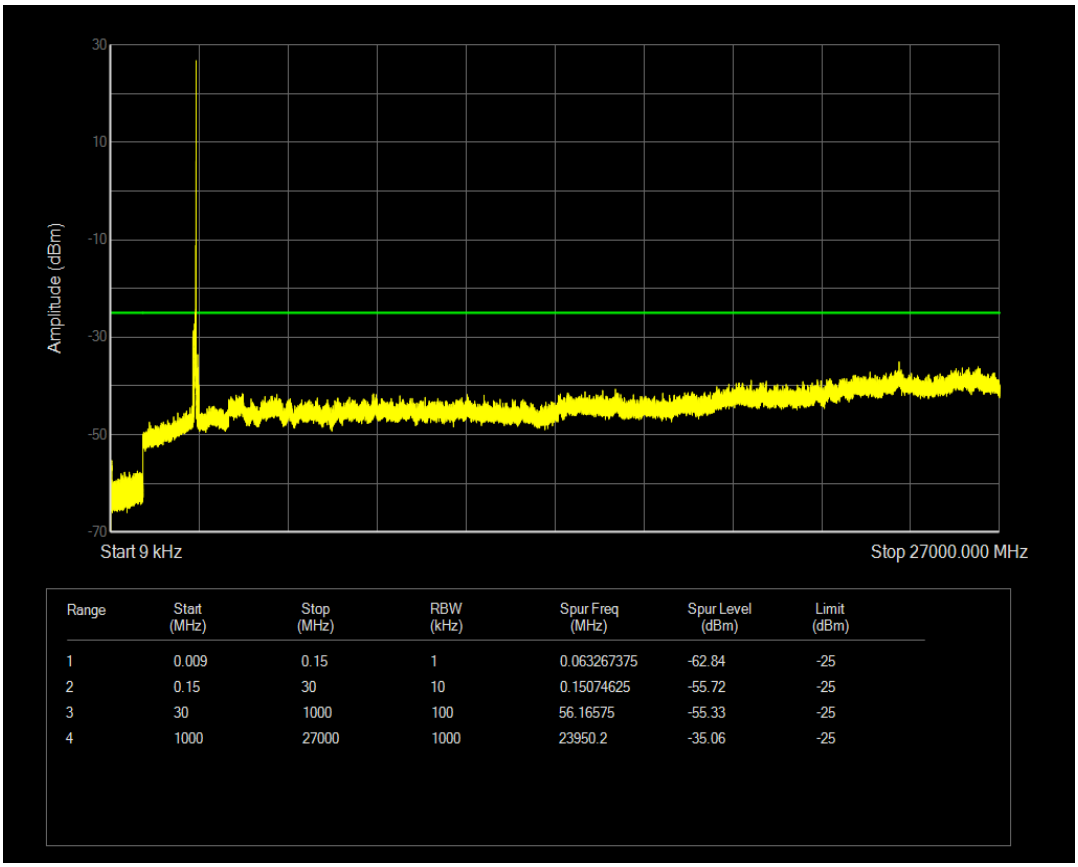
Range	Start (MHz)	Stop (MHz)	RBW (kHz)	Spur Freq (MHz)	Spur Level (dBm)	Limit (dBm)
1	0.009	0.15	1	0.063126375	-63.5	-25
2	0.15	30	10	0.15	-56.26	-25
3	30	1000	100	795.20875	-57.42	-25
4	1000	27000	1000	25646.05	-35.64	-25

n41 SCS=15kHz DFT_QPSK BW=50MHz Channel=518601 RB=1@0



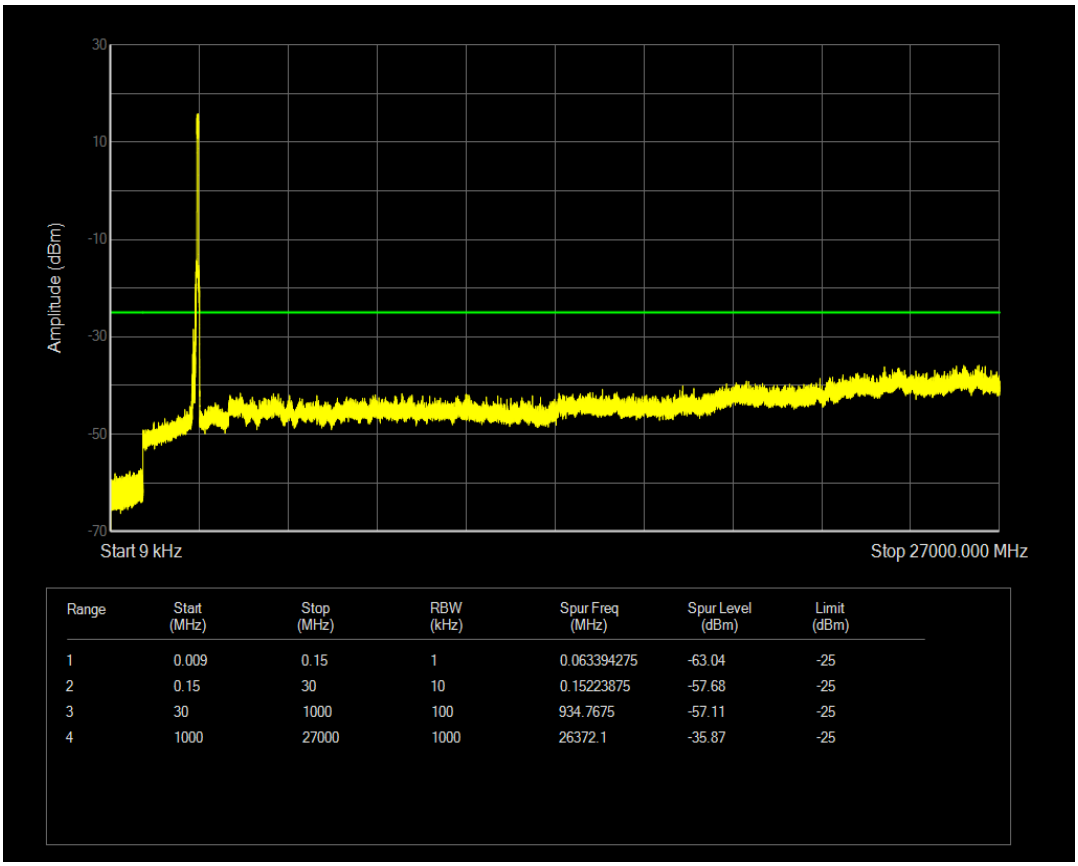
Range	Start (MHz)	Stop (MHz)	RBW (kHz)	Spur Freq (MHz)	Spur Level (dBm)	Limit (dBm)
1	0.009	0.15	1	0.0631158	-60.99	-25
2	0.15	30	10	7.50578625	-54.98	-25
3	30	1000	100	924.437	-56.92	-25
4	1000	27000	1000	25893.7	-36.15	-25

n41 SCS=15kHz DFT_QPSK BW=50MHz Channel=518601 RB=1@269



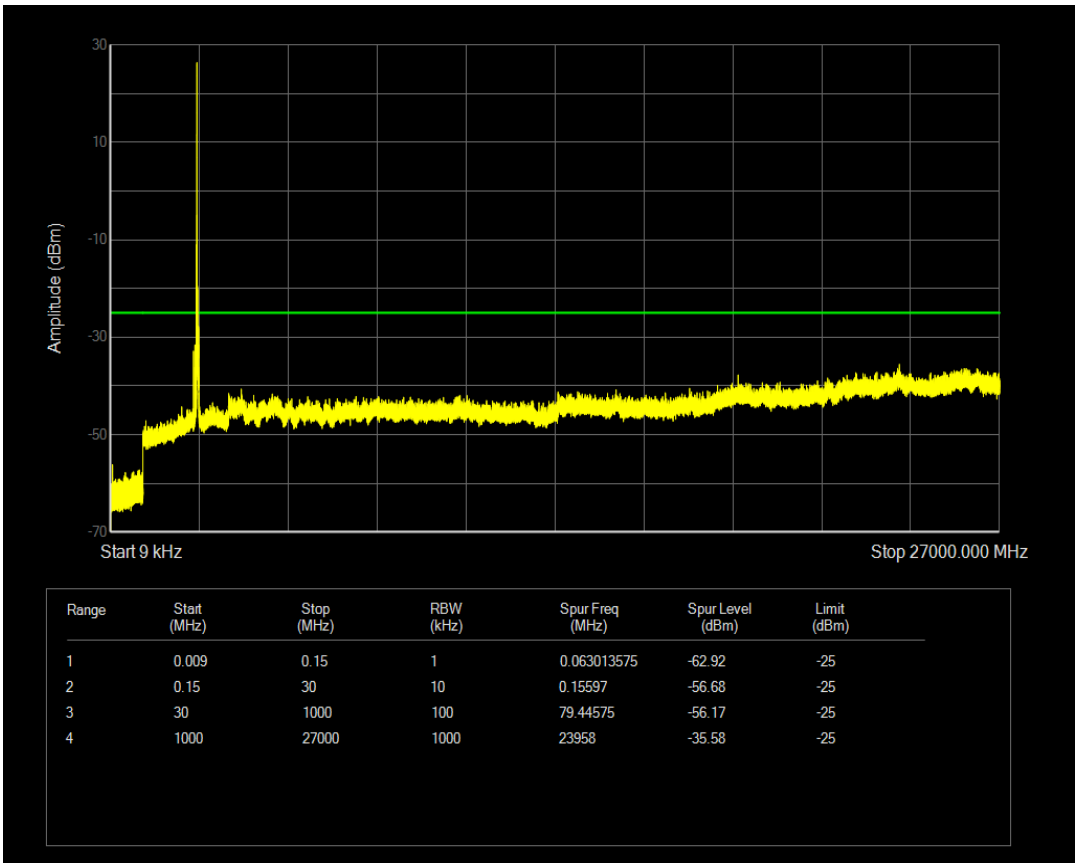
Range	Start (MHz)	Stop (MHz)	RBW (kHz)	Spur Freq (MHz)	Spur Level (dBm)	Limit (dBm)
1	0.009	0.15	1	0.063267375	-62.84	-25
2	0.15	30	10	0.15074625	-55.72	-25
3	30	1000	100	56.16575	-55.33	-25
4	1000	27000	1000	23950.2	-35.06	-25

n41 SCS=15kHz DFT_QPSK BW=50MHz Channel=532998 RB=270@0



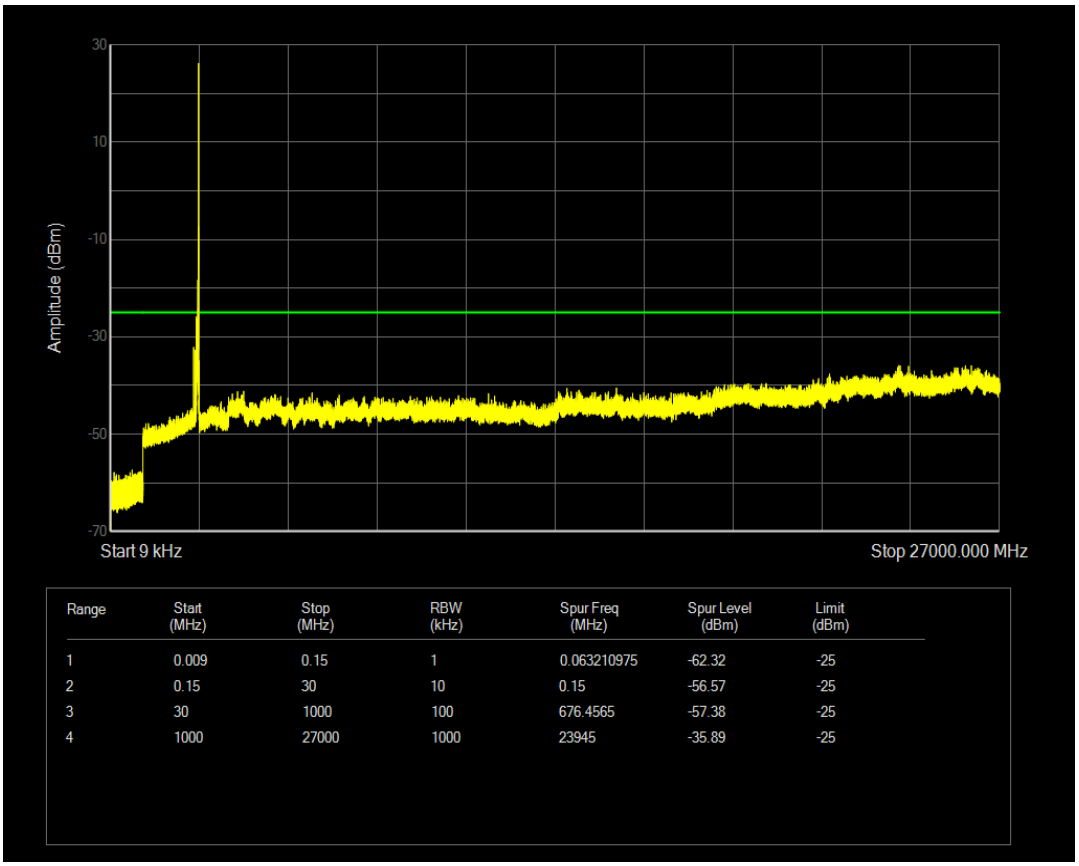
Range	Start (MHz)	Stop (MHz)	RBW (kHz)	Spur Freq (MHz)	Spur Level (dBm)	Limit (dBm)
1	0.009	0.15	1	0.063394275	-63.04	-25
2	0.15	30	10	0.15223875	-57.68	-25
3	30	1000	100	934.7675	-57.11	-25
4	1000	27000	1000	26372.1	-35.87	-25

n41 SCS=15kHz DFT_QPSK BW=50MHz Channel=532998 RB=1@0



Range	Start (MHz)	Stop (MHz)	RBW (kHz)	Spur Freq (MHz)	Spur Level (dBm)	Limit (dBm)
1	0.009	0.15	1	0.063013575	-62.92	-25
2	0.15	30	10	0.15597	-56.68	-25
3	30	1000	100	79.44575	-56.17	-25
4	1000	27000	1000	23958	-35.58	-25

n41 SCS=15kHz DFT_QPSK BW=50MHz Channel=532998 RB=1@269



Range	Start (MHz)	Stop (MHz)	RBW (kHz)	Spur Freq (MHz)	Spur Level (dBm)	Limit (dBm)
1	0.009	0.15	1	0.063210975	-62.32	-25
2	0.15	30	10	0.15	-56.57	-25
3	30	1000	100	676.4565	-57.38	-25
4	1000	27000	1000	23945	-35.89	-25