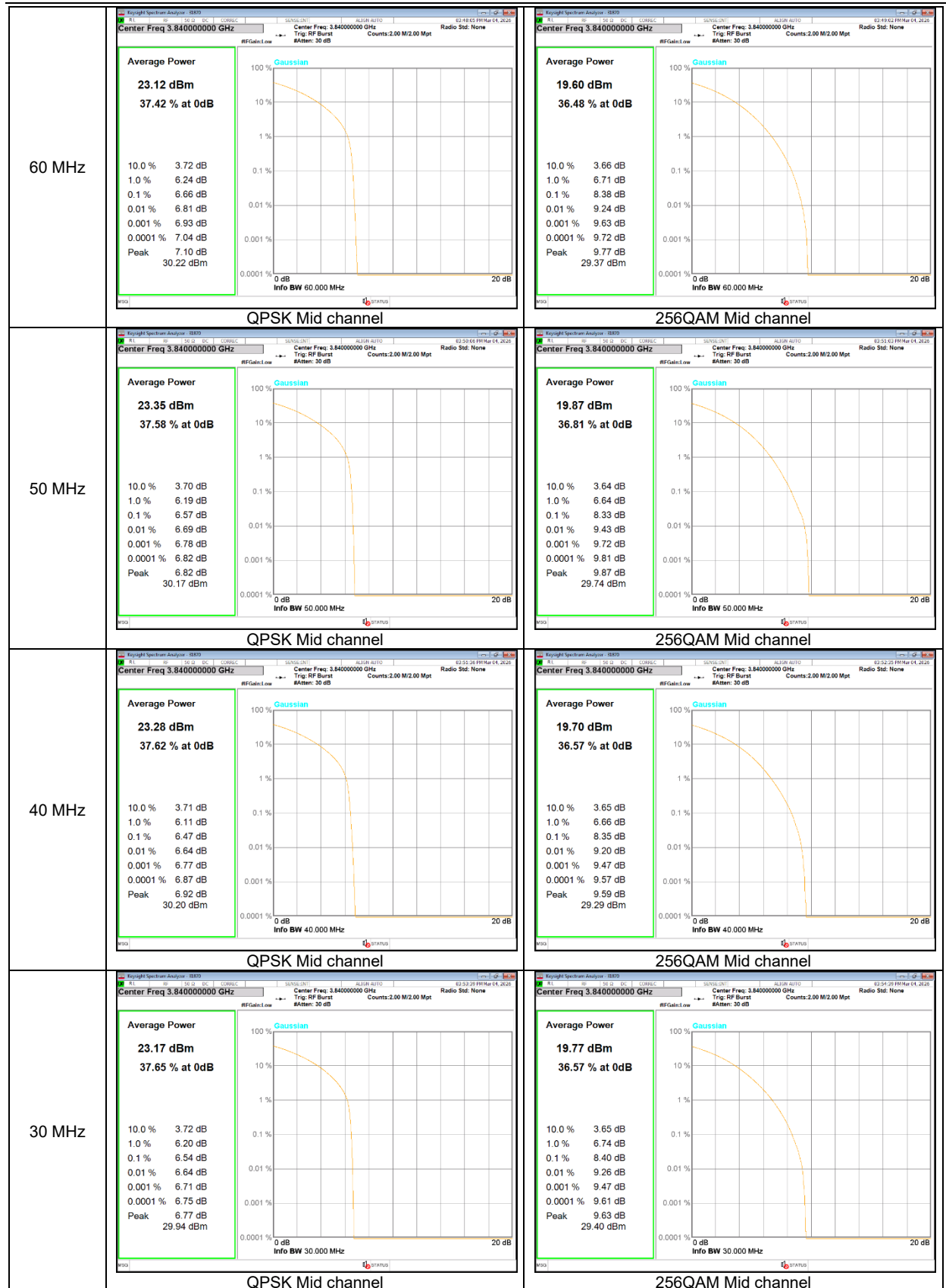
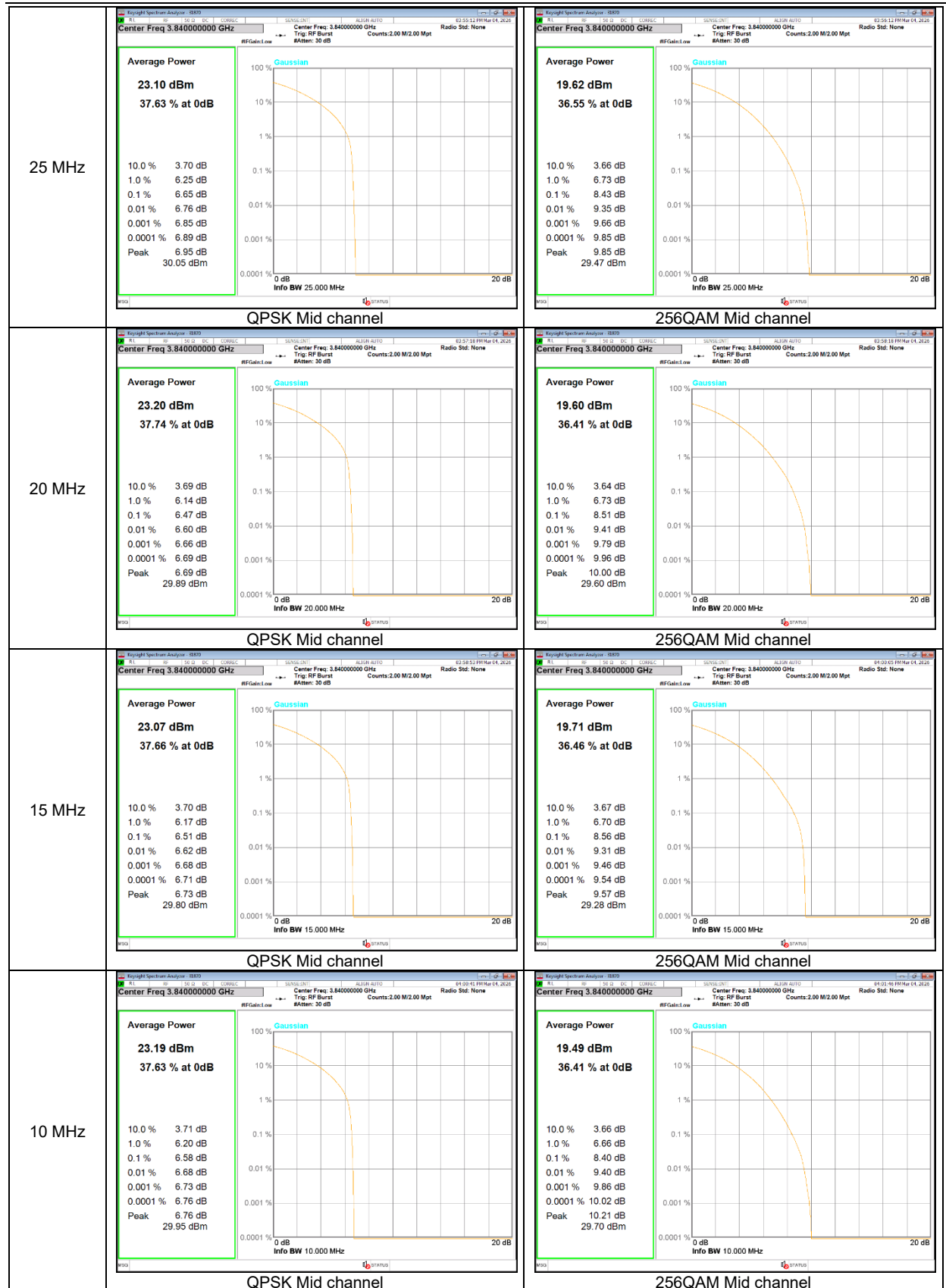


NR Band n77 (PC2, 3700-3980 MHz) CP-OFDM (ANT E)







8.3. OCCUPIED BANDWIDTH

RULE PART(S)

FCC: §2.1049

LIMITS

For reporting purposes only

TEST PROCEDURE

The transmitter output was connected to a calibrated coaxial cable and coupler, the other end of which was connected to a spectrum analyzer. The occupied bandwidth was measured with the spectrum analyzer at middle channel in each band. The -26dB bandwidth was also measured and recorded.

(KDB 971168 D01 Power Meas License Digital Systems v03r01)

RESULTS

See the following pages.

- WCDMA (ANT F)

Band	Modulation	f [MHz]	99% BW (MHz)	-26dB BW (MHz)
B4	Rel.99	1732.60	4.148	4.649
	HSDPA		4.176	4.641

- LTE Band 7 (ANT B)

Band	BW	Modulation	Frequency [MHz]	99% BW (MHz)	-26dB BW (MHz)
LTE B7	20M	QPSK	2535.00	17.908	19.120
		16QAM		17.914	19.350
	15M	QPSK		13.417	14.590
		16QAM		13.447	14.560
	10M	QPSK		8.953	9.819
		16QAM		8.982	9.798
	5M	QPSK		4.485	5.054
		16QAM		4.492	5.134

- LTE Band 12 (ANT A)

Band	BW	Modulation	Frequency [MHz]	99% BW (MHz)	-26dB BW (MHz)
LTE B12	10M	QPSK	707.50	8.960	9.752
		16QAM		8.941	9.652
	5M	QPSK		4.483	5.049
		16QAM		4.493	5.115
	3M	QPSK		2.688	2.992
		16QAM		2.689	3.066
	1.4M	QPSK		1.087	1.316
		16QAM		1.088	1.346

- LTE Band 13 (ANT A)

Band	BW	Modulation	f [MHz]	99% BW (MHz)	-26dB BW (MHz)
LTE B13	10M	QPSK	782.00	8.970	9.570
		16QAM		8.962	9.898
	5M	QPSK		4.491	5.141
		16QAM		4.485	5.079

- LTE Band 30 (ANT B)

Band	BW	Modulation	f [MHz]	99% BW (MHz)	-26dB BW (MHz)
LTE B30	10M	QPSK	2310.00	8.957	9.743
		16QAM		8.957	9.730
	5M	QPSK		4.476	5.046
		16QAM		4.492	5.040

- LTE Band 41 (PC3) (ANT F)

Band	BW	Modulation	Frequency [MHz]	99% BW (MHz)	-26dB BW (MHz)
LTE B41 (PC3)	20M	QPSK	2593.00	17.862	19.350
		16QAM		17.924	19.120
	15M	QPSK		13.440	14.410
		16QAM		13.380	14.450
	10M	QPSK		8.958	9.713
		16QAM		8.970	9.739
	5M	QPSK		4.476	5.140
		16QAM		4.483	4.994

- LTE Band 66 (ANT F)

Band	BW	Modulation	Frequency [MHz]	99% BW (MHz)	-26dB BW (MHz)
LTE B66	20M	QPSK	1745.00	17.869	19.450
		16QAM		17.878	19.180
	15M	QPSK		13.425	14.700
		16QAM		13.419	14.550
	10M	QPSK		8.986	9.848
		16QAM		8.958	9.826
	5M	QPSK		4.484	5.094
		16QAM		4.485	5.105
	3M	QPSK		2.688	2.968
		16QAM		2.691	3.017
	1.4M	QPSK		1.088	1.360
		16QAM		1.089	1.325

- LTE Band 71 (ANT A)

Band	BW	Modulation	Frequency [MHz]	99% BW (MHz)	-26dB BW (MHz)
LTE B71	20M	QPSK	680.50	17.943	19.430
		16QAM		17.874	19.070
	15M	QPSK		13.444	14.580
		16QAM		13.480	14.390
	10M	QPSK		8.971	9.838
		16QAM		8.974	9.886
	5M	QPSK		4.477	5.064
		16QAM		4.482	5.067

- NR Band n7 CP-OFDM (ANT B)

Band	BW	Modulation	Frequency [MHz]	99% BW (MHz)	-26dB BW (MHz)
NR n7	50M	QPSK	2535.00	48.204	51.150
		16QAM		48.227	50.620
	40M	QPSK		38.598	40.520
		16QAM		38.672	40.260
	35M	QPSK		33.528	35.210
		16QAM		33.564	34.990
	30M	QPSK		28.622	30.080
		16QAM		28.638	30.110
	25M	QPSK		23.781	25.620
		16QAM		23.771	25.060
	20M	QPSK		18.913	20.160
		16QAM		18.953	20.690
	15M	QPSK		14.148	15.730
		16QAM		14.134	15.690
	10M	QPSK		9.286	10.120
		16QAM		9.312	10.340
	5M	QPSK		4.483	5.253
		16QAM		4.491	6.194

- NR Band n12 CP-OFDM (ANT A)

Band	BW	Modulation	Frequency [MHz]	99% BW (MHz)	-26dB BW (MHz)
NR n12	15M	QPSK	707.50	14.093	14.990
		16QAM		14.122	15.040
	10M	QPSK		9.272	10.110
		16QAM		9.277	9.941
	5M	QPSK		4.477	5.038
		16QAM		4.485	5.194

- NR Band n30 CP-OFDM (ANT B)

Band	BW	Modulation	Frequency [MHz]	99% BW (MHz)	-26dB BW (MHz)
NR n30	10M	QPSK	2310.00	9.281	10.350
		16QAM		9.315	10.190
	5M	QPSK		4.494	5.281
		16QAM		4.492	5.152

- NR Band n41 (PC2) CP-OFDM (ANT B)

Band	BW	Modulation	Frequency [MHz]	99% BW (MHz)	-26dB BW (MHz)
NR n41	100M	QPSK	2592.99	97.346	101.500
		16QAM		97.525	101.600
	90M	QPSK		87.393	91.360
		16QAM		87.510	91.230
	80M	QPSK		77.443	80.670
		16QAM		77.618	80.610
	70M	QPSK		67.601	70.680
		16QAM		67.466	70.540
	60M	QPSK		57.819	60.690
		16QAM		57.789	60.070
	50M	QPSK		47.526	49.550
		16QAM		47.571	50.180
	45M	QPSK		42.568	44.550
		16QAM		42.669	44.870
	40M	QPSK		37.979	39.700
		16QAM		37.899	39.670
	35M	QPSK		32.784	34.710
		16QAM		32.731	34.570
	30M	QPSK		27.882	29.380
		16QAM		27.760	29.780
	25M	QPSK		23.244	24.760
		16QAM		23.194	25.070
	20M	QPSK		18.276	19.460
		16QAM		18.252	19.700
	15M	QPSK		13.583	14.510
		16QAM		13.576	14.730
	10M	QPSK		8.590	9.683
		16QAM		8.577	9.588

- NR Band n66 CP-OFDM (ANT F)

Band	BW	Modulation	Frequency [MHz]	99% BW (MHz)	-26dB BW (MHz)
NR n66	45M	QPSK	1745.00	43.245	45.260
		16QAM		43.192	45.260
	40M	QPSK		38.470	40.310
		16QAM		38.591	40.290
	35M	QPSK		33.526	35.150
		16QAM		33.540	35.160
	30M	QPSK		28.612	29.930
		16QAM		28.539	29.920
	25M	QPSK		23.562	24.780
		16QAM		23.615	24.770
	20M	QPSK		18.881	20.070
		16QAM		18.930	19.860
	15M	QPSK		14.114	15.010
		16QAM		14.092	14.960
	10M	QPSK		9.287	10.030
		16QAM		9.288	10.100
	5M	QPSK		4.490	5.208
		16QAM		4.505	5.095

- NR Band n70 CP-OFDM (ANT F)

Band	BW	Modulation	Frequency [MHz]	99% BW (MHz)	-26dB BW (MHz)
NR n70	15M	QPSK	1702.50	14.119	15.240
		16QAM		14.140	15.340
	10M	QPSK		9.297	10.090
		16QAM		9.314	10.060
	5M	QPSK		4.482	5.173
		16QAM		4.482	5.239

- NR Band n71 CP-OFDM (ANT A)

Band	BW	Modulation	Frequency [MHz]	99% BW (MHz)	-26dB BW (MHz)
NR n71	35M	QPSK	680.50	33.580	35.020
		16QAM		33.606	34.950
	30M	QPSK		28.576	29.930
		16QAM		28.565	30.000
	25M	QPSK		23.695	24.830
		16QAM		23.821	25.000
	20M	QPSK		18.947	19.950
		16QAM		18.984	20.140
	15M	QPSK		14.140	15.020
		16QAM		14.136	15.040
	10M	QPSK		9.273	10.140
		16QAM		9.323	10.170
	5M	QPSK		4.477	5.162
		16QAM		4.471	5.229

- NR Band n77 (PC2, 3450-3550 MHz) CP-OFDM (ANT E)

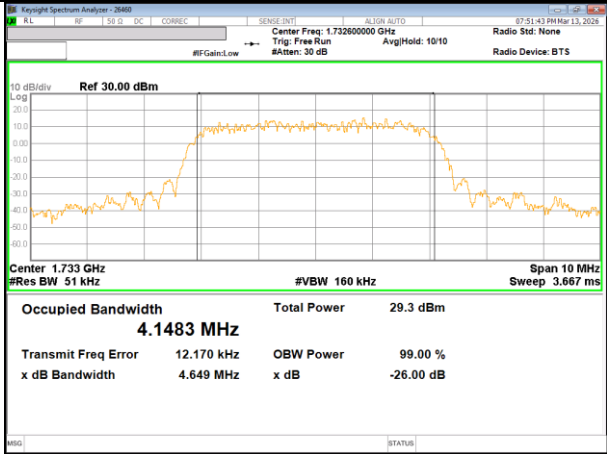
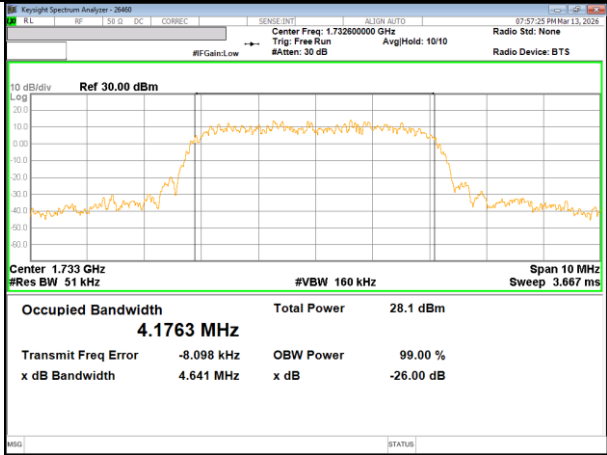
Band	BW	Modulation	Frequency [MHz]	99% BW (MHz)	-26dB BW (MHz)
NR n77	100M	QPSK	3499.98	97.383	101.400
		16QAM		97.178	101.600
	90M	QPSK		87.497	91.380
		16QAM		87.678	91.330
	80M	QPSK		77.663	80.740
		16QAM		77.578	80.800
	70M	QPSK		67.377	70.630
		16QAM		67.536	70.520
	60M	QPSK		57.965	60.440
		16QAM		57.892	60.460
	50M	QPSK		47.487	49.870
		16QAM		47.603	49.490
	40M	QPSK		37.847	40.060
		16QAM		37.923	39.630
	30M	QPSK		27.942	29.620
		16QAM		27.842	29.520
	25M	QPSK		23.232	24.670
		16QAM		23.231	24.540
	20M	QPSK		18.185	19.500
		16QAM		18.209	19.800
	15M	QPSK		13.553	14.970
		16QAM		13.575	14.570
	10M	QPSK		8.586	9.536
		16QAM		8.629	9.813

- NR Band n77 (PC2, 3700-3980 MHz) CP-OFDM (ANT E)

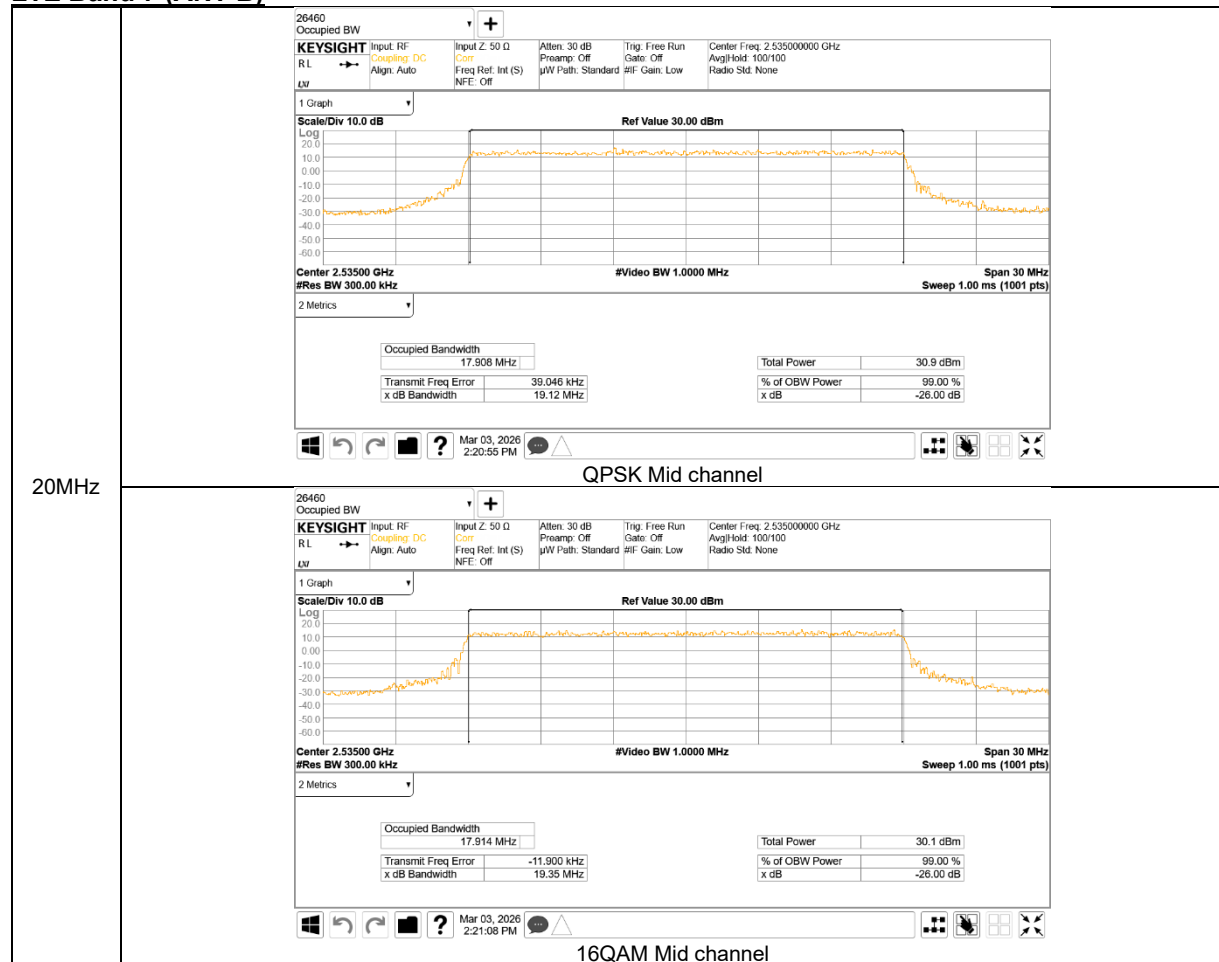
Band	BW	Modulation	Frequency [MHz]	99% BW (MHz)	-26dB BW (MHz)
NR n77	100M	QPSK	3840.00	97.553	101.700
		16QAM		97.506	101.600
	90M	QPSK		87.491	91.270
		16QAM		87.806	91.700
	80M	QPSK		77.465	80.680
		16QAM		77.711	80.690
	70M	QPSK		67.587	70.630
		16QAM		67.501	70.500
	60M	QPSK		57.899	60.250
		16QAM		57.972	60.290
	50M	QPSK		47.433	49.540
		16QAM		47.347	49.550
	40M	QPSK		37.859	40.150
		16QAM		37.970	39.620
	30M	QPSK		27.980	29.730
		16QAM		27.889	29.710
	25M	QPSK		23.147	24.380
		16QAM		23.227	24.990
	20M	QPSK		18.250	19.710
		16QAM		18.232	19.650
	15M	QPSK		13.593	14.640
		16QAM		13.624	14.960
	10M	QPSK		8.587	9.625
		16QAM		8.618	9.854

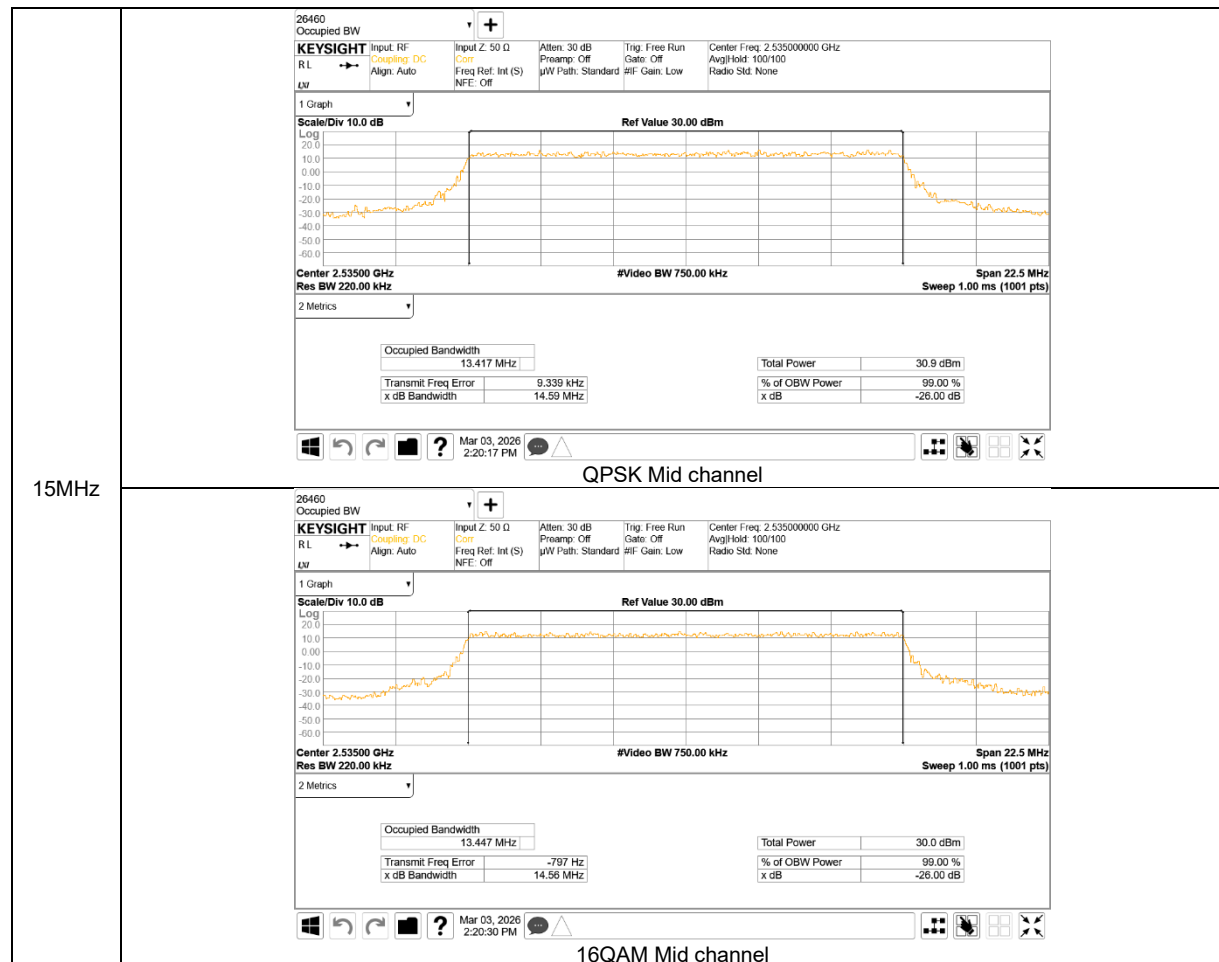
8.3.1. OCCUPIED BANDWIDTH RESULT

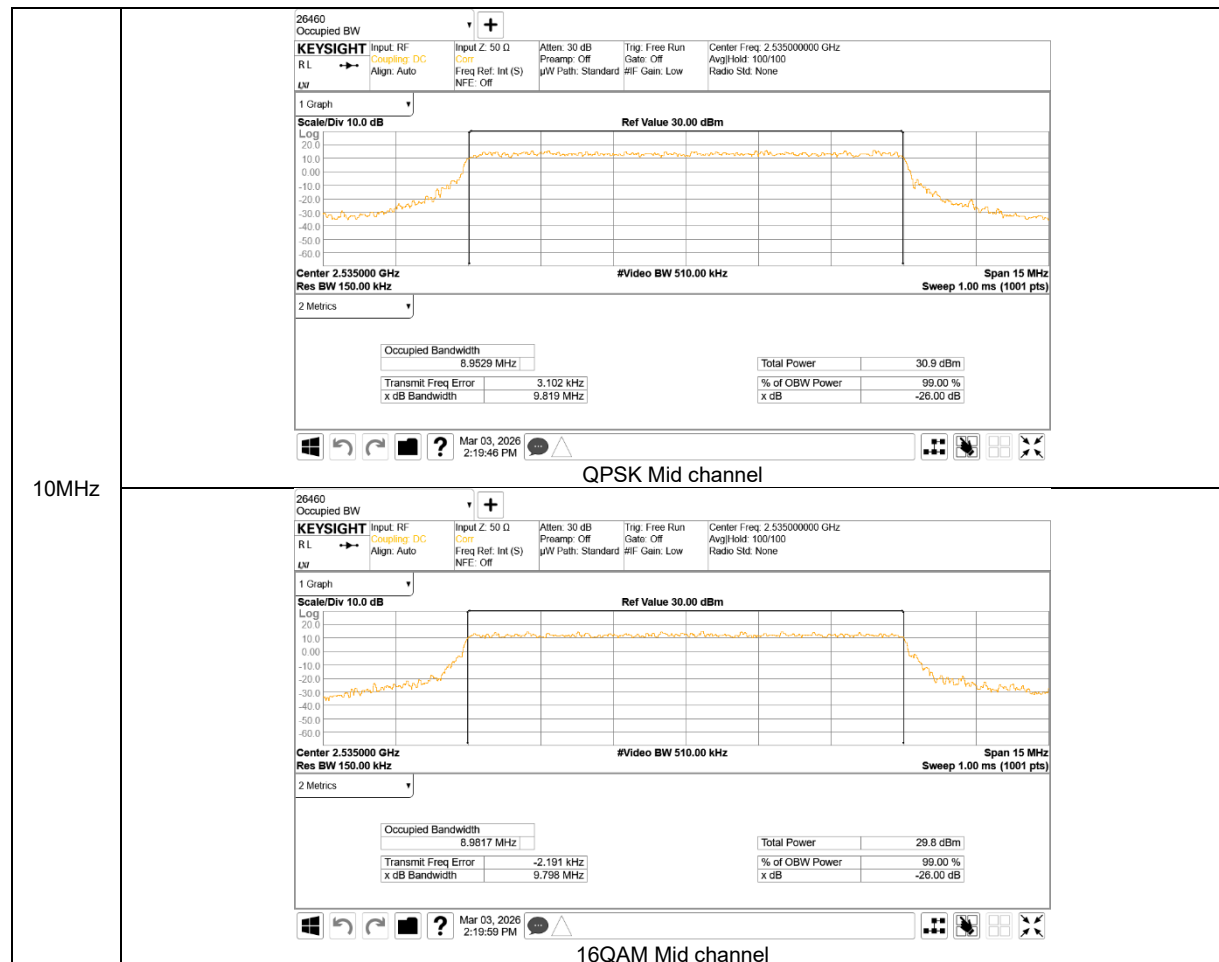
WCDMA Band 4 (ANT F)

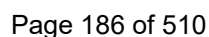
Band 4	 REL99 Mid channel
	 HSDPA Mid channel

LTE Band 7 (ANT B)



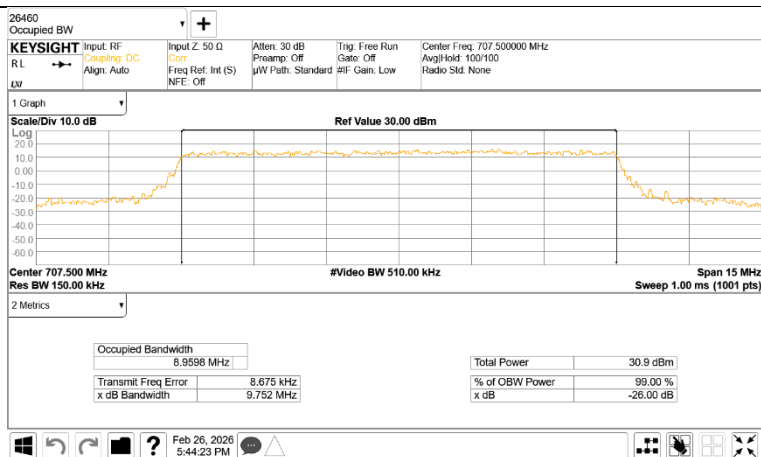




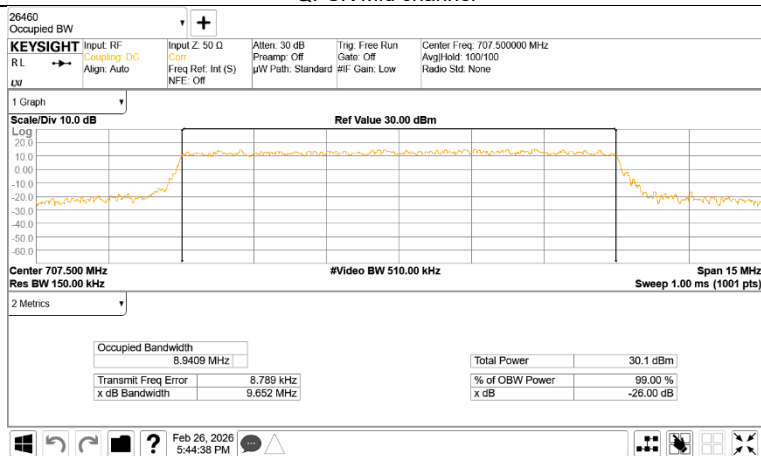


LTE Band 12 (ANT A)

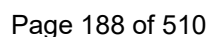
10MHz

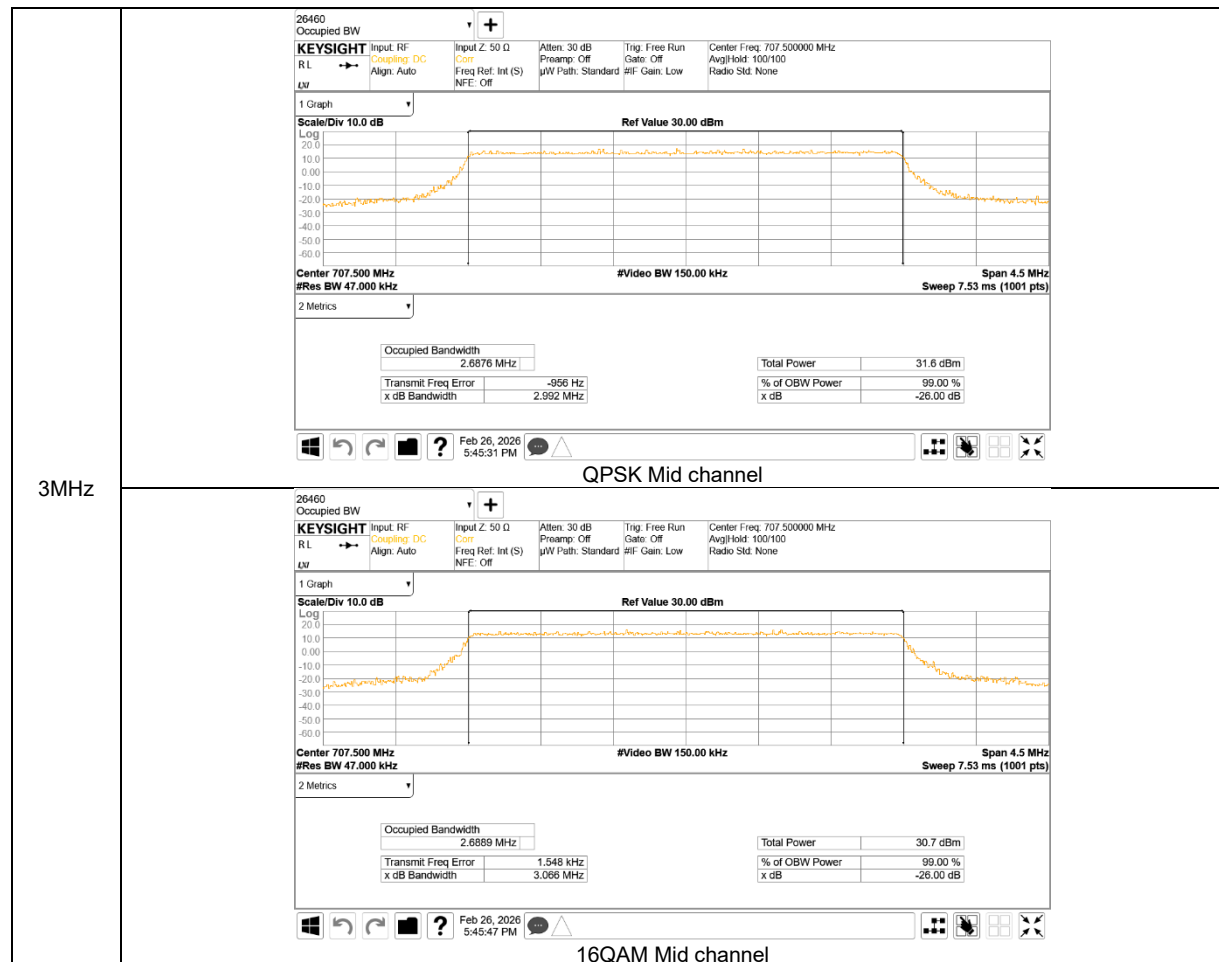


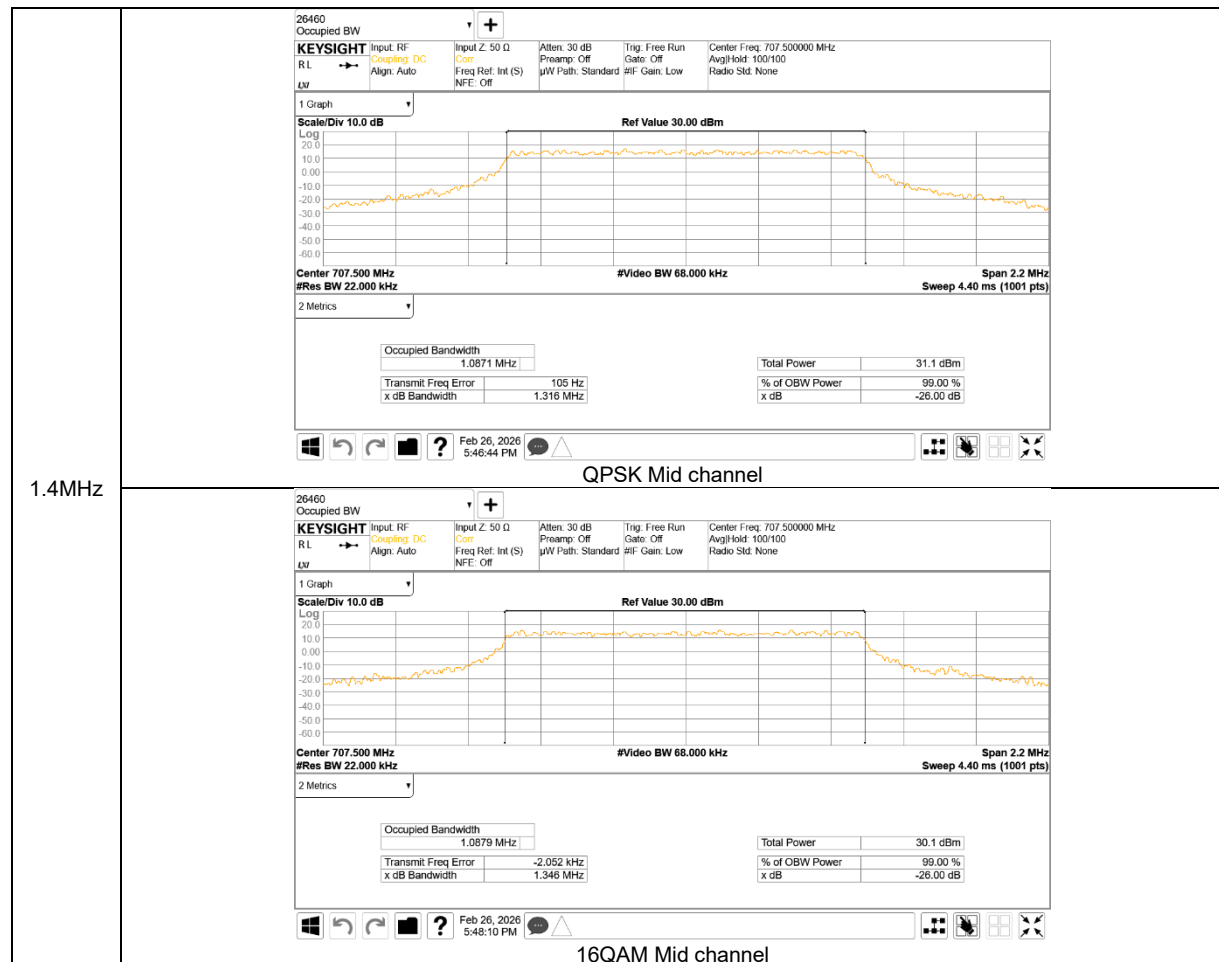
QPSK Mid channel



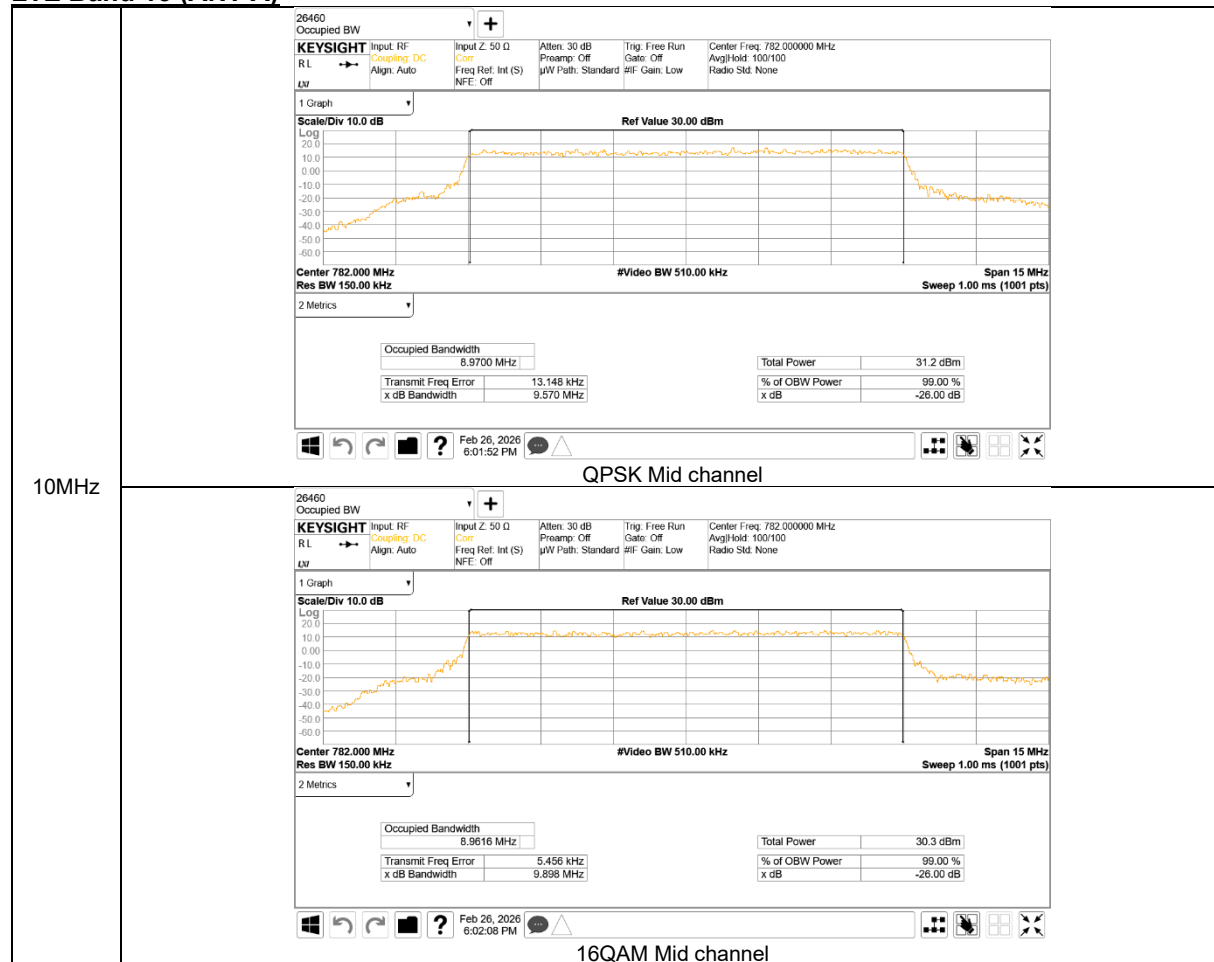
16QAM Mid channel

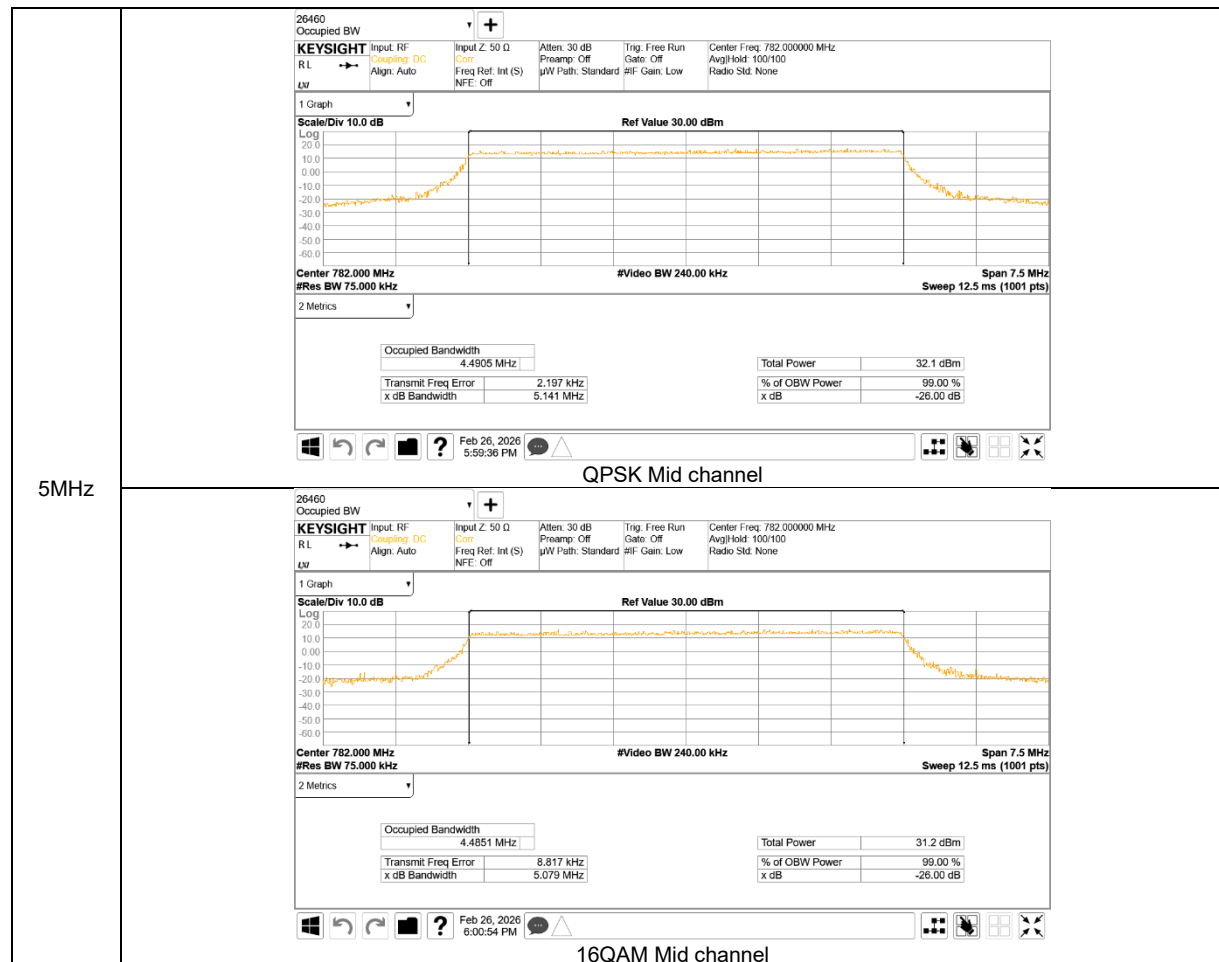






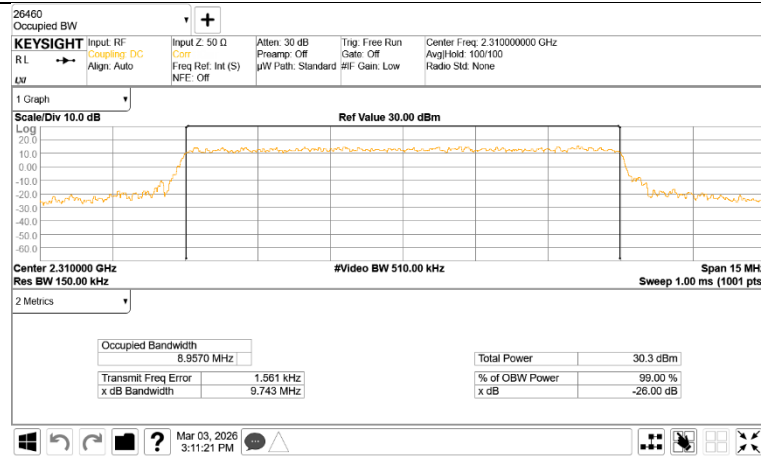
LTE Band 13 (ANT A)



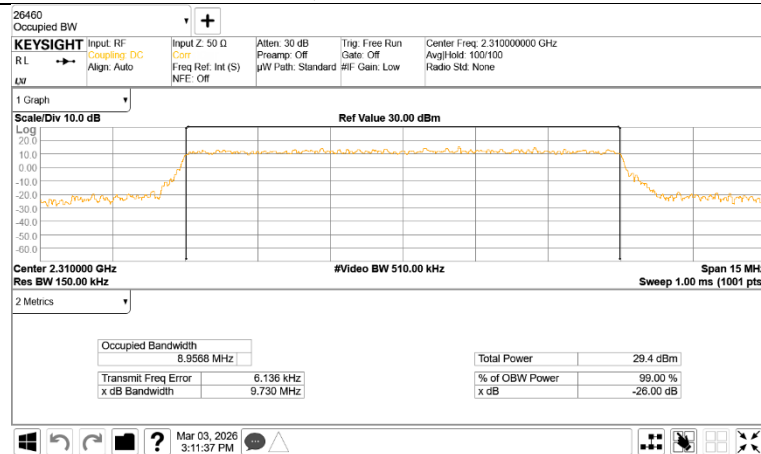


LTE Band 30 (ANT B)

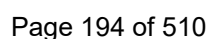
10MHz



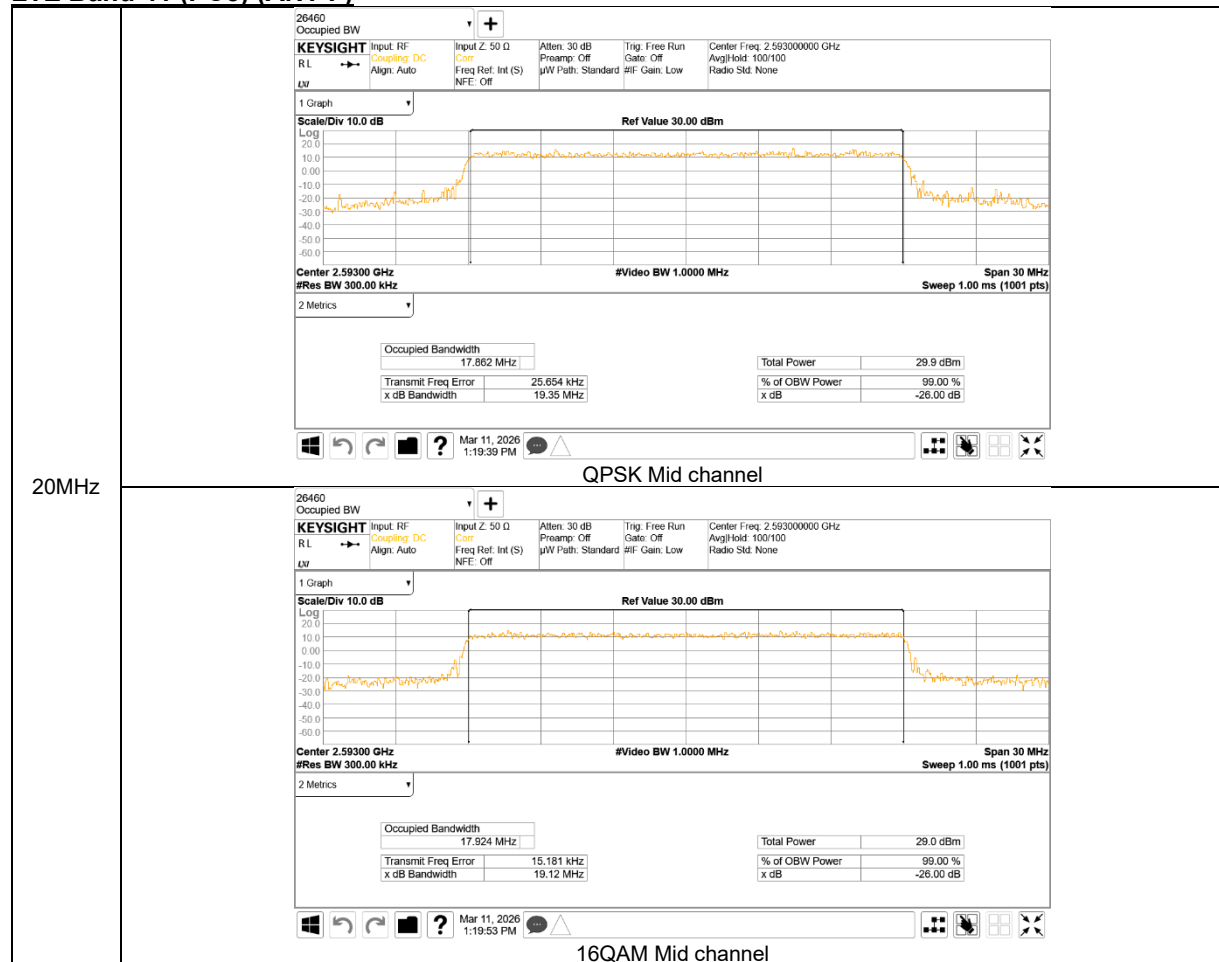
QPSK Mid channel

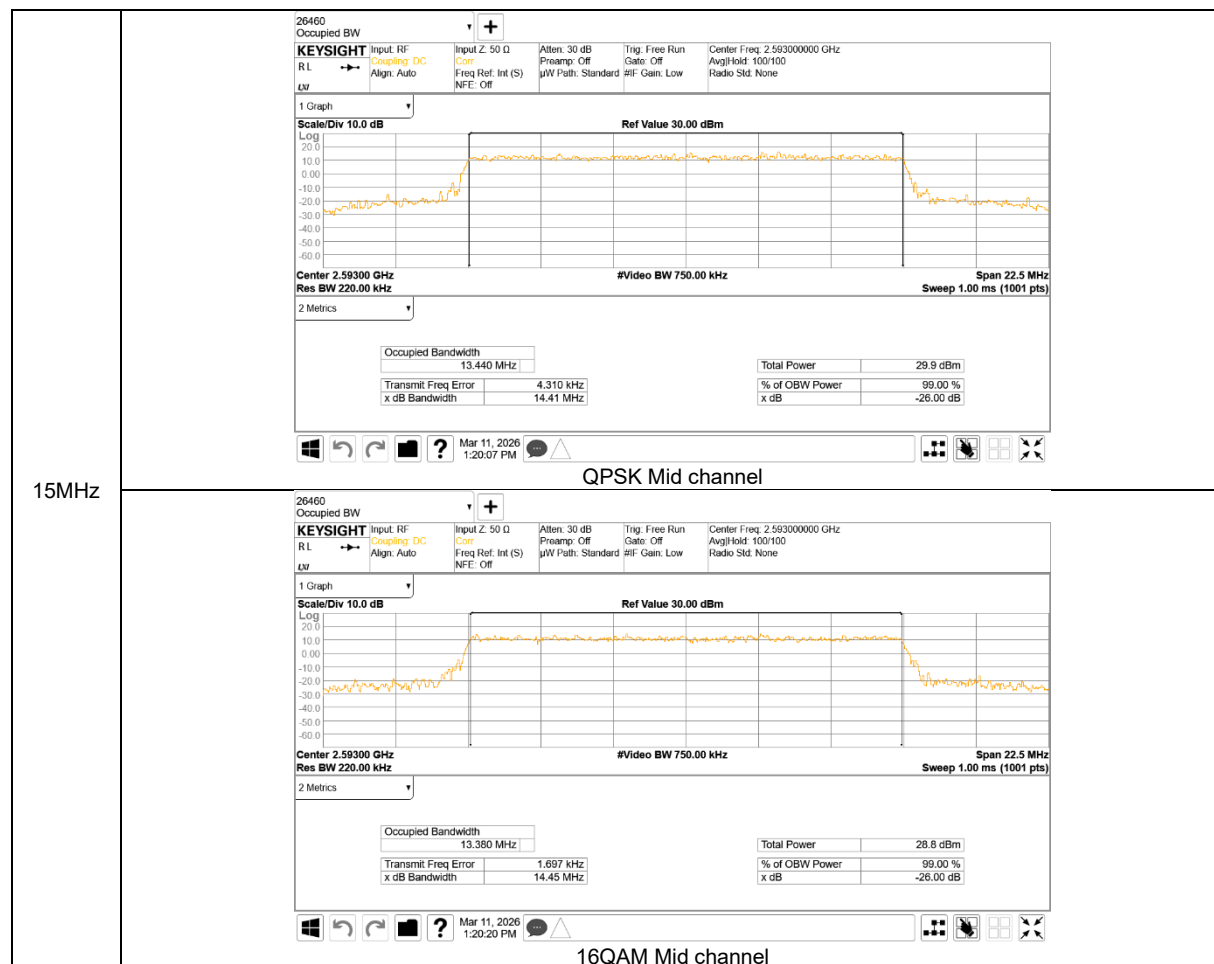


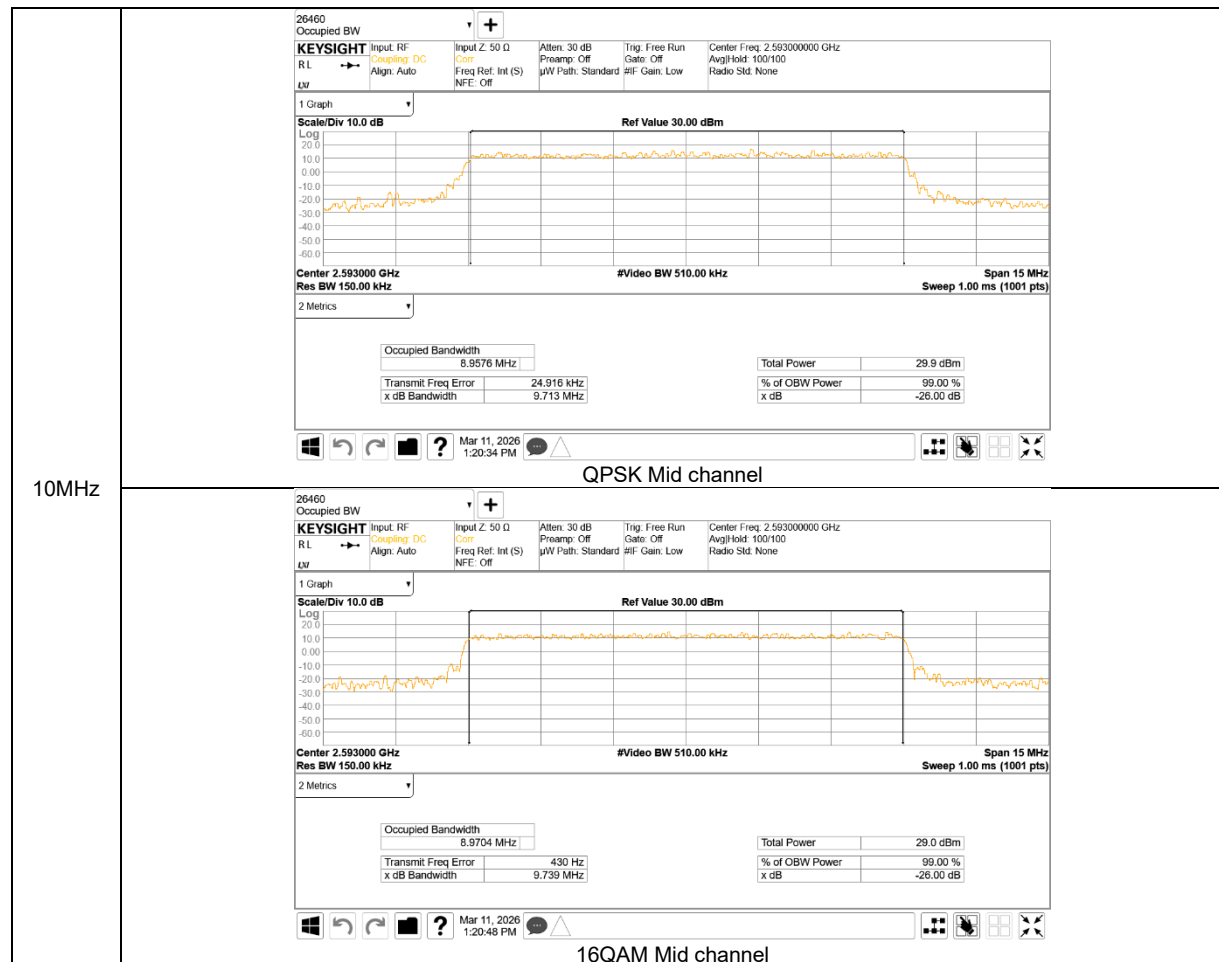
16QAM Mid channel

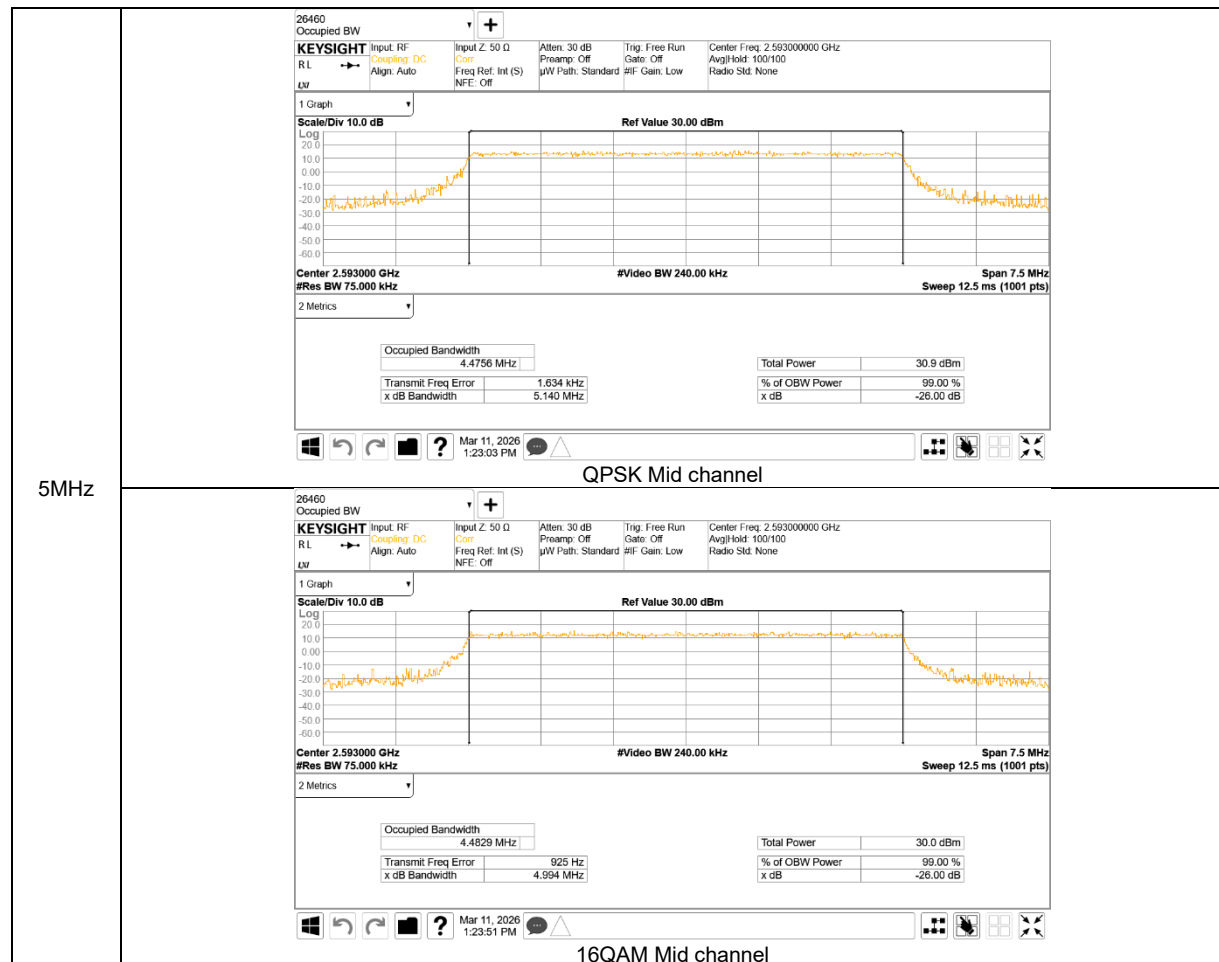


LTE Band 41 (PC3) (ANT F)

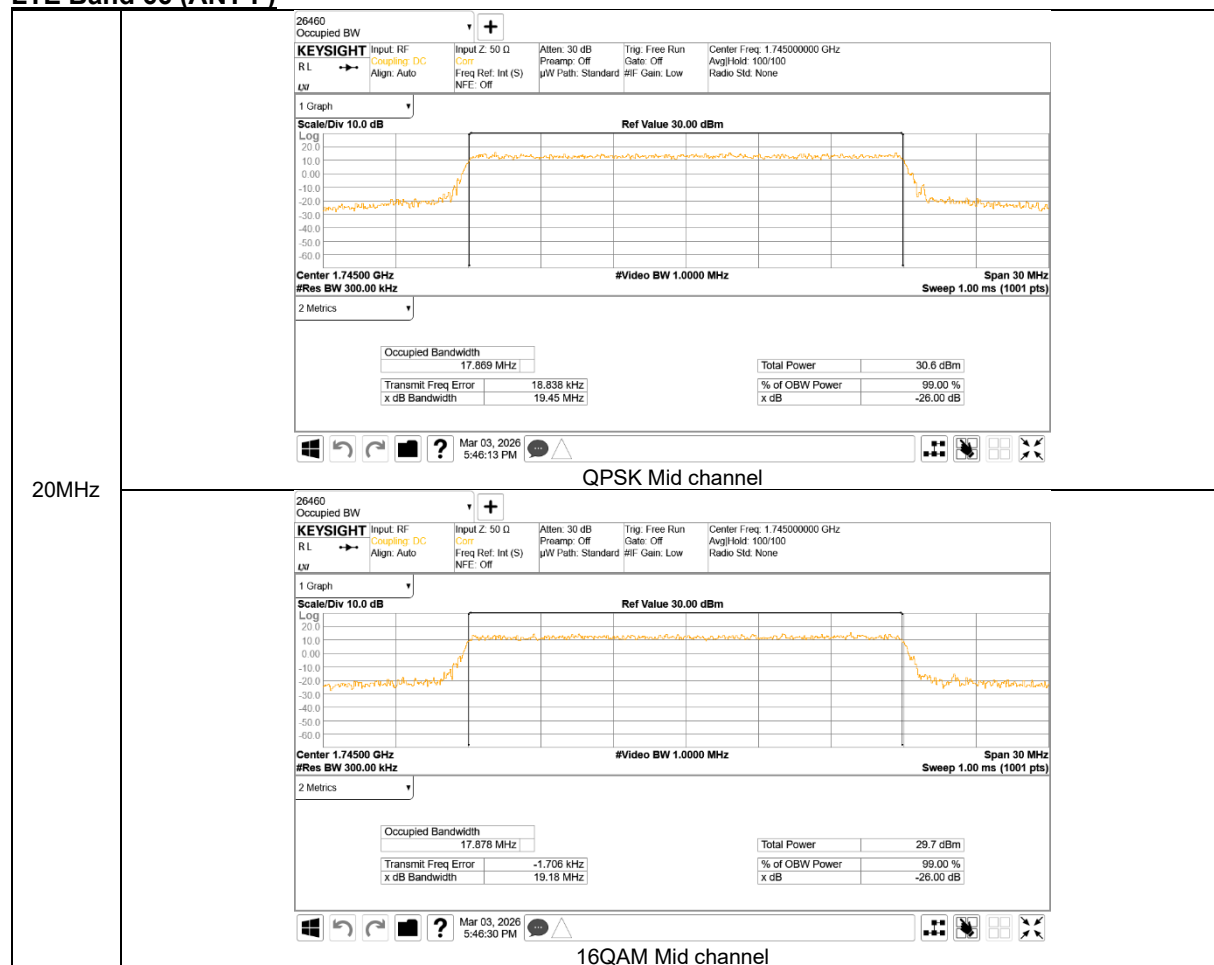


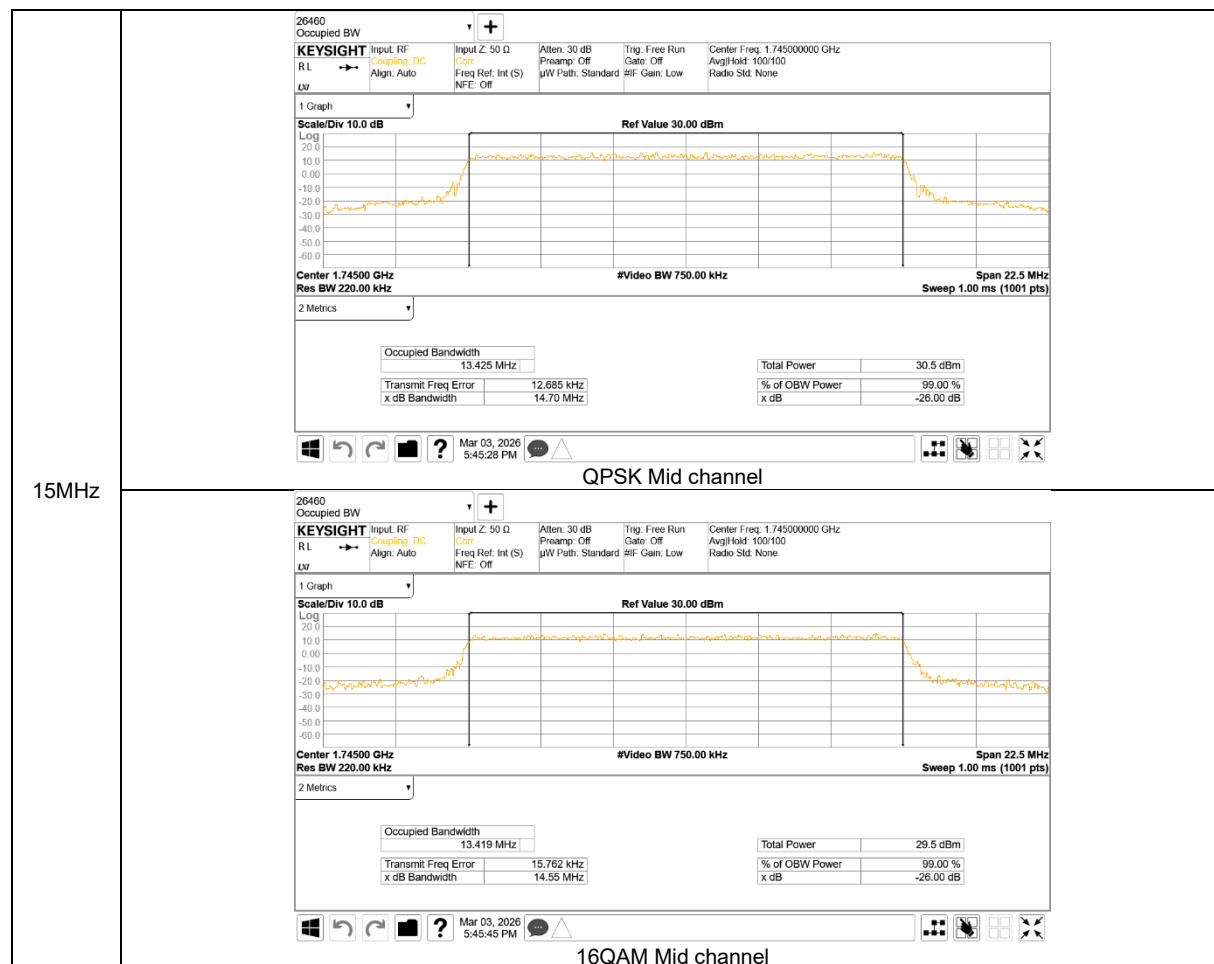


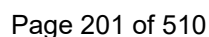


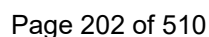


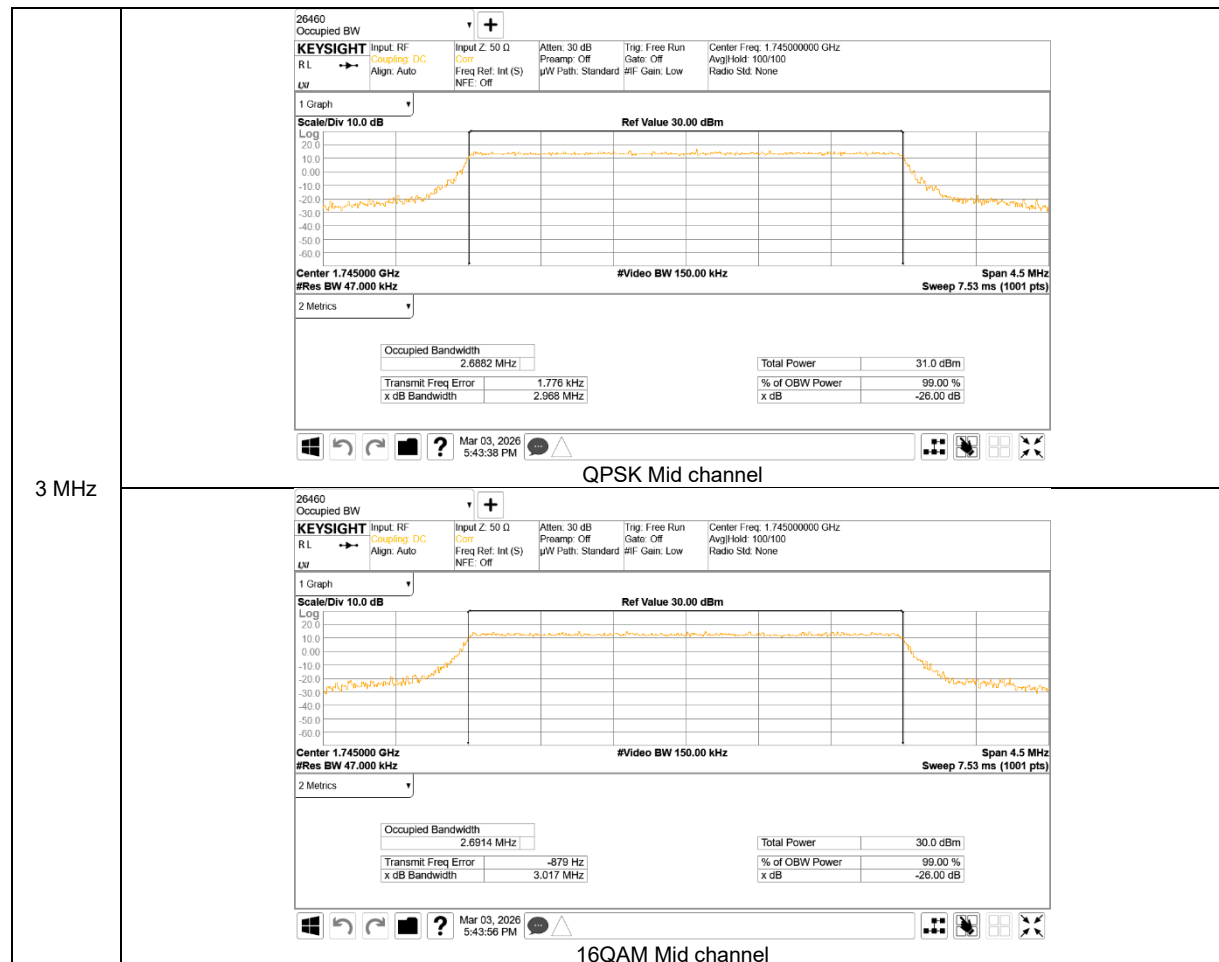
LTE Band 66 (ANT F)

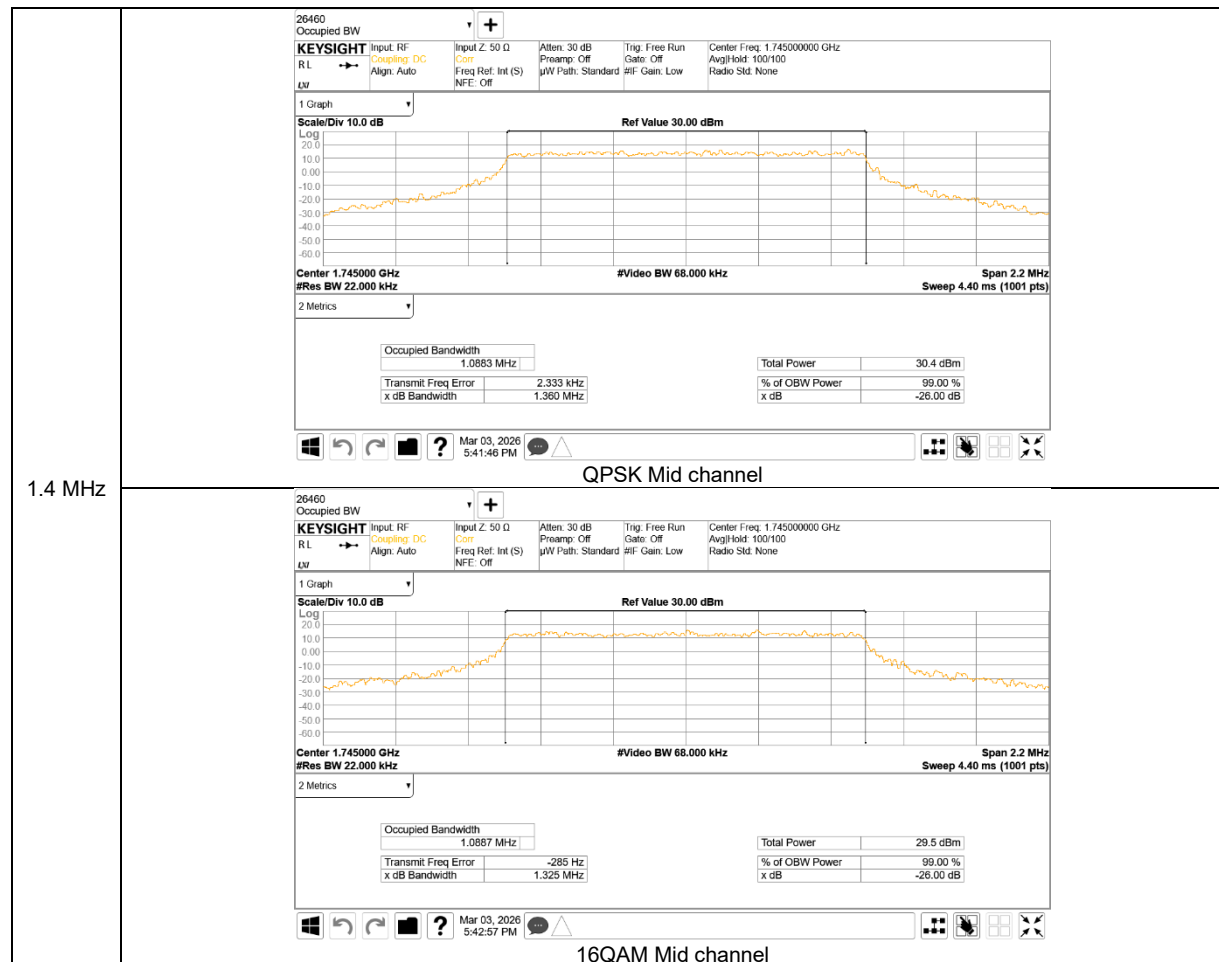




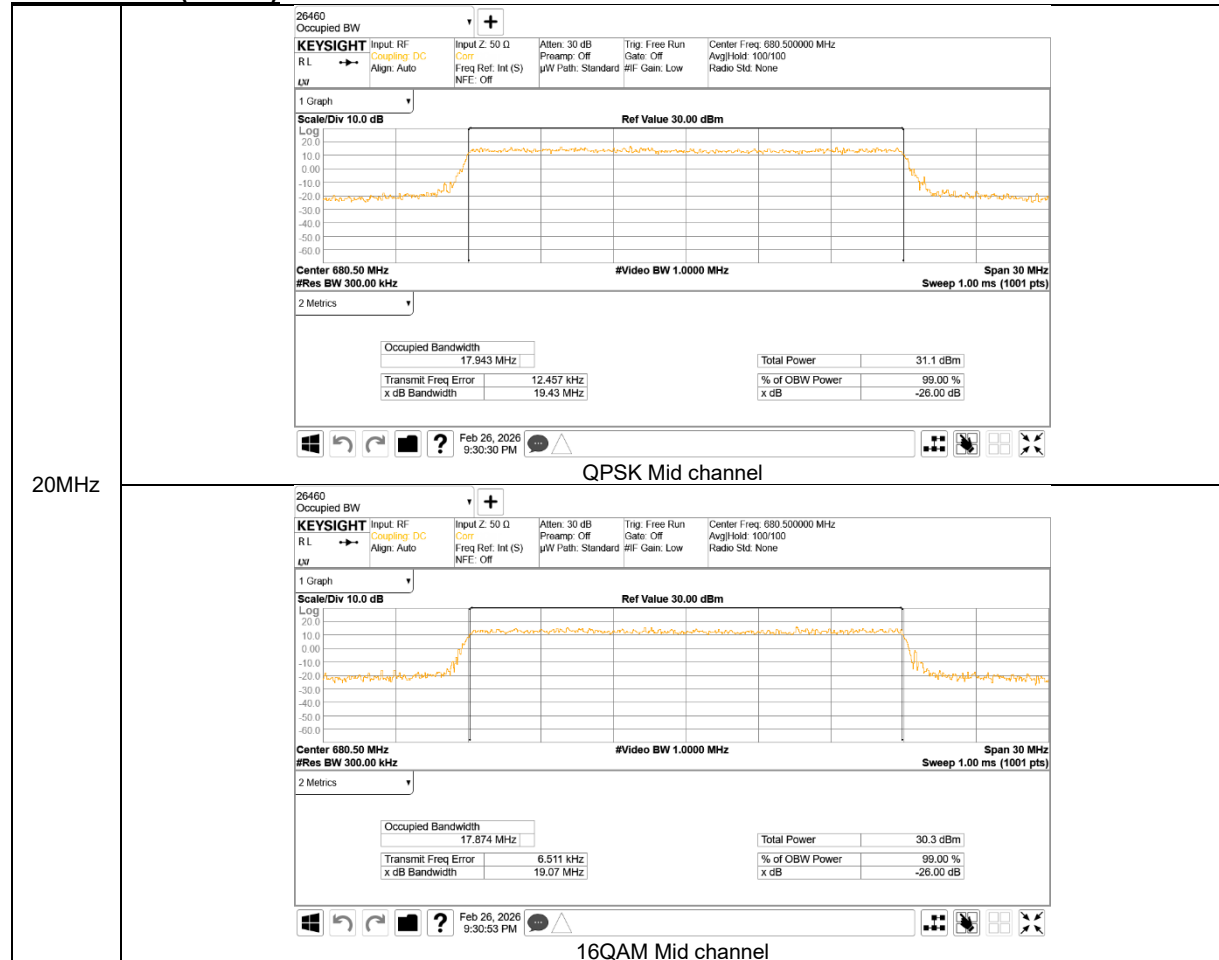


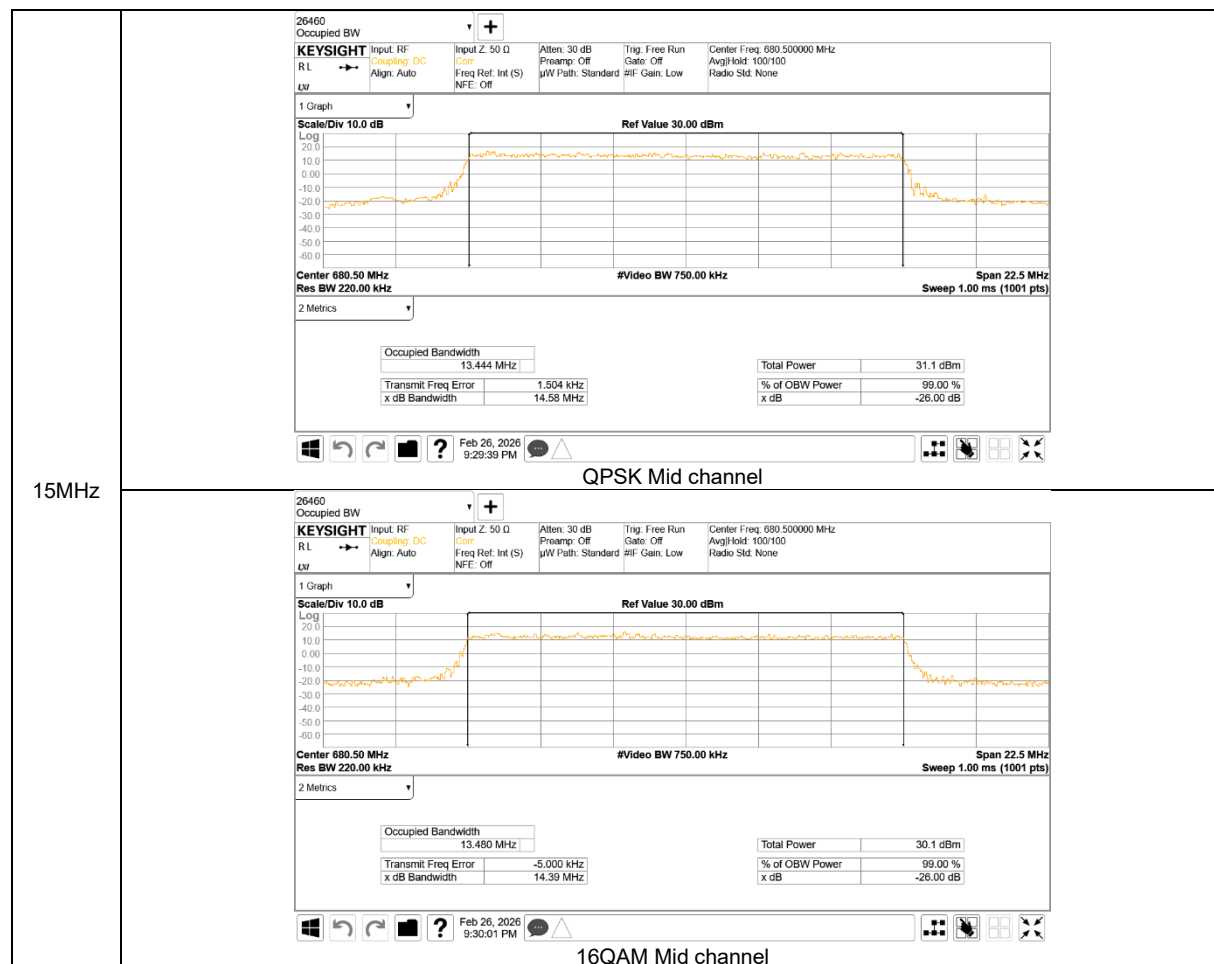


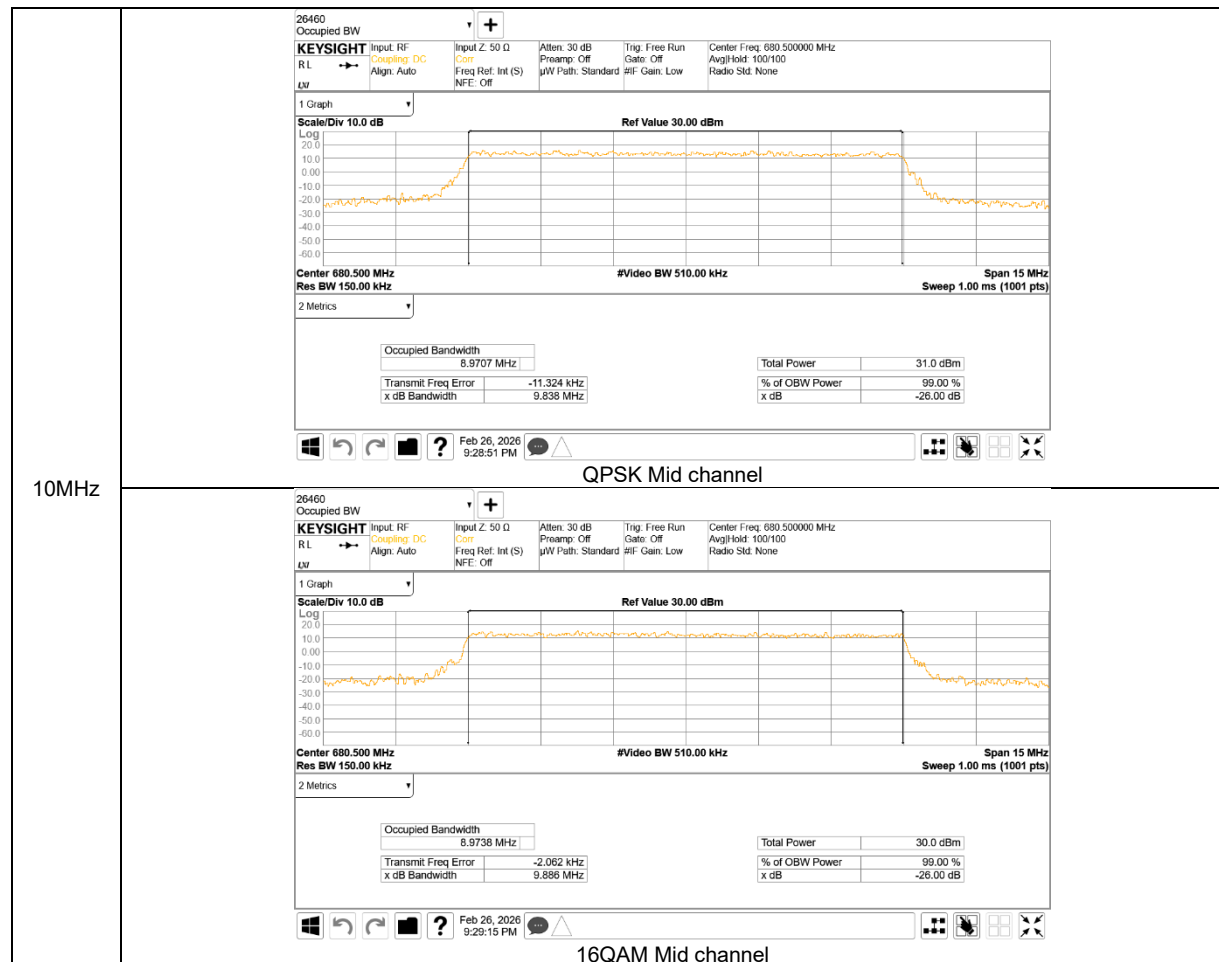


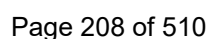


LTE Band 71 (ANT A)









NR Band n7 CP-OFDM (ANT B)

