



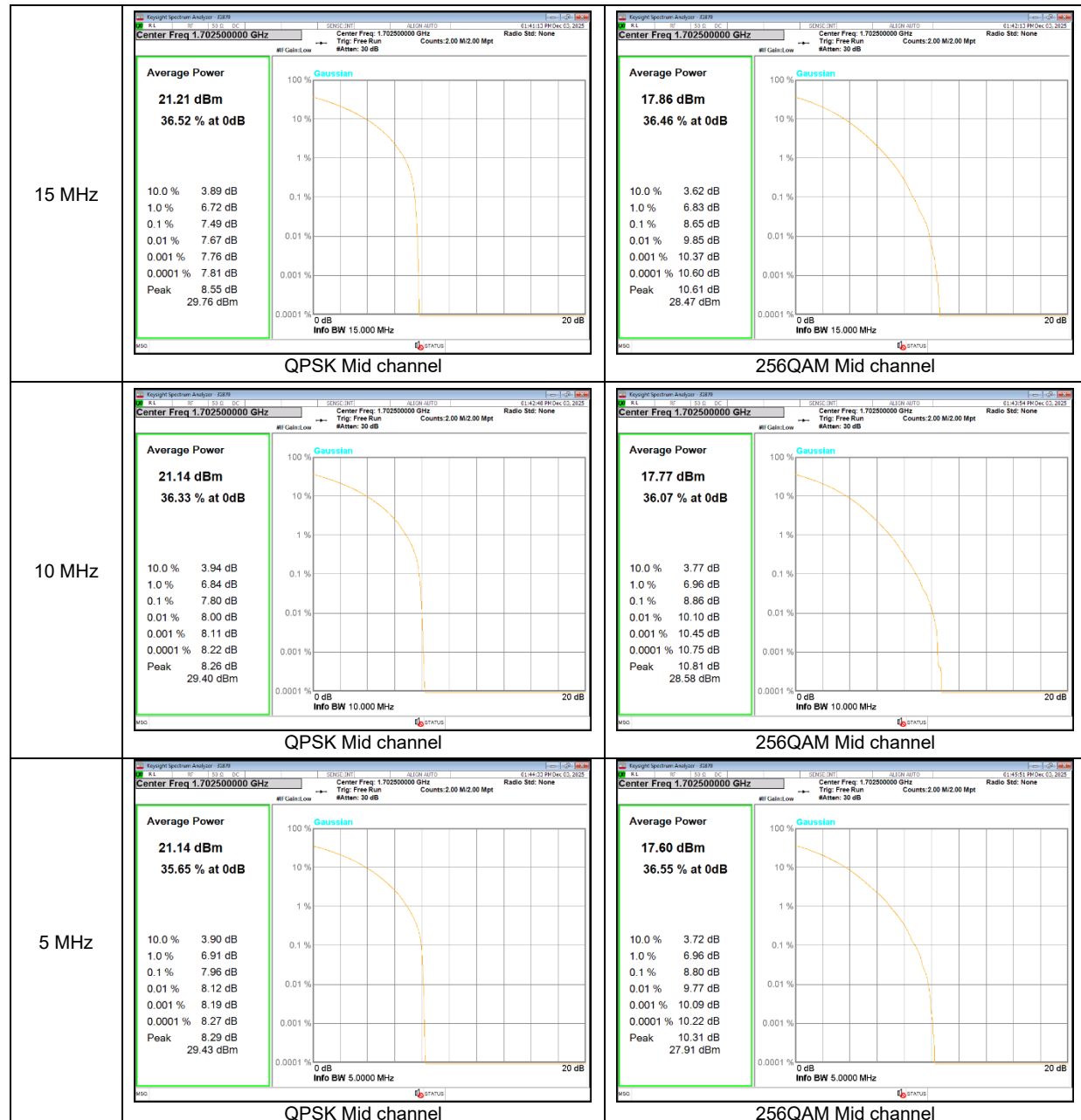


NR Band n66 CP-OFDM (ANT A)





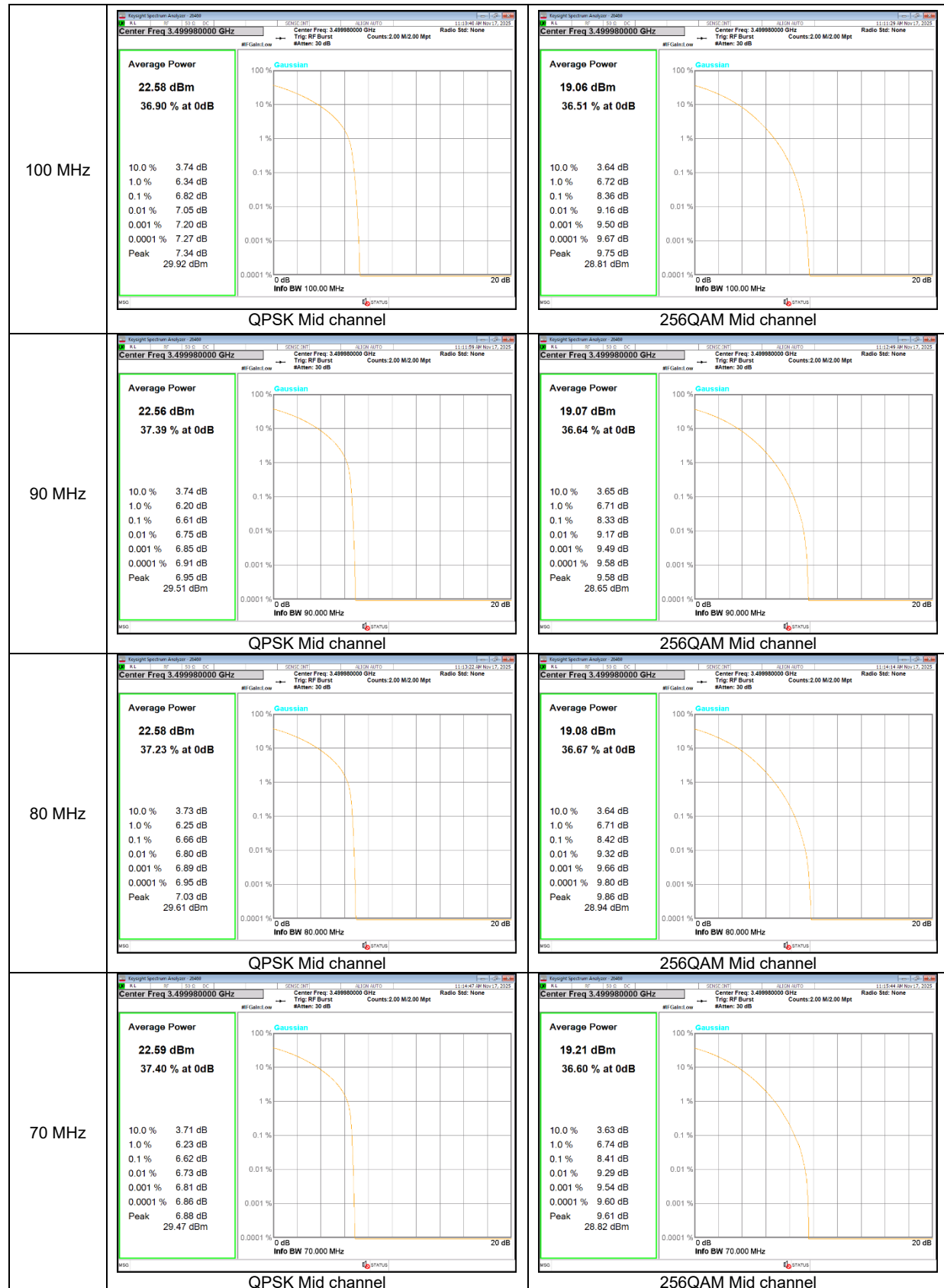
NR Band n70 CP-OFDM (ANT F)



NR Band n71 CP-OFDM (ANT E)



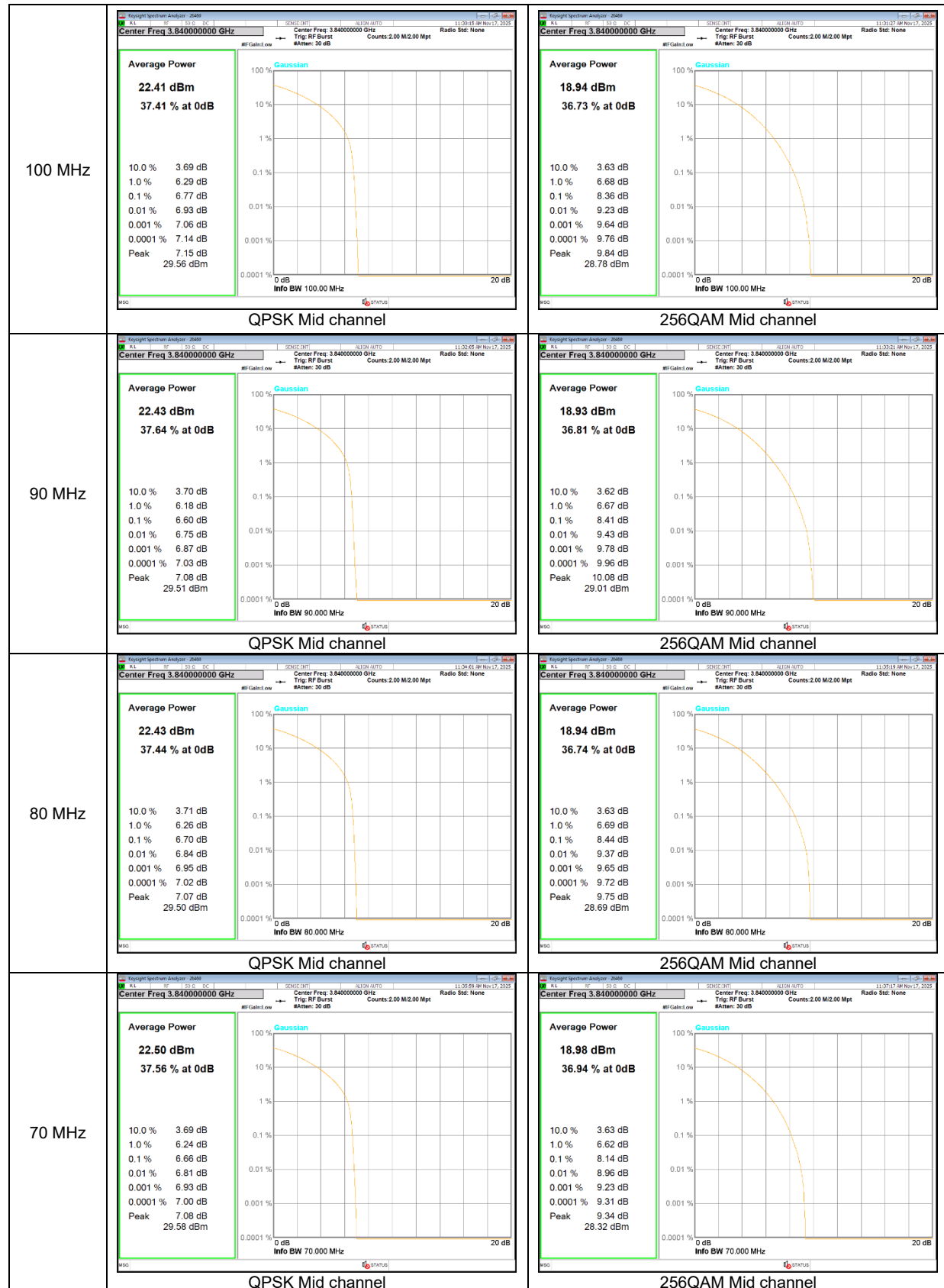
NR Band n77 (PC2, 3450-3550 MHz) CP-OFDM (ANT F)







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







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 A)

Band	Modulation	f [MHz]	99% BW (MHz)	-26dB BW (MHz)
B4	Rel.99	1732.60	4.169	4.656
	HSDPA		4.127	4.643

- LTE Band 7 (ANT F)

Band	BW	Modulation	Frequency [MHz]	99% BW (MHz)	-26dB BW (MHz)
LTE B7	20M	QPSK	2535.00	17.973	19.420
		16QAM		17.968	19.590
	15M	QPSK		13.438	14.530
		16QAM		13.480	14.700
	10M	QPSK		8.981	9.791
		16QAM		8.972	9.783
	5M	QPSK		4.504	5.057
		16QAM		4.502	5.056

- LTE Band 12 (ANT E)

Band	BW	Modulation	Frequency [MHz]	99% BW (MHz)	-26dB BW (MHz)
LTE B12	10M	QPSK	707.50	8.972	9.917
		16QAM		8.983	9.919
	5M	QPSK		4.496	5.072
		16QAM		4.481	5.040
	3M	QPSK		2.693	3.029
		16QAM		2.698	3.022
	1.4M	QPSK		1.095	1.352
		16QAM		1.099	1.413

- LTE Band 13 (ANT E)

Band	BW	Modulation	f [MHz]	99% BW (MHz)	-26dB BW (MHz)
LTE B13	10M	QPSK	782.00	8.947	9.754
		16QAM		8.931	9.842
	5M	QPSK		4.499	5.097
		16QAM		4.506	5.170

- LTE Band 30 (ANT F)

Band	BW	Modulation	f [MHz]	99% BW (MHz)	-26dB BW (MHz)
LTE B30	10M	QPSK	2310.00	8.978	9.824
		16QAM		8.983	9.870
	5M	QPSK		4.495	5.082
		16QAM		4.496	5.038

- LTE Band 41 (PC3) (ANT F)

Band	BW	Modulation	Frequency [MHz]	99% BW (MHz)	-26dB BW (MHz)
LTE B41 (PC3)	20M	QPSK	2593.00	17.919	19.440
		16QAM		17.956	18.960
	15M	QPSK		13.403	14.570
		16QAM		13.468	14.350
	10M	QPSK		8.956	9.585
		16QAM		8.957	9.729
	5M	QPSK		4.481	5.072
		16QAM		4.482	5.062

- LTE Band 66 (ANT A)

Band	BW	Modulation	Frequency [MHz]	99% BW (MHz)	-26dB BW (MHz)
LTE B66	20M	QPSK	1745.00	17.924	19.350
		16QAM		17.898	19.360
	15M	QPSK		13.450	14.560
		16QAM		13.424	14.770
	10M	QPSK		8.981	9.675
		16QAM		8.969	9.724
	5M	QPSK		4.487	5.086
		16QAM		4.498	5.155
	3M	QPSK		2.697	3.033
		16QAM		2.691	3.046
	1.4M	QPSK		1.090	1.325
		16QAM		1.092	1.305

- LTE Band 71 (ANT E)

Band	BW	Modulation	Frequency [MHz]	99% BW (MHz)	-26dB BW (MHz)
LTE B71	20M	QPSK	680.50	17.913	19.260
		16QAM		17.891	19.440
	15M	QPSK		13.431	14.810
		16QAM		13.450	14.590
	10M	QPSK		8.947	9.937
		16QAM		8.968	9.783
	5M	QPSK		4.492	5.097
		16QAM		4.495	5.107

- NR Band n7 CP-OFDM (ANT F)

Band	BW	Modulation	Frequency [MHz]	99% BW (MHz)	-26dB BW (MHz)
NR n7	40M	QPSK	2535.00	38.654	40.350
		16QAM		38.688	40.230
	35M	QPSK		33.677	35.150
		16QAM		33.629	35.010
	30M	QPSK		28.657	29.970
		16QAM		28.639	29.910
	25M	QPSK		23.833	24.980
		16QAM		23.811	24.940
	20M	QPSK		18.980	19.860
		16QAM		18.976	20.000
	15M	QPSK		14.134	15.000
		16QAM		14.139	15.060
	10M	QPSK		9.332	10.060
		16QAM		9.298	10.080
	5M	QPSK		4.485	5.105
		16QAM		4.507	5.147

- NR Band n12 CP-OFDM (ANT E)

Band	BW	Modulation	Frequency [MHz]	99% BW (MHz)	-26dB BW (MHz)
NR n12	15M	QPSK	707.50	14.174	15.060
		16QAM		14.149	15.070
	10M	QPSK		9.302	9.916
		16QAM		9.317	9.954
	5M	QPSK		4.491	5.091
		16QAM		4.492	5.084

- NR Band n30 CP-OFDM (ANT F)

Band	BW	Modulation	Frequency [MHz]	99% BW (MHz)	-26dB BW (MHz)
NR n30	10M	QPSK	2310.00	9.326	9.926
		16QAM		9.293	10.250
	5M	QPSK		4.487	5.227
		16QAM		4.506	5.115

- 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	97.550	101.400
		16QAM		97.248	101.500
	90M	QPSK		87.206	91.290
		16QAM		87.546	91.330
	80M	QPSK		77.267	80.520
		16QAM		77.508	80.750
	70M	QPSK		67.535	70.770
		16QAM		67.298	70.290
	60M	QPSK		57.796	60.520
		16QAM		58.016	60.460
	50M	QPSK		47.469	49.960
		16QAM		47.470	49.830
	40M	QPSK		37.930	39.740
		16QAM		37.961	40.340
	30M	QPSK		27.769	29.090
		16QAM		27.792	29.600
	25M	QPSK		23.156	25.110
		16QAM		23.274	24.610
	20M	QPSK		18.219	19.660
		16QAM		18.225	19.280
	15M	QPSK		13.614	14.860
		16QAM		13.590	14.880
	10M	QPSK		8.618	9.724
		16QAM		8.587	9.539

- NR Band n66 CP-OFDM (ANT A)

Band	BW	Modulation	Frequency [MHz]	99% BW (MHz)	-26dB BW (MHz)
NR n66	40M	QPSK	1745.00	38.605	40.320
		16QAM		38.623	40.350
	35M	QPSK		33.670	35.030
		16QAM		33.574	35.440
	30M	QPSK		28.613	30.070
		16QAM		28.553	29.900
	25M	QPSK		23.563	24.720
		16QAM		23.639	24.810
	20M	QPSK		18.986	20.130
		16QAM		18.975	19.890
	15M	QPSK		14.145	15.080
		16QAM		14.093	14.970
	10M	QPSK		9.279	10.060
		16QAM		9.277	10.010
	5M	QPSK		4.492	5.191
		16QAM		4.496	5.128

- NR Band n70 CP-OFDM (ANT F)

Band	BW	Modulation	Frequency [MHz]	99% BW (MHz)	-26dB BW (MHz)
NR n70	15M	QPSK	1702.50	14.121	15.080
		16QAM		14.087	14.810
	10M	QPSK		9.309	10.150
		16QAM		9.322	10.140
	5M	QPSK		4.500	5.146
		16QAM		4.481	5.099

- NR Band n71 CP-OFDM (ANT E)

Band	BW	Modulation	Frequency [MHz]	99% BW (MHz)	-26dB BW (MHz)
NR n71	20M	QPSK	680.50	18.928	20.130
		16QAM		18.934	19.940
	15M	QPSK		14.114	14.930
		16QAM		14.150	15.030
	10M	QPSK		9.290	10.050
		16QAM		9.289	10.020
	5M	QPSK		4.475	5.043
		16QAM		4.480	5.145

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

Band	BW	Modulation	Frequency [MHz]	99% BW (MHz)	-26dB BW (MHz)
NR n77	100M	QPSK	3499.98	97.481	101.500
		16QAM		97.461	101.400
	90M	QPSK		87.662	91.330
		16QAM		87.797	91.510
	80M	QPSK		77.533	80.780
		16QAM		77.374	80.720
	70M	QPSK		67.354	70.370
		16QAM		67.370	70.420
	60M	QPSK		57.867	60.250
		16QAM		57.801	60.390
	50M	QPSK		47.525	50.060
		16QAM		47.499	49.750
	40M	QPSK		37.935	39.870
		16QAM		37.947	39.510
	30M	QPSK		27.971	30.650
		16QAM		27.917	29.820
	25M	QPSK		23.242	24.990
		16QAM		23.217	24.900
	20M	QPSK		18.270	19.390
		16QAM		18.276	19.180
	15M	QPSK		13.585	15.080
		16QAM		13.601	14.830
	10M	QPSK		8.619	9.618
		16QAM		8.574	9.510

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

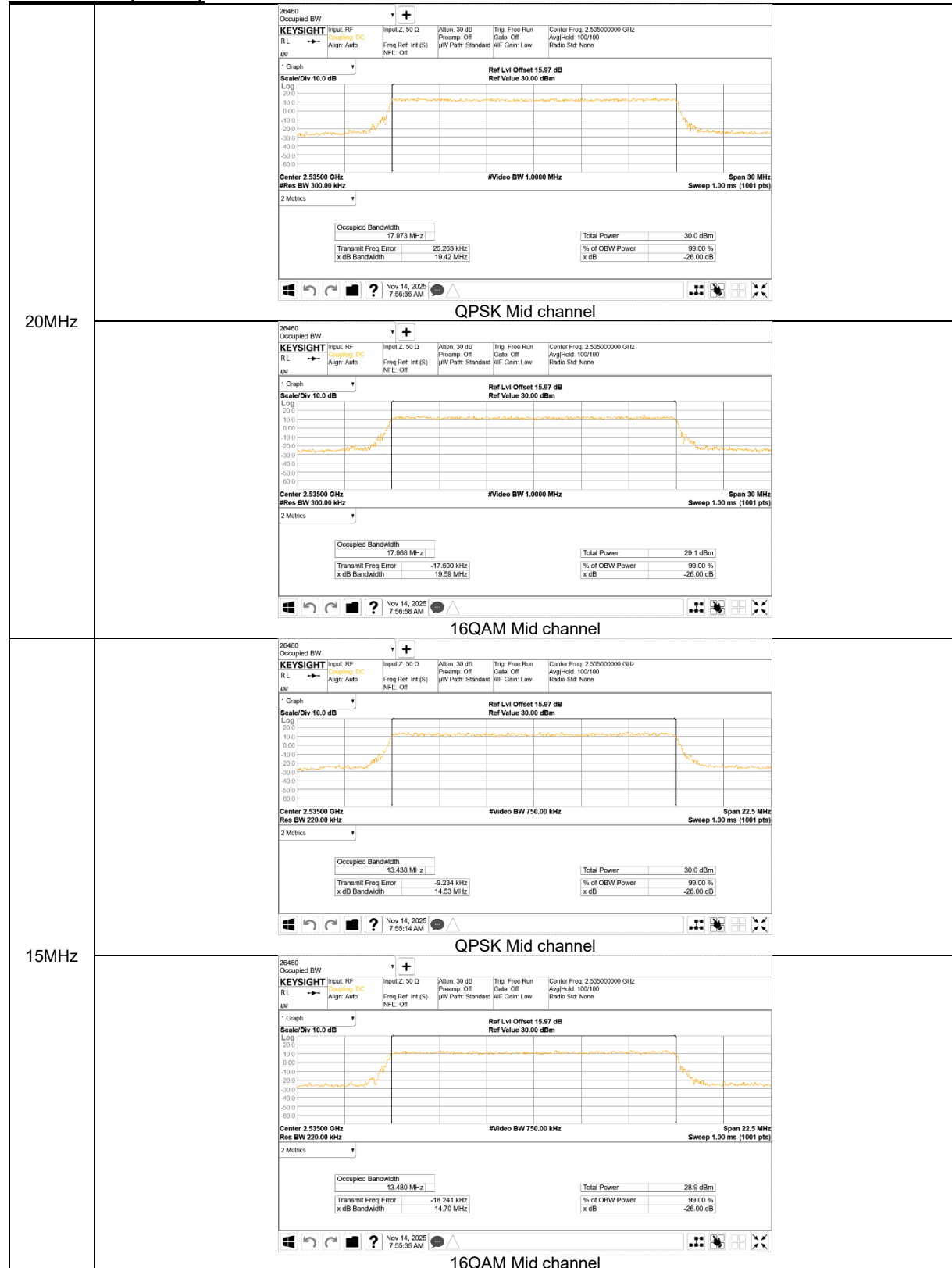
Band	BW	Modulation	Frequency [MHz]	99% BW (MHz)	-26dB BW (MHz)
NR n77	100M	QPSK	3840.00	97.439	101.500
		16QAM		97.628	101.800
	90M	QPSK		87.389	91.460
		16QAM		87.748	91.490
	80M	QPSK		77.512	80.890
		16QAM		77.702	80.640
	70M	QPSK		67.636	70.250
		16QAM		67.594	70.830
	60M	QPSK		57.794	60.450
		16QAM		57.887	60.580
	50M	QPSK		47.614	49.410
		16QAM		47.610	49.490
	40M	QPSK		37.821	39.630
		16QAM		37.921	40.220
	30M	QPSK		27.924	29.590
		16QAM		27.858	29.420
	25M	QPSK		23.266	24.690
		16QAM		23.234	25.120
	20M	QPSK		18.247	20.010
		16QAM		18.215	19.610
	15M	QPSK		13.644	14.750
		16QAM		13.557	15.010
	10M	QPSK		8.628	9.730
		16QAM		8.599	9.499

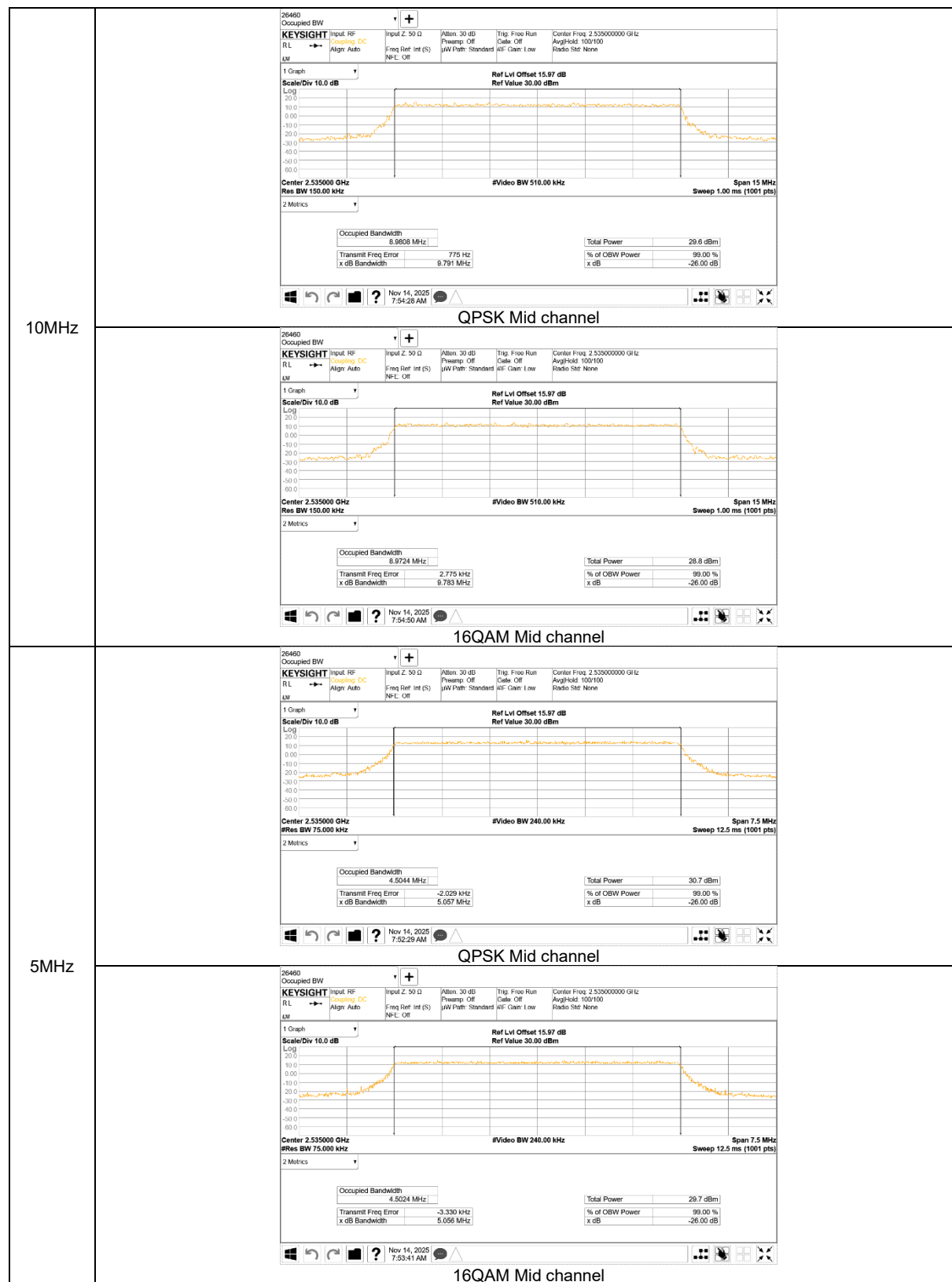
8.3.1. OCCUPIED BANDWIDTH RESULT

WCDMA Band 4 (ANT A)



LTE Band 7 (ANT F)





LTE Band 12 (ANT E)



