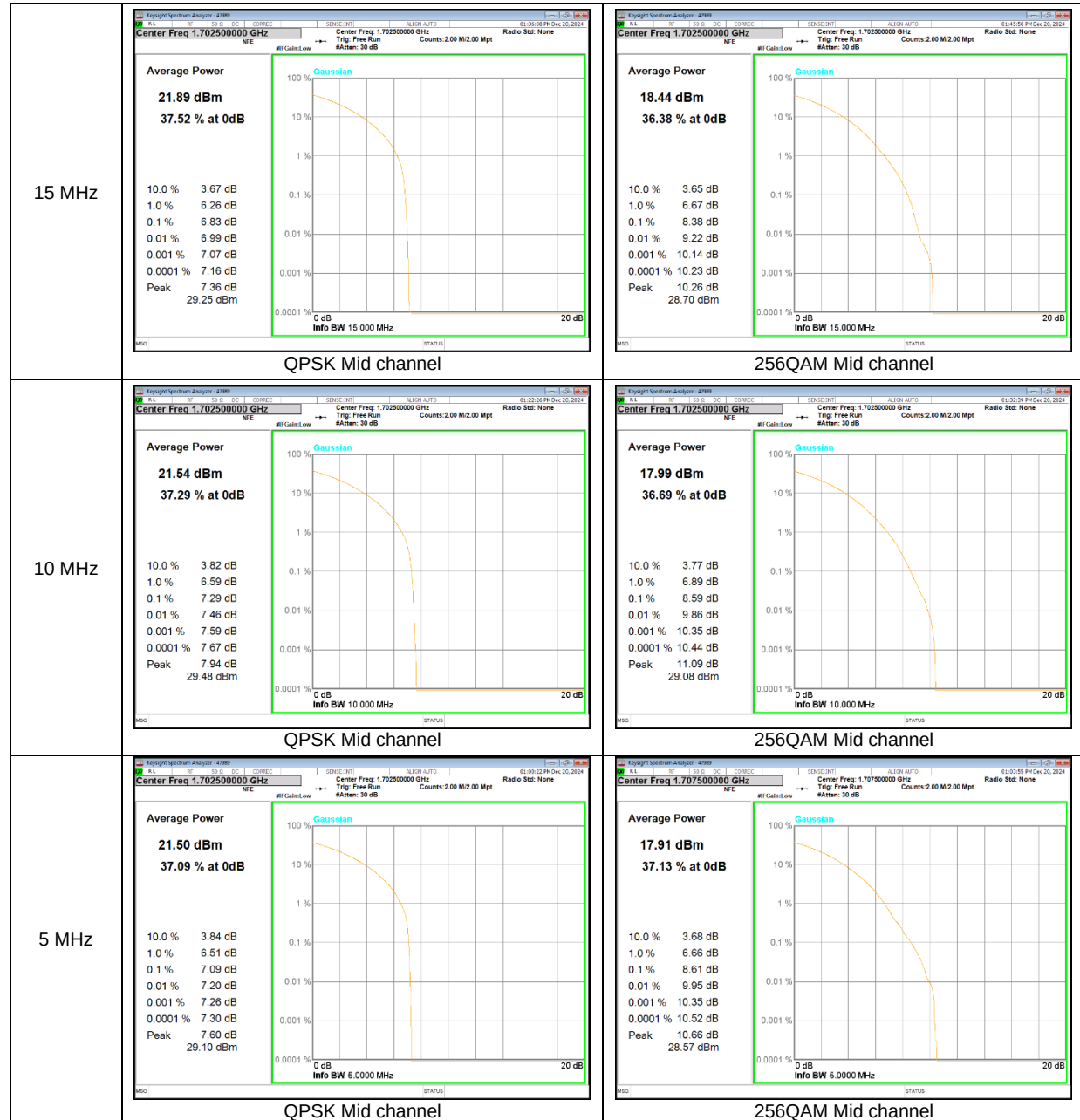
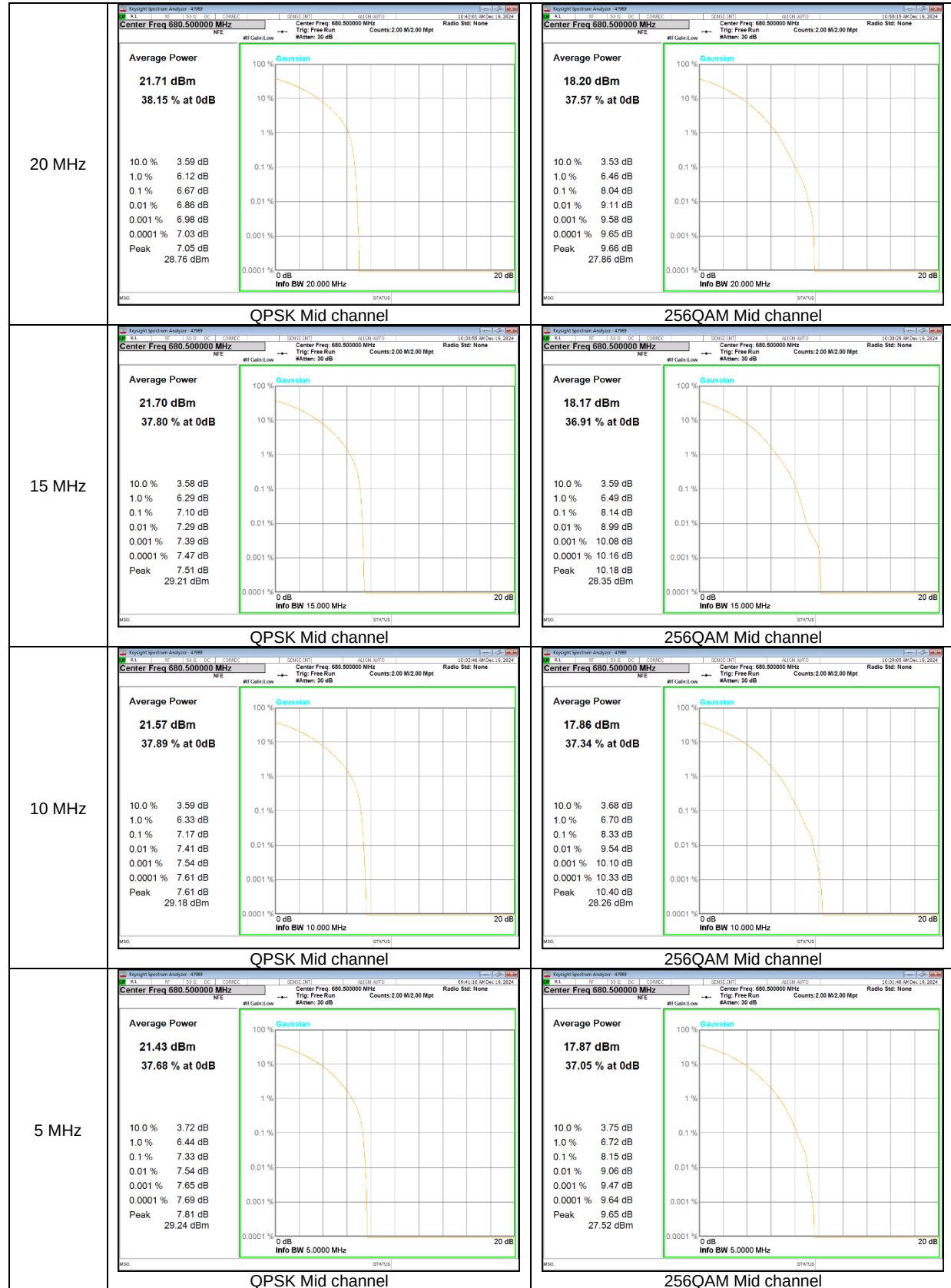


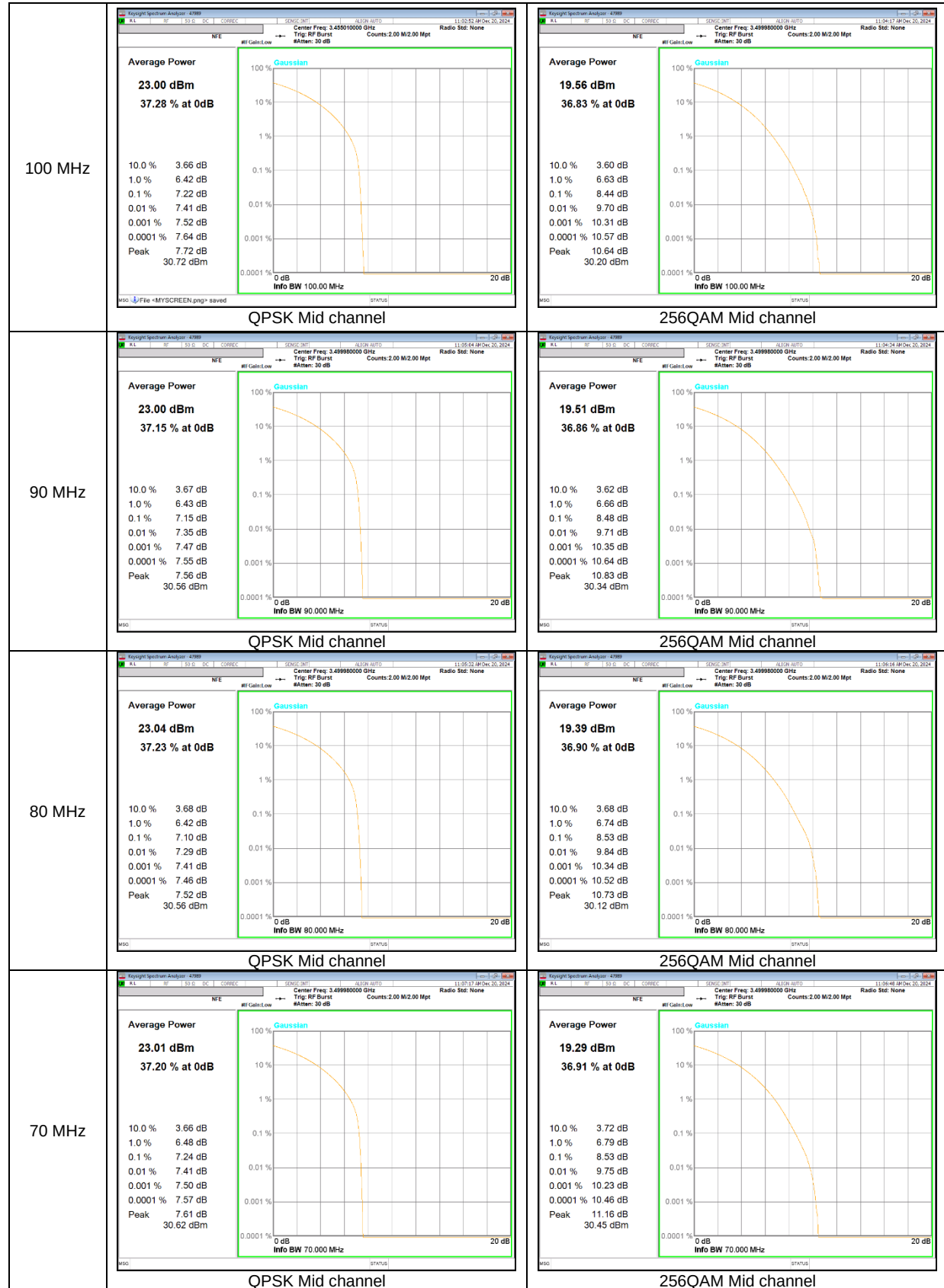
NR Band n70 CP-OFDM (ANT C)



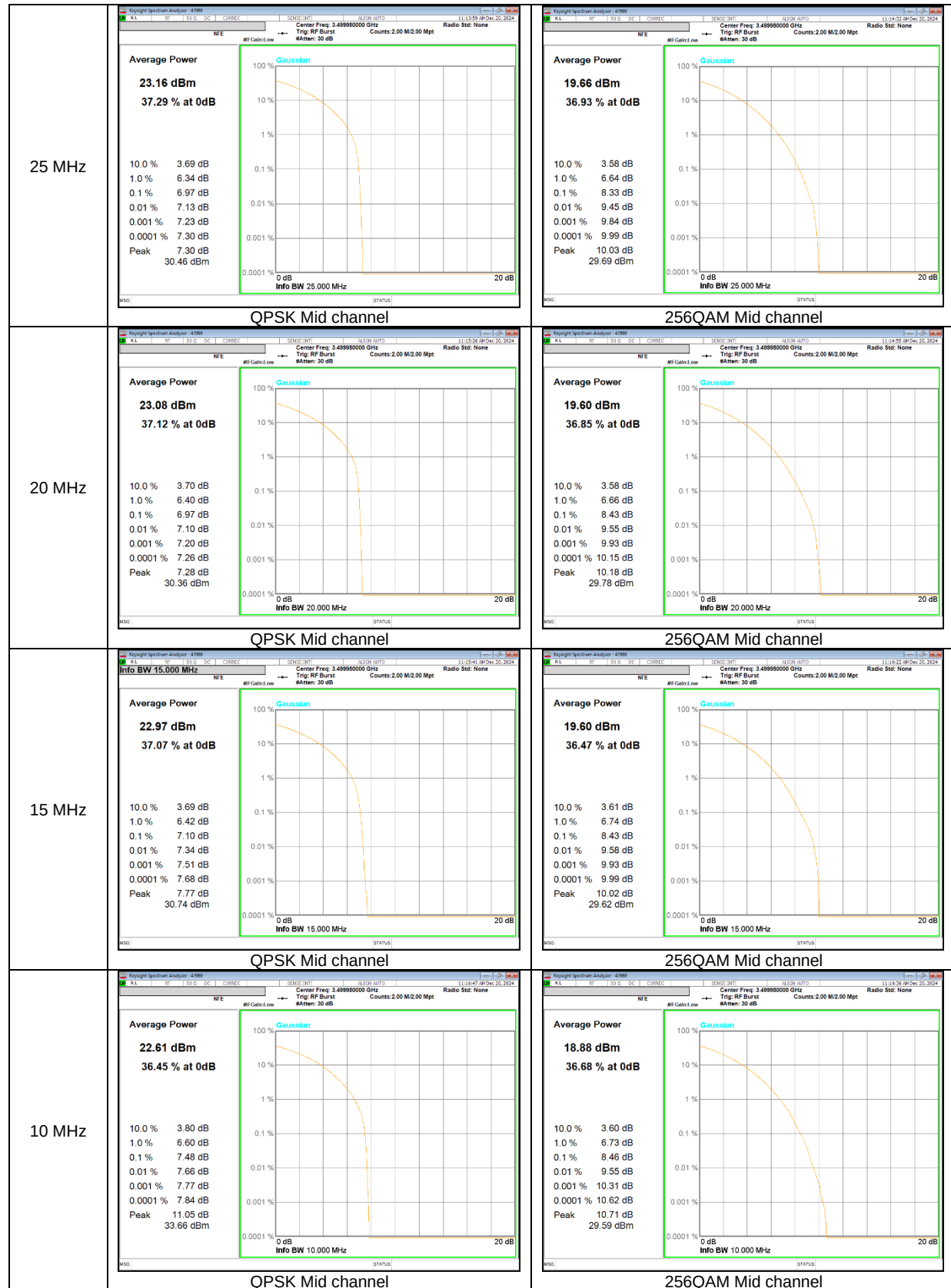
NR Band n71 CP-OFDM (ANT A)



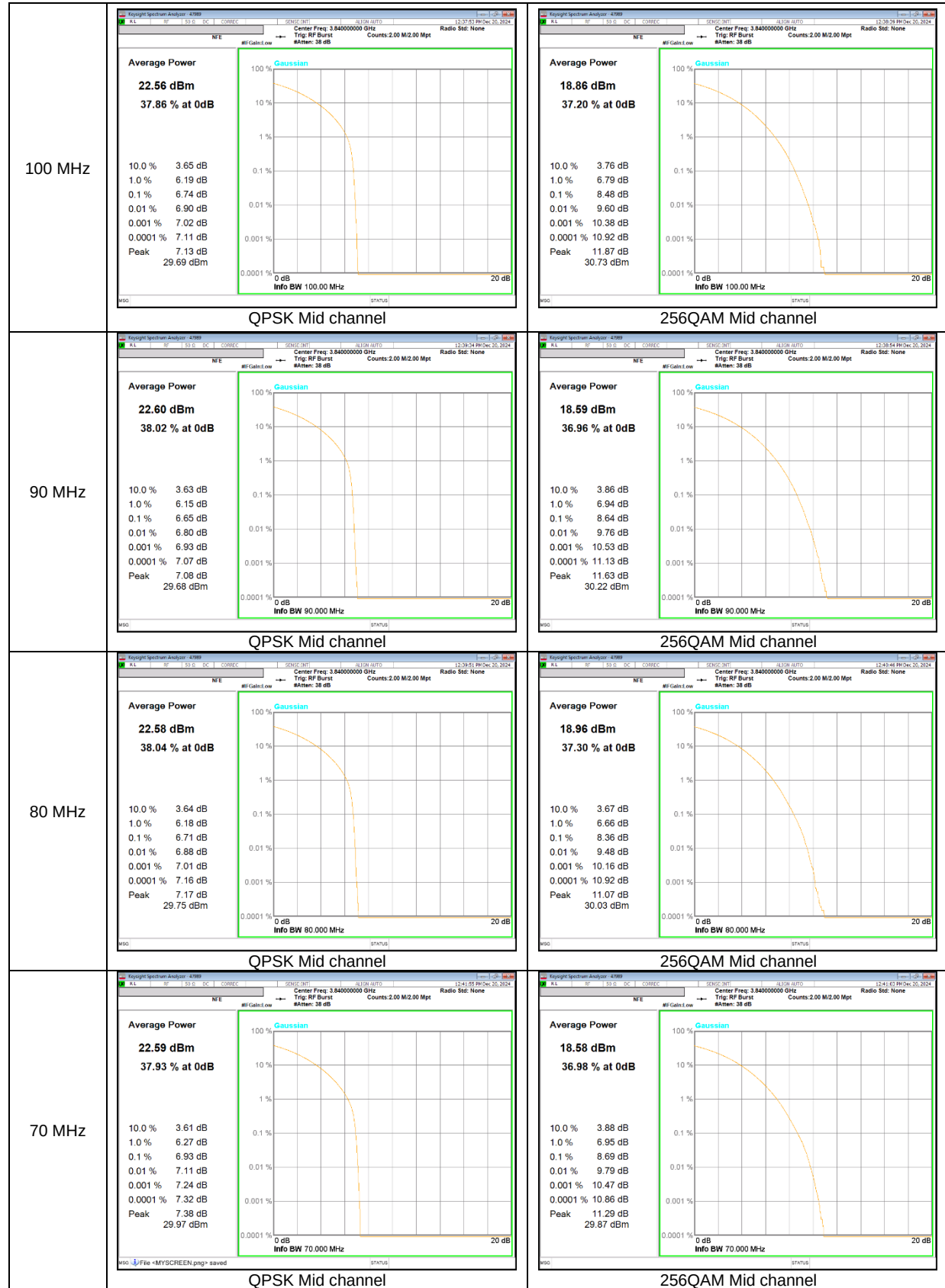
NR Band n77 (PC2, 3450-3550 MHz) CP-OFDM (ANT D)

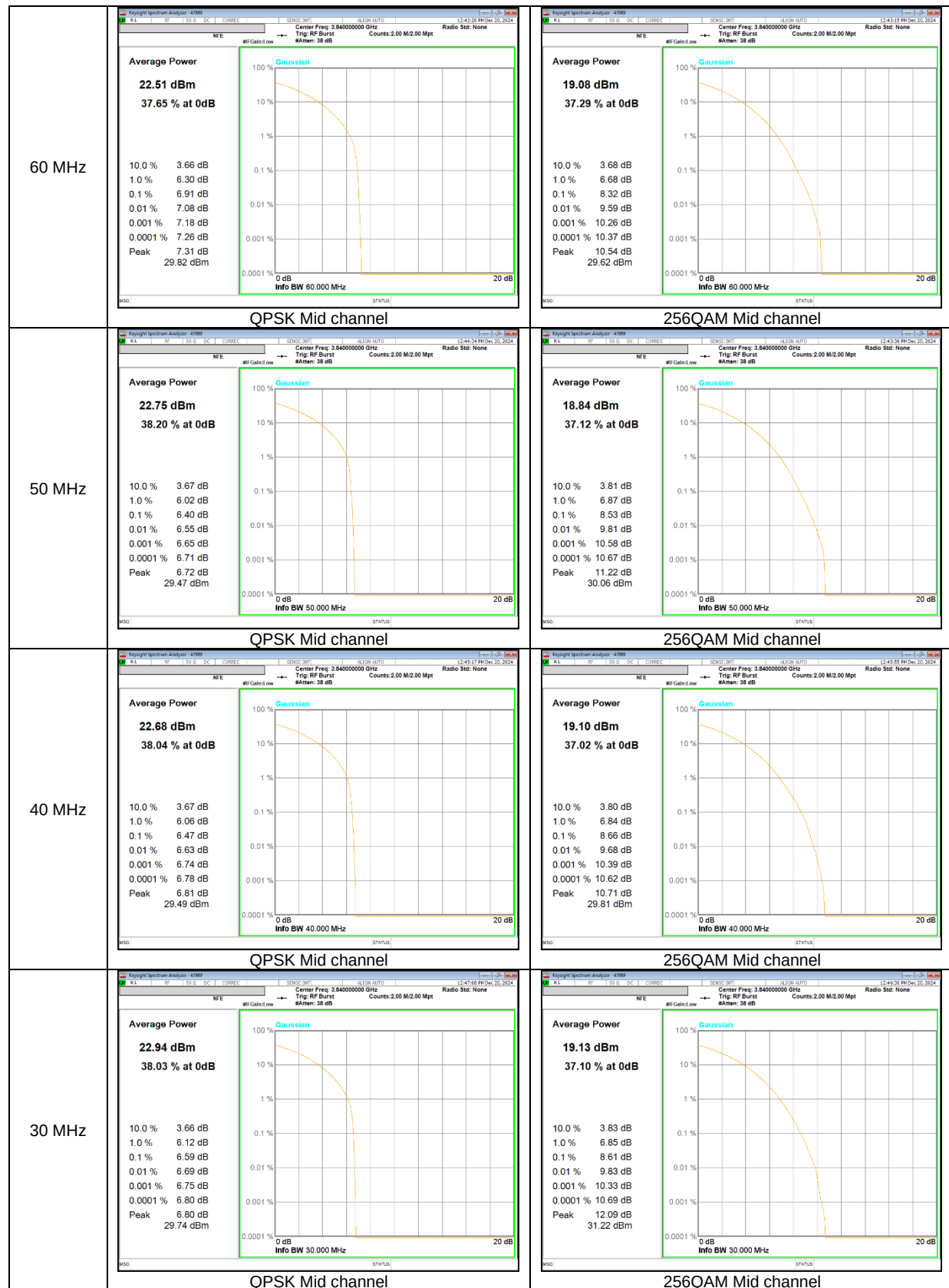


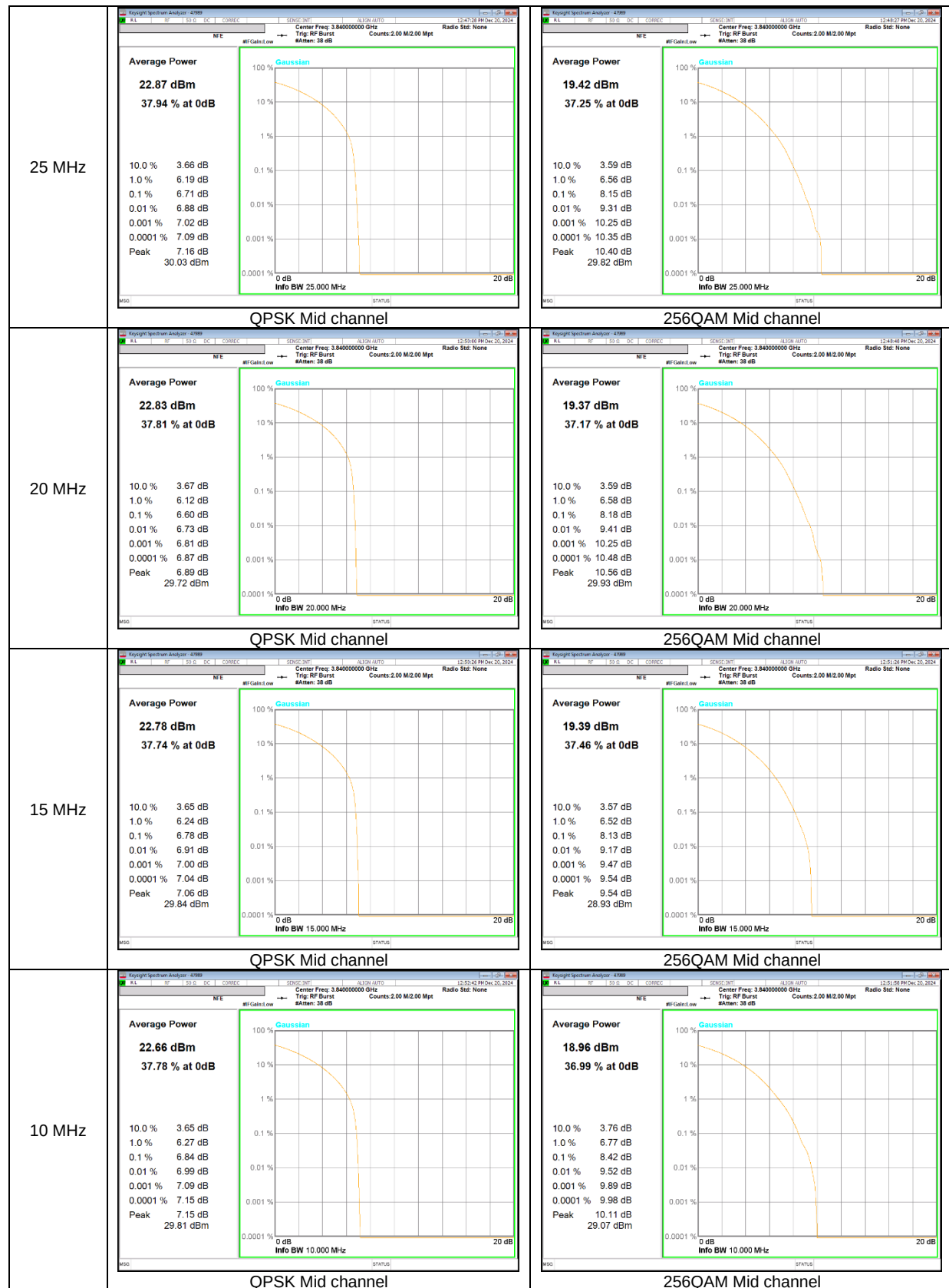




NR Band n77 (PC2, 3700-3980 MHz) CP-OFDM (ANT D)







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 B)

Band	Modulation	f [MHz]	99% BW (MHz)	-26dB BW (MHz)
B4	Rel.99	1732.60	4.154	4.678
	HSDPA		4.163	4.694

- LTE Band 7 (ANT B)

Band	BW	Modulation	Frequency [MHz]	99% BW (MHz)	-26dB BW (MHz)
LTE B7	20M	QPSK	2535.00	17.907	19.110
		16QAM		17.925	19.250
	15M	QPSK		13.435	14.570
		16QAM		13.407	14.630
	10M	QPSK		8.990	9.801
		16QAM		8.975	9.923
	5M	QPSK		4.494	5.037
		16QAM		4.493	5.051

- LTE Band 12 (ANT A)

Band	BW	Modulation	Frequency [MHz]	99% BW (MHz)	-26dB BW (MHz)
LTE B12	10M	QPSK	707.50	8.942	9.840
		16QAM		8.922	9.772
	5M	QPSK		4.475	5.002
		16QAM		4.483	5.113
	3M	QPSK		2.700	2.997
		16QAM		2.687	3.015
	1.4M	QPSK		1.088	1.328
		16QAM		1.088	1.327

- LTE Band 13 (ANT A)

Band	BW	Modulation	f [MHz]	99% BW (MHz)	-26dB BW (MHz)
LTE B13	10M	QPSK	782.00	8.953	9.675
		16QAM		8.963	9.865
	5M	QPSK		4.485	5.170
		16QAM		4.493	4.998

- LTE Band 30 (ANT B)

Band	BW	Modulation	f [MHz]	99% BW (MHz)	-26dB BW (MHz)
LTE B30	10M	QPSK	2310.00	8.967	9.852
		16QAM		8.986	9.828
	5M	QPSK		4.487	5.109
		16QAM		4.495	5.085

- LTE Band 41 (PC3) (ANT B)

Band	BW	Modulation	Frequency [MHz]	99% BW (MHz)	-26dB BW (MHz)
LTE B41 (PC3)	20M	QPSK	2593.00	17.954	19.160
		16QAM		17.960	19.350
	15M	QPSK		13.423	14.690
		16QAM		13.441	14.630
	10M	QPSK		8.972	10.010
		16QAM		8.950	9.627
	5M	QPSK		4.478	4.982
		16QAM		4.479	5.064

- LTE Band 66 (ANT C)

Band	BW	Modulation	Frequency [MHz]	99% BW (MHz)	-26dB BW (MHz)
LTE B66	20M	QPSK	1745.00	17.903	19.340
		16QAM		17.924	19.220
	15M	QPSK		13.464	14.500
		16QAM		13.448	14.340
	10M	QPSK		8.974	9.674
		16QAM		8.997	9.695
	5M	QPSK		4.490	5.058
		16QAM		4.493	5.024
	3M	QPSK		2.692	3.002
		16QAM		2.700	2.989
	1.4M	QPSK		1.090	1.346
		16QAM		1.086	1.324

- LTE Band 71 (ANT A)

Band	BW	Modulation	Frequency [MHz]	99% BW (MHz)	-26dB BW (MHz)
LTE B71	20M	QPSK	680.50	17.828	19.290
		16QAM		17.857	19.360
	15M	QPSK		13.396	14.560
		16QAM		13.411	14.490
	10M	QPSK		8.984	9.723
		16QAM		8.969	9.935
	5M	QPSK		4.486	5.002
		16QAM		4.508	5.045

- NR Band n30 CP-OFDM (ANT B)

Band	BW	Modulation	Frequency [MHz]	99% BW (MHz)	-26dB BW (MHz)
NR n30	10M	QPSK	2310.00	9.269	9.859
		16QAM		9.261	9.829
	5M	QPSK		4.475	5.077
		16QAM		4.478	5.030

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

Band	BW	Modulation	Frequency [MHz]	99% BW (MHz)	-26dB BW (MHz)
NR n41(PC2)	100M	QPSK	2592.99	97.774	101.500
		16QAM		97.812	101.600
	90M	QPSK		88.026	91.580
		16QAM		87.833	91.480
	80M	QPSK		77.760	80.820
		16QAM		78.000	80.740
	70M	QPSK		67.727	70.390
		16QAM		67.776	70.520
	60M	QPSK		57.952	60.640
		16QAM		58.174	60.350
	50M	QPSK		47.700	49.900
		16QAM		47.714	49.430
	40M	QPSK		38.027	39.790
		16QAM		38.025	39.670
	30M	QPSK		27.965	29.160
		16QAM		28.051	29.310
	20M	QPSK		18.217	19.540
		16QAM		18.264	19.920
	15M	QPSK		13.581	15.010
		16QAM		13.610	14.620
	10M	QPSK		8.588	9.859
		16QAM		8.604	9.508

- NR Band n66 CP-OFDM (ANT C)

Band	BW	Modulation	Frequency [MHz]	99% BW (MHz)	-26dB BW (MHz)
NR n66	40M	QPSK	1745.00	38.625	40.240
		16QAM		38.666	40.260
	35M	QPSK		33.635	34.980
		16QAM		33.626	35.030
	30M	QPSK		28.599	29.900
		16QAM		28.583	29.990
	25M	QPSK		23.789	24.950
		16QAM		23.805	24.960
	20M	QPSK		18.978	20.130
		16QAM		18.934	19.860
	15M	QPSK		14.094	14.960
		16QAM		14.114	15.040
	10M	QPSK		9.306	10.060
		16QAM		9.291	10.200
	5M	QPSK		4.481	5.120
		16QAM		4.484	5.156

- NR Band n70 CP-OFDM (ANT C)

Band	BW	Modulation	Frequency [MHz]	99% BW (MHz)	-26dB BW (MHz)
NR n70	15M	QPSK	1702.50	14.114	14.960
		16QAM		14.103	15.110
	10M	QPSK		9.291	10.100
		16QAM		9.312	10.120
	5M	QPSK		4.490	5.167
		16QAM		4.483	5.073

- NR Band n71 CP-OFDM (ANT A)

Band	BW	Modulation	Frequency [MHz]	99% BW (MHz)	-26dB BW (MHz)
NR n71	20M	QPSK	680.50	18.873	20.040
		16QAM		18.919	20.010
	15M	QPSK		14.136	15.070
		16QAM		14.119	14.920
	10M	QPSK		9.304	10.090
		16QAM		9.262	9.986
	5M	QPSK		4.491	5.178
		16QAM		4.485	5.184

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

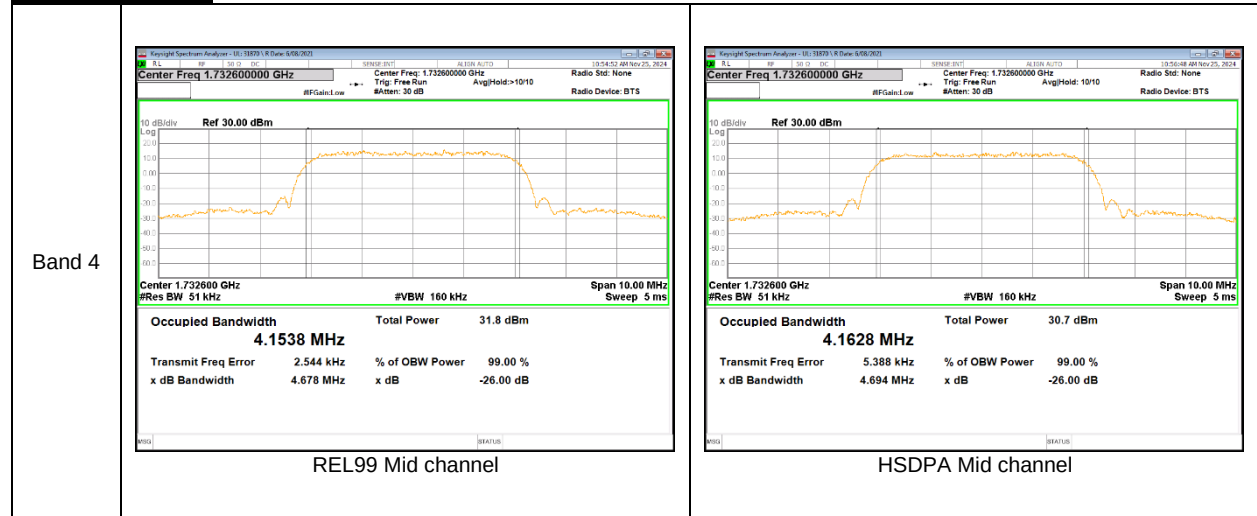
Band	BW	Modulation	Frequency [MHz]	99% BW (MHz)	-26dB BW (MHz)
NR n77 (PC2)	100M	QPSK	3499.98	97.469	101.400
		16QAM		97.688	101.500
	90M	QPSK		87.810	91.510
		16QAM		87.698	91.280
	80M	QPSK		77.642	80.990
		16QAM		77.531	80.730
	70M	QPSK		67.539	70.590
		16QAM		67.531	70.380
	60M	QPSK		57.884	60.200
		16QAM		58.042	60.360
	50M	QPSK		47.444	49.720
		16QAM		47.712	49.520
	40M	QPSK		37.906	39.520
		16QAM		37.819	39.790
	30M	QPSK		27.854	29.330
		16QAM		27.859	29.470
	25M	QPSK		23.252	24.500
		16QAM		23.306	24.620
	20M	QPSK		18.146	19.460
		16QAM		18.226	19.100
	15M	QPSK		13.555	14.540
		16QAM		13.601	15.040
	10M	QPSK		8.607	9.570
		16QAM		8.564	9.695

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

Band	BW	Modulation	Frequency [MHz]	99% BW (MHz)	-26dB BW (MHz)
NR n77 (PC2)	100M	QPSK	3840.00	97.690	101.500
		16QAM		97.860	101.400
	90M	QPSK		87.573	91.460
		16QAM		87.793	91.620
	80M	QPSK		77.761	80.780
		16QAM		77.764	80.640
	70M	QPSK		67.634	70.320
		16QAM		67.848	70.410
	60M	QPSK		57.887	60.340
		16QAM		57.924	60.250
	50M	QPSK		47.569	49.540
		16QAM		47.553	49.720
	40M	QPSK		37.996	39.590
		16QAM		37.907	39.540
	30M	QPSK		27.993	29.430
		16QAM		27.862	29.150
	25M	QPSK		23.247	24.790
		16QAM		23.255	24.300
	20M	QPSK		18.219	19.640
		16QAM		18.270	19.410
	15M	QPSK		13.592	15.160
		16QAM		13.606	14.750
	10M	QPSK		8.596	9.845
		16QAM		8.606	9.669

8.3.1. OCCUPIED BANDWIDTH RESULT

WCDMA Band 4



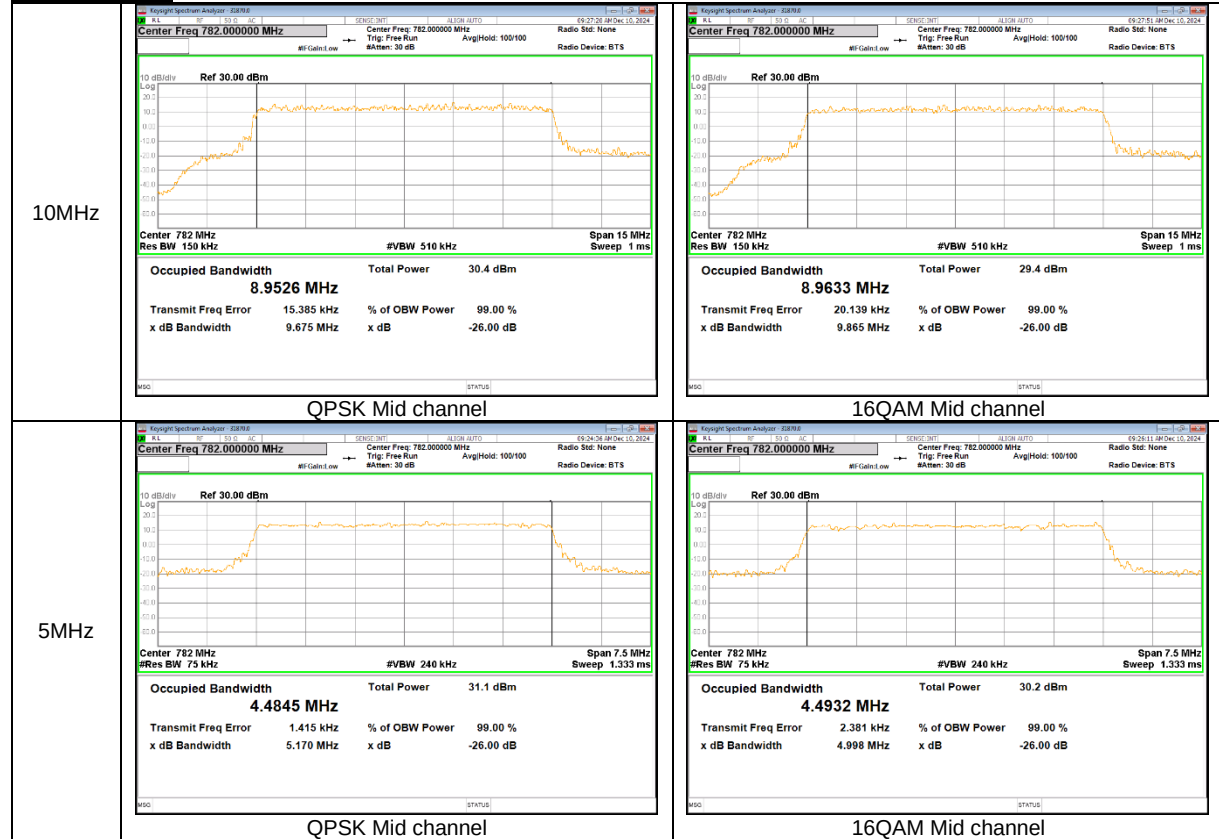
LTE Band 7



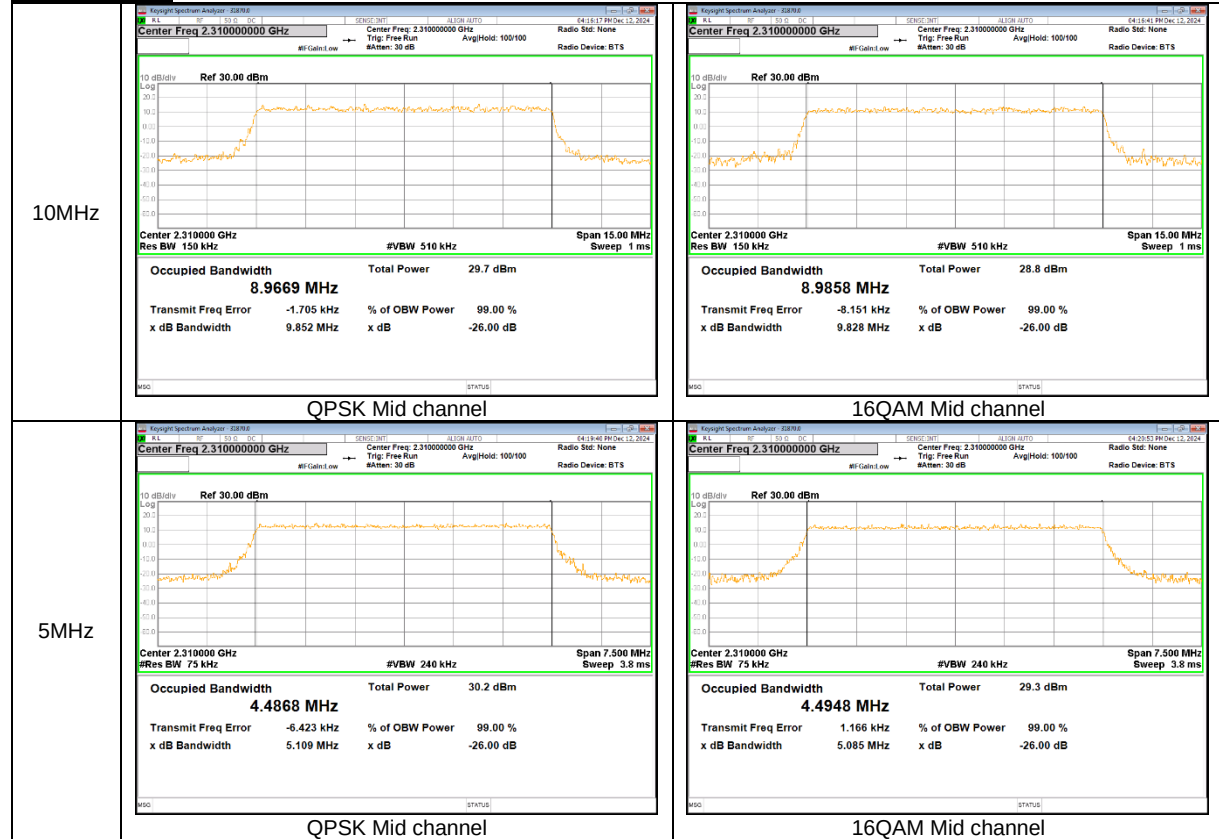
LTE Band 12



LTE Band 13



LTE Band 30

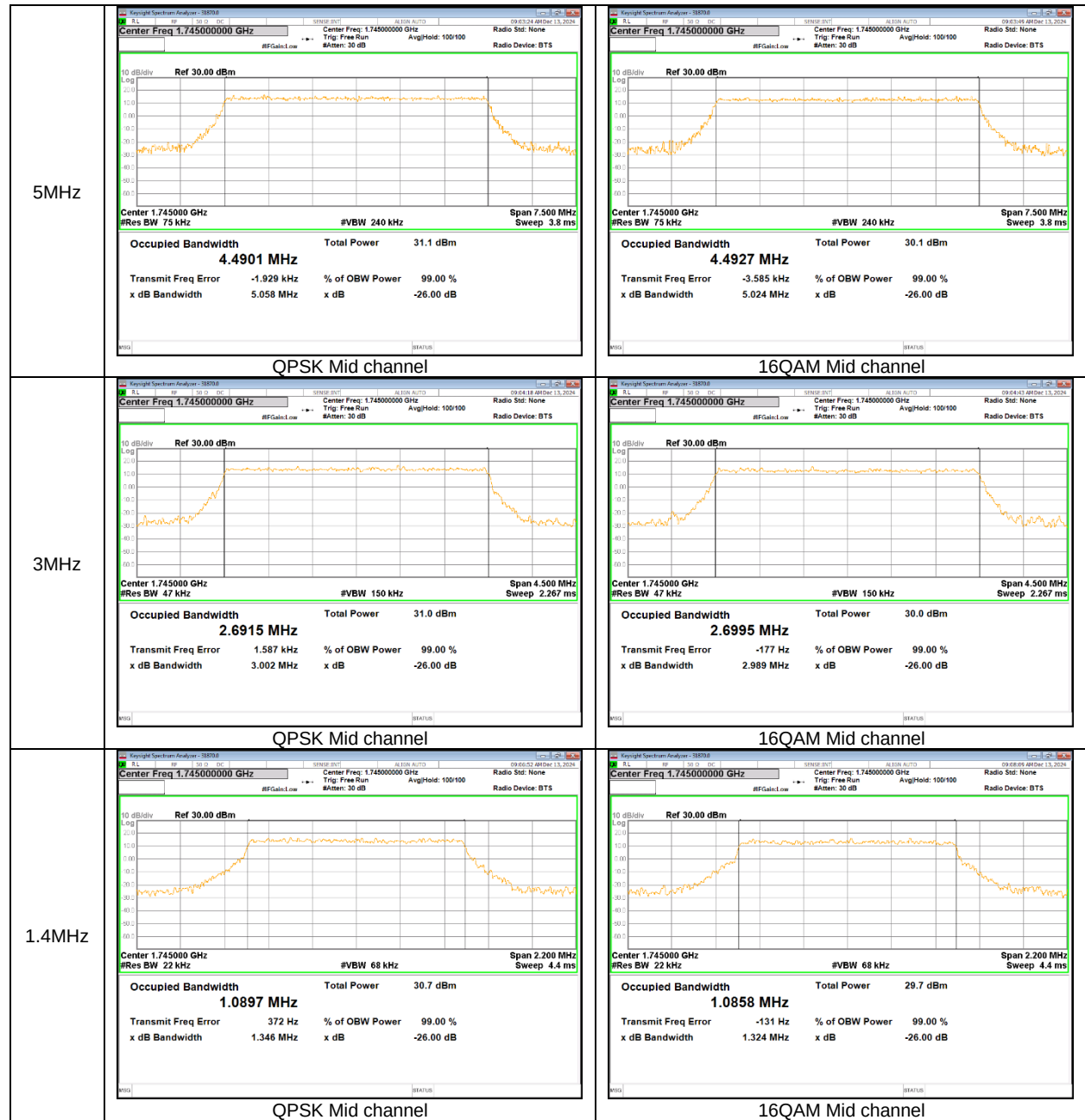


LTE Band 41 (PC3)



LTE Band 66





LTE Band 71



NR Band n30 CP-OFDM

