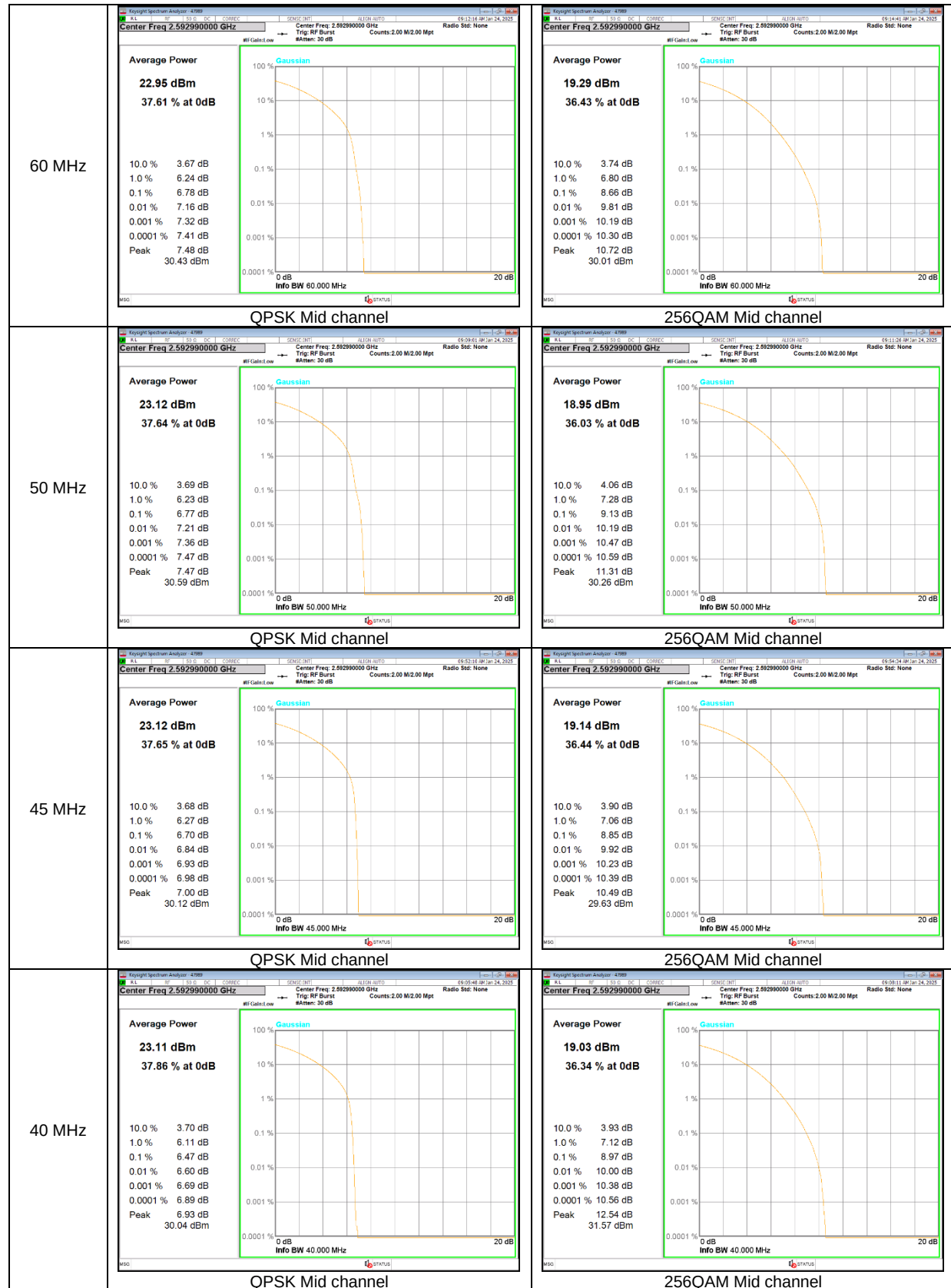
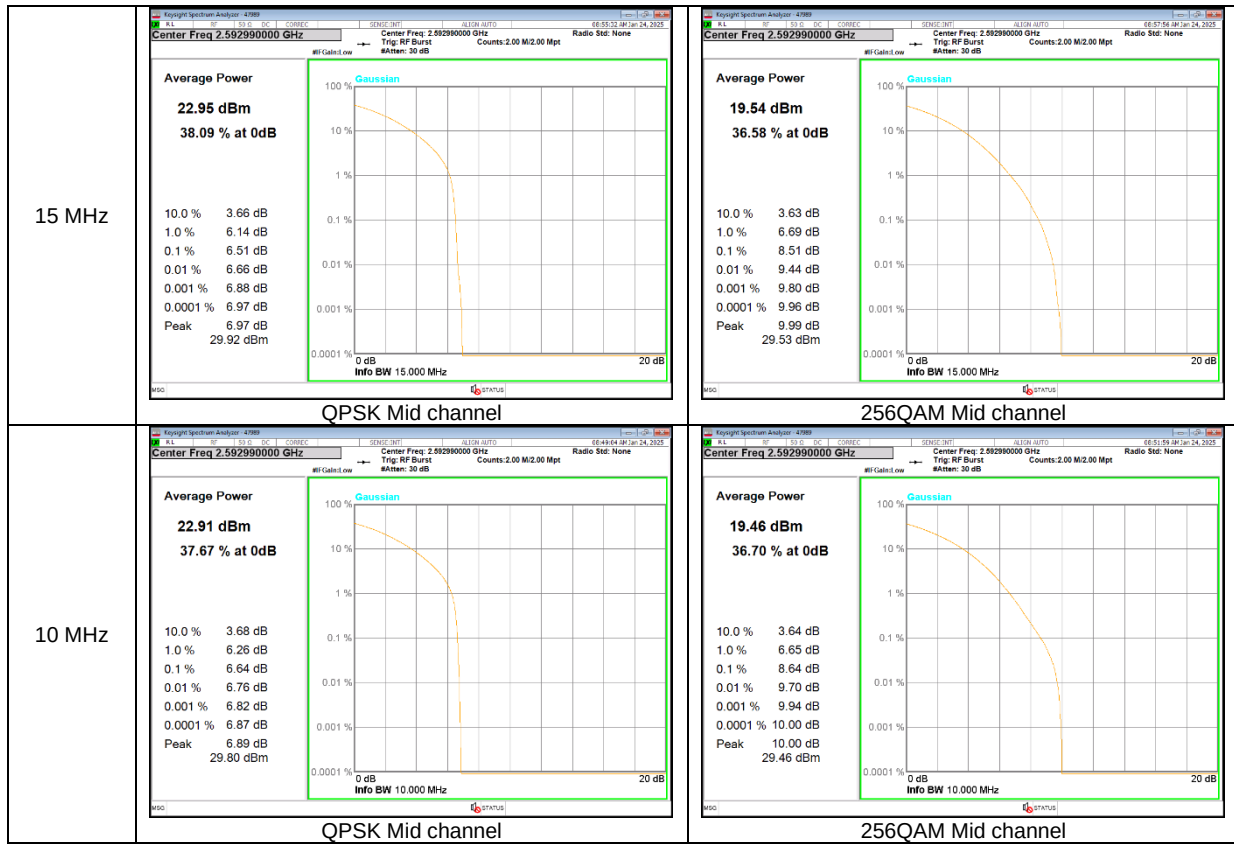
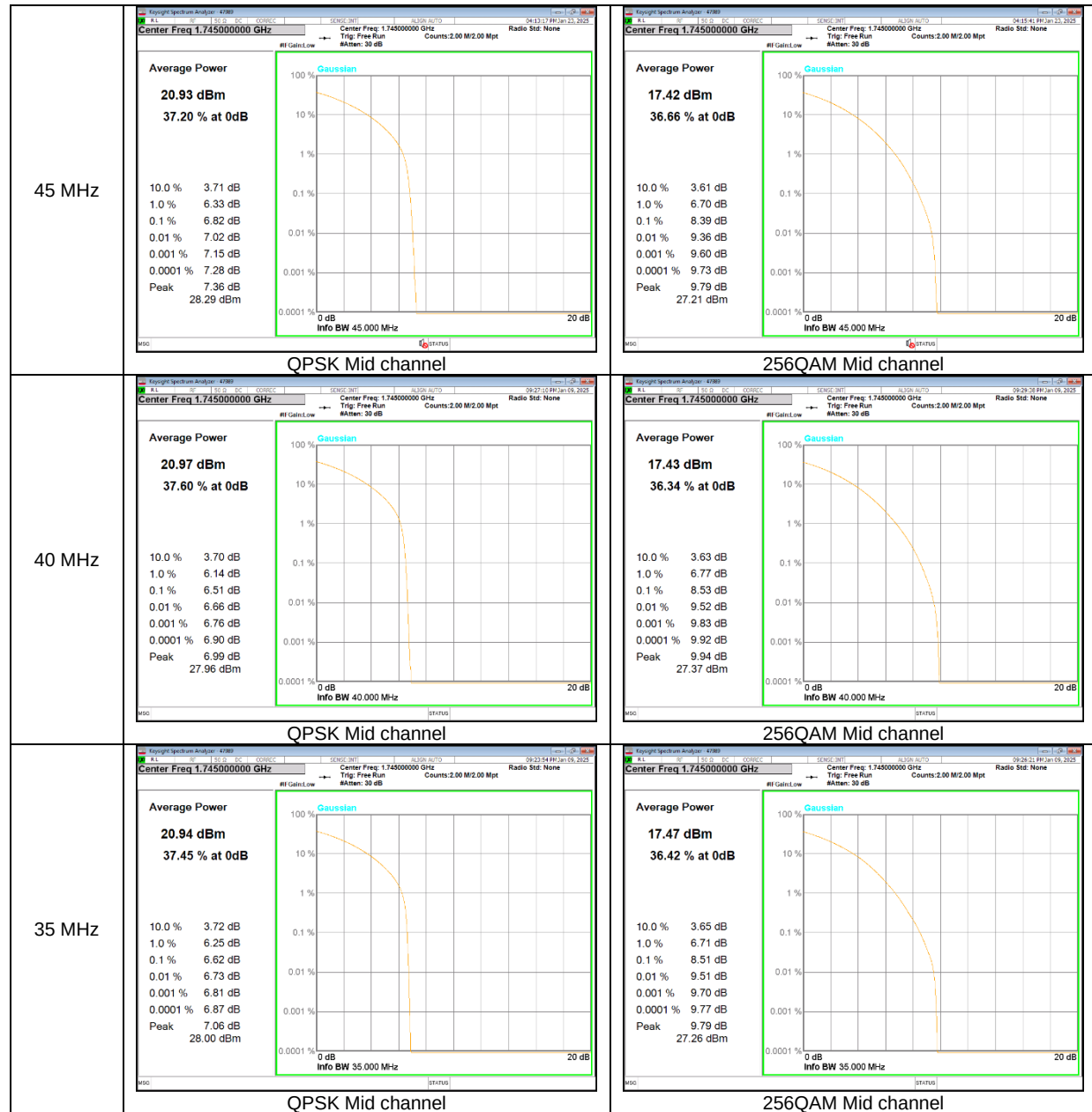


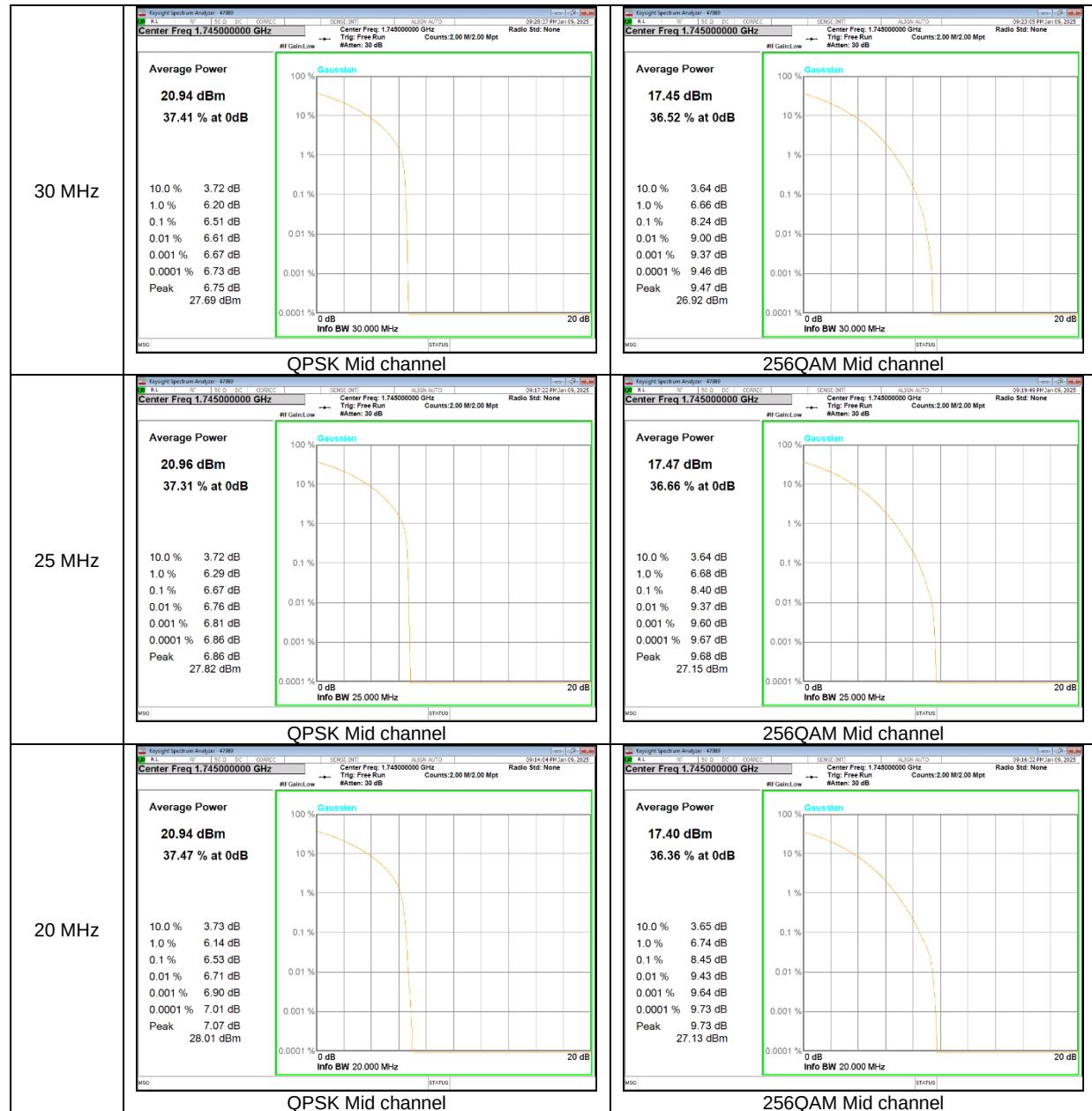


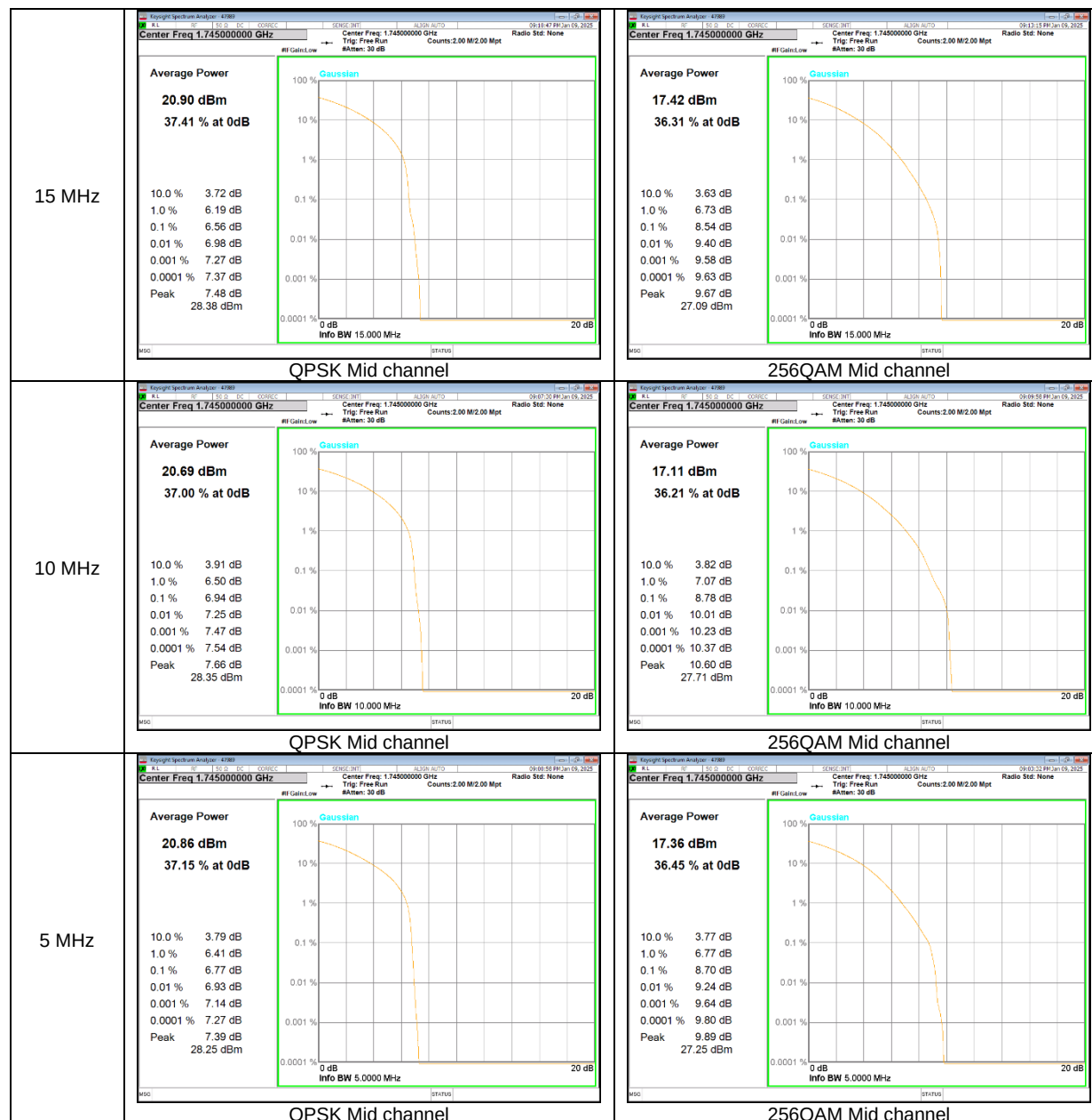




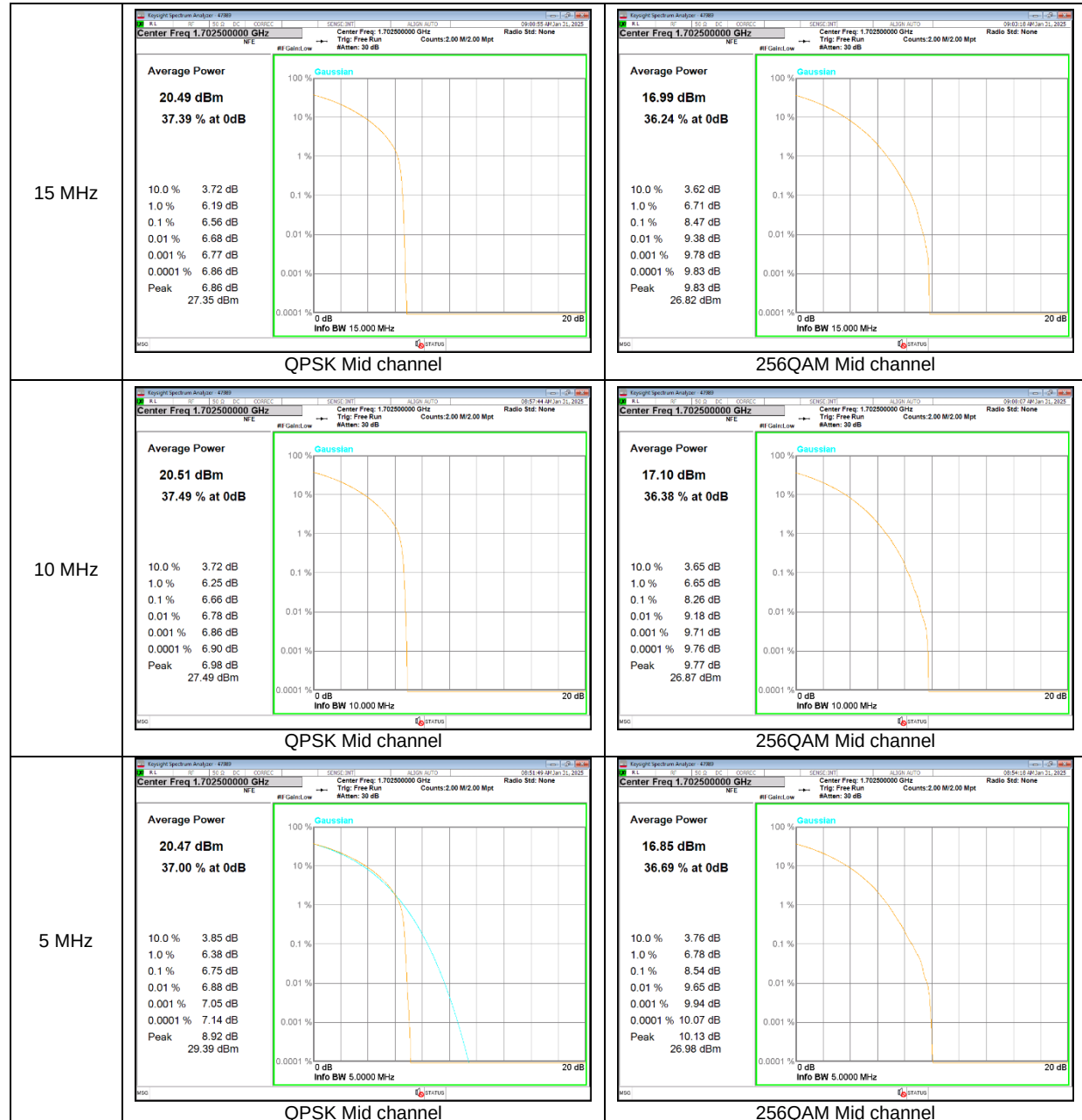
NR Band n66 CP-OFDM (ANT A)



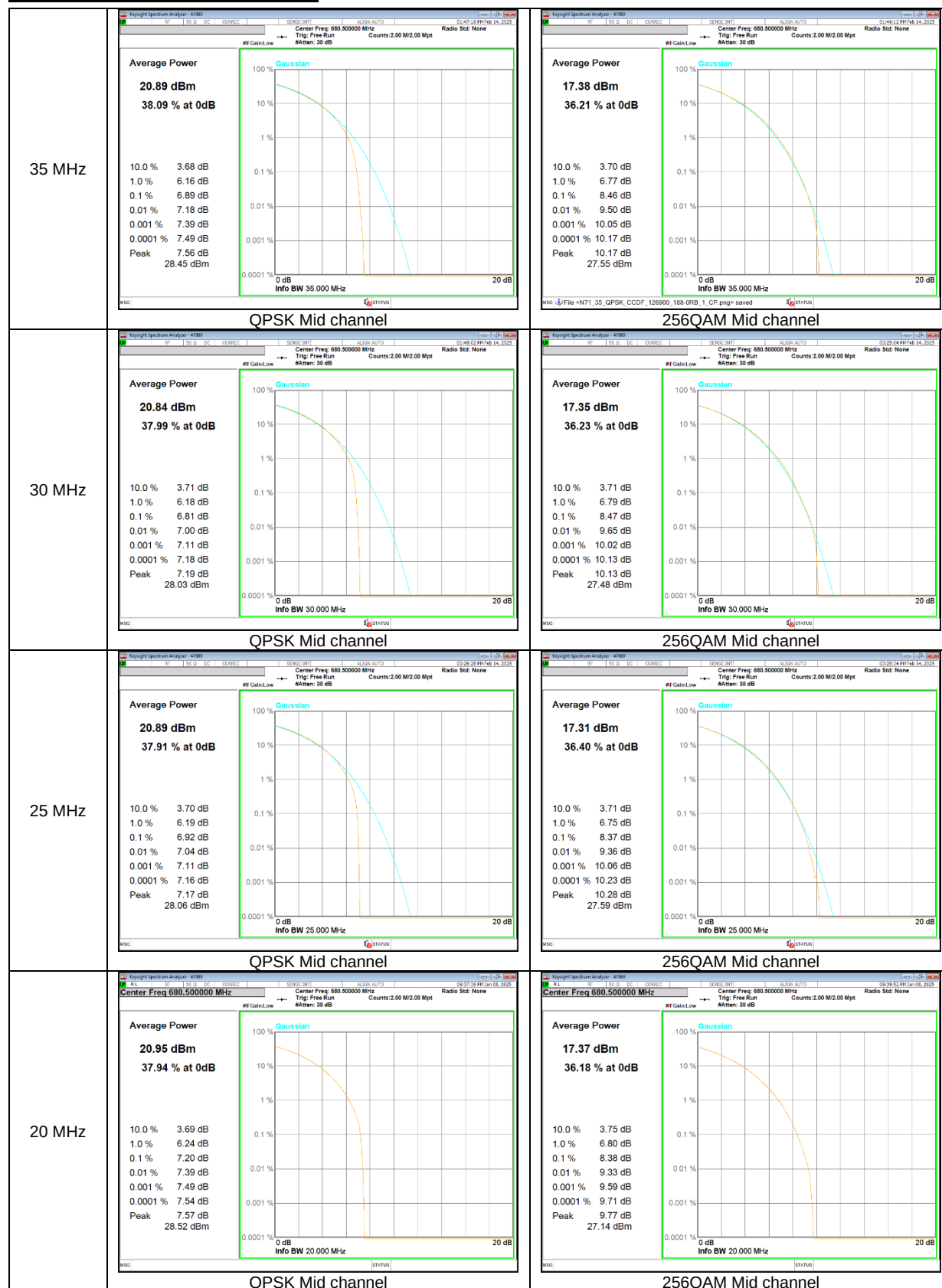


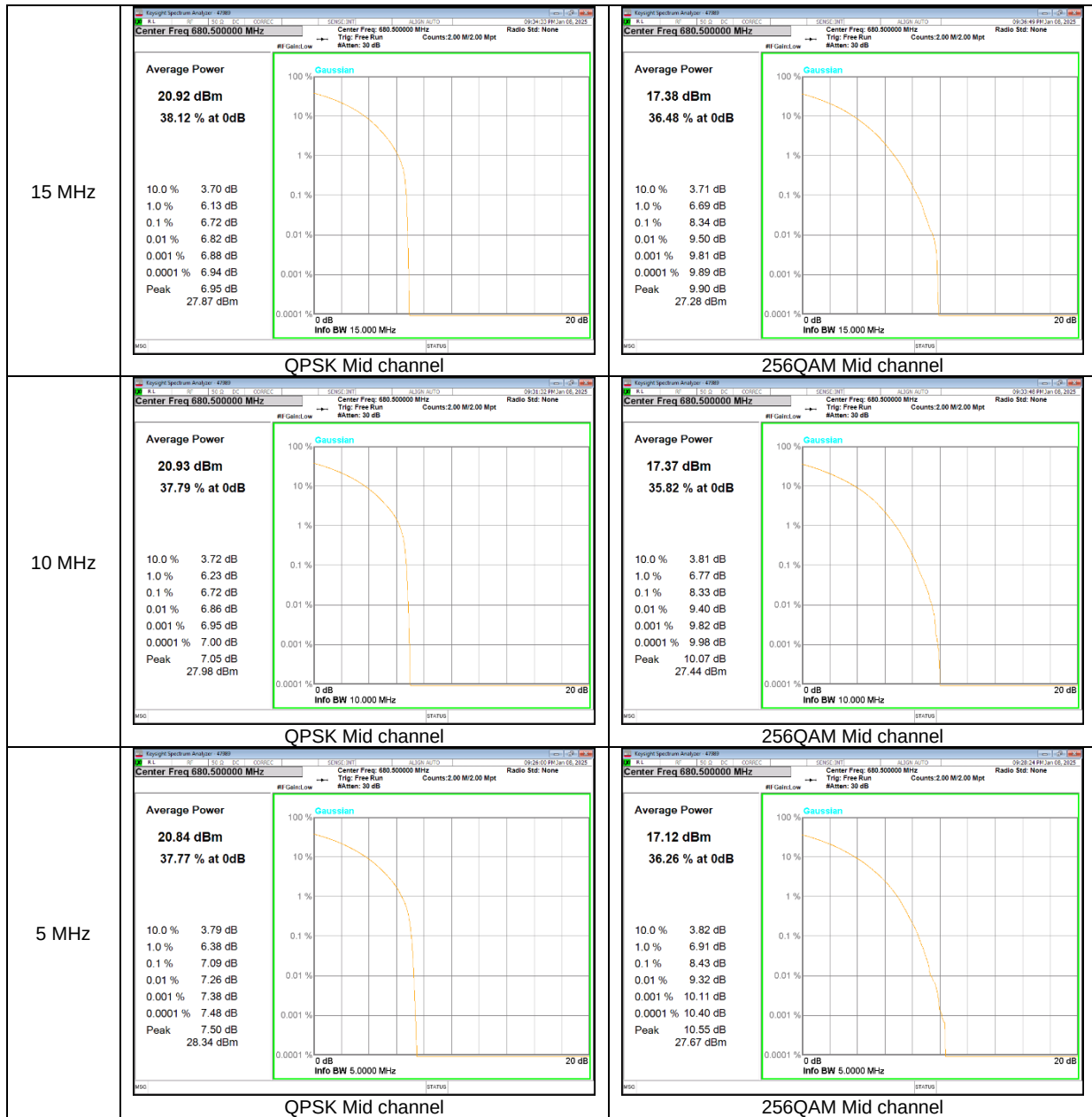


NR Band n70 CP-OFDM (ANT A)

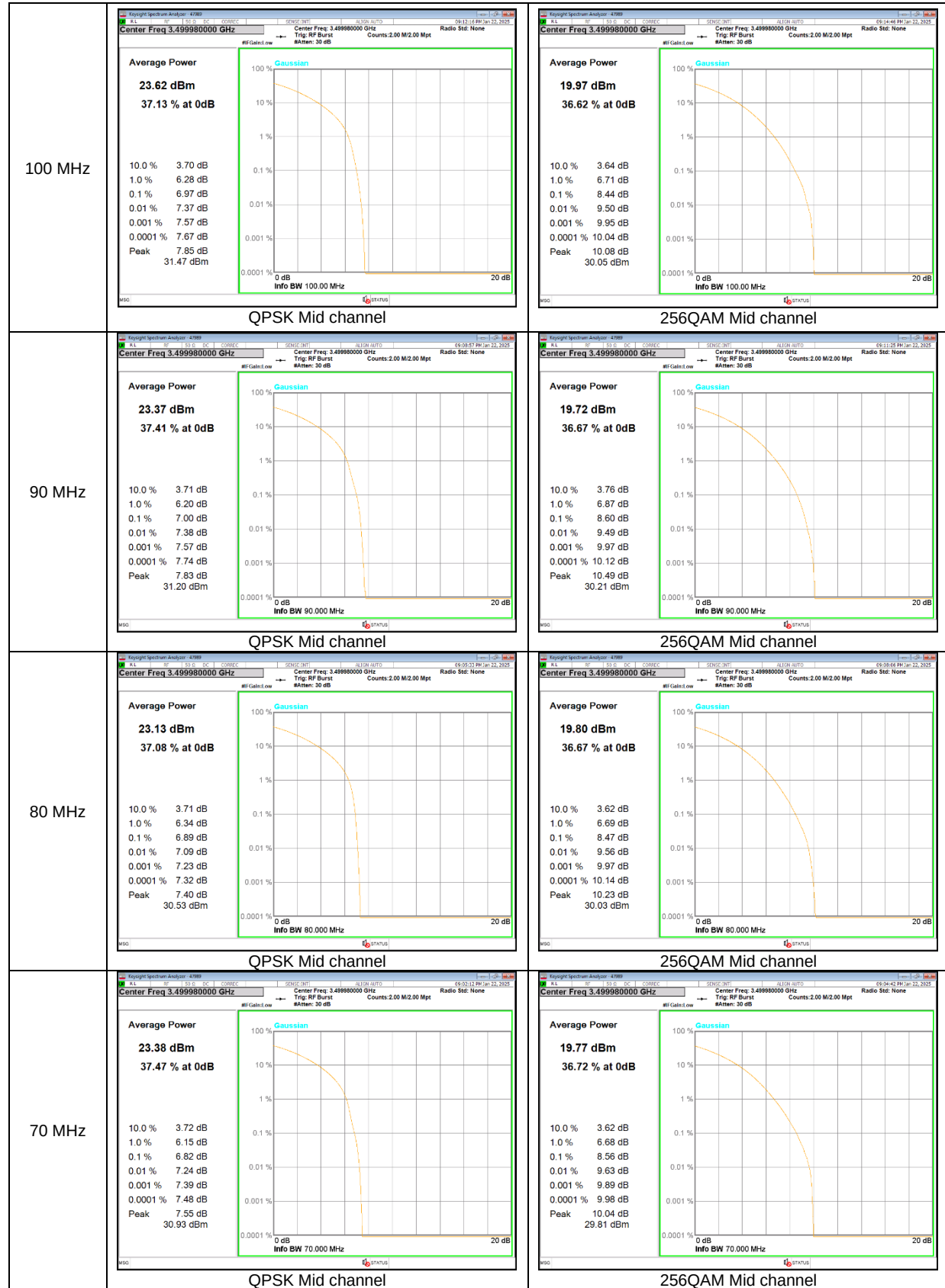


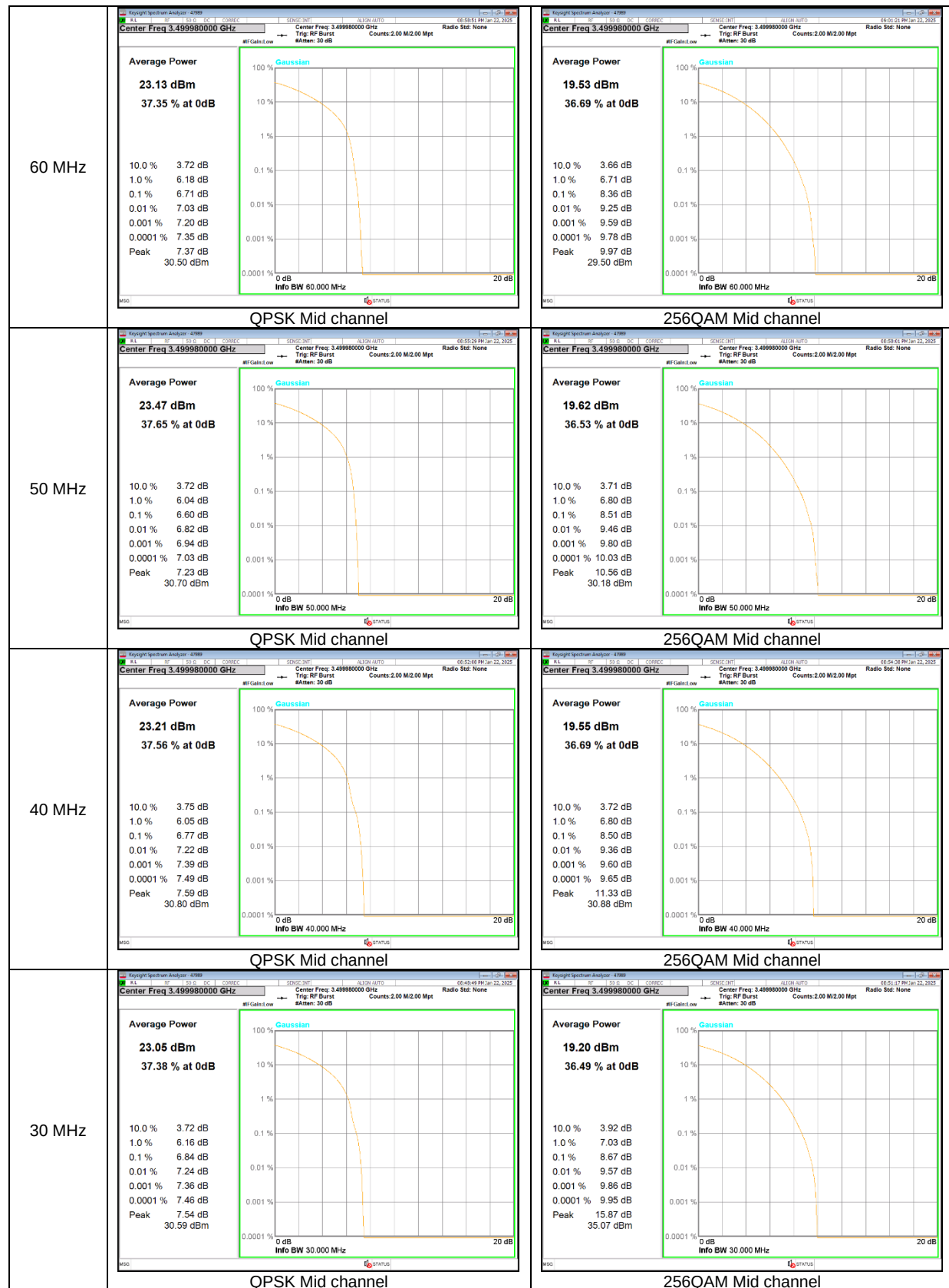
NR Band n71 CP-OFDM (ANT A)

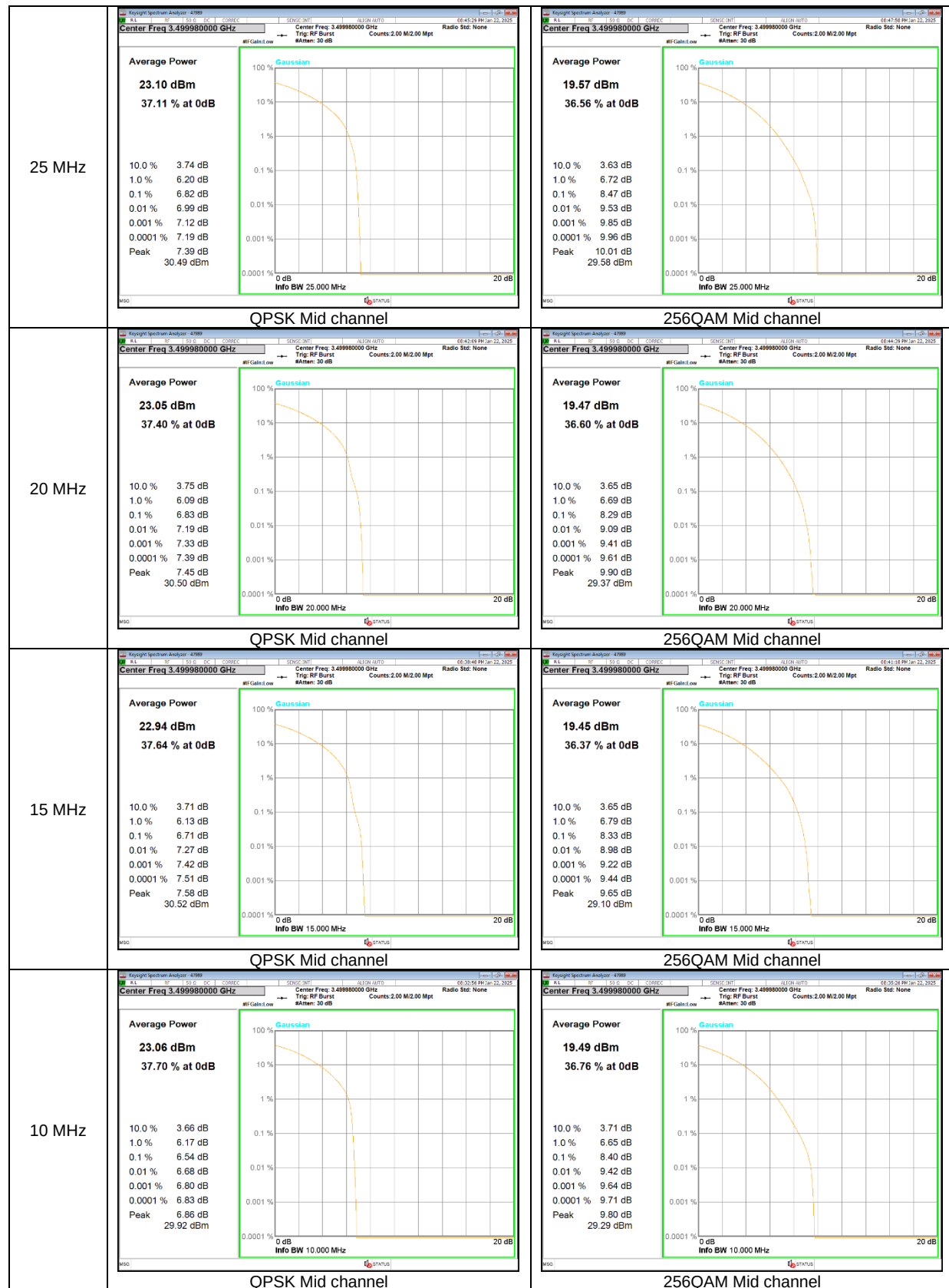




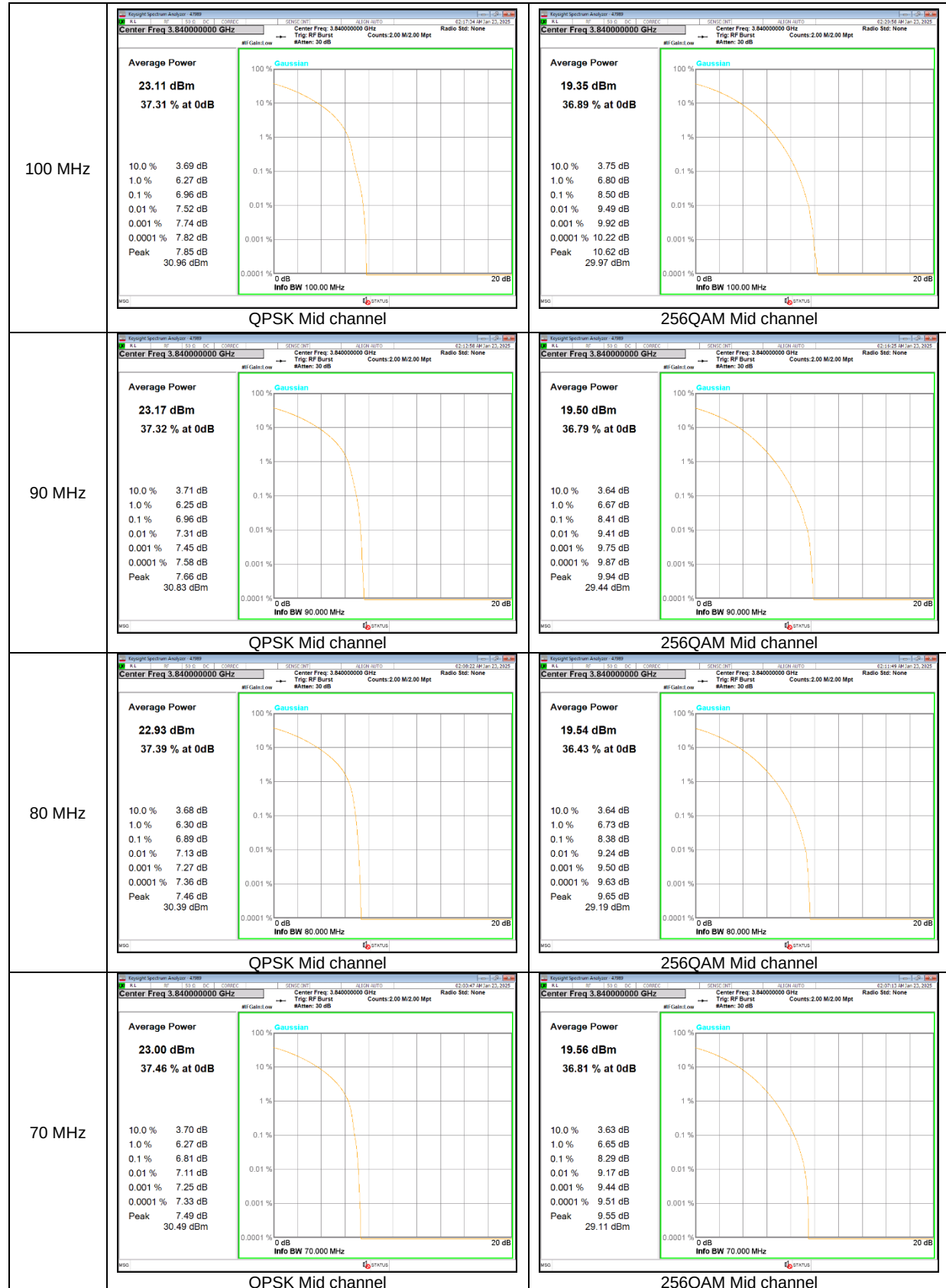
NR Band n77 (PC2, 3450-3550 MHz) CP-OFDM (ANT F)

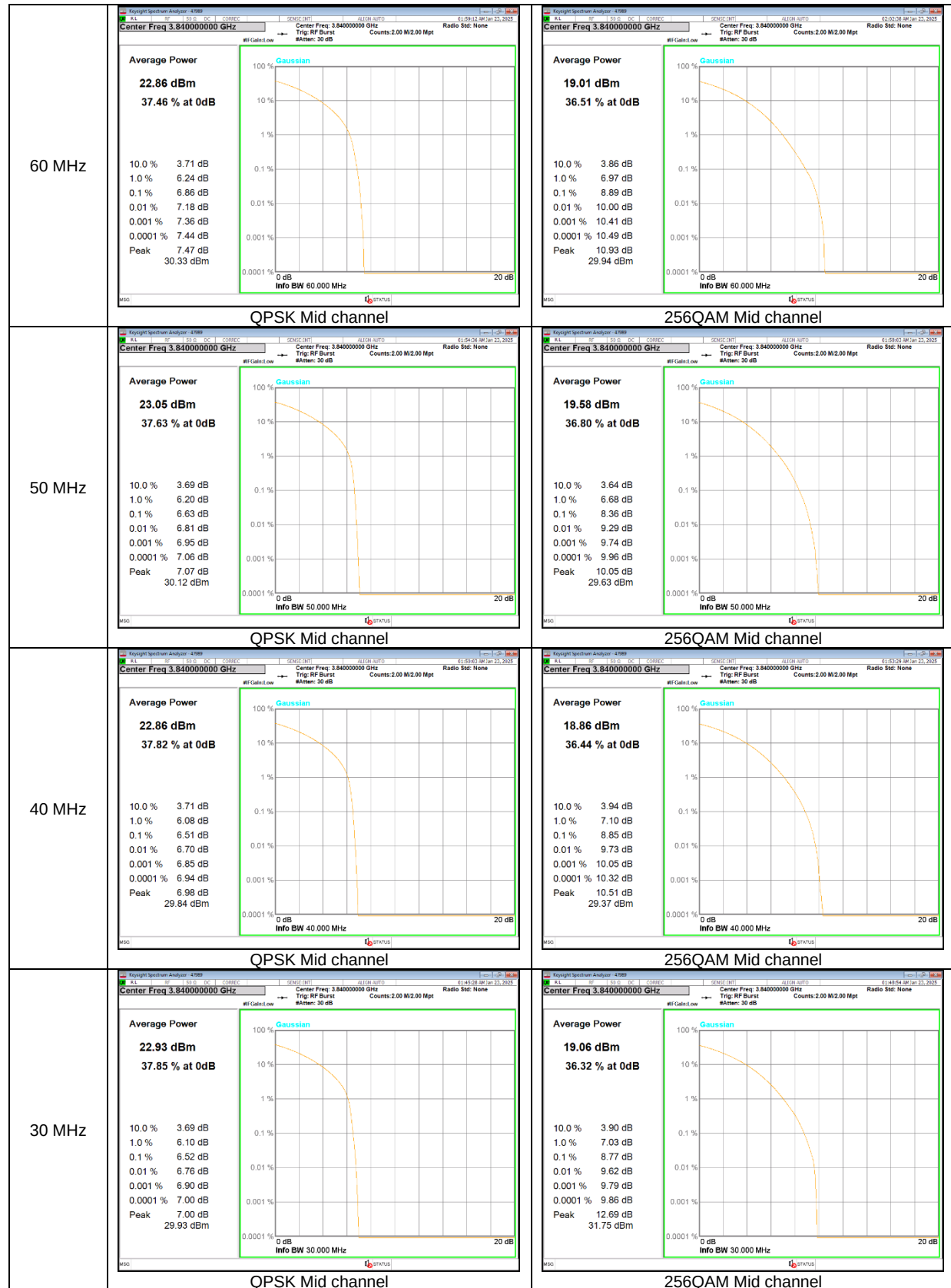


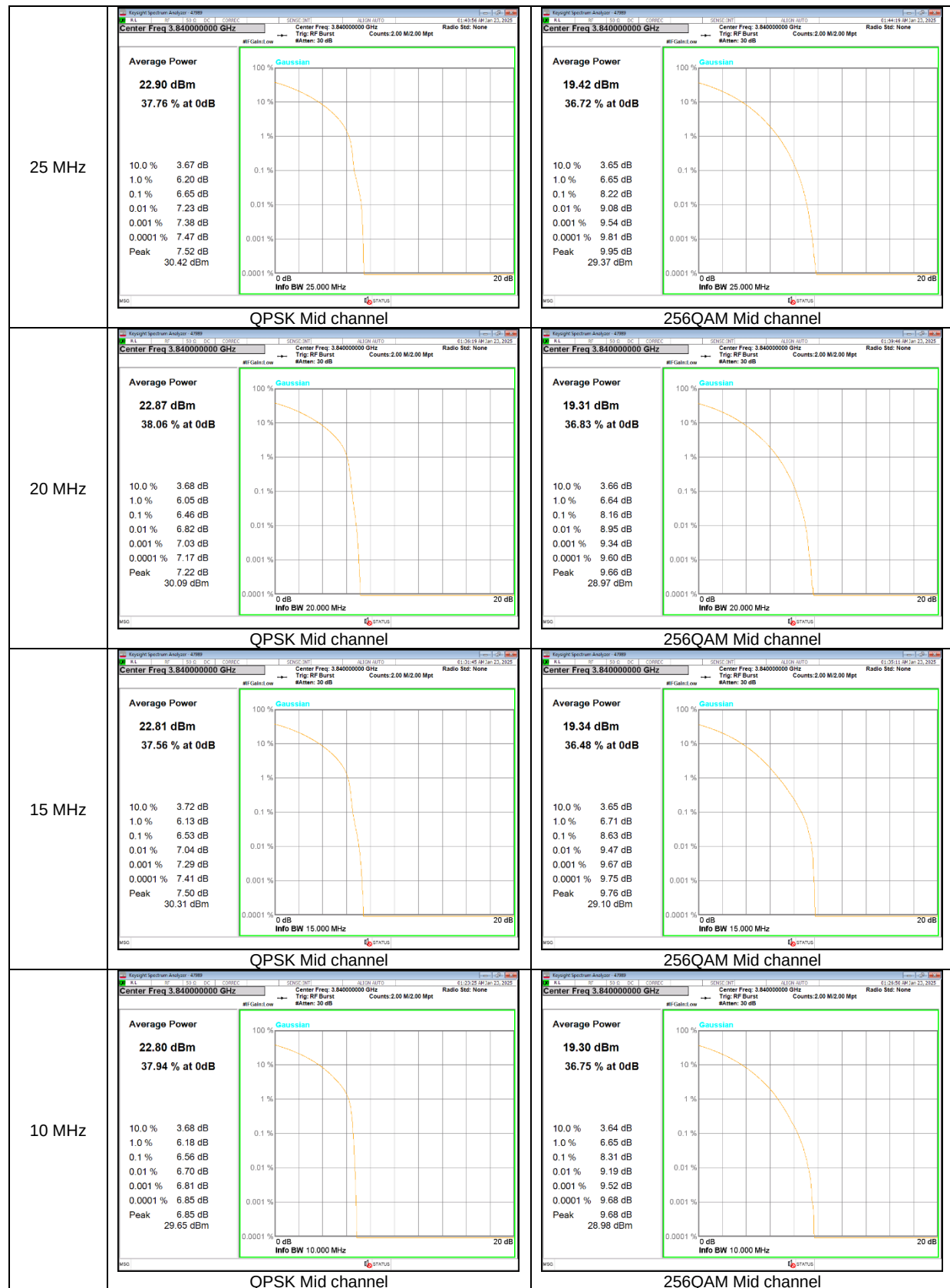




NR Band n77 (PC2, 3700-3980 MHz) CP-OFDM (ANT F)







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 B)

Band	Modulation	f [MHz]	99% BW (MHz)	-26dB BW (MHz)
B4	Rel.99	1732.60	4.1500	4.697
	HSDPA		4.1553	4.682

- LTE Band 7 (ANT B)

Band	BW	Modulation	Frequency [MHz]	99% BW (MHz)	-26dB BW (MHz)
LTE B7	20M	QPSK	2535.00	17.864	19.360
		16QAM		17.849	19.350
	15M	QPSK		13.440	14.730
		16QAM		13.435	14.380
	10M	QPSK		8.950	9.733
		16QAM		8.945	9.810
	5M	QPSK		4.487	4.990
		16QAM		4.487	5.046

- LTE Band 12 (ANT A)

Band	BW	Modulation	Frequency [MHz]	99% BW (MHz)	-26dB BW (MHz)
LTE B12	10M	QPSK	707.50	8.959	9.922
		16QAM		8.980	9.888
	5M	QPSK		4.483	4.952
		16QAM		4.471	4.995
	3M	QPSK		2.685	2.967
		16QAM		2.690	3.004
	1.4M	QPSK		1.089	1.359
		16QAM		1.093	1.344

- LTE Band 13 (ANT E)

Band	BW	Modulation	f [MHz]	99% BW (MHz)	-26dB BW (MHz)
LTE B13	10M	QPSK	782.00	8.971	9.960
		16QAM		8.936	9.740
	5M	QPSK		4.484	5.058
		16QAM		4.482	5.073

- LTE Band 30 (ANT A)

Band	BW	Modulation	f [MHz]	99% BW (MHz)	-26dB BW (MHz)
LTE B30	10M	QPSK	2310.00	8.983	9.600
		16QAM		8.985	9.816
	5M	QPSK		4.484	5.133
		16QAM		4.494	5.049

- LTE Band 41 (PC3) (ANT F)

Band	BW	Modulation	Frequency [MHz]	99% BW (MHz)	-26dB BW (MHz)
LTE B41 (PC3)	20M	QPSK	2593.00	17.907	19.200
		16QAM		17.860	18.910
	15M	QPSK		13.413	14.220
		16QAM		13.424	14.470
	10M	QPSK		8.947	9.578
		16QAM		8.937	9.773
	5M	QPSK		4.478	4.915
		16QAM		4.481	4.867

- LTE Band 66 (ANT A)

Band	BW	Modulation	Frequency [MHz]	99% BW (MHz)	-26dB BW (MHz)
LTE B66	20M	QPSK	1745.00	17.900	19.330
		16QAM		17.895	19.320
	15M	QPSK		13.425	14.560
		16QAM		13.453	14.690
	10M	QPSK		8.945	9.864
		16QAM		8.977	9.804
	5M	QPSK		4.486	5.097
		16QAM		4.482	5.084
	3M	QPSK		2.693	2.998
		16QAM		2.698	3.023
	1.4M	QPSK		1.085	1.357
		16QAM		1.087	1.322

- LTE Band 71 (ANT A)

Band	BW	Modulation	Frequency [MHz]	99% BW (MHz)	-26dB BW (MHz)
LTE B71	20M	QPSK	680.50	17.851	19.500
		16QAM		17.880	19.310
	15M	QPSK		13.394	14.230
		16QAM		13.413	14.620
	10M	QPSK		8.955	9.813
		16QAM		8.974	9.722
	5M	QPSK		4.494	5.053
		16QAM		4.485	5.016

- NR Band n7 CP-OFDM (ANT B)

Band	BW	Modulation	Frequency [MHz]	99% BW (MHz)	-26dB BW (MHz)
NR n7	50M	QPSK	2535.00	48.386	50.320
		16QAM		48.452	50.290
	40M	QPSK		38.607	40.230
		16QAM		38.654	40.270
	35M	QPSK		33.594	35.110
		16QAM		33.613	36.170
	30M	QPSK		28.570	30.090
		16QAM		28.575	30.040
	25M	QPSK		23.820	25.220
		16QAM		23.716	25.060
	20M	QPSK		18.959	19.870
		16QAM		18.946	19.930
	15M	QPSK		14.127	15.470
		16QAM		14.103	15.020
	10M	QPSK		9.312	9.989
		16QAM		9.299	10.080
	5M	QPSK		4.483	5.263
		16QAM		4.498	5.156

- NR Band n12 CP-OFDM (ANT E)

Band	BW	Modulation	Frequency [MHz]	99% BW (MHz)	-26dB BW (MHz)
NR n12	15M	QPSK	707.50	14.110	14.880
		16QAM		14.107	15.030
	10M	QPSK		9.279	9.921
		16QAM		9.302	10.060
	5M	QPSK		4.462	5.077
		16QAM		4.479	5.127

- NR Band n30 CP-OFDM (ANT A)

Band	BW	Modulation	Frequency [MHz]	99% BW (MHz)	-26dB BW (MHz)
NR n30	10M	QPSK	2310.00	9.308	10.080
		16QAM		9.289	9.951
	5M	QPSK		4.492	5.189
		16QAM		4.483	5.108

- 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	97.587	101.800
		16QAM		97.594	101.700
	90M	QPSK		87.611	91.620
		16QAM		87.646	91.580
	80M	QPSK		77.571	80.940
		16QAM		77.566	80.870
	70M	QPSK		67.552	70.540
		16QAM		67.498	70.550
	60M	QPSK		57.875	60.480
		16QAM		57.969	60.550
	50M	QPSK		47.644	49.680
		16QAM		47.605	49.710
	45M	QPSK		42.615	44.730
		16QAM		42.636	44.690
	40M	QPSK		37.955	39.840
		16QAM		37.946	39.760
	35M	QPSK		32.943	34.700
		16QAM		32.910	34.590
	30M	QPSK		27.972	29.720
		16QAM		27.942	29.480
	25M	QPSK		23.275	24.810
		16QAM		23.315	24.790
	20M	QPSK		18.287	19.480
		16QAM		18.279	19.600
	15M	QPSK		13.607	14.940
		16QAM		13.629	14.690
	10M	QPSK		8.611	9.679
		16QAM		8.612	9.560

- NR Band n66 CP-OFDM (ANT A)

Band	BW	Modulation	Frequency [MHz]	99% BW (MHz)	-26dB BW (MHz)
NR n66	45M	QPSK	1745.00	43.376	45.320
		16QAM		43.373	45.350
	40M	QPSK		38.558	40.240
		16QAM		38.574	40.250
	35M	QPSK		33.558	35.020
		16QAM		33.573	34.980
	30M	QPSK		28.579	29.930
		16QAM		28.648	29.900
	25M	QPSK		23.740	24.870
		16QAM		23.730	24.830
	20M	QPSK		18.904	19.960
		16QAM		18.942	19.910
	15M	QPSK		14.099	15.060
		16QAM		14.104	14.910
	10M	QPSK		9.310	10.150
		16QAM		9.308	10.050
	5M	QPSK		4.475	5.046
		16QAM		4.479	5.293

- NR Band n70 CP-OFDM (ANT A)

Band	BW	Modulation	Frequency [MHz]	99% BW (MHz)	-26dB BW (MHz)
NR n70	15M	QPSK	1702.50	14.164	15.080
		16QAM		14.174	14.890
	10M	QPSK		9.326	10.050
		16QAM		9.312	10.080
	5M	QPSK		4.475	5.050
		16QAM		4.504	5.202

- NR Band n71 CP-OFDM (ANT E)

Band	BW	Modulation	Frequency [MHz]	99% BW (MHz)	-26dB BW (MHz)
NR n71	35M	QPSK	680.50	33.501	34.950
		16QAM		33.433	34.930
	30M	QPSK		28.518	29.840
		16QAM		28.606	29.890
	25M	QPSK		23.692	25.040
		16QAM		23.754	24.970
	20M	QPSK		18.966	19.940
		16QAM		18.897	20.050
	15M	QPSK		14.148	14.860
		16QAM		14.096	14.940
	10M	QPSK		9.285	10.130
		16QAM		9.307	10.150
	5M	QPSK		4.479	5.167
		16QAM		4.485	5.116

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

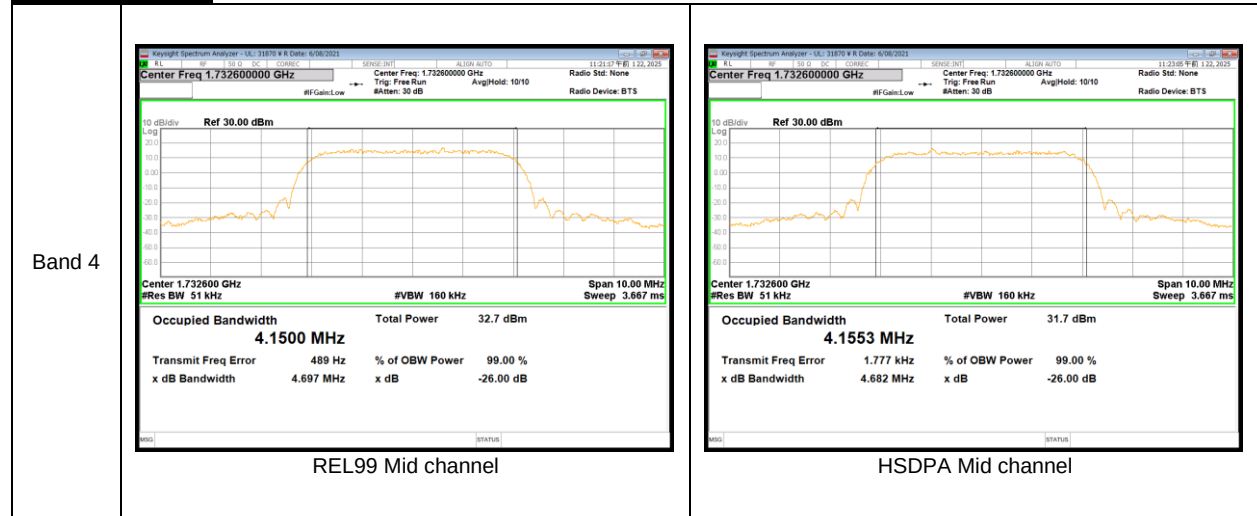
Band	BW	Modulation	Frequency [MHz]	99% BW (MHz)	-26dB BW (MHz)
NR n77	100M	QPSK	3499.98	97.854	101.900
		16QAM		97.818	101.900
	90M	QPSK		87.812	91.700
		16QAM		87.858	91.690
	80M	QPSK		77.681	80.900
		16QAM		77.780	80.880
	70M	QPSK		67.798	70.610
		16QAM		67.758	70.610
	60M	QPSK		58.076	60.480
		16QAM		58.093	60.570
	50M	QPSK		47.680	49.670
		16QAM		47.674	49.680
	40M	QPSK		38.070	39.710
		16QAM		38.047	39.730
	30M	QPSK		27.966	29.560
		16QAM		28.026	29.640
	25M	QPSK		23.336	24.810
		16QAM		23.300	24.630
	20M	QPSK		18.304	19.590
		16QAM		18.291	19.630
	15M	QPSK		13.653	14.800
		16QAM		13.611	14.700
	10M	QPSK		8.605	9.881
		16QAM		8.592	9.705

- 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	97.757	101.800
		16QAM		97.721	101.800
	90M	QPSK		87.853	91.710
		16QAM		87.837	91.660
	80M	QPSK		77.747	80.920
		16QAM		77.688	80.970
	70M	QPSK		67.721	70.620
		16QAM		67.777	70.600
	60M	QPSK		58.039	60.480
		16QAM		58.082	60.470
	50M	QPSK		47.593	49.780
		16QAM		47.669	49.650
	40M	QPSK		37.993	39.900
		16QAM		38.021	39.770
	30M	QPSK		27.976	29.460
		16QAM		27.922	29.580
	25M	QPSK		23.271	24.420
		16QAM		23.299	24.670
	20M	QPSK		18.313	19.730
		16QAM		18.289	19.580
	15M	QPSK		13.608	15.130
		16QAM		13.623	14.750
	10M	QPSK		8.611	9.822
		16QAM		8.621	9.923

8.3.1. OCCUPIED BANDWIDTH RESULT

WCDMA Band 4



LTE Band 7

