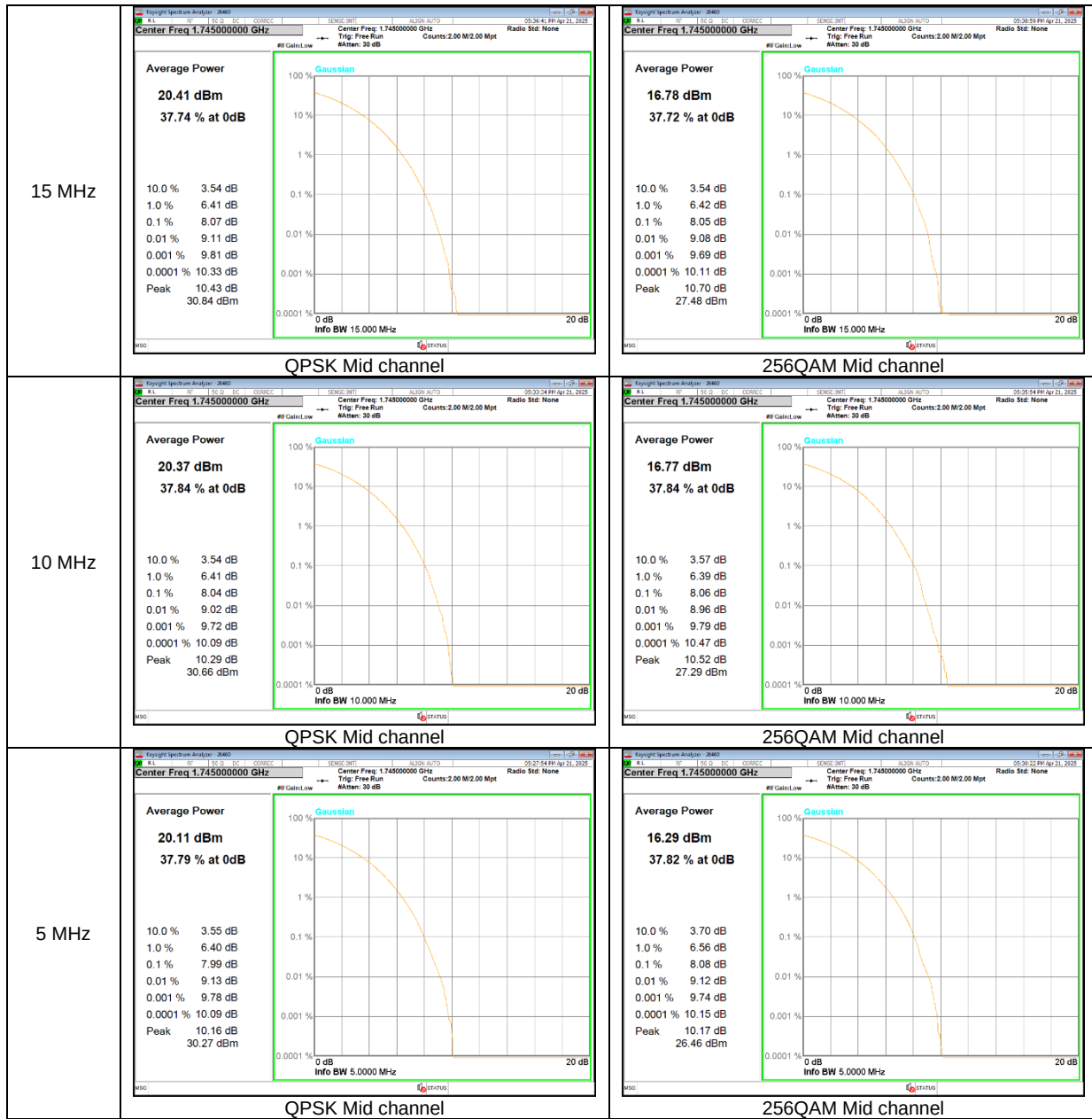
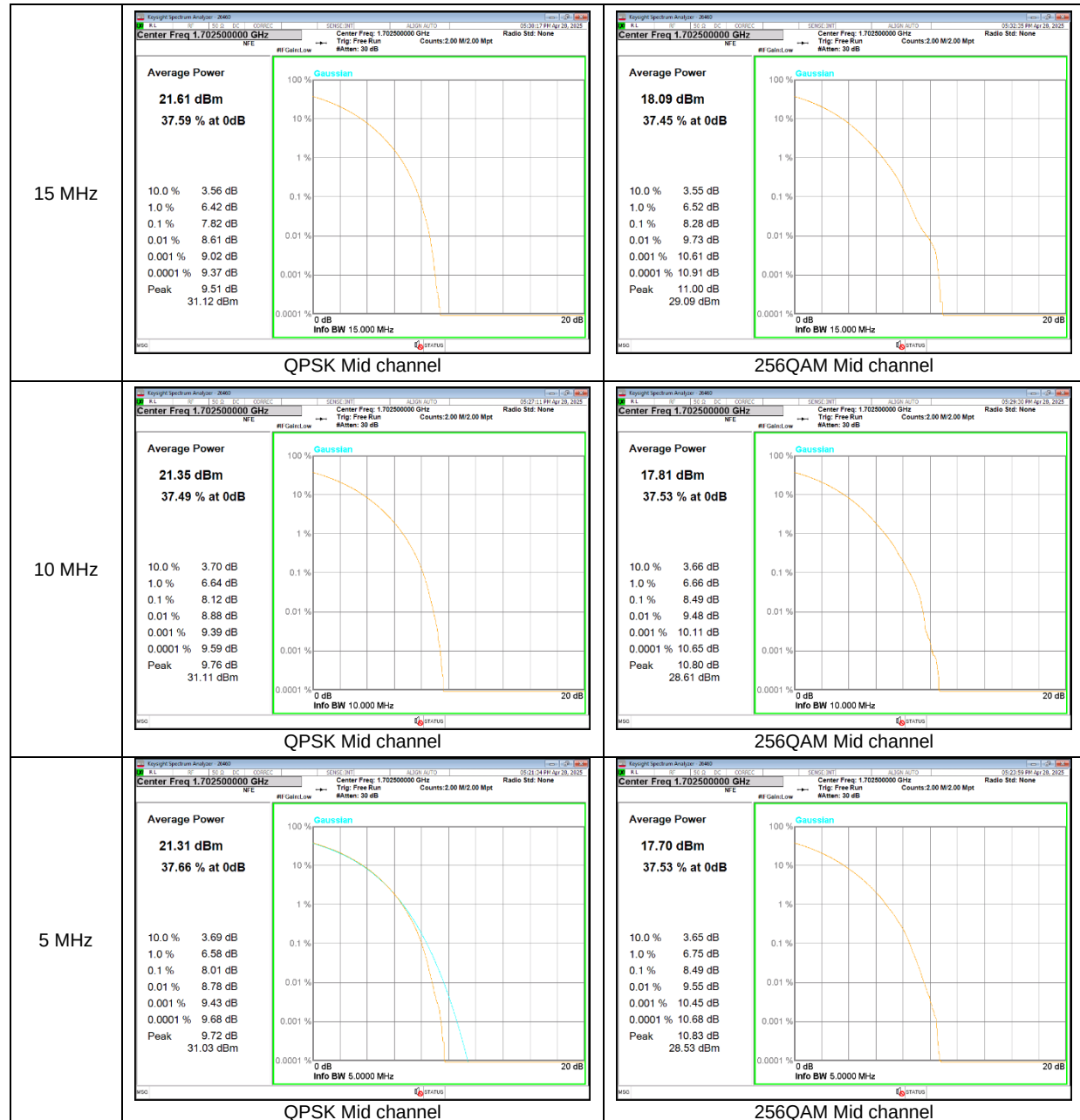
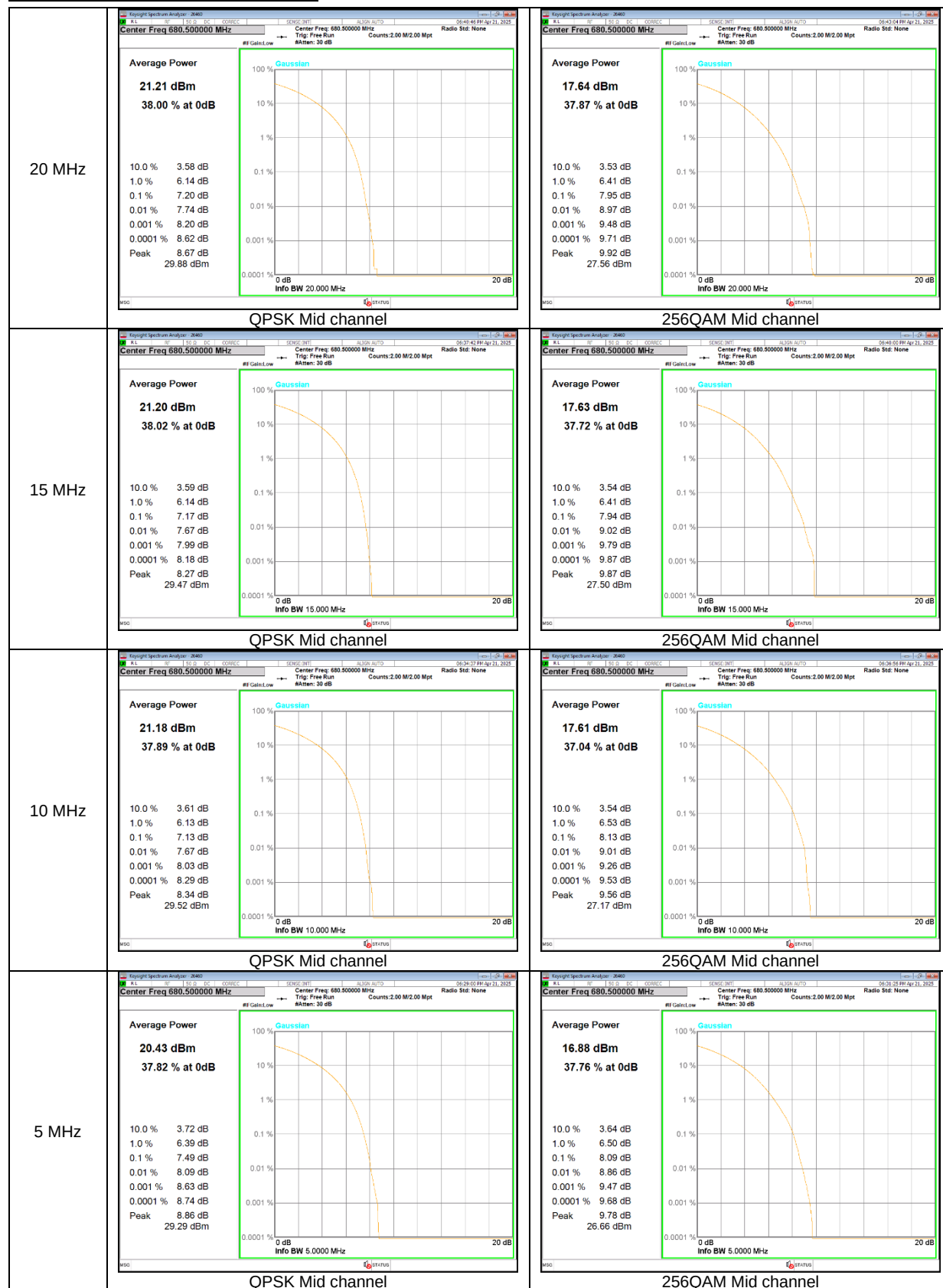




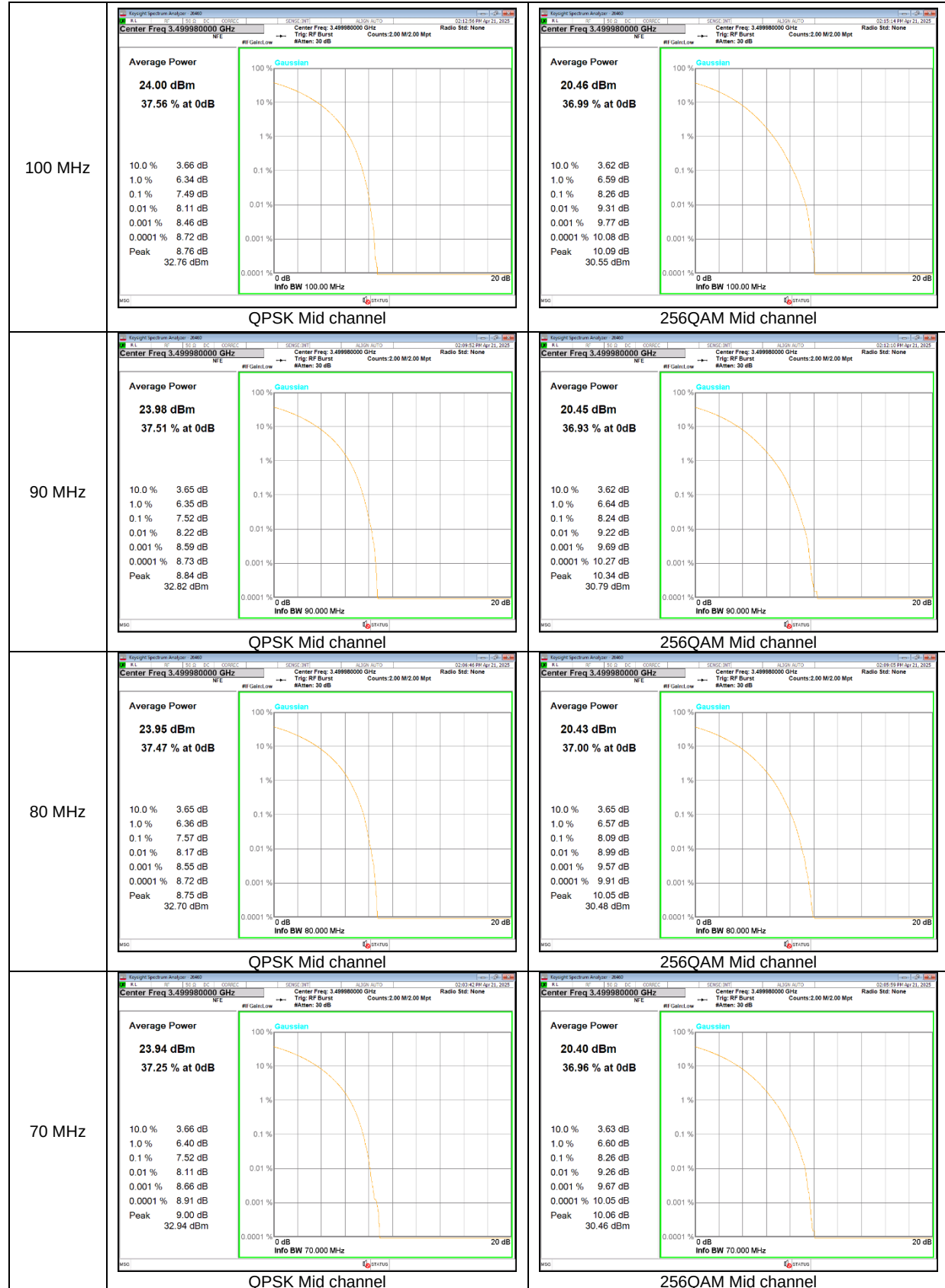
NR Band n70 CP-OFDM (ANT B)

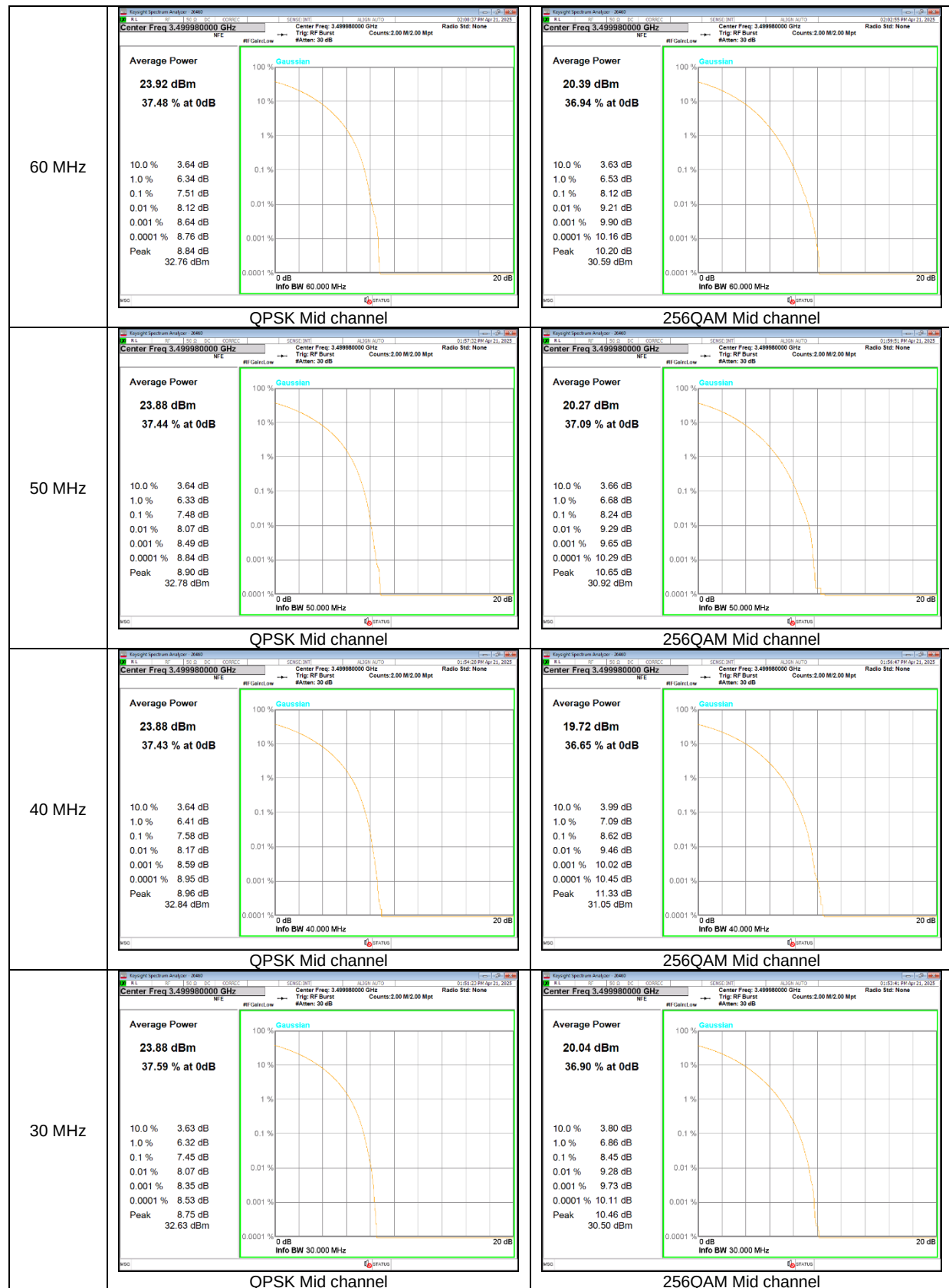


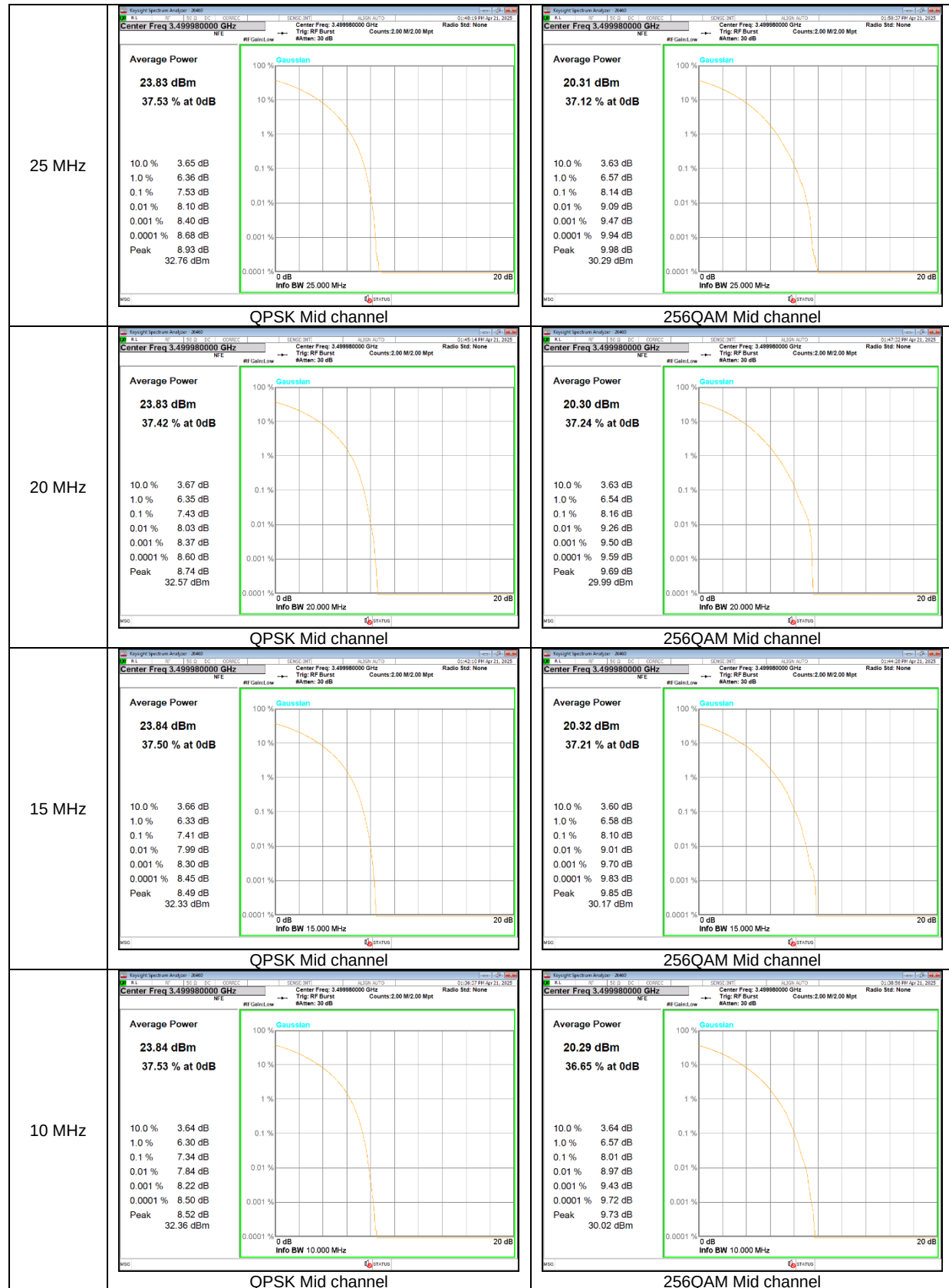
NR Band n71 CP-OFDM (ANT A)



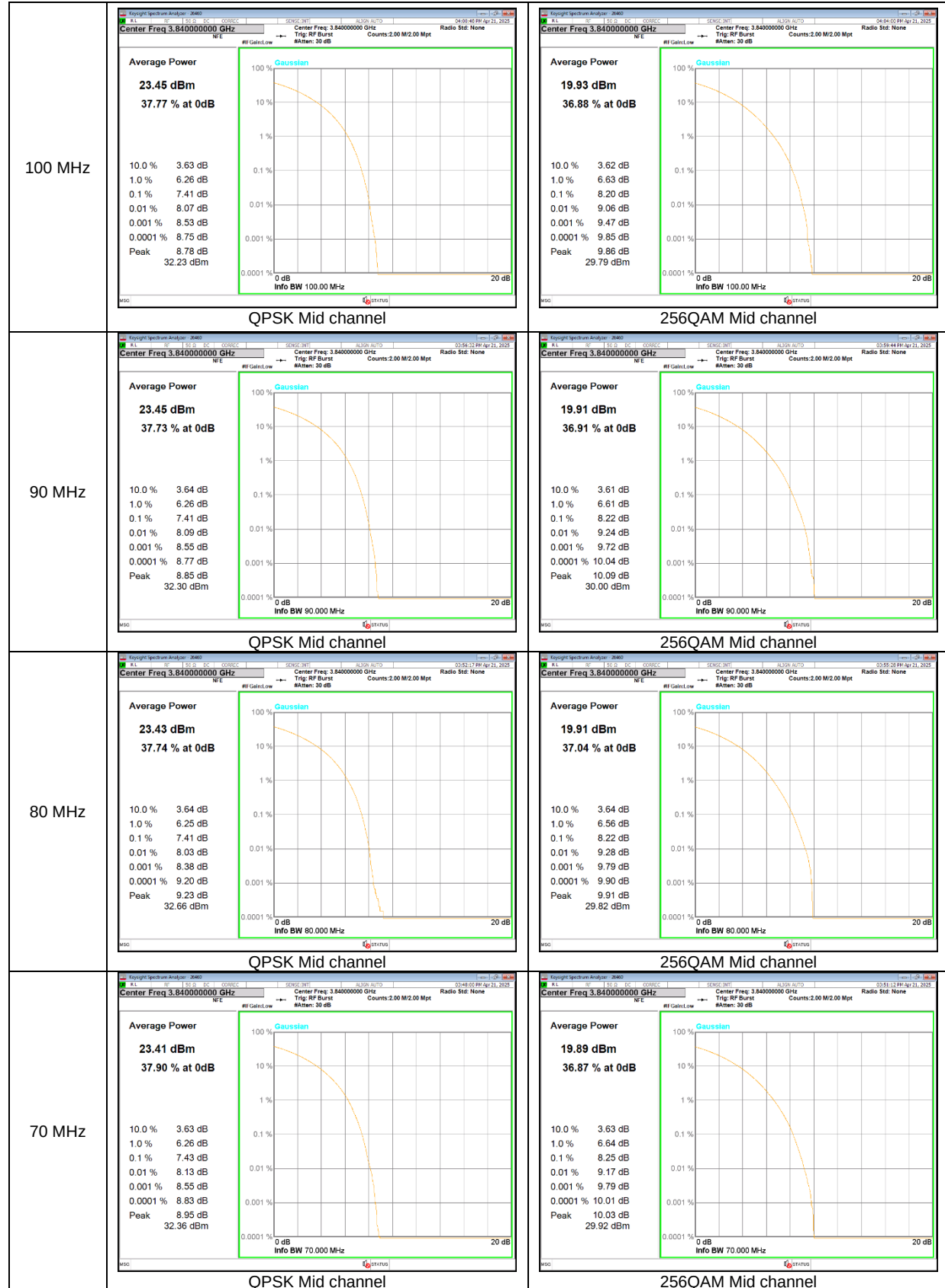
NR Band n77 (PC2, 3450-3550 MHz) CP-OFDM (ANT F)

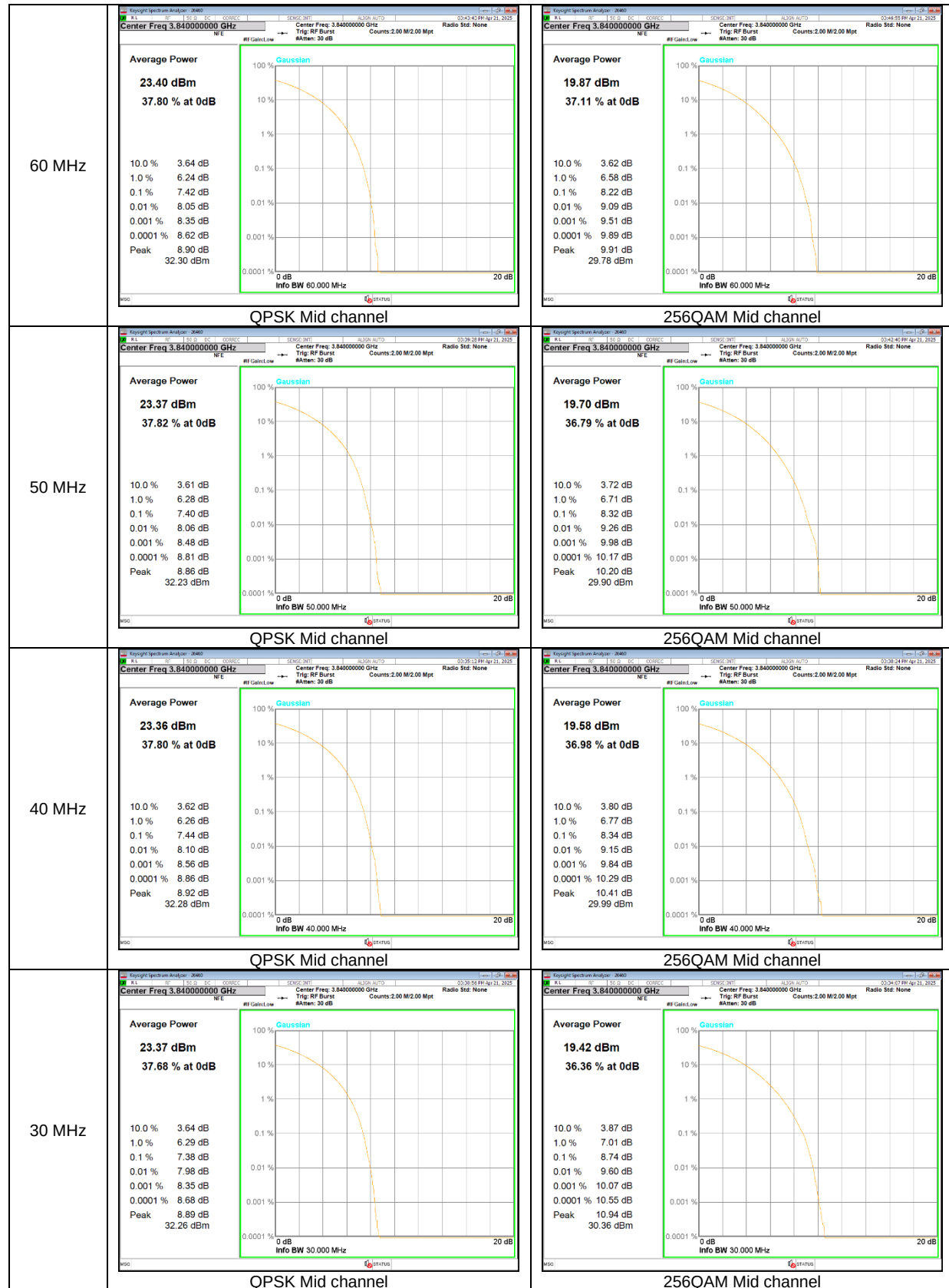






NR Band n77 (PC2, 3700-3980 MHz) CP-OFDM (ANT F)







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	4.152	4.714
	HSDPA		4.172	4.729

- LTE Band 7 (ANT F)

Band	BW	Modulation	Frequency [MHz]	99% BW (MHz)	-26dB BW (MHz)
LTE B7	20M	QPSK	2535.00	17.959	19.550
		16QAM		17.868	19.660
	15M	QPSK		13.390	14.680
		16QAM		13.419	15.160
	10M	QPSK		8.977	10.180
		16QAM		8.962	9.807
	5M	QPSK		4.502	5.196
		16QAM		4.493	5.175

- LTE Band 12 (ANT A)

Band	BW	Modulation	Frequency [MHz]	99% BW (MHz)	-26dB BW (MHz)
LTE B12	10M	QPSK	707.50	8.965	10.200
		16QAM		8.933	10.150
	5M	QPSK		4.490	5.275
		16QAM		4.488	5.196
	3M	QPSK		2.691	3.053
		16QAM		2.685	2.996
	1.4M	QPSK		1.088	1.326
		16QAM		1.087	1.304

- LTE Band 13 (ANT A)

Band	BW	Modulation	f [MHz]	99% BW (MHz)	-26dB BW (MHz)
LTE B13	10M	QPSK	782.00	8.956	10.330
		16QAM		8.951	9.942
	5M	QPSK		4.498	5.340
		16QAM		4.501	5.170

- LTE Band 30 (ANT B)

Band	BW	Modulation	f [MHz]	99% BW (MHz)	-26dB BW (MHz)
LTE B30	10M	QPSK	2310.00	8.981	10.150
		16QAM		8.993	10.010
	5M	QPSK		4.502	5.184
		16QAM		4.484	5.234

- LTE Band 41 (PC3) (ANT B)

Band	BW	Modulation	Frequency [MHz]	99% BW (MHz)	-26dB BW (MHz)
LTE B41 (PC3)	20M	QPSK	2593.00	17.957	19.270
		16QAM		17.852	19.500
	15M	QPSK		13.420	14.540
		16QAM		13.445	14.690
	10M	QPSK		8.982	10.160
		16QAM		8.984	10.130
	5M	QPSK		4.488	5.125
		16QAM		4.482	5.255

- LTE Band 66 (ANT B)

Band	BW	Modulation	Frequency [MHz]	99% BW (MHz)	-26dB BW (MHz)
LTE B66	20M	QPSK	1745.00	17.862	19.890
		16QAM		17.908	19.650
	15M	QPSK		13.399	14.940
		16QAM		13.418	14.720
	10M	QPSK		8.969	10.300
		16QAM		8.991	10.130
	5M	QPSK		4.484	5.427
		16QAM		4.503	5.297
	3M	QPSK		2.692	3.031
		16QAM		2.689	2.969
	1.4M	QPSK		1.087	1.292
		16QAM		1.094	1.322

- LTE Band 66B (UL CA) (ANT B)

Band	BW	Modulation	f [MHz]	99% BW (MHz)	-26dB BW (MHz)
66B	20M	QPSK	1745.00	18.806	20.670
		16QAM		18.770	20.240
	15M	QPSK		13.896	15.070
		16QAM		13.915	14.990
	10M	QPSK		9.272	10.260
		16QAM		9.264	10.170

- LTE Band 66C (UL CA) (ANT B)

Band	BW	Modulation	f [MHz]	99% BW (MHz)	-26dB BW (MHz)
66C	40M	QPSK	1745.00	37.603	40.290
		16QAM		37.625	40.070
	35M	QPSK		32.572	35.120
		16QAM		32.627	35.010
	30M	QPSK		28.406	30.570
		16QAM		28.360	30.400
	25M	QPSK		22.902	24.430
		16QAM		22.914	24.240

- LTE Band 71 (ANT A)

Band	BW	Modulation	Frequency [MHz]	99% BW (MHz)	-26dB BW (MHz)
LTE B71	20M	QPSK	680.50	17.873	19.740
		16QAM		17.919	19.750
	15M	QPSK		13.399	14.870
		16QAM		13.385	14.470
	10M	QPSK		8.969	10.190
		16QAM		8.985	10.150
	5M	QPSK		4.495	5.214
		16QAM		4.492	5.167

- NR Band n30 CP-OFDM (ANT B)

Band	BW	Modulation	Frequency [MHz]	99% BW (MHz)	-26dB BW (MHz)
NR n30	10M	QPSK	2310.00	9.301	10.220
		16QAM		9.320	10.240
	5M	QPSK		4.476	5.270
		16QAM		4.496	5.157

- 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	97.791	102.500
		16QAM		97.724	104.400
	90M	QPSK		87.494	91.910
		16QAM		87.924	92.510
	80M	QPSK		77.472	81.890
		16QAM		77.651	81.970
	70M	QPSK		67.634	72.460
		16QAM		67.595	72.590
	60M	QPSK		57.969	62.170
		16QAM		58.016	61.730
	50M	QPSK		47.578	49.560
		16QAM		47.568	49.460
	40M	QPSK		37.980	40.420
		16QAM		37.986	41.280
	30M	QPSK		27.885	29.150
		16QAM		27.952	29.720
	20M	QPSK		18.282	19.730
		16QAM		18.208	19.540
	15M	QPSK		13.562	14.970
		16QAM		13.569	14.600
	10M	QPSK		8.600	10.020
		16QAM		8.624	9.707

- NR Band n66 CP-OFDM (ANT B)

Band	BW	Modulation	Frequency [MHz]	99% BW (MHz)	-26dB BW (MHz)
NR n66	40M	QPSK	1745.00	38.658	42.190
		16QAM		38.723	41.820
	30M	QPSK		28.606	31.720
		16QAM		28.667	31.660
	25M	QPSK		23.777	25.450
		16QAM		23.800	25.650
	20M	QPSK		18.973	21.070
		16QAM		18.953	20.920
	15M	QPSK		14.089	15.000
		16QAM		14.083	14.920
	10M	QPSK		9.305	9.950
		16QAM		9.288	10.100
	5M	QPSK		4.487	5.178
		16QAM		4.488	5.212

- NR Band n70 CP-OFDM (ANT B)

Band	BW	Modulation	Frequency [MHz]	99% BW (MHz)	-26dB BW (MHz)
NR n70	15M	QPSK	1702.50	14.115	15.130
		16QAM		14.117	15.200
	10M	QPSK		9.304	10.230
		16QAM		9.307	10.240
	5M	QPSK		4.486	5.128
		16QAM		4.498	5.189

- NR Band n71 CP-OFDM (ANT A)

Band	BW	Modulation	Frequency [MHz]	99% BW (MHz)	-26dB BW (MHz)
NR n71	20M	QPSK	680.50	18.869	20.270
		16QAM		18.901	20.510
	15M	QPSK		14.128	15.140
		16QAM		14.098	15.000
	10M	QPSK		9.318	10.270
		16QAM		9.297	10.240
	5M	QPSK		4.486	5.347
		16QAM		4.494	5.320

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

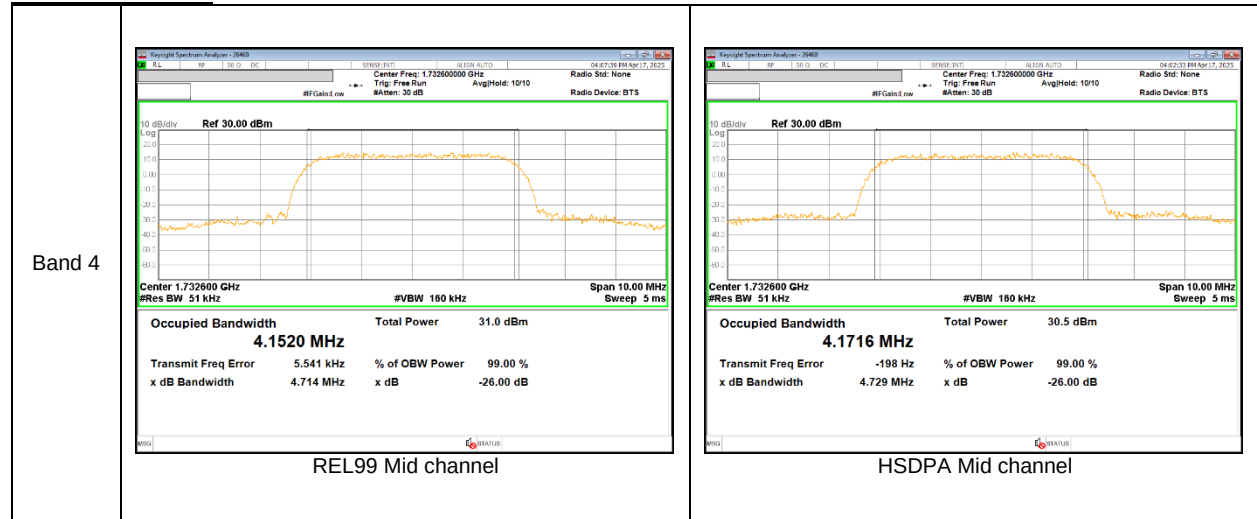
Band	BW	Modulation	Frequency [MHz]	99% BW (MHz)	-26dB BW (MHz)
NR n77	100M	QPSK	3499.98	97.849	101.600
		16QAM		97.770	102.300
	90M	QPSK		87.796	91.500
		16QAM		87.851	93.050
	80M	QPSK		77.524	88.640
		16QAM		77.764	82.230
	70M	QPSK		67.724	72.380
		16QAM		67.770	72.460
	60M	QPSK		58.082	62.510
		16QAM		57.993	62.220
	50M	QPSK		47.576	49.840
		16QAM		47.721	50.040
	40M	QPSK		37.992	40.850
		16QAM		38.023	40.880
	30M	QPSK		27.983	29.270
		16QAM		27.853	29.550
	25M	QPSK		23.297	25.070
		16QAM		23.360	24.980
	20M	QPSK		18.261	20.140
		16QAM		18.269	19.480
	15M	QPSK		13.602	14.740
		16QAM		13.601	15.160
	10M	QPSK		8.575	10.050
		16QAM		8.598	9.760

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

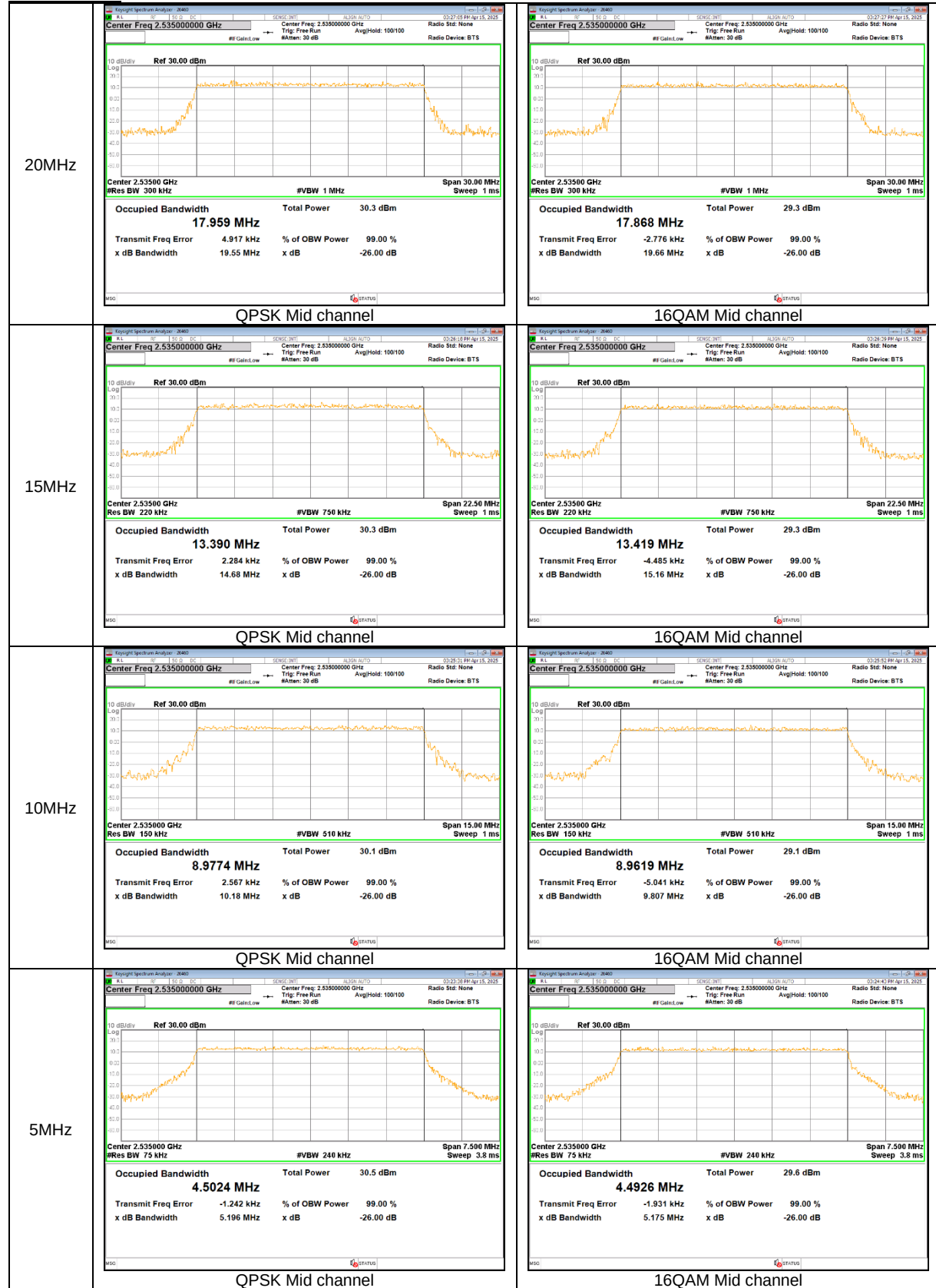
Band	BW	Modulation	Frequency [MHz]	99% BW (MHz)	-26dB BW (MHz)
NR n77	100M	QPSK	3840.00	97.724	103.300
		16QAM		97.509	101.700
	90M	QPSK		87.948	92.220
		16QAM		87.937	93.780
	80M	QPSK		77.823	81.670
		16QAM		77.691	82.500
	70M	QPSK		67.794	71.310
		16QAM		67.644	72.260
	60M	QPSK		57.950	62.250
		16QAM		57.967	63.170
	50M	QPSK		47.665	50.270
		16QAM		47.609	50.210
	40M	QPSK		38.040	40.510
		16QAM		37.995	40.090
	30M	QPSK		27.993	30.290
		16QAM		27.964	29.330
	25M	QPSK		23.297	24.610
		16QAM		23.289	24.850
	20M	QPSK		18.319	19.510
		16QAM		18.201	19.670
	15M	QPSK		13.589	15.280
		16QAM		13.536	14.590
	10M	QPSK		8.592	9.802
		16QAM		8.600	9.908

8.3.1. OCCUPIED BANDWIDTH RESULT

WCDMA Band 4



LTE Band 7



LTE Band 12



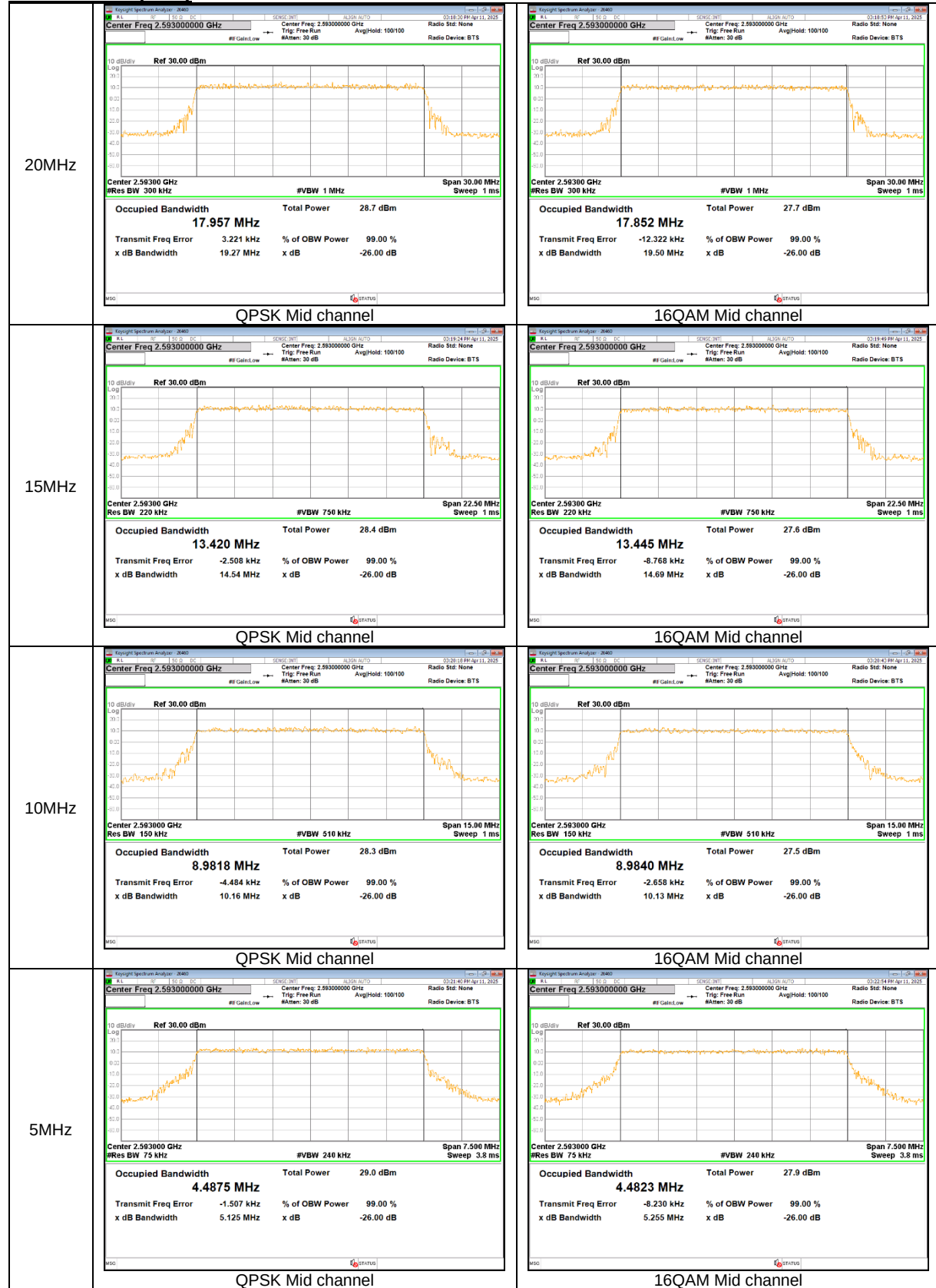
LTE Band 13



LTE Band 30



LTE Band 41 (PC3)



LTE Band 66

