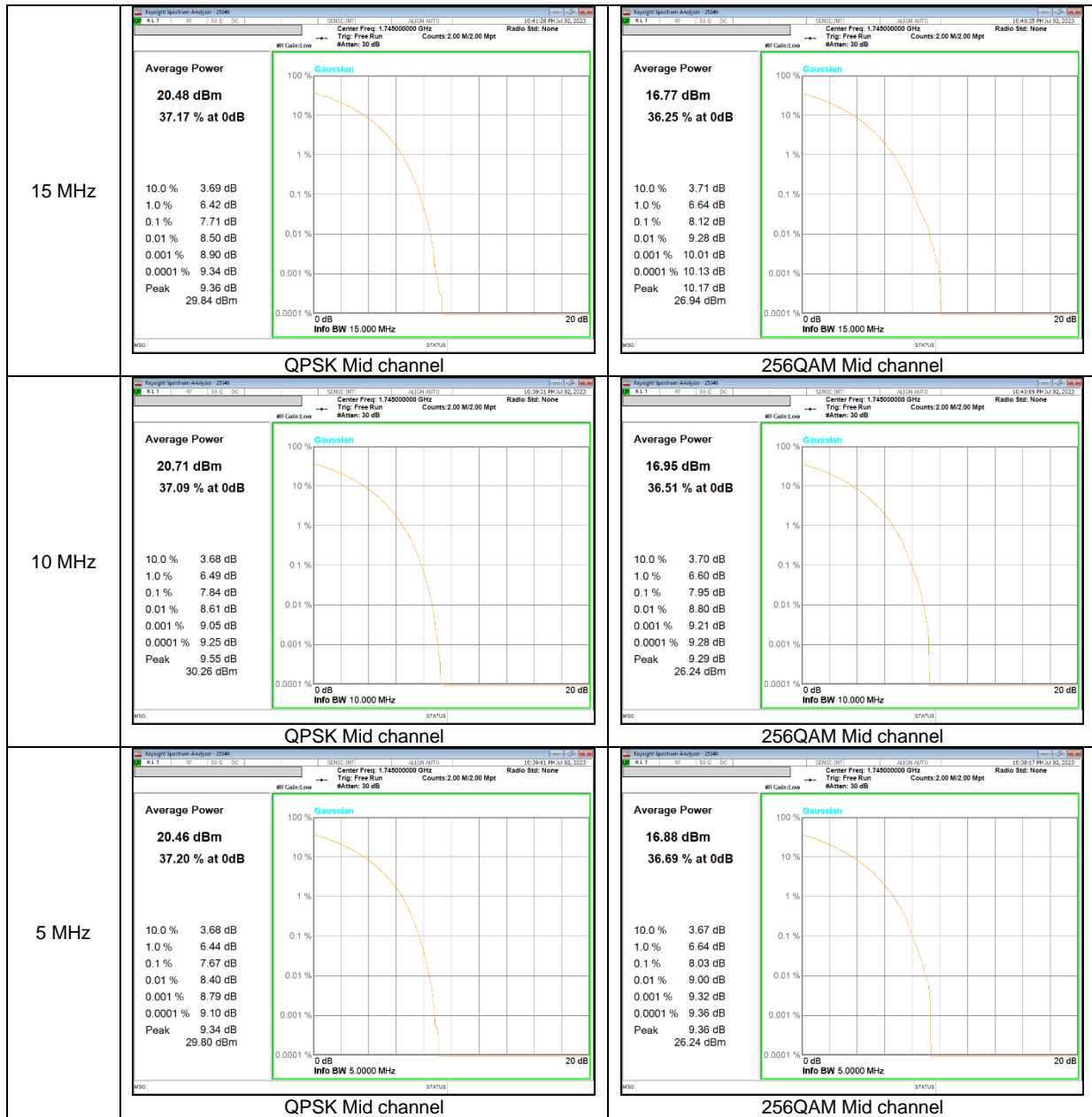
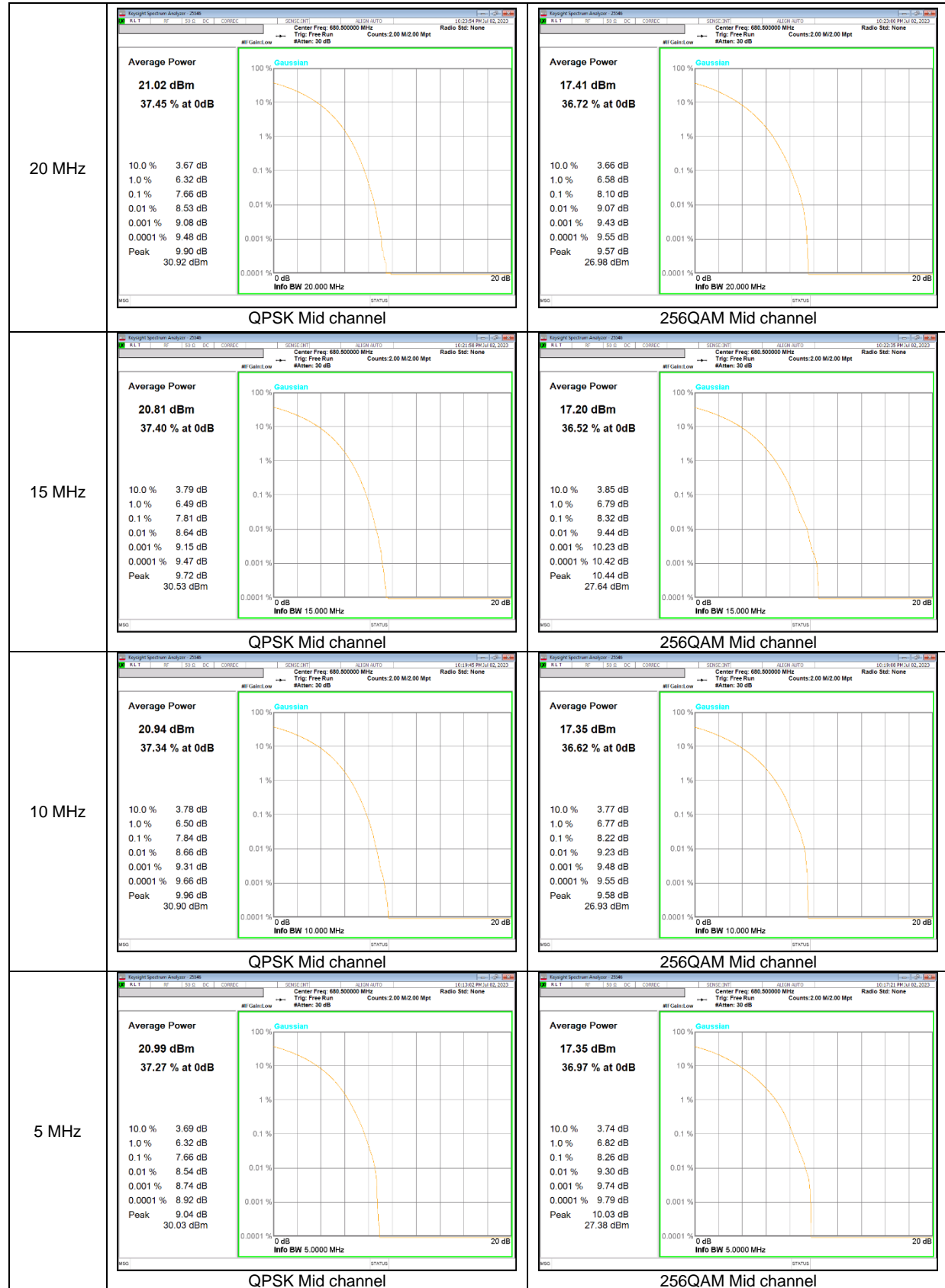


NR Band n66 CP-OFDM

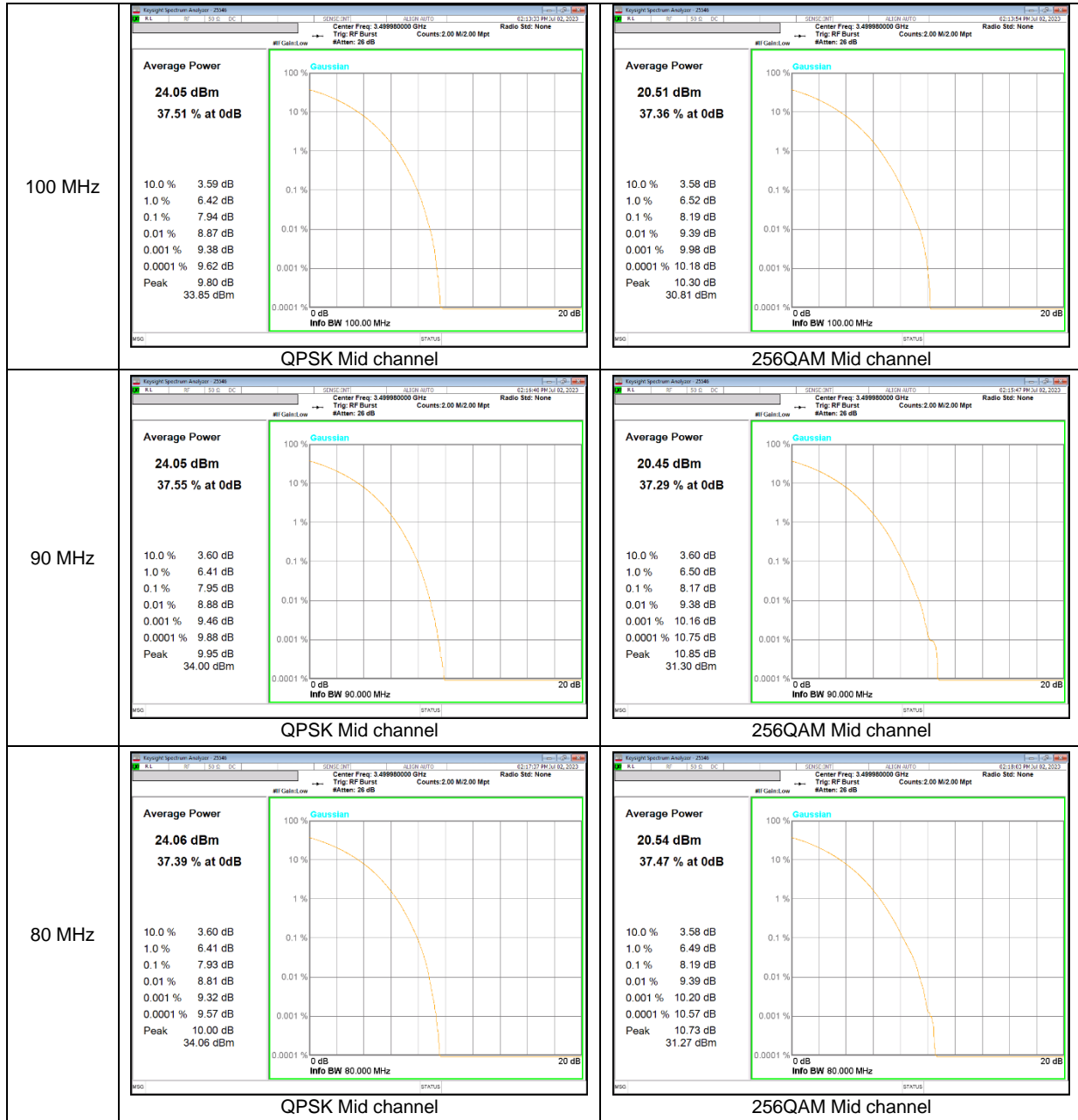


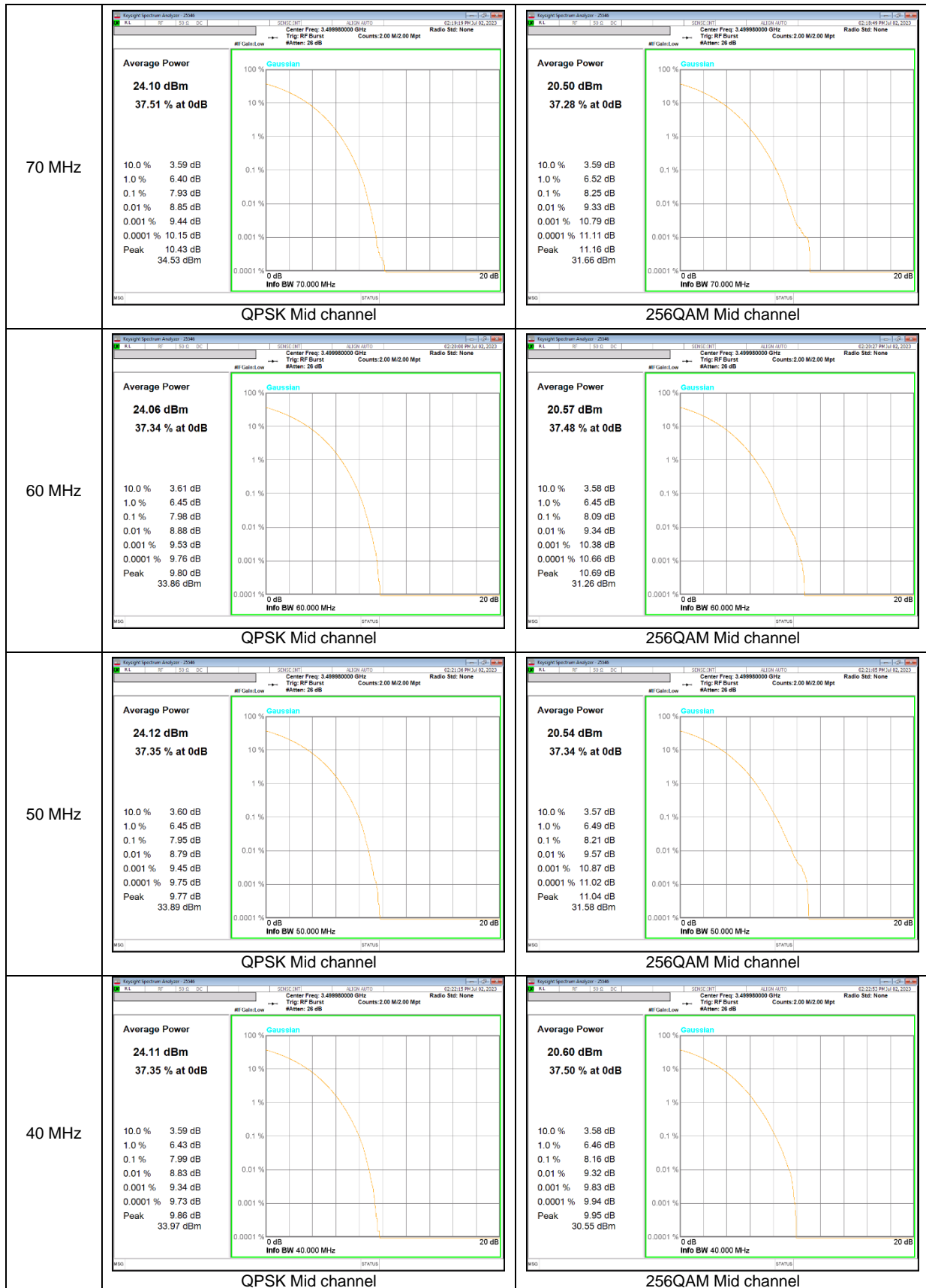


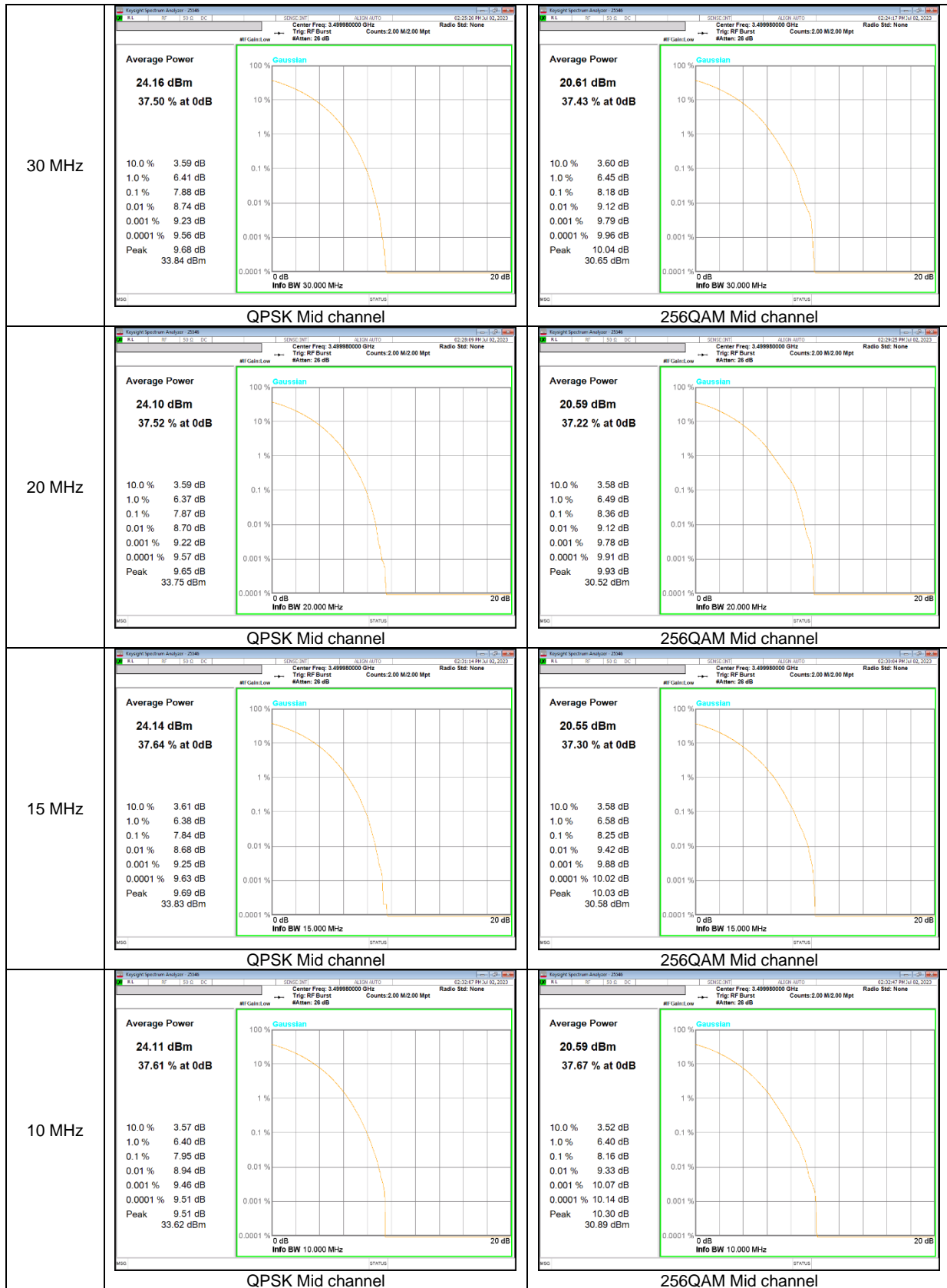
NR Band n71 CP-OFDM



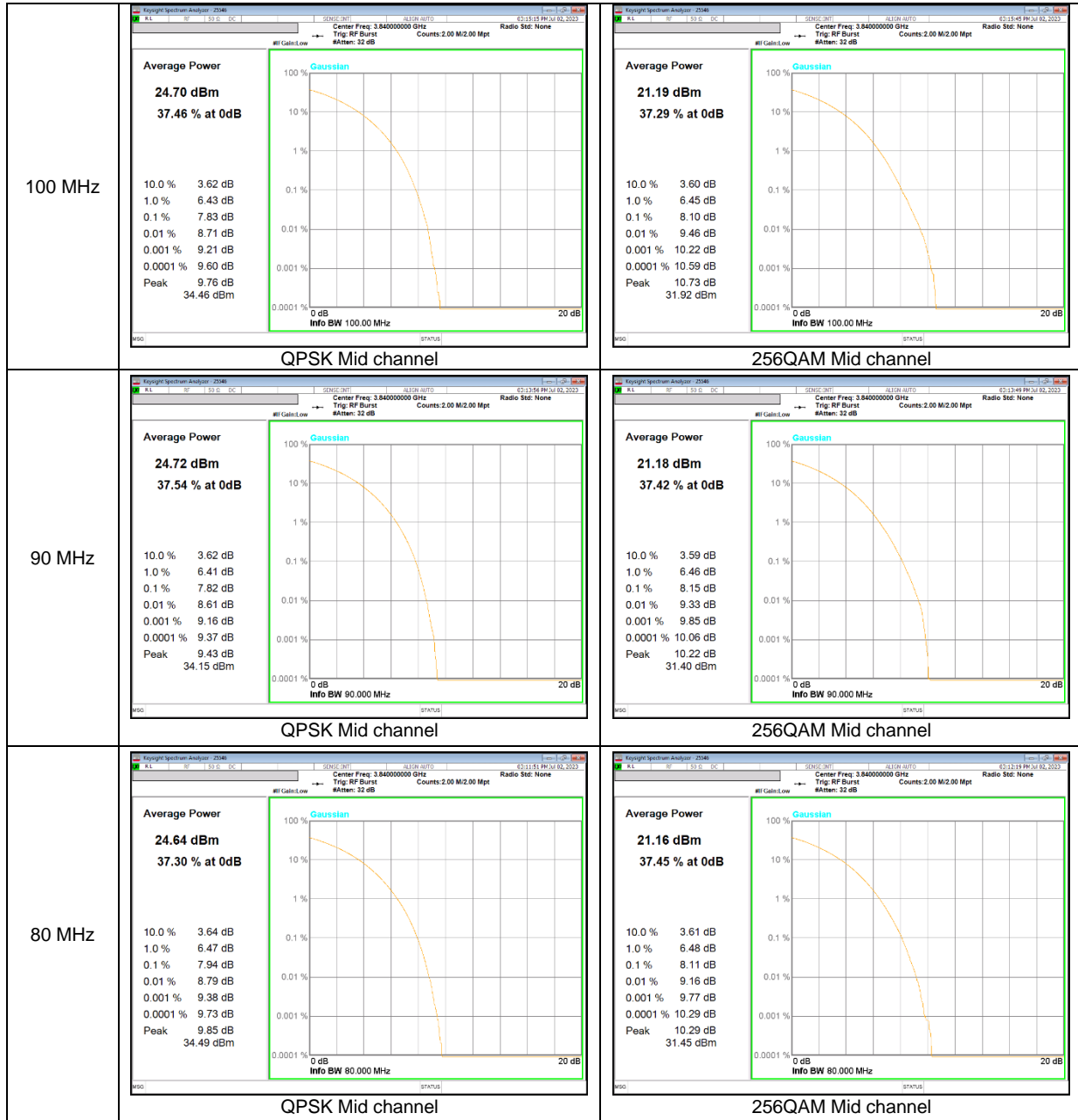
NR Band n77(PC2) CP-OFDM (3450-3550 MHz)

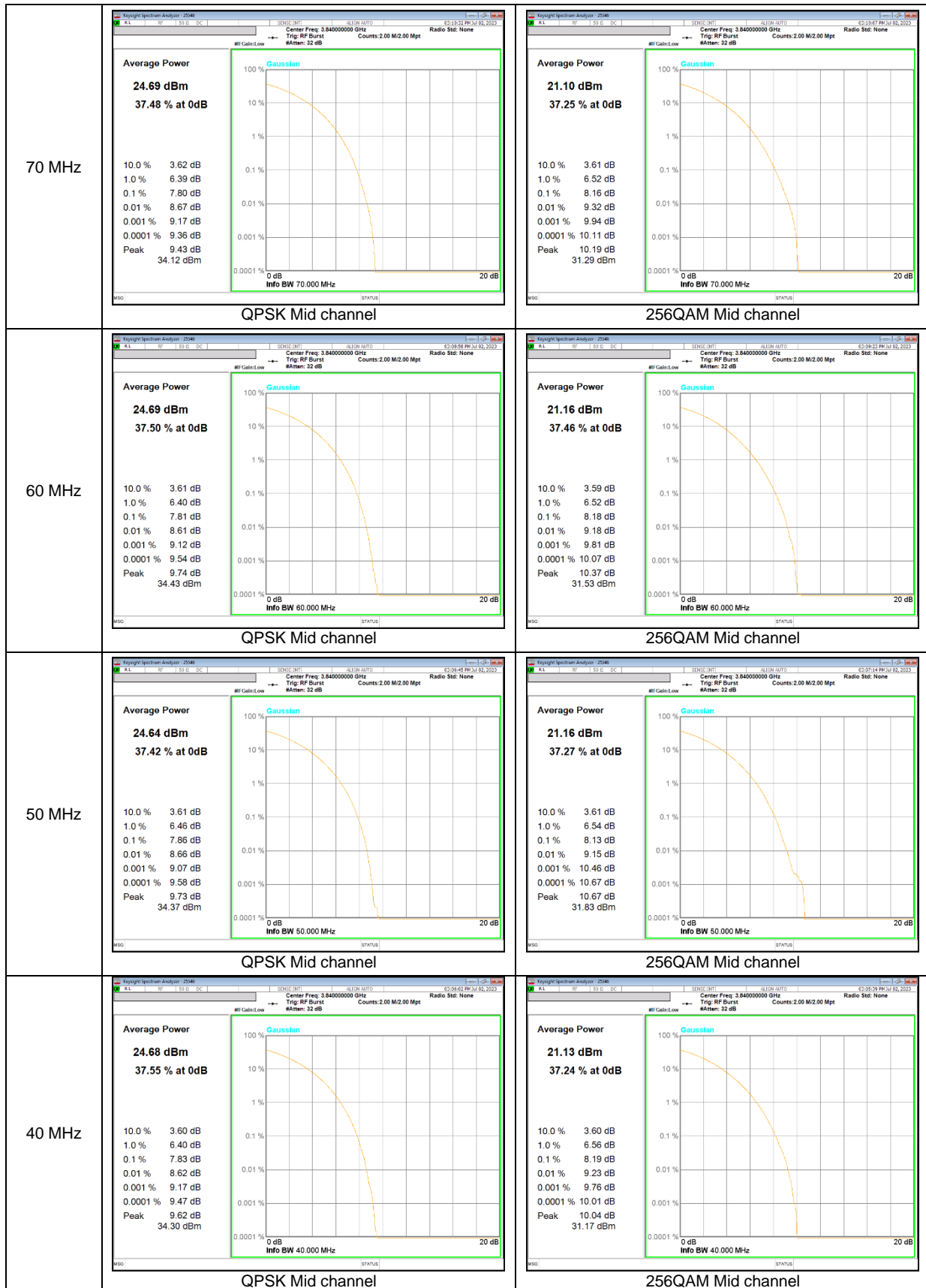


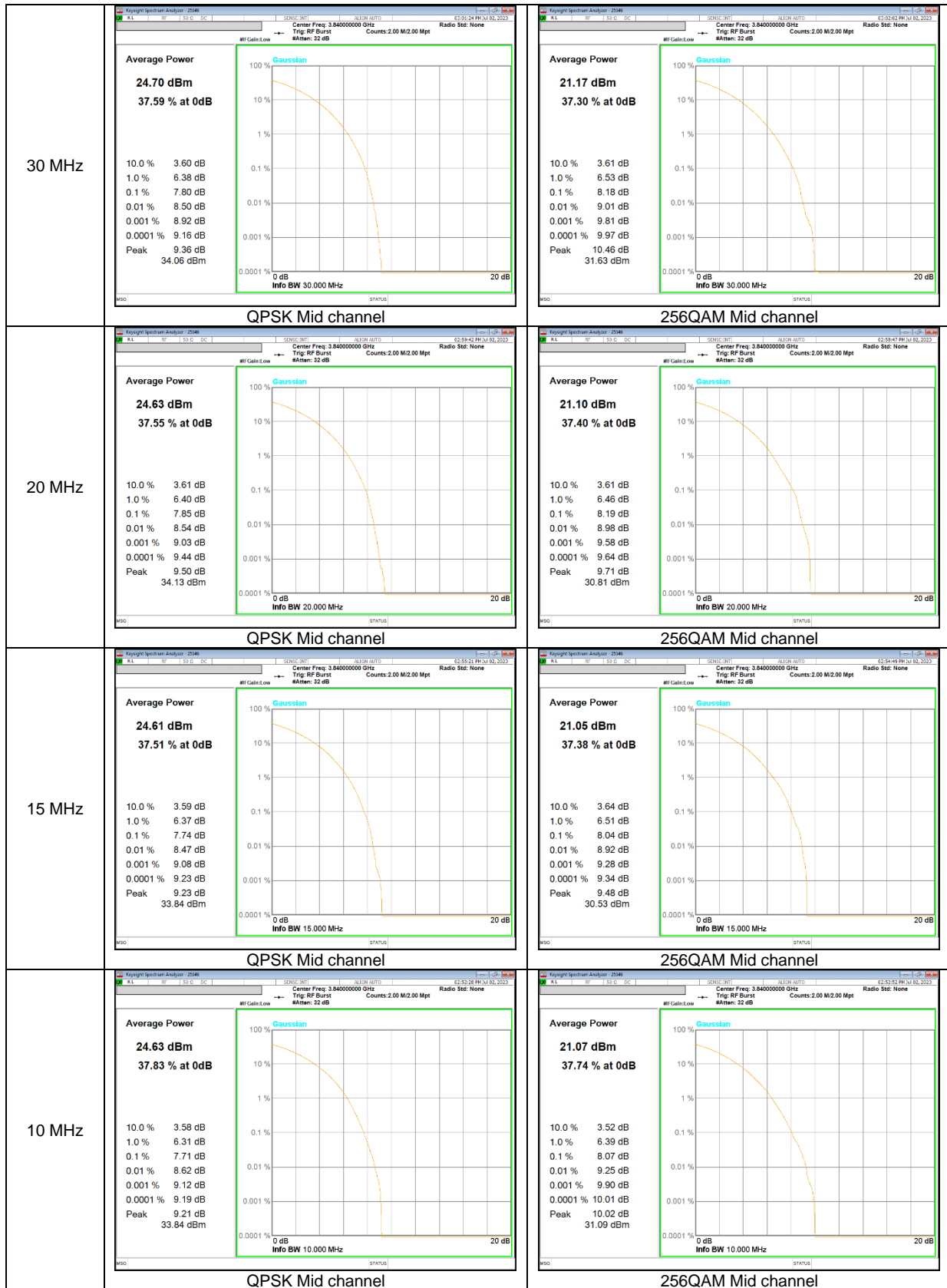




NR Band n77(PC2) CP-OFDM (3700-3980 MHz)







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

Band	Modulation	f [MHz]	99% BW (MHz)	-26dB BW (MHz)
B4	Rel.99	1732.6	4.1636	4.747
	HSDPA		4.1702	4.719

- LTE Band 7 ANT MAIN1

Band	BW	Modulation	f [MHz]	99% BW (MHz)	-26dB BW (MHz)
LTE B7	20M	QPSK	2535.0	17.913	19.660
		16QAM		17.901	19.820
	15M	QPSK		13.428	14.820
		16QAM		13.421	15.180
	10M	QPSK		8.980	10.410
		16QAM		8.974	10.230
	5M	QPSK		4.508	5.293
		16QAM		4.500	5.205

- LTE Band 7 ANT SUB 2

Band	BW	Modulation	f [MHz]	99% BW (MHz)	-26dB BW (MHz)
LTE B7	20M	QPSK	2535.0	17.879	19.200
		16QAM		17.892	19.460
	15M	QPSK		13.428	14.780
		16QAM		13.418	14.670
	10M	QPSK		8.946	10.130
		16QAM		8.981	10.030
	5M	QPSK		4.505	5.183
		16QAM		4.480	5.180

- LTE Band 12

Band	BW	Modulation	f [MHz]	99% BW (MHz)	-26dB BW (MHz)
LTE B12	10M	QPSK	707.5	8.955	10.270
		16QAM		8.969	10.200
	5M	QPSK		4.498	5.218
		16QAM		4.503	5.251
	3M	QPSK		2.699	3.054
		16QAM		2.698	3.093
	1.4M	QPSK		1.087	1.317
		16QAM		1.087	1.314

- LTE Band 13

Band	BW	Modulation	f [MHz]	99% BW (MHz)	-26dB BW (MHz)
LTE B13	10M	QPSK	782.0	8.992	10.440
		16QAM		8.979	10.240
	5M	QPSK		4.501	5.275
		16QAM		4.505	5.241

- LTE Band 30

Band	BW	Modulation	f [MHz]	99% BW (MHz)	-26dB BW (MHz)
LTE B30	10M	QPSK	2310.0	8.955	10.100
		16QAM		8.965	10.120
	5M	QPSK		4.501	5.197
		16QAM		4.503	5.186

- LTE Band 41(PC2)

Band	BW	Modulation	f [MHz]	99% BW (MHz)	-26dB BW (MHz)
LTE B41(PC2)	20M	QPSK	2593.0	17.896	19.720
		16QAM		17.890	19.170
	15M	QPSK		13.411	14.840
		16QAM		13.389	14.880
	10M	QPSK		8.975	10.130
		16QAM		8.953	10.350
	5M	QPSK		4.477	5.278
		16QAM		4.477	5.161

- LTE Band 41C(UL CA)

Band	BW	Modulation	f [MHz]	99% BW (MHz)	-26dB BW (MHz)
41C	20+20	QPSK	2593.0	37.405	39.300
		16QAM		37.257	39.080

- LTE Band 66 ANT MAIN 1

Band	BW	Modulation	f [MHz]	99% BW (MHz)	-26dB BW (MHz)
LTE B66	20M	QPSK	1745.0	17.878	19.670
		16QAM		17.902	19.680
	15M	QPSK		13.407	15.070
		16QAM		13.437	14.920
	10M	QPSK		8.965	10.190
		16QAM		8.993	10.150
	5M	QPSK		4.509	5.303
		16QAM		4.506	5.233
	3M	QPSK		2.695	2.910
		16QAM		2.705	3.070
	1.4M	QPSK		1.084	1.280
		16QAM		1.086	1.314

- LTE Band 66 ANT SUB2

Band	BW	Modulation	f [MHz]	99% BW (MHz)	-26dB BW (MHz)
LTE B66	20M	QPSK	1745.0	17.922	19.410
		16QAM		17.884	19.590
	15M	QPSK		13.437	14.840
		16QAM		13.454	14.820
	10M	QPSK		8.938	10.180
		16QAM		8.955	10.160
	5M	QPSK		4.494	5.241
		16QAM		4.489	5.212
	3M	QPSK		2.688	3.016
		16QAM		2.700	3.082
	1.4M	QPSK		1.092	1.278
		16QAM		1.103	1.224

- LTE Band 66B(UL CA)

Band	BW	Modulation	f [MHz]	99% BW (MHz)	-26dB BW (MHz)
66B	20M	QPSK	1745.0	18.722	20.080
		16QAM		18.718	19.890

- LTE Band 66C(UL CA)

Band	BW	Modulation	f [MHz]	99% BW (MHz)	-26dB BW (MHz)
66C	40M	QPSK	1745.0	37.461	39.520
		16QAM		37.506	39.670

- LTE Band 71

Band	BW	Modulation	f [MHz]	99% BW (MHz)	-26dB BW (MHz)
LTE B71	20M	QPSK	680.5	17.860	19.480
		16QAM		17.908	19.490
	15M	QPSK		13.418	14.960
		16QAM		13.420	14.940
	10M	QPSK		8.964	10.140
		16QAM		8.975	10.300
	5M	QPSK		4.501	5.241
		16QAM		4.500	5.221

- NR Band n12 CP-OFDM

Band	BW	Modulation	f [MHz]	99% BW (MHz)	-26dB BW (MHz)
NR n12	15M	QPSK	707.5	14.106	14.920
		16QAM		14.088	14.990
	10M	QPSK		9.272	10.250
		16QAM		9.280	10.130
	5M	QPSK		4.470	5.290
		16QAM		4.467	5.229

- NR Band n30 CP-OFDM

Band	BW	Modulation	f [MHz]	99% BW (MHz)	-26dB BW (MHz)
NR n30	10M	QPSK	2310.0	8.907	9.708
		16QAM		8.906	9.617
	5M	QPSK		4.477	5.052
		16QAM		4.478	5.140

- NR Band n41(PC2) CP-OFDM

Band	BW	Modulation	f [MHz]	99% BW (MHz)	-26dB BW (MHz)
NR n41	100M	QPSK	2593.0	97.285	103.100
		16QAM		97.307	104.000
	90M	QPSK		87.405	93.000
		16QAM		87.330	92.200
	80M	QPSK		77.507	82.170
		16QAM		77.347	81.600
	70M	QPSK		67.489	71.010
		16QAM		67.246	72.550
	60M	QPSK		57.777	62.050
		16QAM		57.709	61.380
	50M	QPSK		47.486	49.660
		16QAM		47.346	50.210
	40M	QPSK		37.879	39.950
		16QAM		37.710	40.080
	30M	QPSK		27.879	29.150
		16QAM		27.856	28.850
	20M	QPSK		18.186	19.390
		16QAM		18.222	19.150
	15M	QPSK		13.608	14.920
		16QAM		13.551	14.670
10M	QPSK	8.574	9.901		
	16QAM	8.573	10.000		

- NR Band n66 CP-OFDM

Band	BW	Modulation	f [MHz]	99% BW (MHz)	-26dB BW (MHz)
NR n66	40M	QPSK	1745.0	38.543	41.420
		16QAM		38.510	41.490
	30M	QPSK		28.543	31.760
		16QAM		28.601	31.130
	25M	QPSK		23.756	25.780
		16QAM		23.737	25.570
	20M	QPSK		18.907	20.440
		16QAM		18.905	20.610
	15M	QPSK		14.090	15.050
		16QAM		14.078	14.790
	10M	QPSK		9.280	10.240
		16QAM		9.278	9.958
	5M	QPSK		4.471	5.182
		16QAM		4.475	5.155

- NR Band n71 CP-OFDM

Band	BW	Modulation	f [MHz]	99% BW (MHz)	-26dB BW (MHz)
NR n71	20M	QPSK	680.5	18.983	20.700
		16QAM		18.946	20.650
	15M	QPSK		14.121	15.130
		16QAM		14.123	14.990
	10M	QPSK		9.303	10.110
		16QAM		9.302	10.200
	5M	QPSK		4.492	5.233
		16QAM		4.492	5.183

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

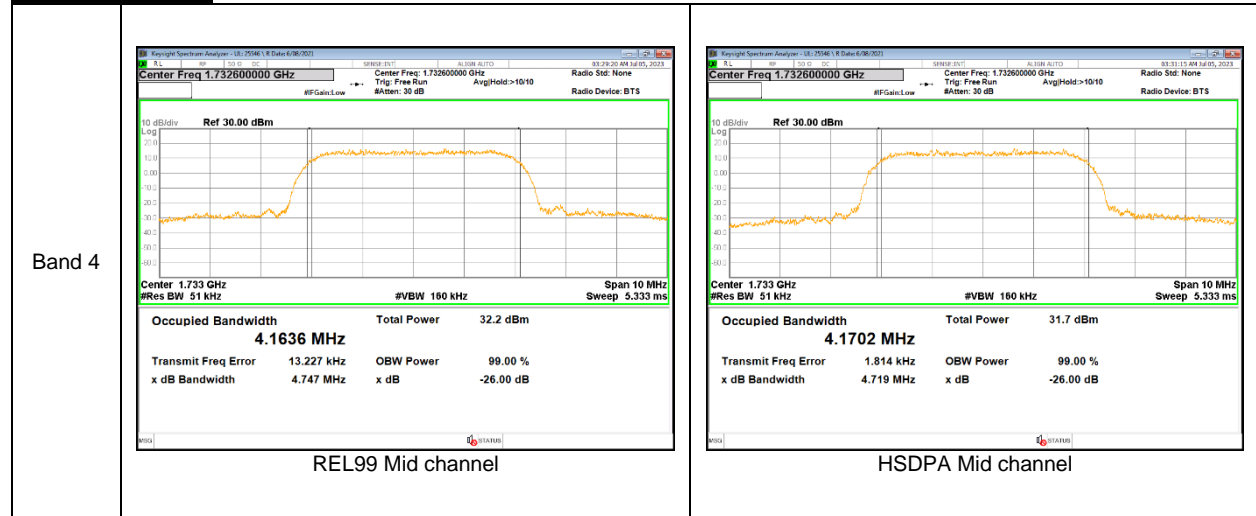
Band	BW	Modulation	f [MHz]	99% BW (MHz)	-26dB BW (MHz)
NR n77(PC2)	100M	QPSK	3500.0	97.484	103.300
		16QAM		97.482	102.100
	90M	QPSK		87.361	92.640
		16QAM		87.401	91.760
	80M	QPSK		77.437	83.430
		16QAM		77.462	81.640
	70M	QPSK		67.597	72.170
		16QAM		67.407	72.160
	60M	QPSK		57.788	61.750
		16QAM		57.856	62.480
	50M	QPSK		47.531	50.510
		16QAM		47.462	49.850
	40M	QPSK		37.884	40.560
		16QAM		38.016	40.250
	30M	QPSK		27.893	29.500
		16QAM		27.848	28.990
	25M	QPSK		23.231	24.470
		16QAM		23.166	24.870
	20M	QPSK		18.219	19.670
		16QAM		18.228	19.780
	15M	QPSK		13.532	14.490
		16QAM		13.609	14.870
	10M	QPSK		8.591	10.070
		16QAM		8.591	9.843

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

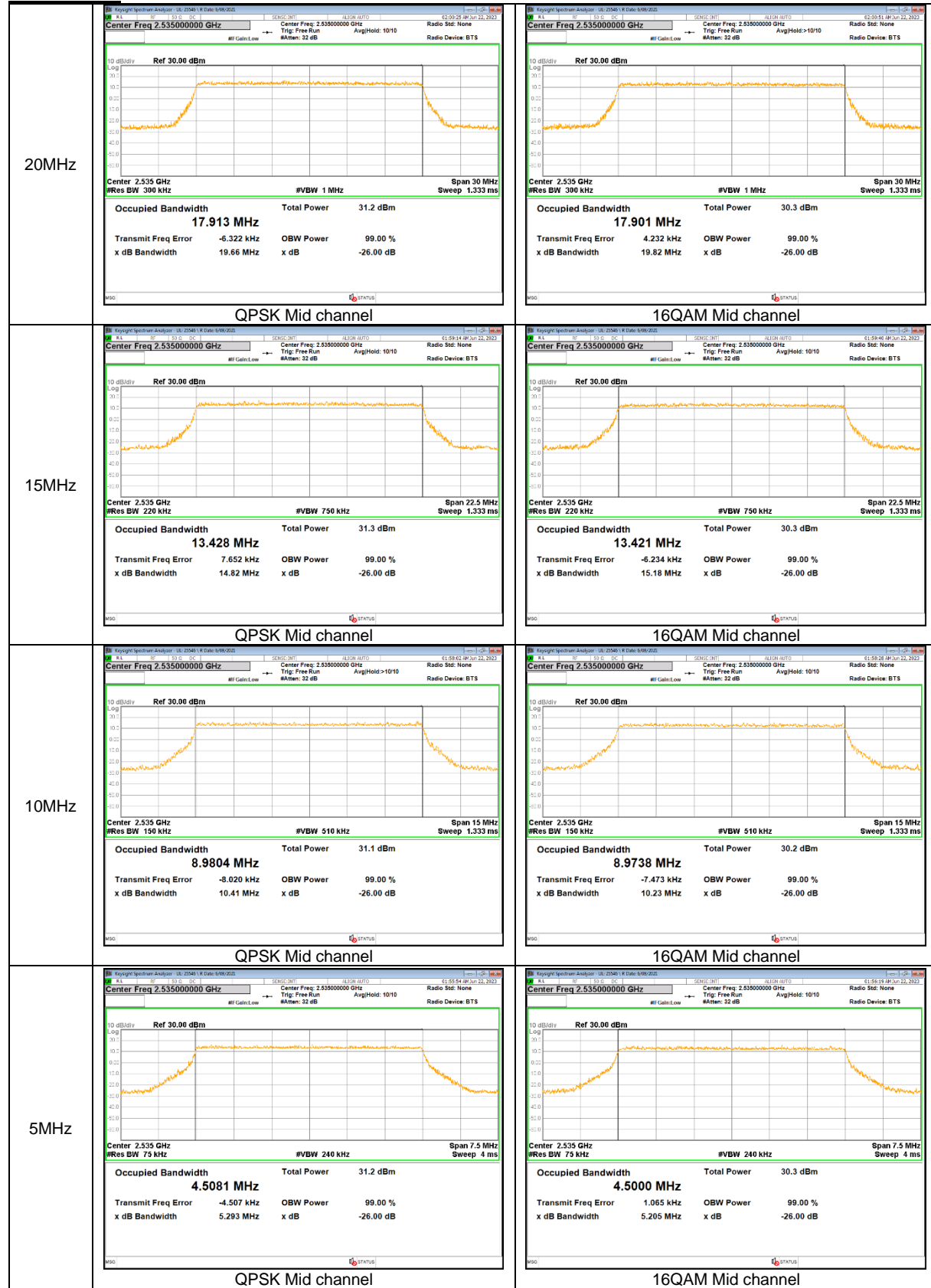
Band	BW	Modulation	f [MHz]	99% BW (MHz)	-26dB BW (MHz)
NR n77(PC2)	100M	QPSK	3840.0	97.263	104.000
		16QAM		97.328	102.200
	90M	QPSK		87.501	92.540
		16QAM		87.302	91.980
	80M	QPSK		77.373	82.670
		16QAM		77.265	83.410
	70M	QPSK		67.384	71.340
		16QAM		67.346	70.880
	60M	QPSK		57.783	62.200
		16QAM		57.790	62.150
	50M	QPSK		47.388	50.680
		16QAM		47.424	50.770
	40M	QPSK		37.826	39.780
		16QAM		37.851	41.400
	30M	QPSK		27.916	29.370
		16QAM		27.910	30.030
	25M	QPSK		23.193	24.900
		16QAM		23.193	24.670
	20M	QPSK		18.210	18.910
		16QAM		18.158	19.490
	15M	QPSK		13.573	14.790
		16QAM		13.550	14.710
	10M	QPSK		8.627	10.520
		16QAM		8.572	9.834

8.3.1. OCCUPIED BANDWIDTH RESULTS

WCDMA Band 4



LTE Band 7



LTE Band 7 (ANT SUB2)



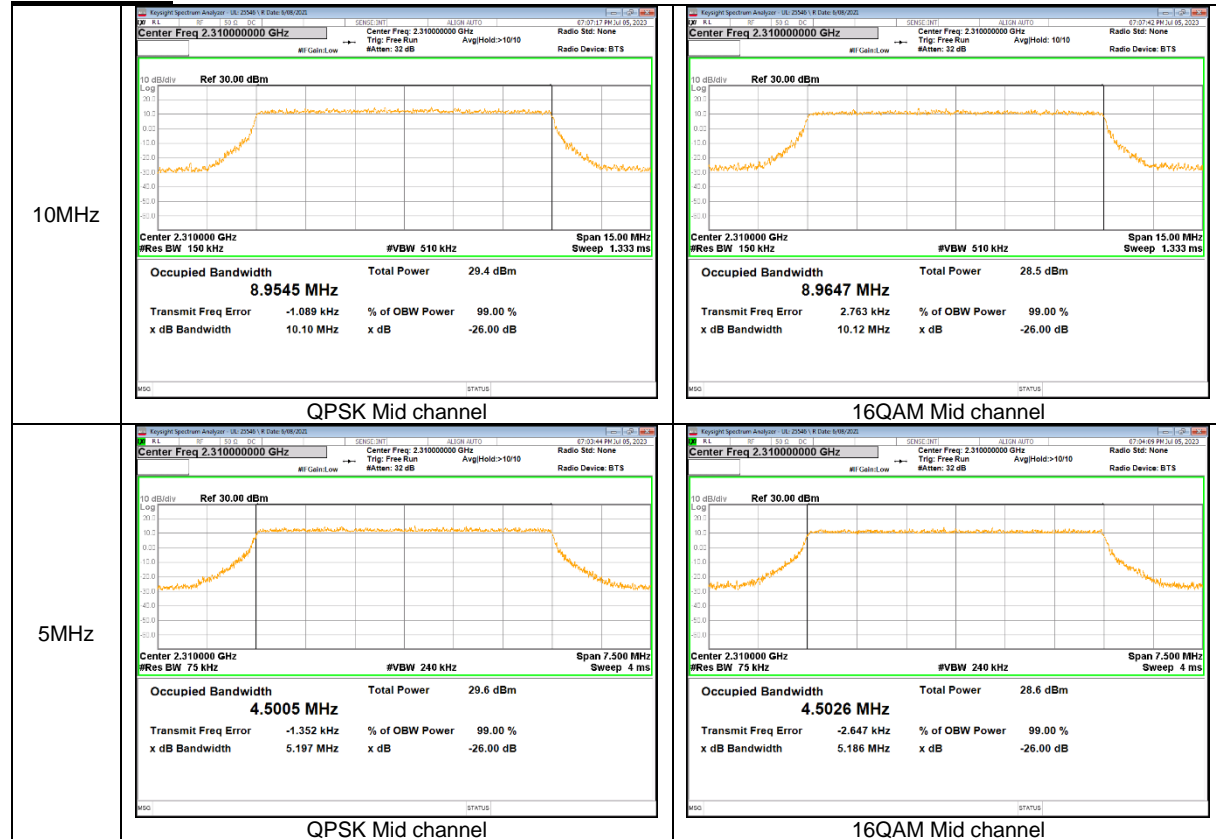
LTE Band 12



LTE Band 13



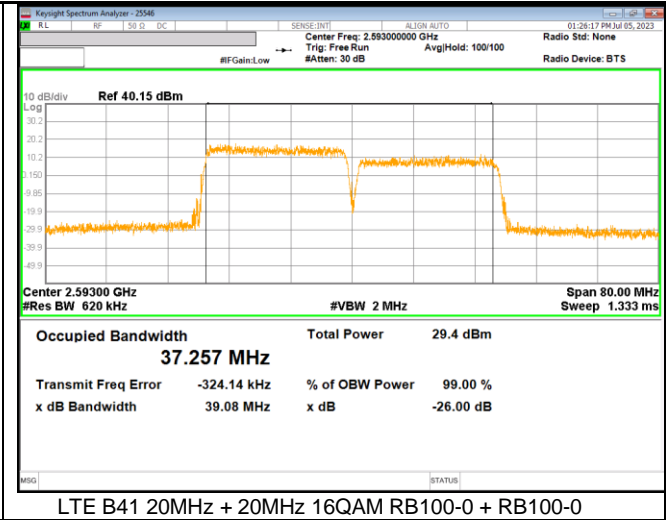
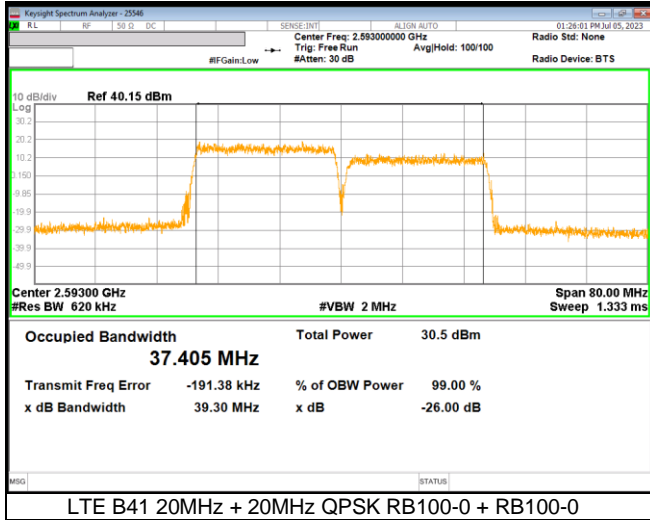
LTE Band 30



LTE Band 41(PC2)



LTE Band 41C (UL CA)



LTE Band 66

