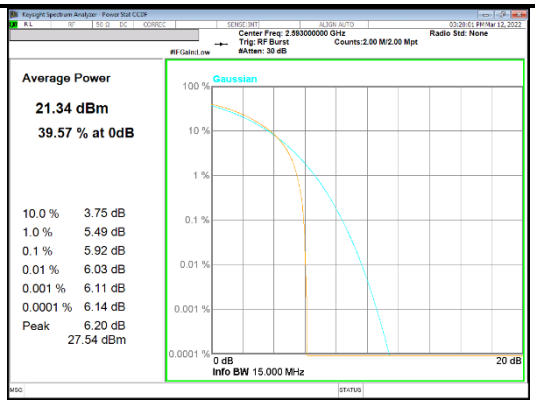
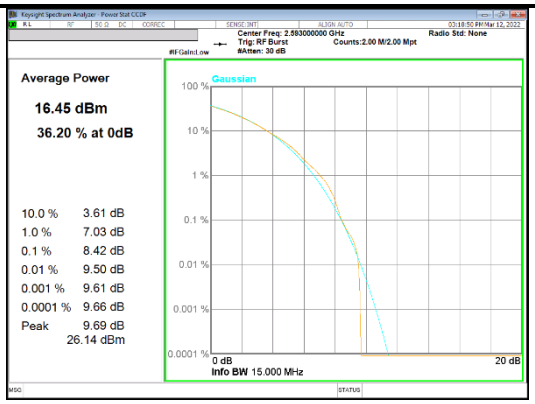
15 MHz		
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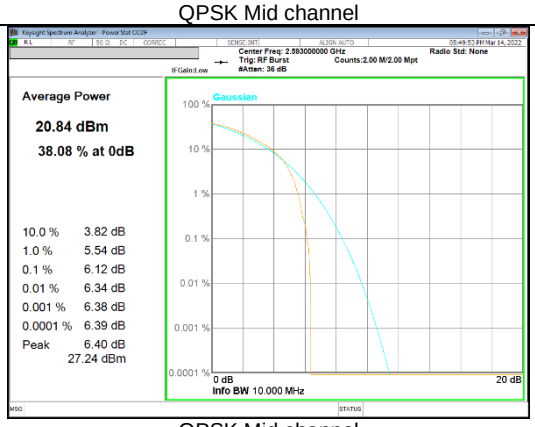
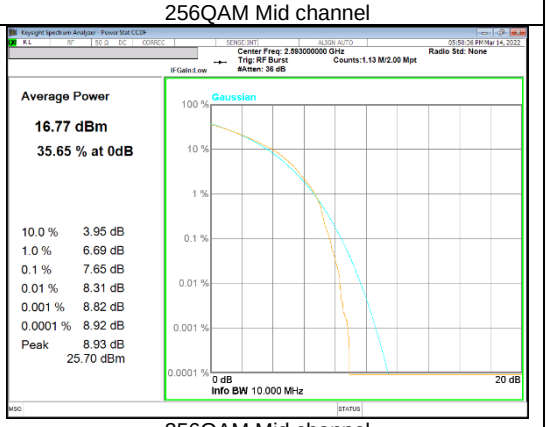
10 MHz		
	QPSK Mid channel	256QAM Mid channel

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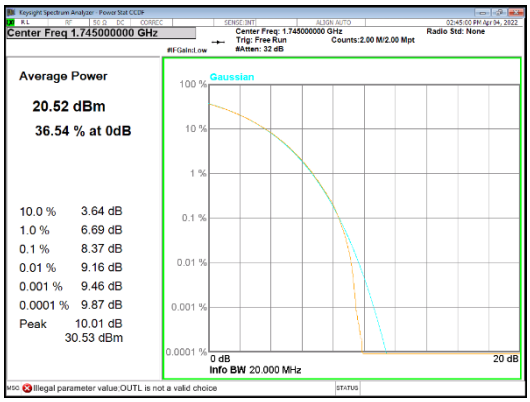
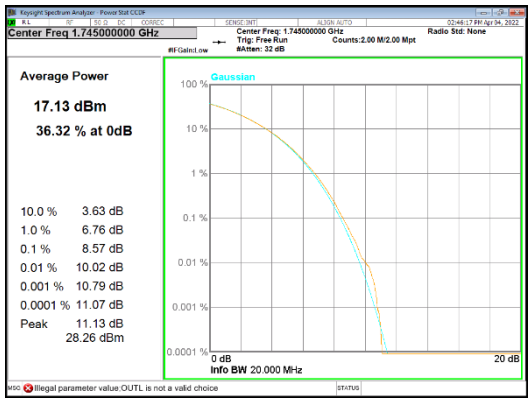
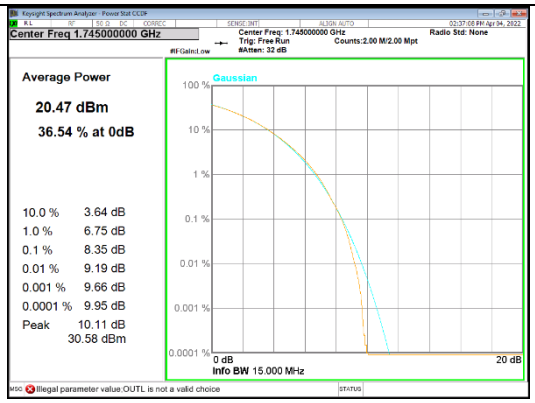
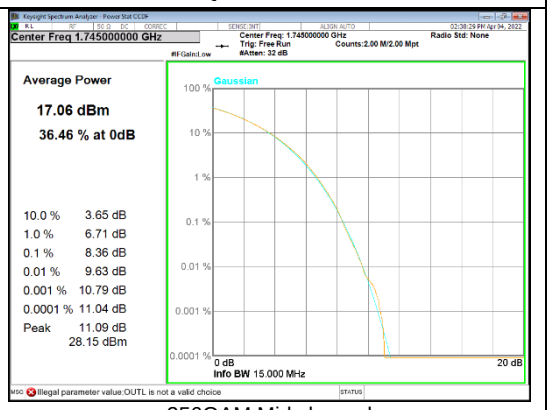
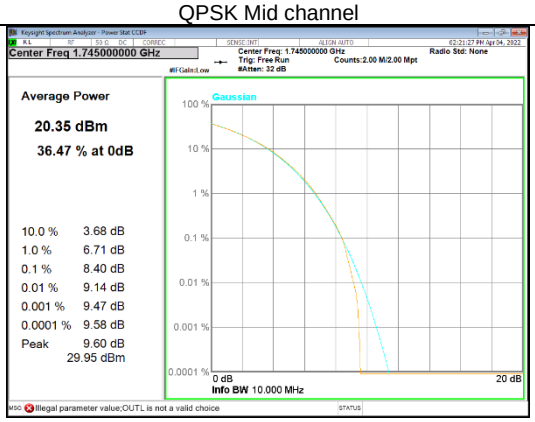
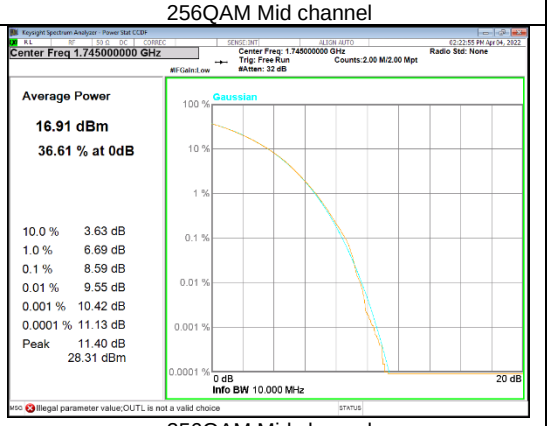
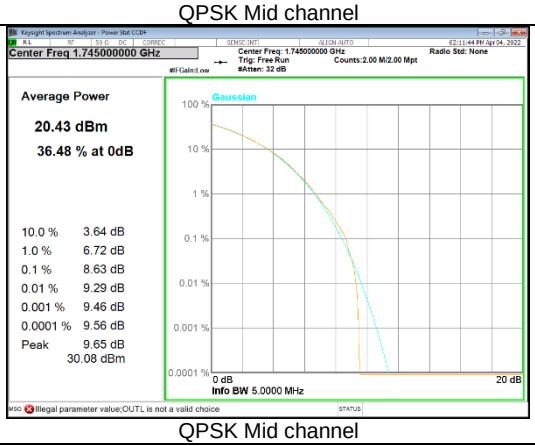
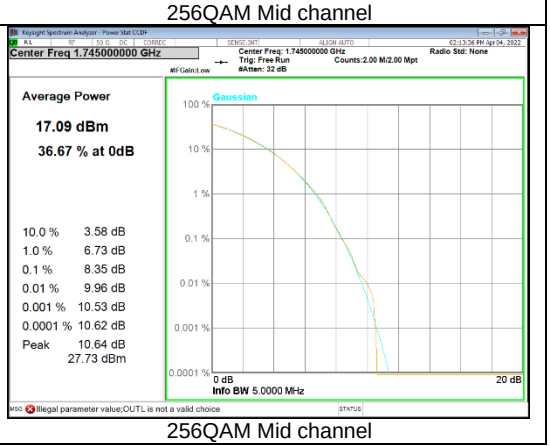
NR Band n66 CP-OFDM

20 MHz		
	QPSK Mid channel	256QAM Mid channel
15 MHz		
	QPSK Mid channel	256QAM Mid channel
10 MHz		
	QPSK Mid channel	256QAM Mid channel
5 MHz		
	QPSK Mid channel	256QAM Mid channel

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9. LIMITS AND CONDUCTED RESULTS

9.1. 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.

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- **GSM**

Band	Modulation	f [MHz]	99% BW (kHz)	-26dB BW (kHz)
850	GPRS	836.6	241.6	318.8
	EGPRS		245.6	297.5
1900	GPRS	1880.0	243.2	322.0
	EGPRS		246.6	309.4

- **WCDMA**

Band	Modulation	f [MHz]	99% BW (MHz)	-26dB BW (MHz)
B5	Rel.99	836.6	4.150	4.642
	HSDPA		4.166	4.634
B4	Rel.99	1732.6	4.158	4.682
	HSDPA		4.149	4.675
B2	Rel.99	1880.0	4.146	4.648
	HSDPA		4.156	4.636

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- LTE Band 2

Band	BW	Modulation	f [MHz]	99% BW (MHz)	-26dB BW (MHz)
LTE B2	20M	QPSK	1880.0	17.883	19.050
		16QAM		17.886	19.240
	15M	QPSK	1880.0	13.417	14.460
		16QAM		13.421	14.530
	10M	QPSK	1880.0	8.975	9.749
		16QAM		8.943	9.580
	5M	QPSK	1880.0	4.486	4.915
		16QAM		4.485	4.888
	3M	QPSK	1880.0	2.685	2.914
		16QAM		2.685	2.935
	1.4M	QPSK	1880.0	1.089	1.303
		16QAM		1.094	1.292

- LTE Band 12

Band	BW	Modulation	f [MHz]	99% BW (MHz)	-26dB BW (MHz)
LTE B12	10M	QPSK	707.5	8.968	9.657
		16QAM		8.946	9.685
	5M	QPSK	707.5	4.483	4.913
		16QAM		4.477	4.896
	3M	QPSK	707.5	2.688	2.910
		16QAM		2.682	2.939
	1.4M	QPSK	707.5	1.089	1.304
		16QAM		1.092	1.299

- LTE Band 13

Band	BW	Modulation	f [MHz]	99% BW (MHz)	-26dB BW (MHz)
LTE B13	10M	QPSK	782.0	8.966	9.650
		16QAM		8.975	9.633
	5M	QPSK	782.0	4.497	4.916
		16QAM		4.486	4.907

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- LTE Band 26 (Part 90)

Band	BW	Modulation	f [MHz]	99% BW (MHz)	-26dB BW (MHz)
LTE B26	15M	QPSK	821.5	13.396	14.520
		16QAM		13.399	14.410
	10M	QPSK	819.0	8.956	9.648
		16QAM		8.962	9.709
	5M	QPSK	819.5	4.486	4.874
		16QAM		4.470	4.852
	3M	QPSK	820.5	2.688	2.921
		16QAM		2.682	2.922
	1.4M	QPSK	820.5	1.088	1.272
		16QAM		1.091	1.293

- LTE Band 26 (Straddle)

Band	BW	Modulation	f [MHz]	99% BW (MHz)	-26dB BW (MHz)
LTE B26	15M	QPSK	824.0	13.411	14.620
		16QAM		13.393	14.420
	10M	QPSK		8.957	9.752
		16QAM		8.960	9.576
	5M	QPSK		4.491	4.904
		16QAM		4.481	4.870
	3M	QPSK		2.693	2.926
		16QAM		2.690	2.923
	1.4M	QPSK		1.083	1.266
		16QAM		1.090	1.296

- LTE Band 26 (Part 22)

Band	BW	Modulation	f [MHz]	99% BW (MHz)	-26dB BW (MHz)
LTE B26	15M	QPSK	836.5	13.411	14.400
		16QAM		13.388	14.450
	10M	QPSK	831.5	8.959	9.732
		16QAM		8.949	9.730
	5M	QPSK	831.5	4.482	4.907
		16QAM		4.481	4.932
	3M	QPSK	831.5	2.688	2.896
		16QAM		2.682	2.932
	1.4M	QPSK	831.5	1.080	1.273
		16QAM		1.084	1.281

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- LTE Band 41

Band	BW	Modulation	f [MHz]	99% BW (MHz)	-26dB BW (MHz)
LTE B41	20M	QPSK	2593.0	17.875	19.990
		16QAM		17.869	19.170
	15M	QPSK	2593.0	13.406	14.500
		16QAM		13.431	14.710
	10M	QPSK	2593.0	8.976	9.939
		16QAM		8.957	9.813
	5M	QPSK	2593.0	4.494	5.168
		16QAM		4.483	4.917

- LTE Band 66

Band	BW	Modulation	f [MHz]	99% BW (MHz)	-26dB BW (MHz)
LTE B66	20M	QPSK	1745.0	17.867	19.060
		16QAM		17.915	19.910
	15M	QPSK	1745.0	13.426	14.630
		16QAM		13.436	14.410
	10M	QPSK	1745.0	8.963	9.788
		16QAM		8.975	9.695
	5M	QPSK	1745.0	4.479	4.867
		16QAM		4.473	4.876
	3M	QPSK	1745.0	2.684	2.916
		16QAM		2.687	2.933
	1.4M	QPSK	1745.0	1.081	1.282
		16QAM		1.086	1.311

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- NR Band n5 CP-OFDM

Band	BW	Modulation	f [MHz]	99% BW (MHz)	-26dB BW (MHz)
NR n5	20M	QPSK	836.5	18.910	19.880
		16QAM		18.895	19.820
	15M	QPSK	836.5	14.142	14.780
		16QAM		14.105	14.850
	10M	QPSK	836.5	9.292	9.882
		16QAM		9.272	9.847
	5M	QPSK	836.5	4.471	4.842
		16QAM		4.481	4.869

- NR Band n41 CP-OFDM

Band	BW	Modulation	f [MHz]	99% BW (MHz)	-26dB BW (MHz)
NR n41	100M	QPSK	2593.0	96.649	99.630
		16QAM		96.363	99.750
	90M	QPSK	2593.0	86.664	89.290
		16QAM		86.665	89.360
	80M	QPSK	2593.0	76.731	79.380
		16QAM		76.820	79.040
	60M	QPSK	2593.0	57.044	58.980
		16QAM		57.030	59.110
	50M	QPSK	2593.0	47.033	48.780
		16QAM		47.158	48.660
	40M	QPSK	2593.0	37.533	38.880
		16QAM		37.403	38.770
	30M	QPSK	2593.0	27.912	29.320
		16QAM		27.841	28.930
	20M	QPSK	2593.0	18.270	19.370
		16QAM		18.226	19.240
	15M	QPSK	2593.0	13.607	14.680
		16QAM		13.557	14.390
	10M	QPSK	2593.0	8.583	9.335
		16QAM		8.587	9.281

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- NR Band n66 CP-OFDM

Band	BW	Modulation	f [MHz]	99% BW (MHz)	-26dB BW (MHz)
NR n66	20M	QPSK	1745.0	18.902	20.080
		16QAM		18.954	19.950
	15M	QPSK	1745.0	14.136	14.800
		16QAM		14.156	14.770
	10M	QPSK	1745.0	9.303	9.938
		16QAM		9.308	9.982
	5M	QPSK	1745.0	4.471	4.865
		16QAM		4.483	4.814

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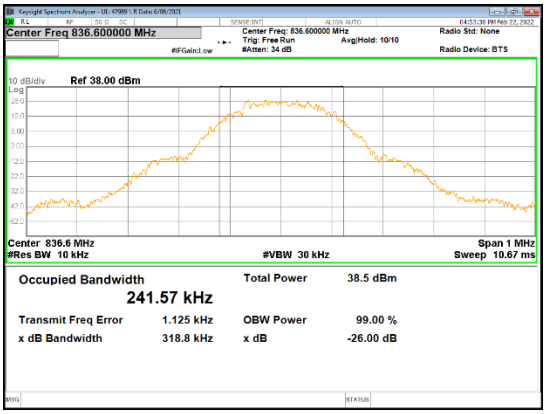
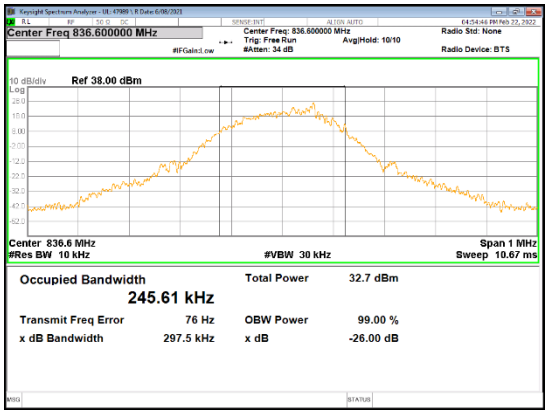
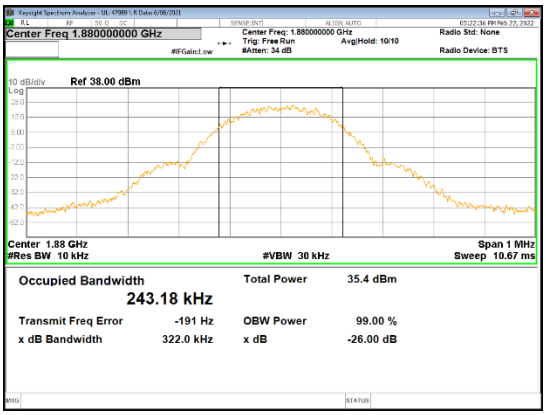
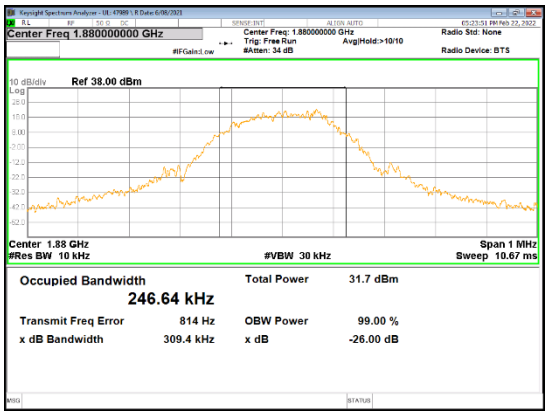
9.1.1. OCCUPIED BANDWIDTH RESULTS

GSM 850

GSM 850	 GPRS Mid channel	 EGPRS Mid channel

GSM 1900

GSM 1900	 GPRS Mid channel	 EGPRS Mid channel

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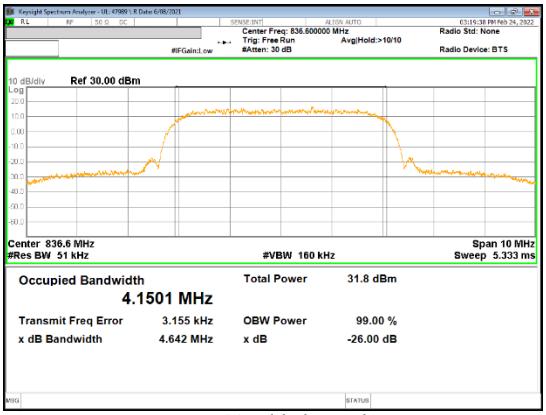
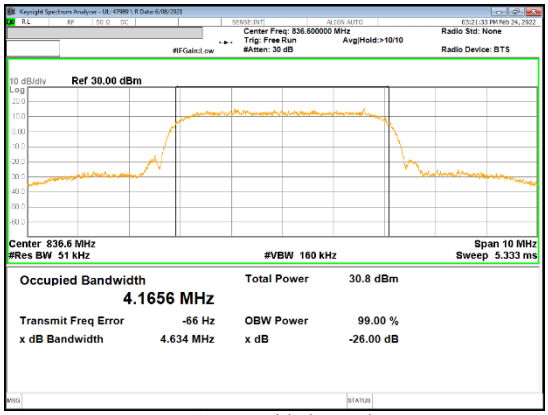
WCDMA Band 5

Band 5



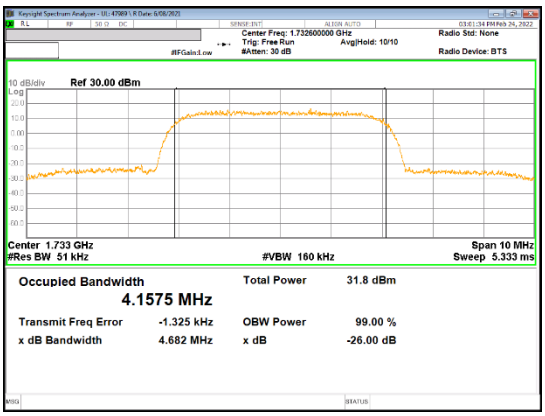
REL99 Mid channel



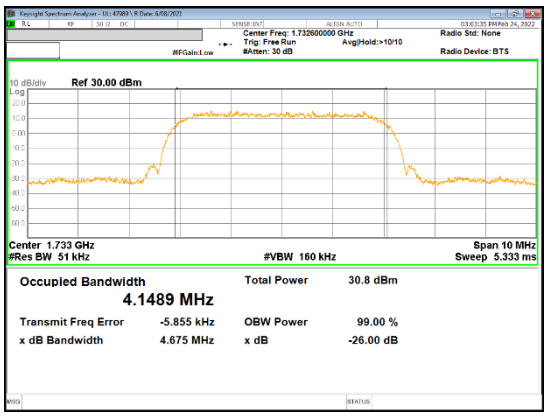
HSDPA Mid channel

WCDMA Band 4

Band 4



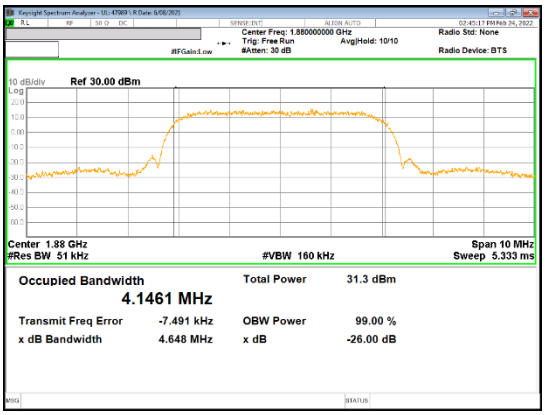
REL99 Mid channel



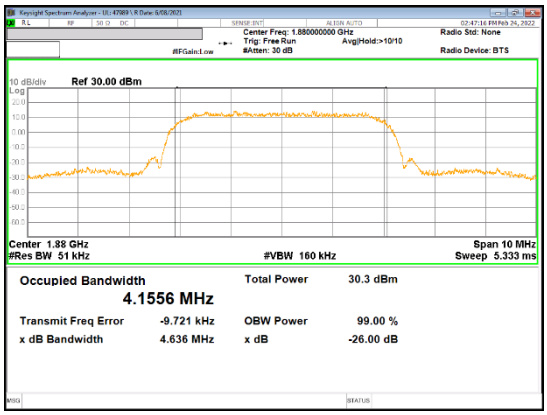
HSDPA Mid channel

WCDMA Band 2

Band 2



REL99 Mid channel



HSDPA Mid channel

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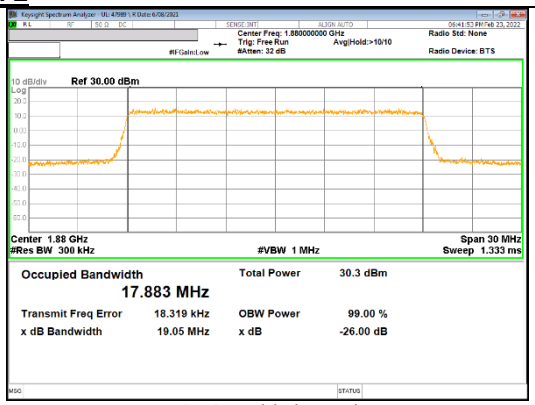
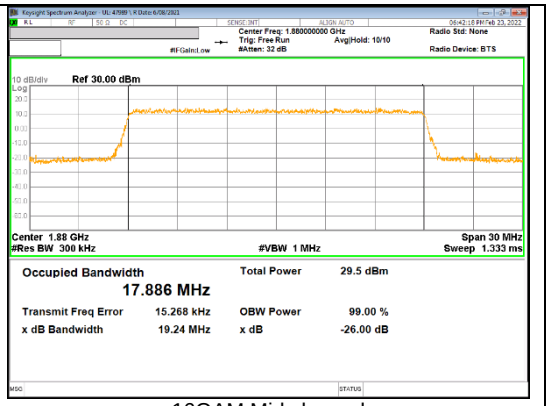
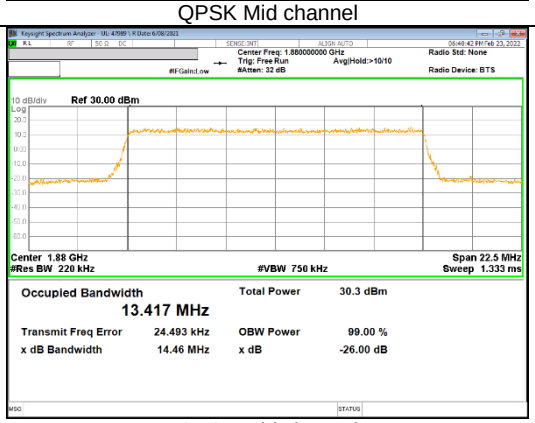
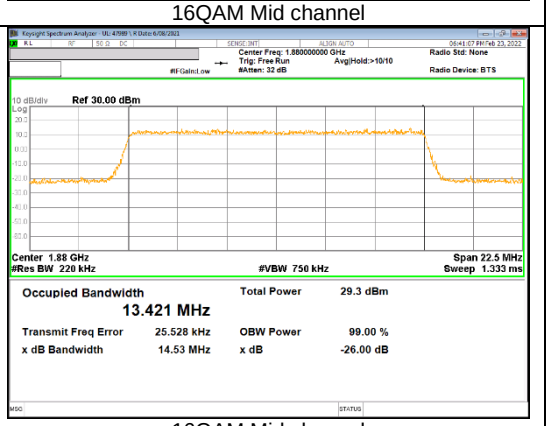
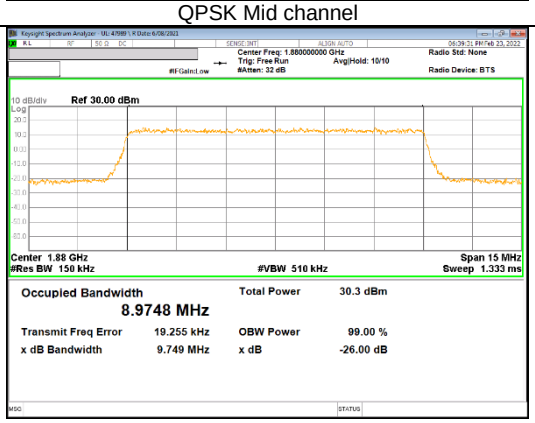
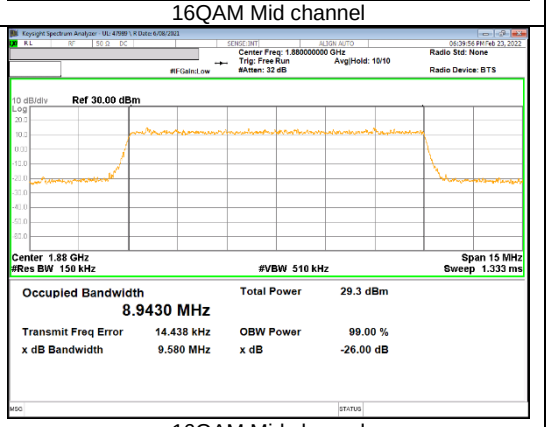
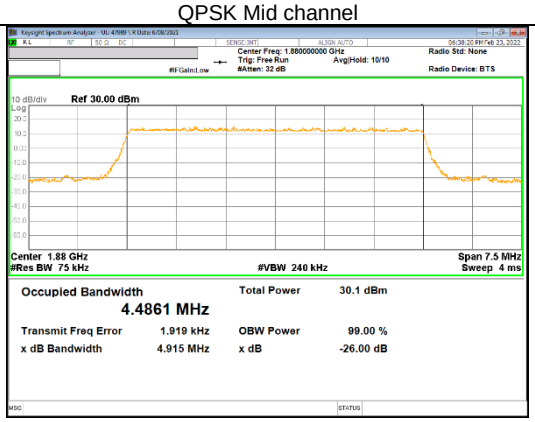
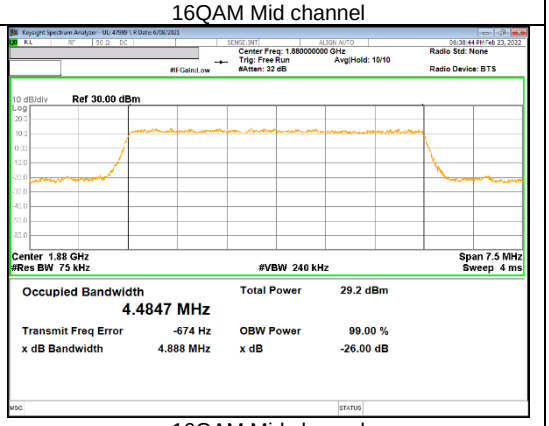
LTE Band 2

20MHz	 QPSK Mid channel	 16QAM Mid channel
15MHz	 QPSK Mid channel	 16QAM Mid channel
10MHz	 QPSK Mid channel	 16QAM Mid channel
5MHz	 QPSK Mid channel	 16QAM Mid channel

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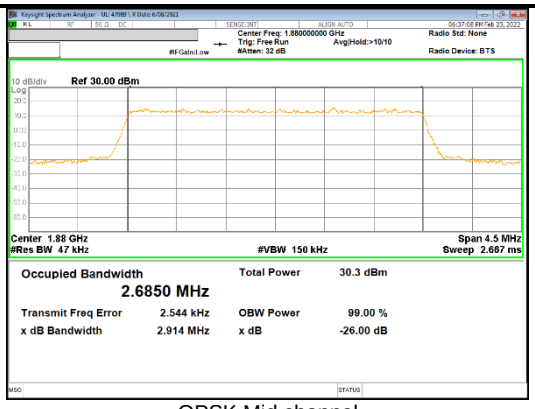
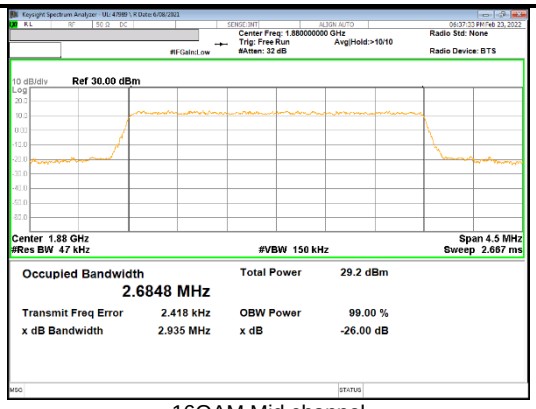
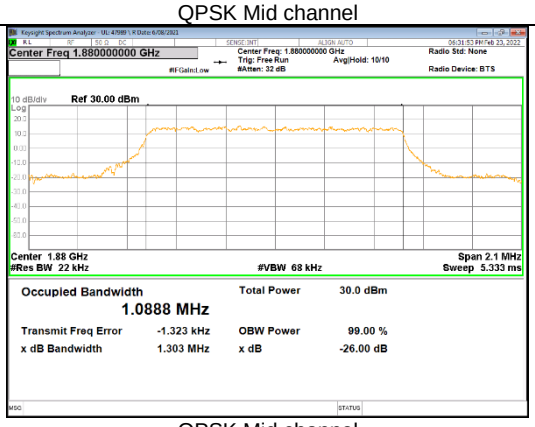
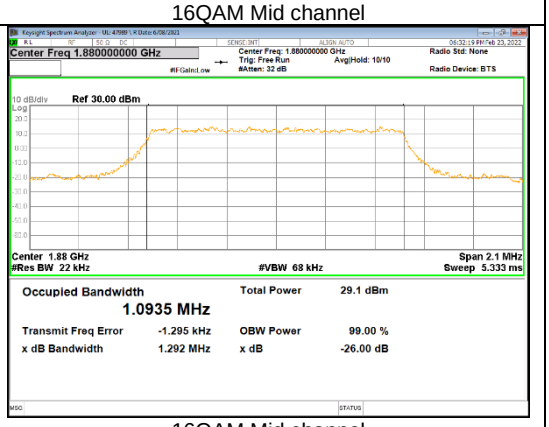
3MHz	 QPSK Mid channel	 16QAM Mid channel
1.4MHz	 QPSK Mid channel	 16QAM Mid channel

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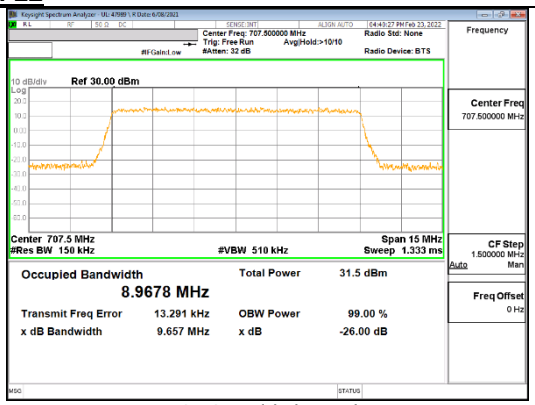
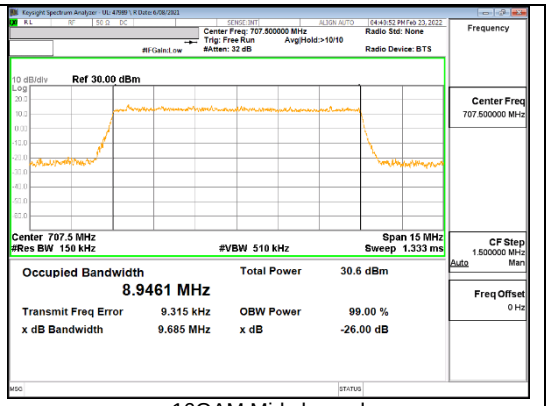
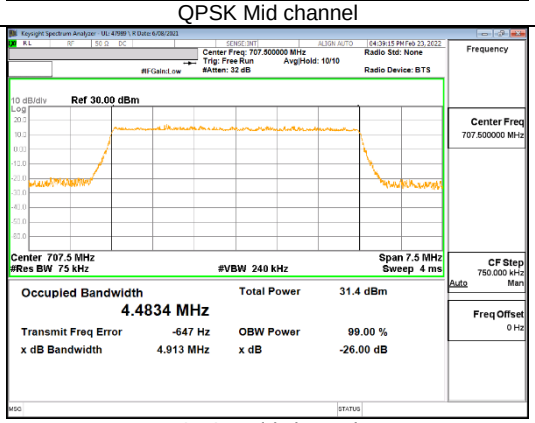
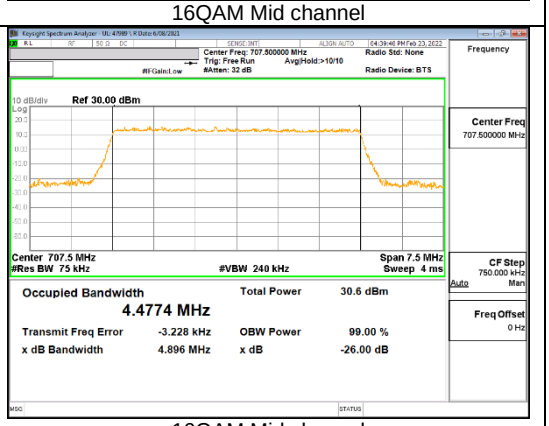
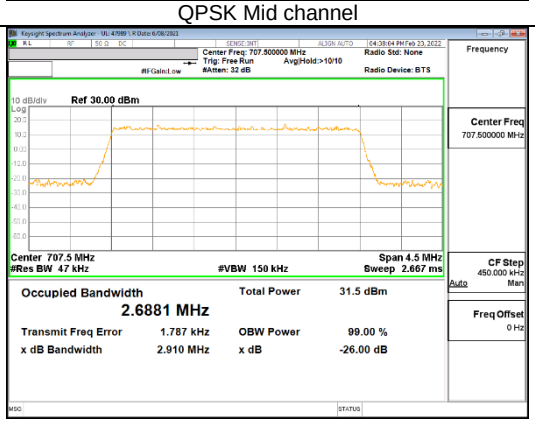
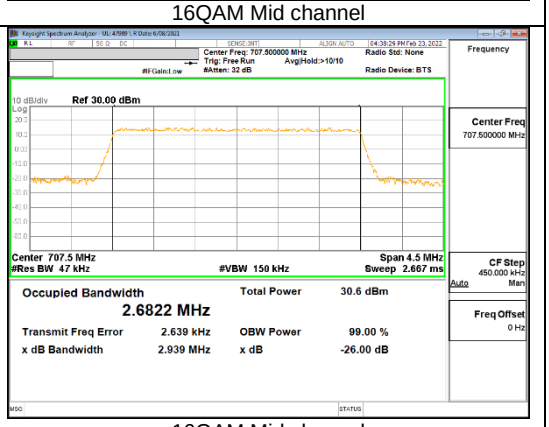
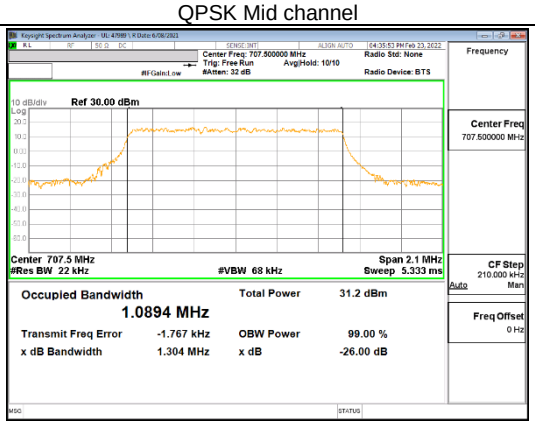
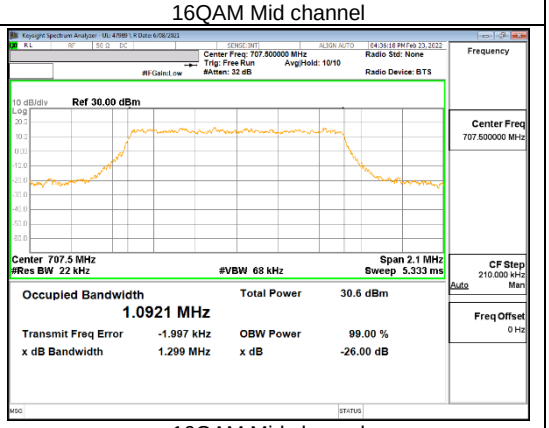
LTE Band 12

10MHz	 QPSK Mid channel	 16QAM Mid channel
5MHz	 QPSK Mid channel	 16QAM Mid channel
3MHz	 QPSK Mid channel	 16QAM Mid channel
1.4MHz	 QPSK Mid channel	 16QAM Mid channel

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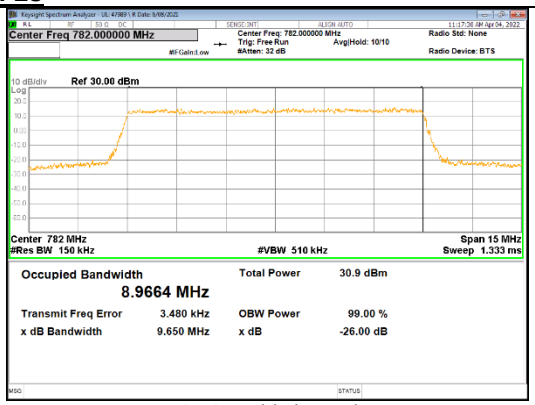
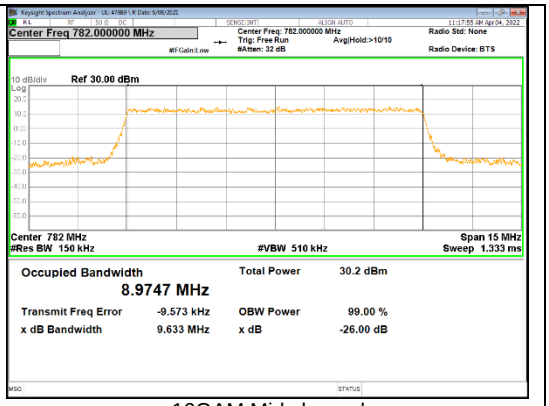
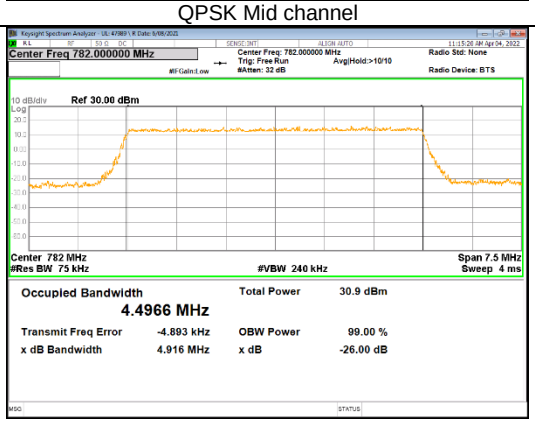
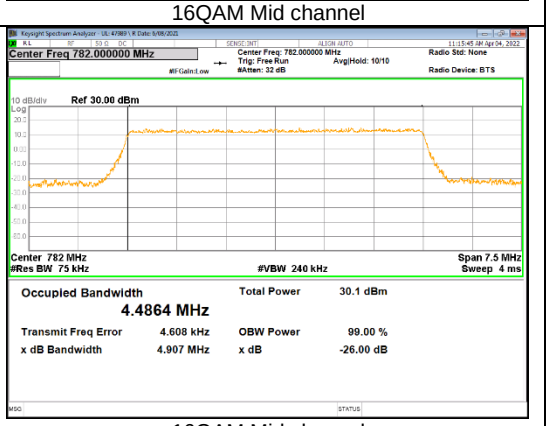
LTE Band 13

10MHz	 QPSK Mid channel	 16QAM Mid channel
5MHz	 QPSK Mid channel	 16QAM Mid channel

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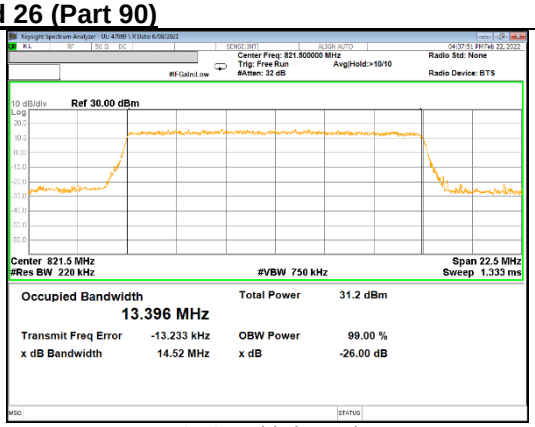
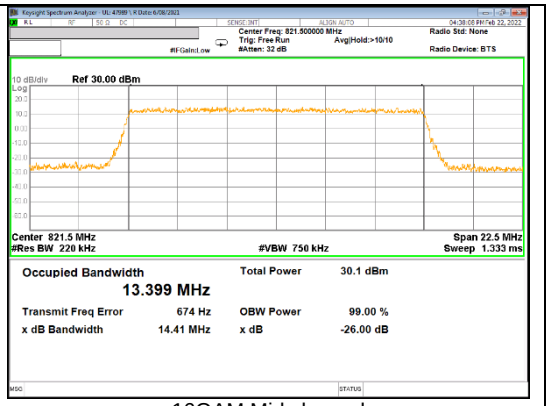
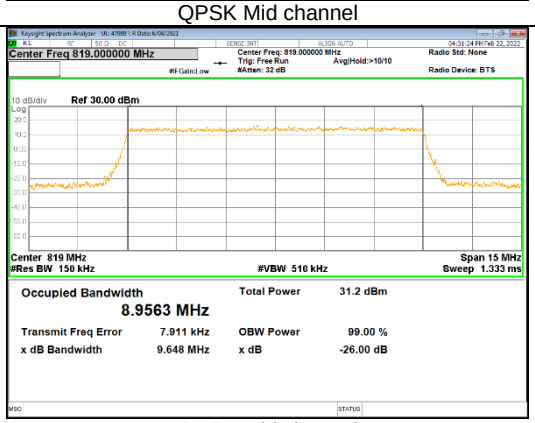
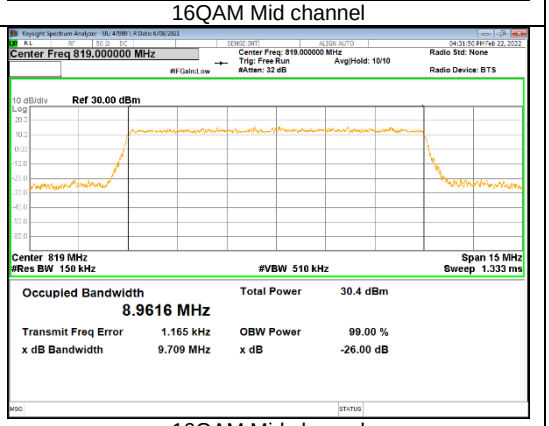
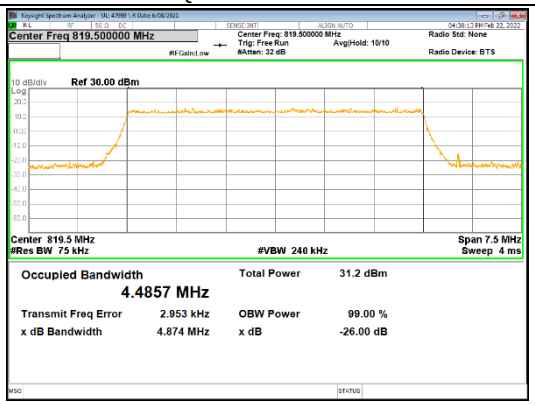
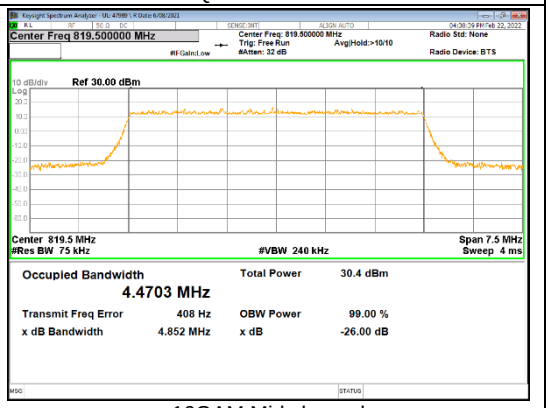
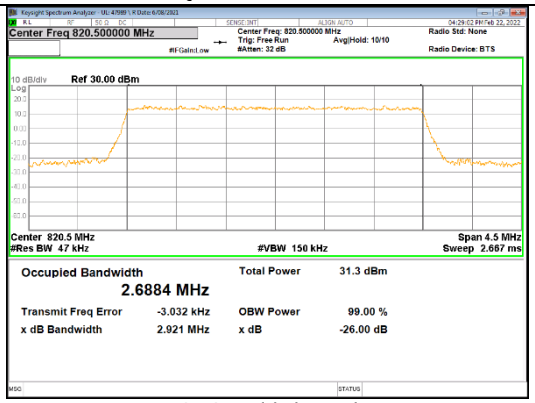
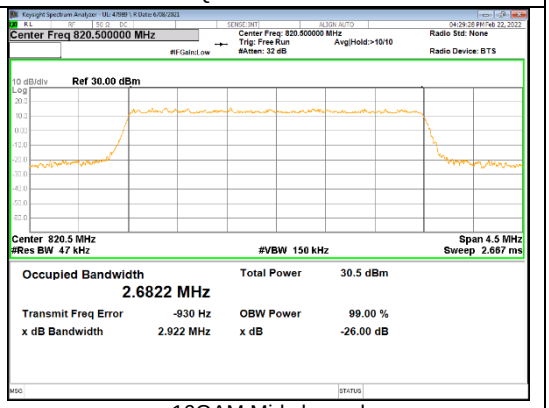
LTE Band 26 (Part 90)

15MHz	 QPSK Mid channel	 16QAM Mid channel
10MHz	 QPSK Mid channel	 16QAM Mid channel
5MHz	 QPSK Mid channel	 16QAM Mid channel
3MHz	 QPSK Mid channel	 16QAM Mid channel

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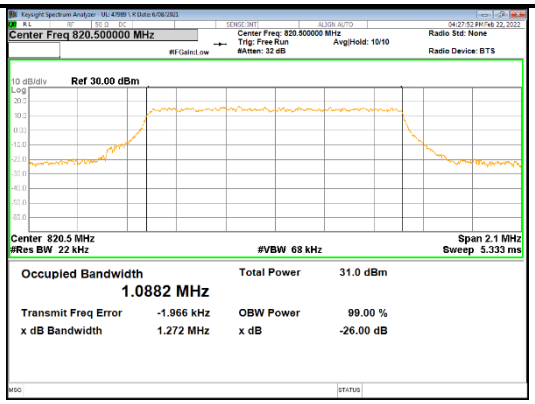
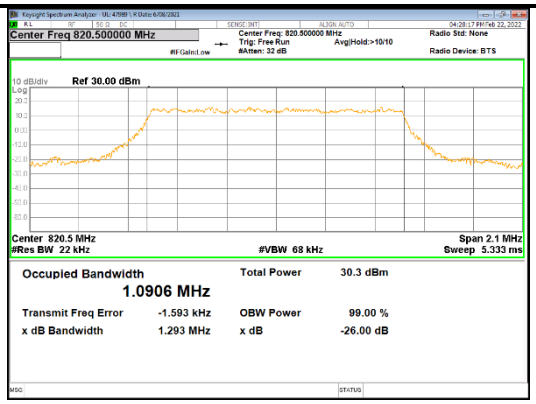
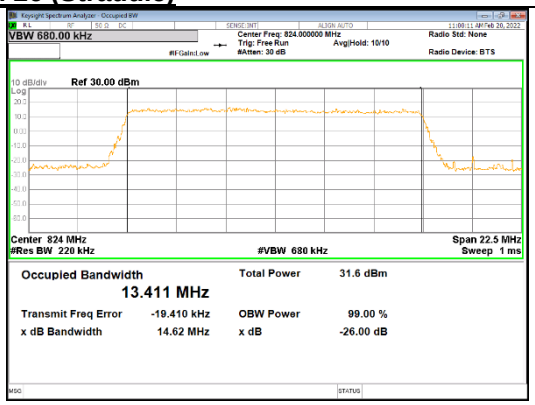
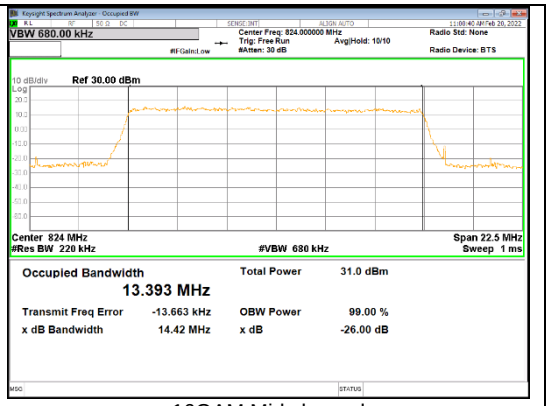
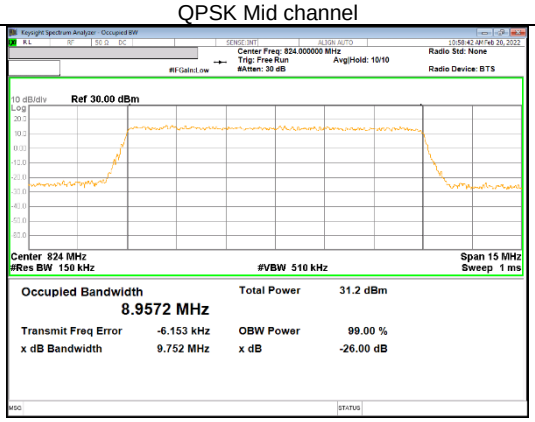
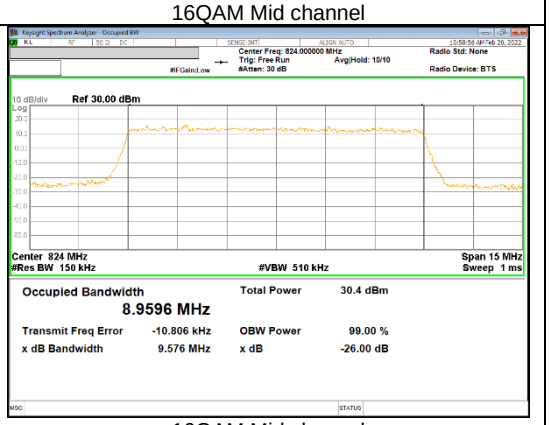
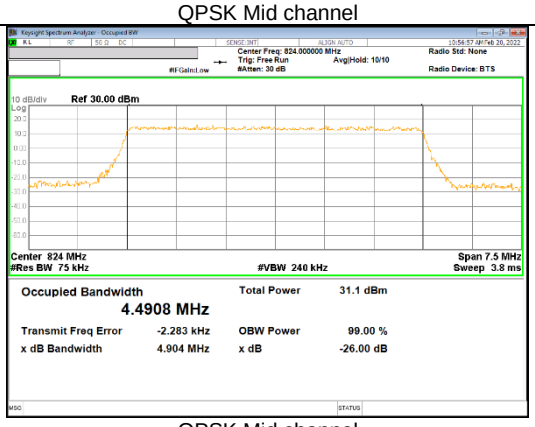
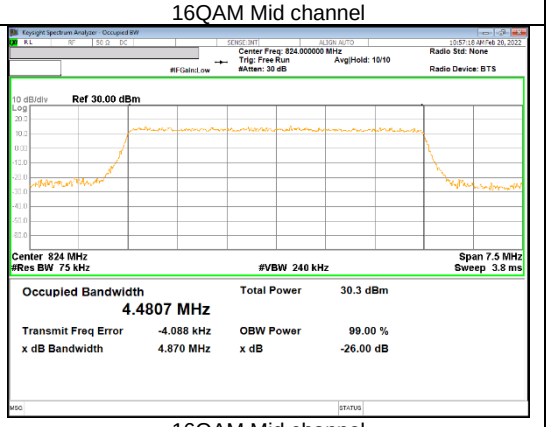
1.4MHz	 QPSK Mid channel	 16QAM Mid channel

LTE Band 26 (Straddle)

15MHz	 QPSK Mid channel	 16QAM Mid channel
10MHz	 QPSK Mid channel	 16QAM Mid channel
5MHz	 QPSK Mid channel	 16QAM Mid channel

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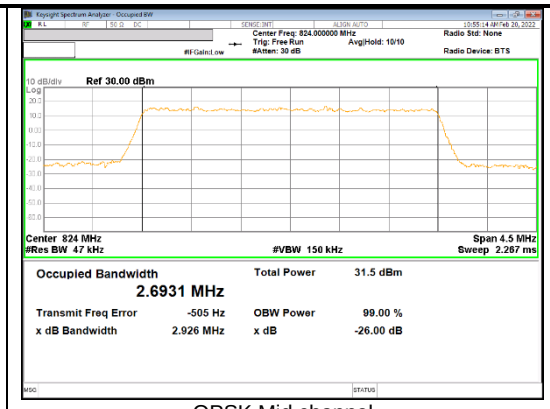
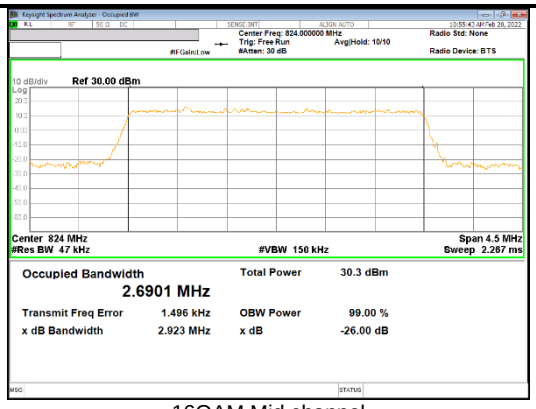
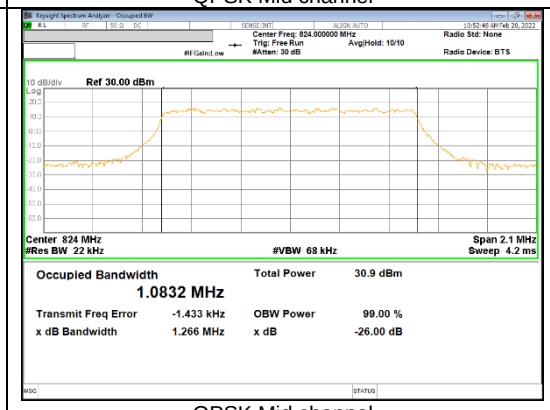
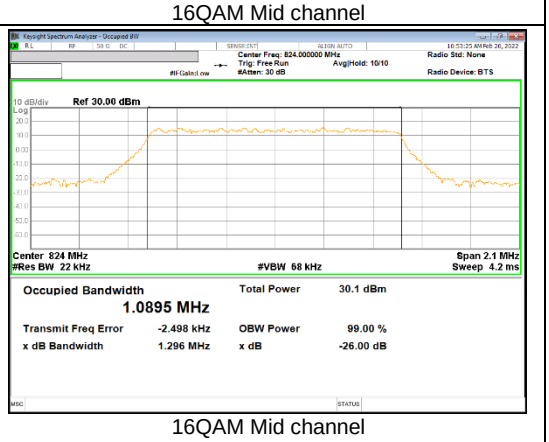
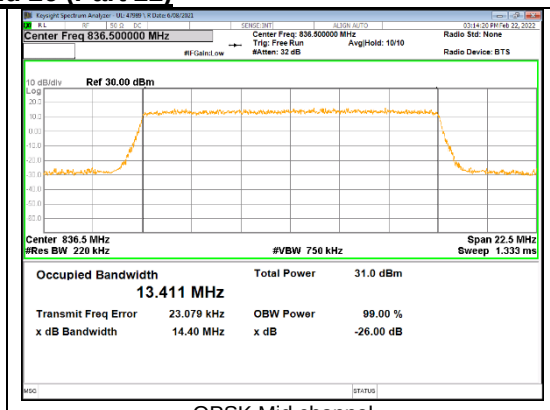
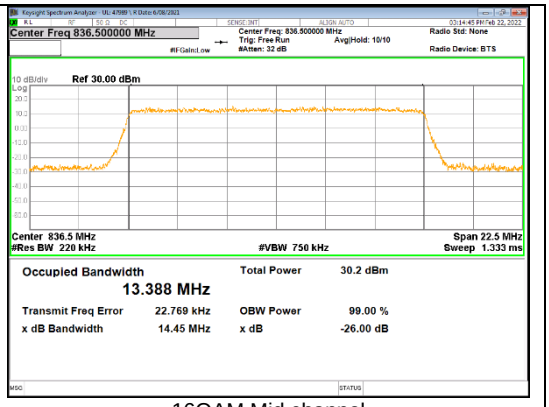
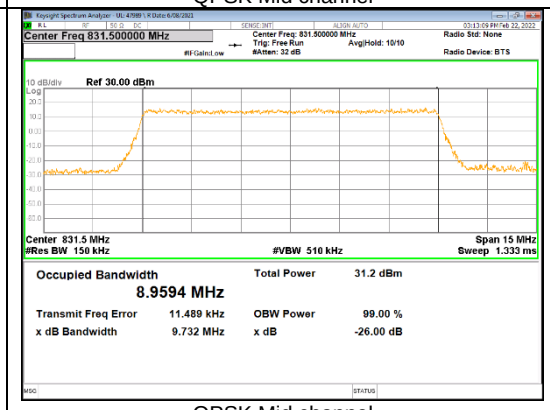
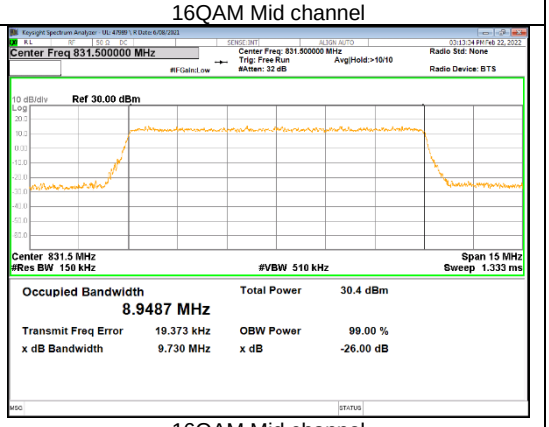
3MHz	 QPSK Mid channel	 16QAM Mid channel
1.4MHz	 QPSK Mid channel	 16QAM Mid channel

LTE Band 26 (Part 22)

15MHz	 QPSK Mid channel	 16QAM Mid channel
10MHz	 QPSK Mid channel	 16QAM Mid channel

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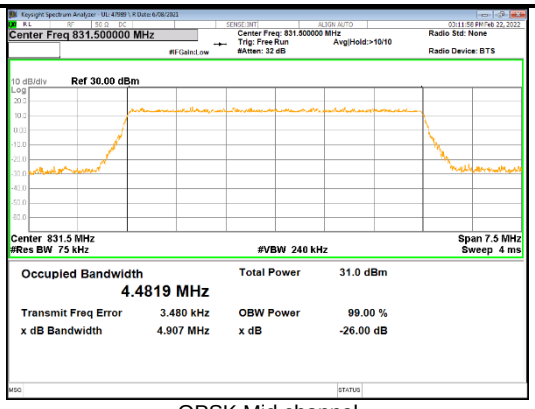
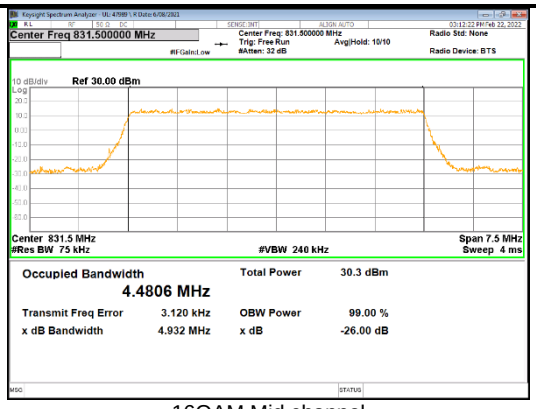
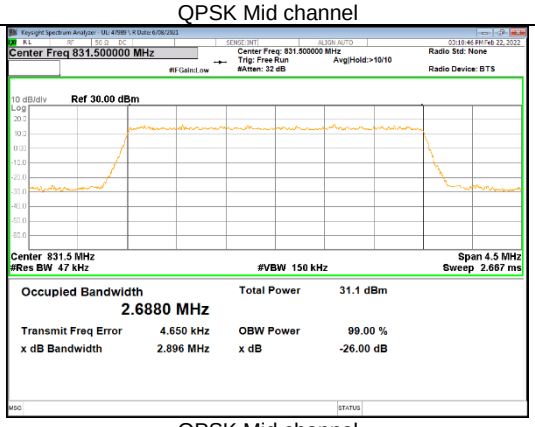
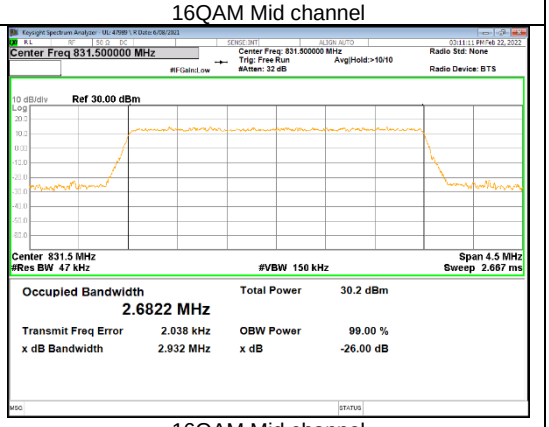
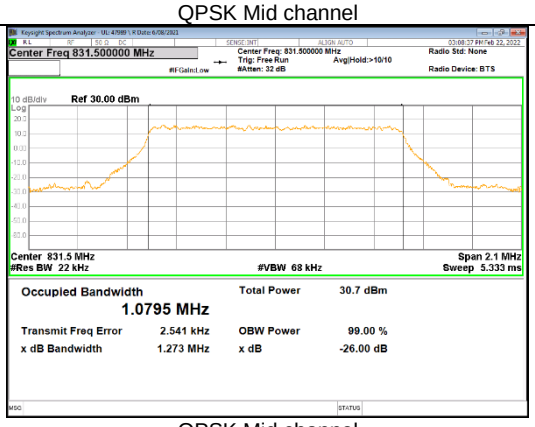
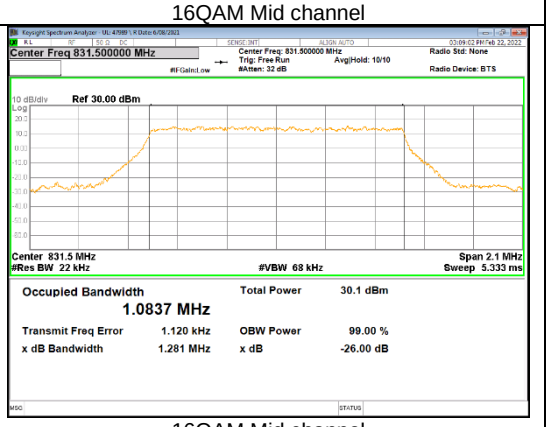
5MHz	 QPSK Mid channel	 16QAM Mid channel
3MHz	 QPSK Mid channel	 16QAM Mid channel
1.4MHz	 QPSK Mid channel	 16QAM Mid channel

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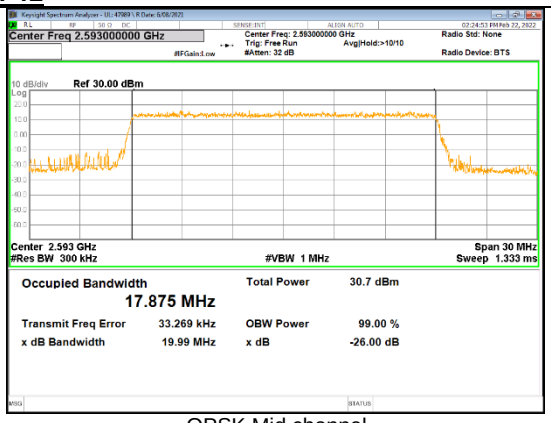
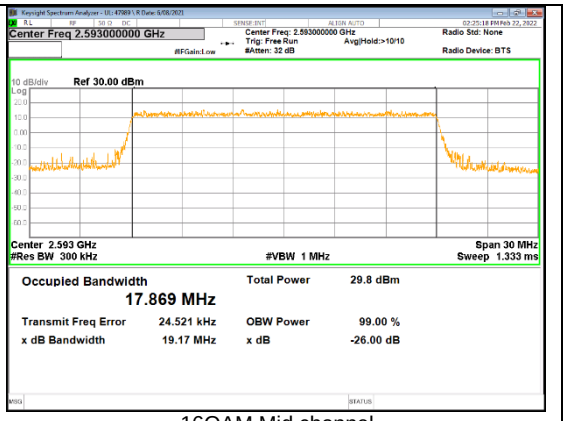
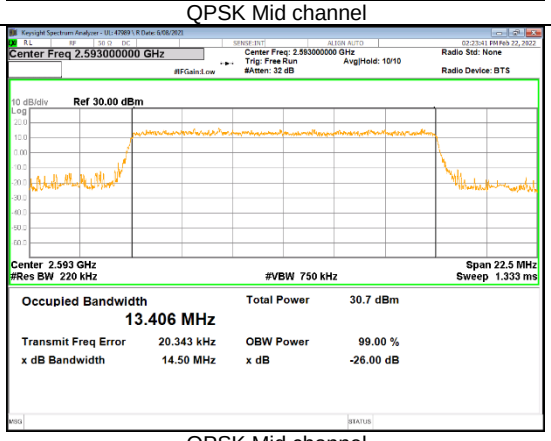
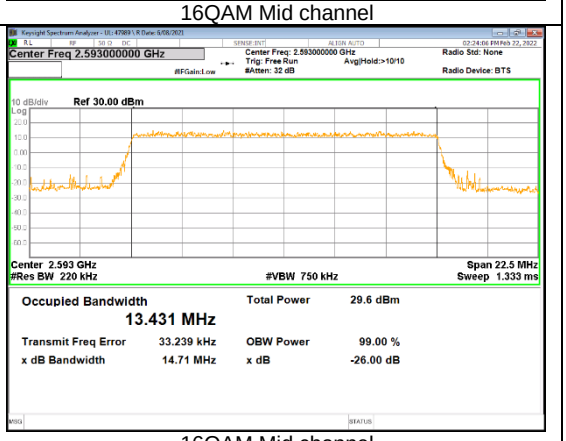
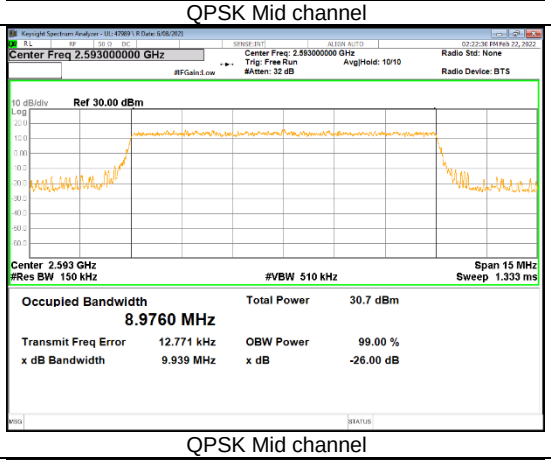
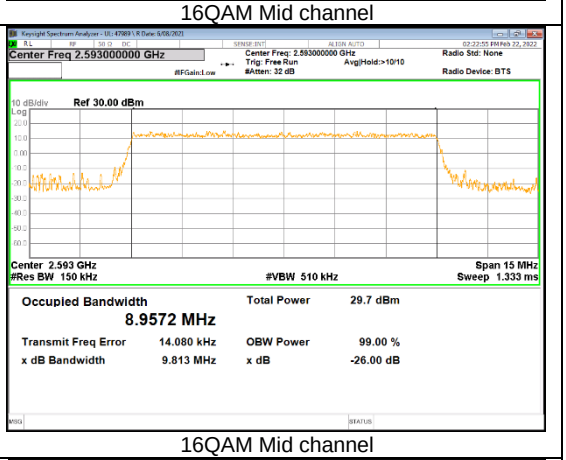
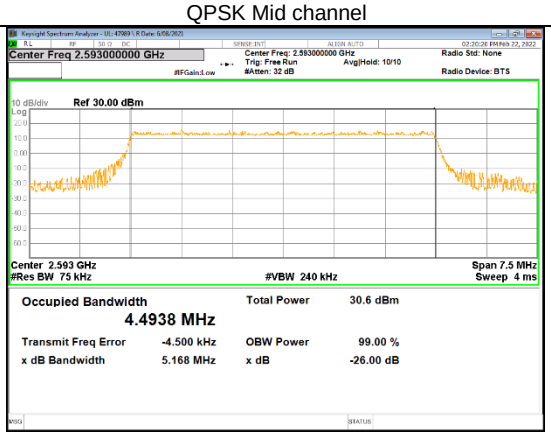
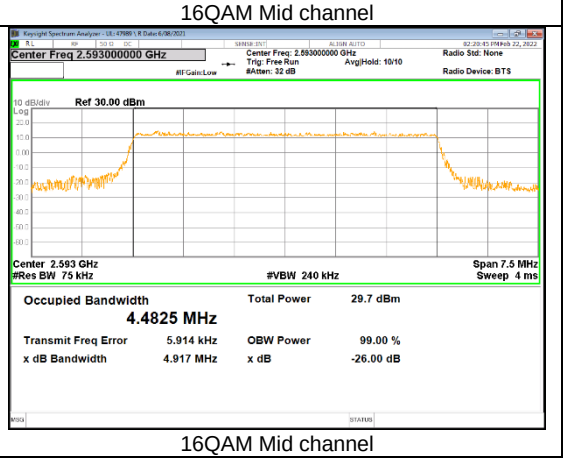
LTE Band 41

20MHz	 QPSK Mid channel	 16QAM Mid channel
15MHz	 QPSK Mid channel	 16QAM Mid channel
10MHz	 QPSK Mid channel	 16QAM Mid channel
5MHz	 QPSK Mid channel	 16QAM Mid channel

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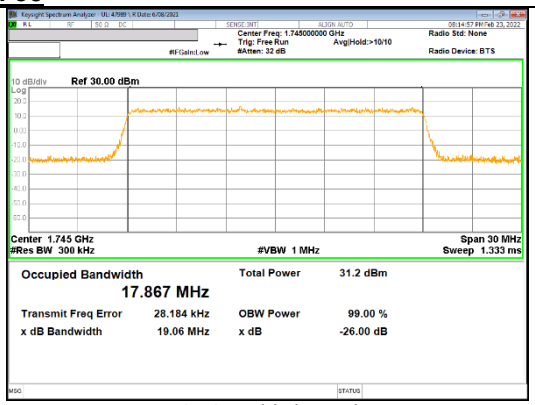
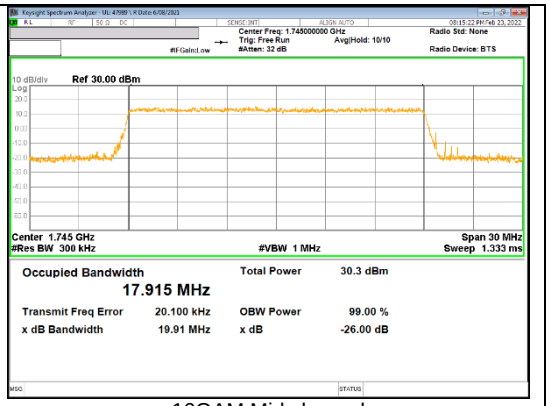
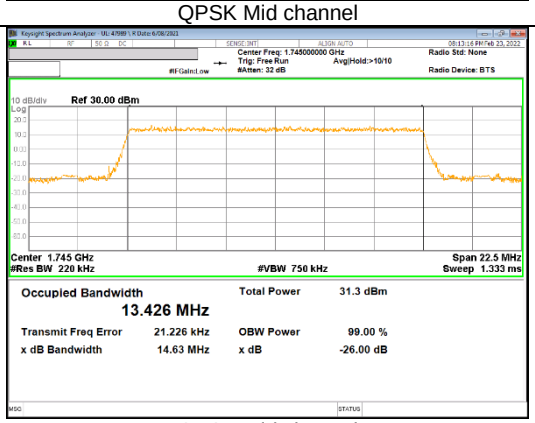
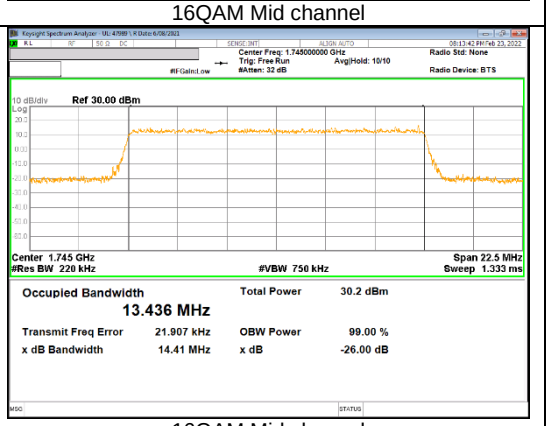
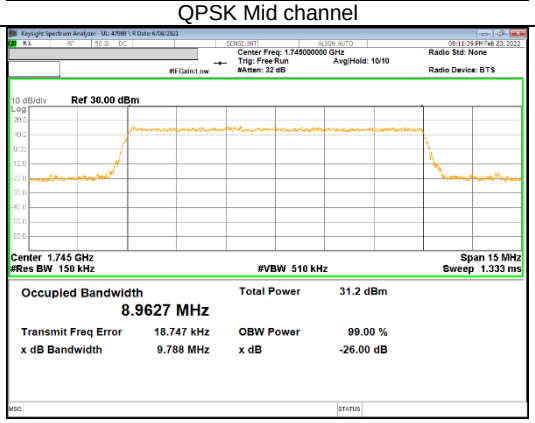
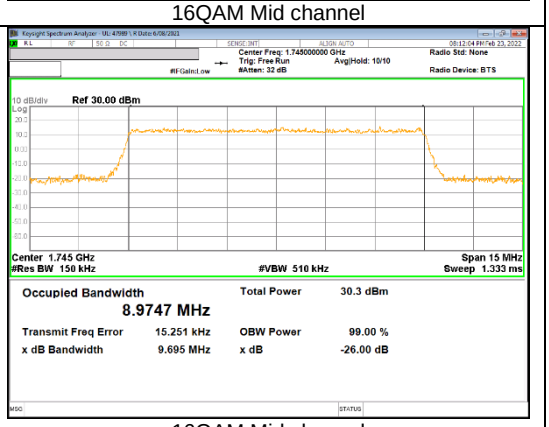
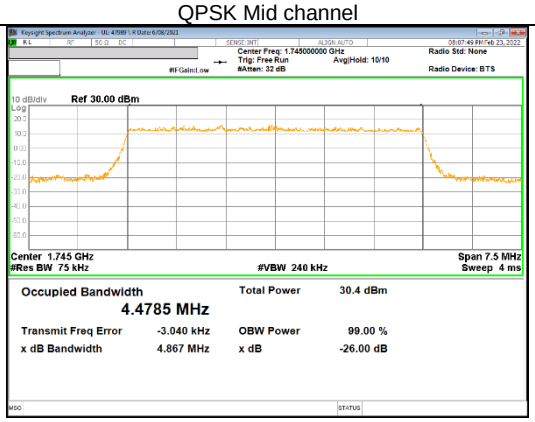
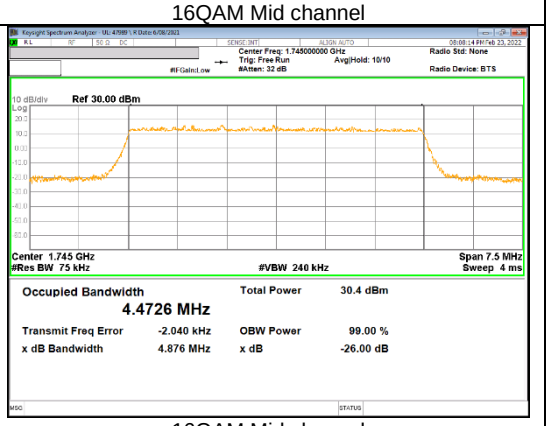
LTE Band 66

20MHz	 QPSK Mid channel	 16QAM Mid channel
15MHz	 QPSK Mid channel	 16QAM Mid channel
10MHz	 QPSK Mid channel	 16QAM Mid channel
5MHz	 QPSK Mid channel	 16QAM Mid channel

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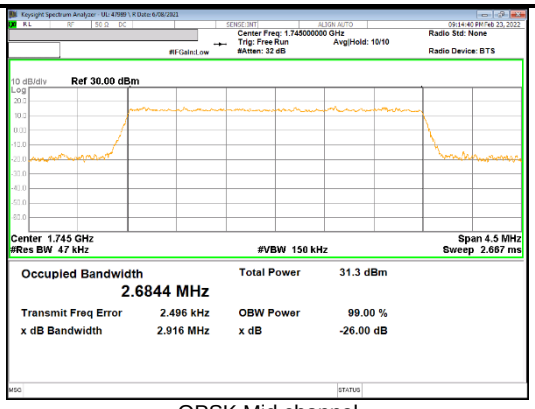
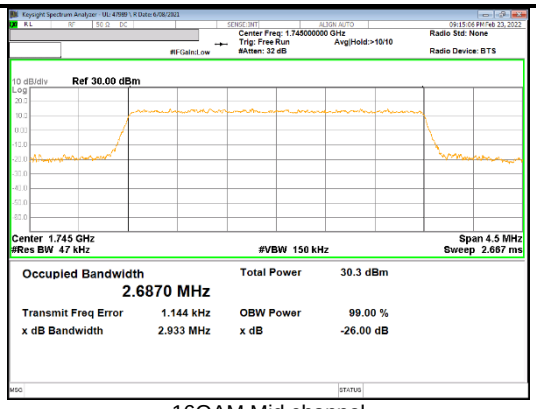
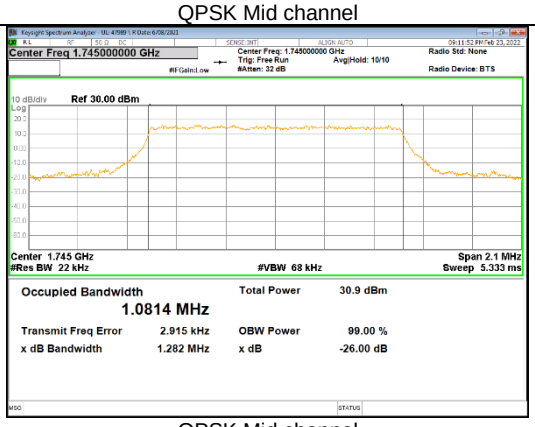
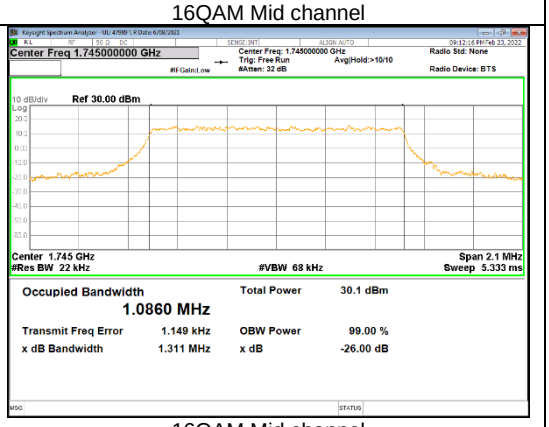
3MHz	 QPSK Mid channel	 16QAM Mid channel
1.4MHz	 QPSK Mid channel	 16QAM Mid channel

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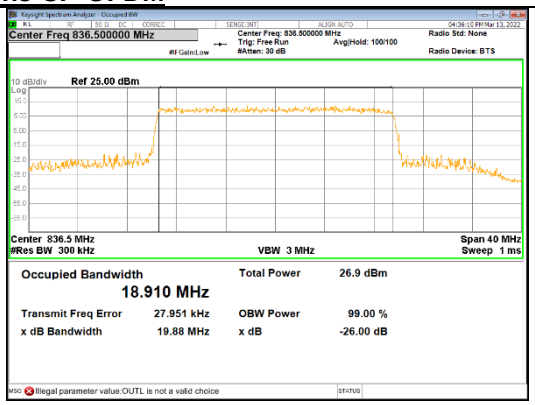
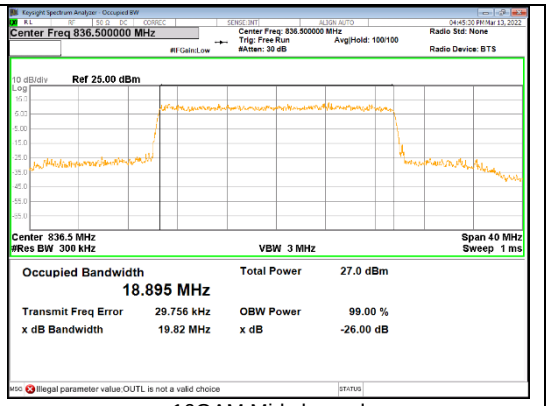
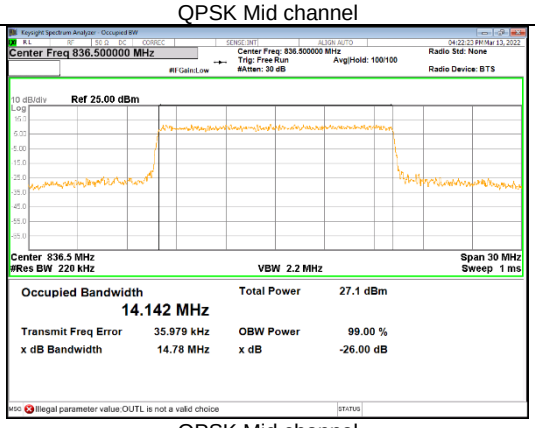
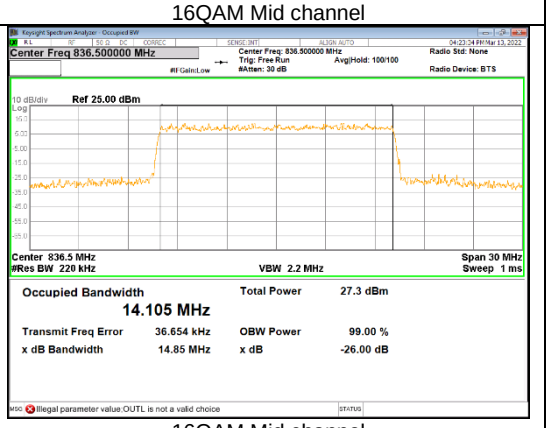
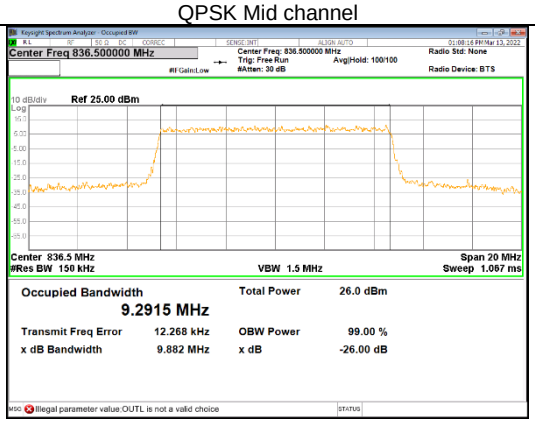
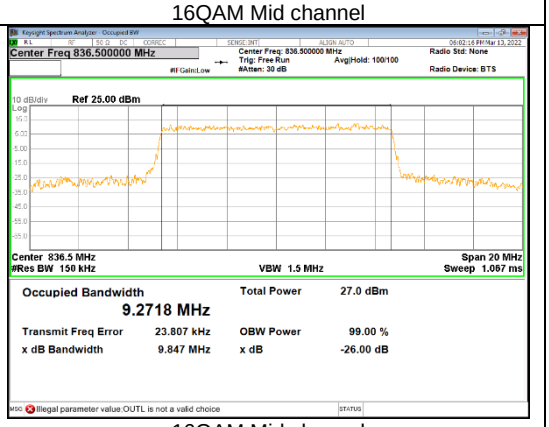
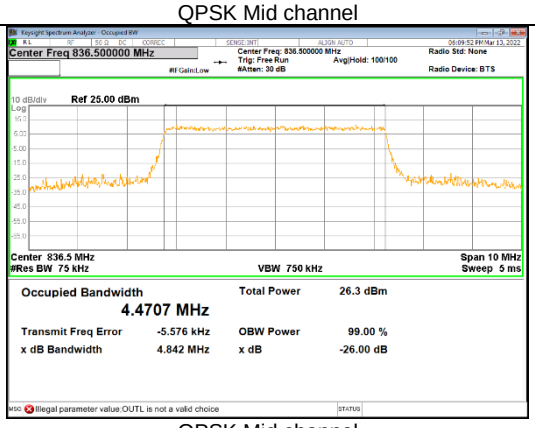
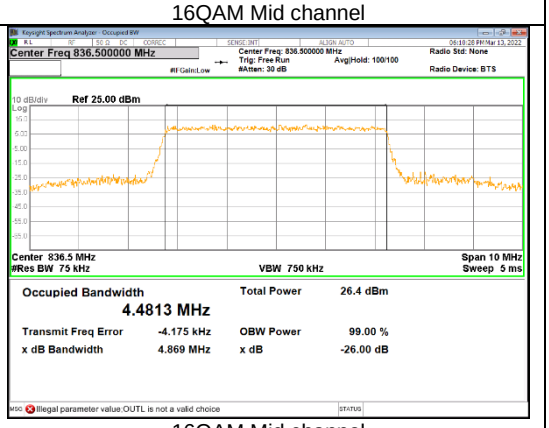
NR Band n5 CP-OFDM

20MHz	 QPSK Mid channel	 16QAM Mid channel
15MHz	 QPSK Mid channel	 16QAM Mid channel
10MHz	 QPSK Mid channel	 16QAM Mid channel
5MHz	 QPSK Mid channel	 16QAM Mid channel

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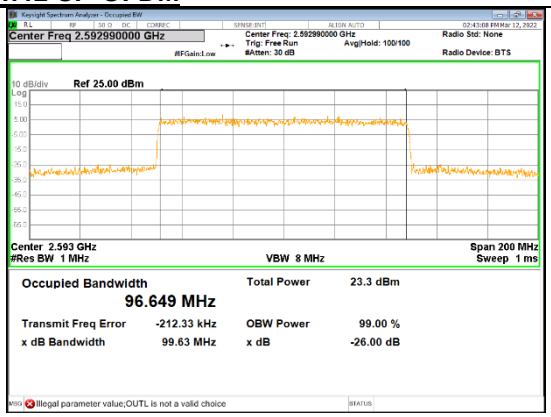
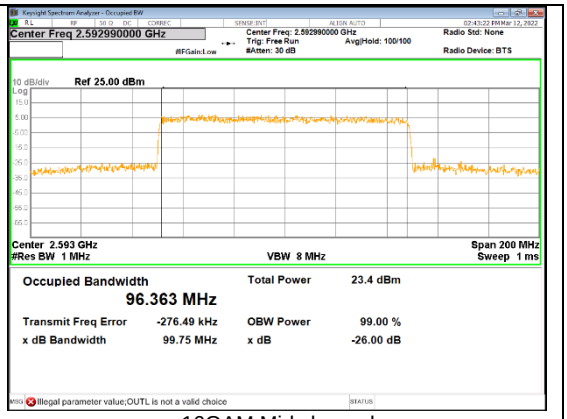
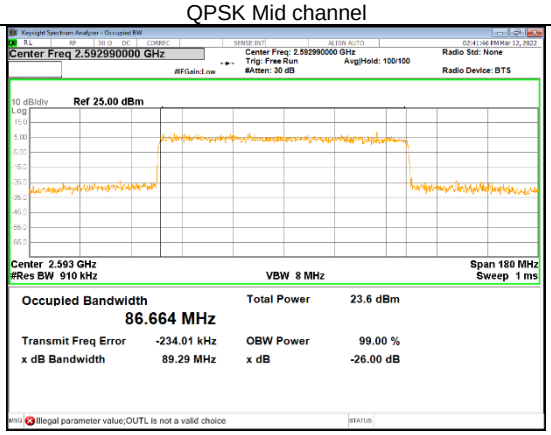
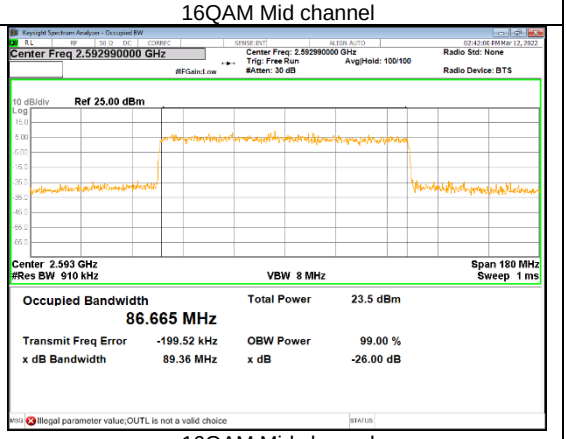
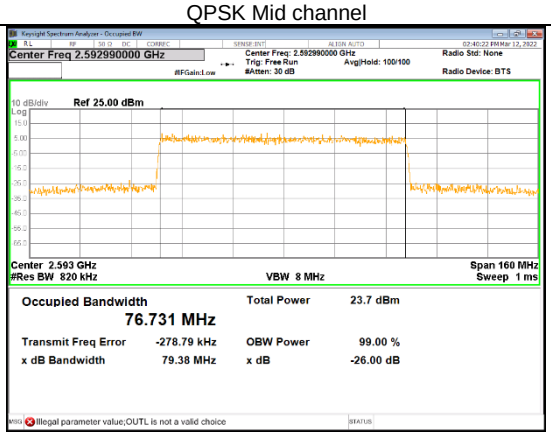
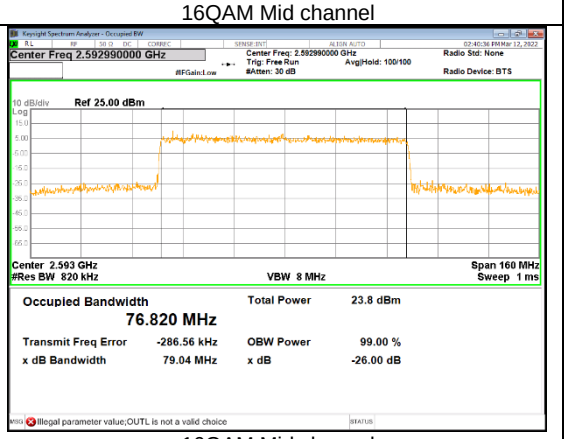
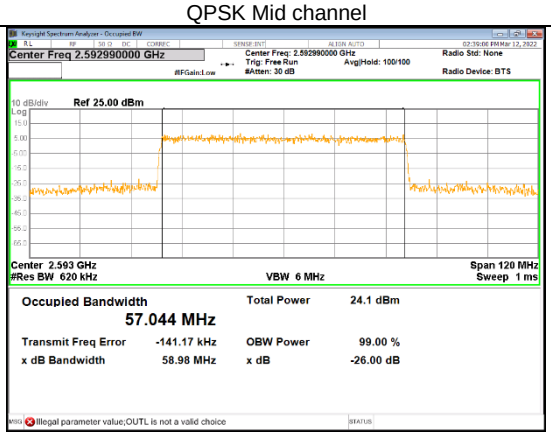
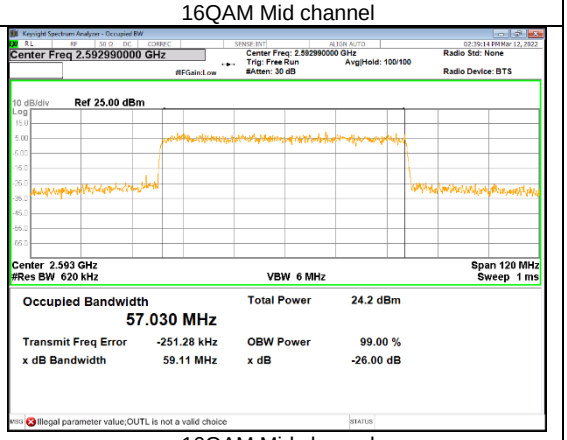
NR Band n41 CP-OFDM

100 MHz	 QPSK Mid channel	 16QAM Mid channel
90 MHz	 QPSK Mid channel	 16QAM Mid channel
80 MHz	 QPSK Mid channel	 16QAM Mid channel
60 MHz	 QPSK Mid channel	 16QAM Mid channel

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