LTE Band / BW	Modulation	RB Sizet	RB Offset	Low CH	Mid CH	High CH
				131997CH	132322CH	132647CH
				1712.5MHz	1745MHz	1777.5MHz
66 / 5M	QPSK	1	0	25.50	25.43	25.38
		1	13	25.41	25.44	25.39
		1	24	25.40	25.35	25.24
		12	0	24.25	24.39	24.21
		12	6	24.35	24.39	24.26
		12	11	24.25	24.29	24.16
		25	0	24.34	24.34	24.11
	16QAM	1	0	24.53	24.90	24.48
		1	13	24.47	24.94	24.43
		1	24	24.52	24.81	24.32
		12	0	23.36	23.51	23.27
		12	6	23.45	23.46	23.33
		12	11	23.33	23.41	23.25
		25	0	23.34	23.41	23.12
	64QAM	1	0	23.33	23.75	23.58
		1	13	23.33	23.77	23.59
		1	24	23.34	23.60	23.45
		12	0	22.39	22.36	22.26
		12	6	22.46	22.35	22.35
		12	11	22.33	22.28	22.27
		25	0	22.39	22.36	22.16

LTE Band / BW	Modulation	RB Sizet	RB Offset	Low CH	Mid CH	High CH
				132022CH	132322CH	132622CH
				1715MHz	1745MHz	1775MHz
66 / 10M	QPSK	1	0	25.53	25.63	25.41
		1	25	25.44	25.45	25.20
		1	49	25.50	25.27	25.22
		25	0	24.56	24.50	24.33
		25	13	24.50	24.41	24.28
		25	25	24.57	24.29	24.15
		50	0	24.49	24.40	24.30
	16QAM	1	0	24.61	24.93	24.42
		1	25	24.34	24.72	24.21
		1	49	24.41	24.58	24.23
		25	0	23.51	23.50	23.37
		25	13	23.51	23.42	23.34
		25	25	23.54	23.33	23.21
		50	0	23.46	23.44	23.32
	64QAM	1	0	23.93	23.69	23.60
		1	25	23.74	23.50	23.39
		1	49	23.77	23.38	23.39
		25	0	22.55	22.58	22.38
		25	13	22.54	22.52	22.33
		25	25	22.59	22.40	22.23
		50	0	22.51	22.49	22.28

LTE Band / BW	Modulation	RB Sizet	RB Offset	Low CH	Mid CH	High CH
				132047CH	132322CH	132597CH
				1717.5MHz	1745MHz	1772.5MHz
66 / 15M	QPSK	1	0	25.82	25.98	26.02
		1	38	25.31	25.52	25.34
		1	74	25.55	25.63	25.60
		36	0	24.56	24.66	24.54
		36	18	24.43	24.46	24.34
		36	39	24.34	24.39	24.35
		75	0	24.39	24.55	24.41
	16QAM	1	0	24.62	25.30	25.42
		1	38	24.14	24.81	24.74
		1	74	24.38	24.93	24.89
		36	0	23.55	23.71	23.47
		36	18	23.41	23.49	23.32
		36	39	23.35	23.45	23.27
		75	0	23.41	23.59	23.38
	64QAM	1	0	23.95	23.99	24.38
		1	38	23.38	23.48	23.74
		1	74	23.67	23.63	23.97
		36	0	22.60	22.77	22.50
		36	18	22.47	22.55	22.33
		36	39	22.38	22.47	22.33
		75	0	22.46	22.58	22.44

LTE Band / BW	Modulation	RB Sizet	RB Offset	Low CH	Mid CH	High CH
				132072CH	132322CH	132572CH
				1720MHz	1745MHz	1770MHz
66 / 20M	QPSK	1	0	26.29	26.20	26.22
		1	50	25.44	25.43	25.27
		1	99	25.86	25.71	25.61
		50	0	24.72	24.65	24.65
		50	25	24.52	24.45	24.32
		50	50	24.56	24.47	24.34
		100	0	24.59	24.74	24.54
	16QAM	1	0	25.80	25.51	25.48
		1	50	24.90	24.72	24.58
		1	99	25.37	25.02	24.94
		50	0	23.69	23.66	23.62
		50	25	23.50	23.43	23.31
		50	50	23.50	23.40	23.34
		100	0	23.58	23.62	23.53
	64QAM	1	0	24.61	24.87	24.34
		1	50	23.70	24.07	23.54
		1	99	24.16	24.21	23.82
		50	0	22.75	22.67	22.67
		50	25	22.63	22.45	22.36
		50	50	22.64	22.48	22.44
		100	0	22.64	22.68	22.57

ERP (dBm):

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				23017CH	23095CH	23173CH
				699.7MHz	707.5MHz	715.3MHz
12 / 1.4M	QPSK	1	0	23.48	23.41	23.51
		1	2	23.56	23.52	23.63
		1	5	23.52	23.46	23.57
		3	0	23.56	23.49	23.47
		3	1	23.59	23.51	23.56
		3	2	23.55	23.50	23.48
		6	0	22.53	22.54	22.47
	16QAM	1	0	22.81	22.50	22.55
		1	2	22.92	22.58	22.66
		1	5	22.86	22.52	22.65
		3	0	22.68	22.63	22.54
		3	1	22.74	22.67	22.66
		3	2	22.69	22.64	22.59
		6	0	21.53	21.71	21.64
	64QAM	1	0	21.63	21.92	21.65
		1	2	21.73	22.02	21.76
		1	5	21.68	21.89	21.71
		3	0	21.70	21.85	21.70
		3	1	21.73	21.88	21.76
		3	2	21.75	21.88	21.69
		6	0	20.84	20.56	20.79

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				23025CH	23095CH	23165CH
				700.5MHz	707.5MHz	714.5MHz
12 / 3M	QPSK	1	0	23.50	23.48	23.64
		1	7	23.70	23.64	23.71
		1	14	23.61	23.56	23.59
		8	0	22.65	22.58	22.75
		8	4	22.71	22.61	22.75
		8	7	22.67	22.60	22.59
		15	0	22.66	22.61	22.73
	16QAM	1	0	22.40	22.81	22.71
		1	7	22.57	22.97	22.77
		1	14	22.45	22.87	22.63
		8	0	21.73	21.69	21.79
		8	4	21.79	21.71	21.78
		8	7	21.74	21.69	21.63
		15	0	21.68	21.64	21.64
	64QAM	1	0	21.84	21.60	21.91
		1	7	22.02	21.78	21.97
		1	14	21.91	21.67	21.81
		8	0	20.68	20.62	20.71
		8	4	20.78	20.69	20.72
		8	7	20.70	20.64	20.53
		15	0	20.67	20.65	20.76

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				23035CH	23095CH	23155CH
				701.5MHz	707.5MHz	713.5MHz
12 / 5M	QPSK	1	0	23.64	23.50	23.63
		1	13	23.80	23.64	23.87
		1	24	23.72	23.62	23.68
		12	0	22.64	22.53	22.62
		12	6	22.69	22.65	22.78
		12	11	22.63	22.60	22.76
		25	0	22.63	22.62	22.59
	16QAM	1	0	22.69	23.04	22.73
		1	13	22.85	23.13	22.92
		1	24	22.77	23.15	22.72
		12	0	21.72	21.68	21.67
		12	6	21.79	21.75	21.80
		12	11	21.73	21.76	21.77
		25	0	21.70	21.69	21.60
	64QAM	1	0	21.54	21.88	21.86
		1	13	21.72	21.95	22.07
		1	24	21.64	21.90	21.90
		12	0	20.73	20.51	20.69
		12	6	20.75	20.58	20.80
		12	11	20.70	20.57	20.84
		25	0	20.65	20.61	20.63

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				23060CH	23095CH	23130CH
				704MHz	707.5MHz	711MHz
12 / 10M	QPSK	1	0	23.46	23.58	23.47
		1	25	23.62	23.57	23.59
		1	49	23.47	23.48	23.43
		25	0	22.67	22.61	22.66
		25	13	22.63	22.66	22.70
		25	25	22.59	22.65	22.69
		50	0	22.61	22.71	22.63
	16QAM	1	0	22.40	22.89	22.86
		1	25	22.53	22.88	22.99
		1	49	22.35	22.86	22.86
		25	0	21.60	21.63	21.69
		25	13	21.63	21.68	21.73
		25	25	21.57	21.68	21.66
		50	0	21.56	21.70	21.67
	64QAM	1	0	21.78	21.70	21.69
		1	25	21.91	21.75	21.82
		1	49	21.77	21.66	21.66
		25	0	20.61	20.67	20.76
		25	13	20.65	20.76	20.83
		25	25	20.57	20.75	20.76
		50	0	20.62	20.72	20.70

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				CH23205	CH23230	CH23255
				779.5MHz	782MHz	784.5MHz
13 / 5M	QPSK	1	0	23.72	23.61	23.66
		1	13	23.86	23.71	23.83
		1	24	23.88	23.76	23.81
		12	0	22.77	22.69	22.77
		12	6	22.79	22.80	22.85
		12	11	22.65	22.76	22.68
		25	0	22.76	22.75	22.75
	16QAM	1	0	23.20	22.73	23.11
		1	13	23.24	22.84	23.25
		1	24	23.26	22.85	23.26
		12	0	21.86	21.73	21.95
		12	6	21.94	21.82	21.90
		12	11	21.85	21.79	21.77
		25	0	21.79	21.69	21.73
	64QAM	1	0	21.99	21.92	21.60
		1	13	22.07	21.99	21.75
		1	24	22.03	22.04	21.76
		12	0	20.67	20.75	20.80
		12	6	20.75	20.83	20.90
		12	11	20.58	20.82	20.79
		25	0	20.65	20.74	20.78

LTE Band / BW	Modulation	RB Size	RB Offset	Mid CH
				CH23230
				782MHz
13 / 10M	QPSK	1	0	23.46
		1	25	23.63
		1	49	23.62
		25	0	22.75
		25	13	22.78
		25	25	22.76
		50	0	22.76
	16QAM	1	0	22.41
		1	25	22.64
		1	49	22.60
		25	0	21.85
		25	13	21.88
		25	25	21.88
		50	0	21.75
	64QAM	1	0	21.87
		1	25	22.00
		1	49	21.96
		25	0	20.72
		25	13	20.79
		25	25	20.78
		50	0	20.71

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				23755CH	23790CH	23825CH
				706.5MHz	710MHz	713.5MHz
17 / 5M	QPSK	1	0	23.62	23.64	23.66
		1	13	23.75	23.71	23.87
		1	24	23.65	23.71	23.67
		12	0	22.62	22.64	22.69
		12	6	22.68	22.65	22.67
		12	11	22.66	22.59	22.66
		25	0	22.71	22.63	22.73
	16QAM	1	0	22.80	23.11	22.72
		1	13	22.90	23.16	22.85
		1	24	22.79	23.17	22.68
		12	0	21.73	21.80	21.76
		12	6	21.79	21.80	21.78
		12	11	21.72	21.78	21.72
		25	0	21.72	21.69	21.69
	64QAM	1	0	21.93	21.61	21.89
		1	13	22.02	21.64	22.10
		1	24	21.92	21.62	21.85
		12	0	20.69	20.73	20.64
		12	6	20.74	20.70	20.68
		12	11	20.73	20.65	20.62
		25	0	20.70	20.62	20.71

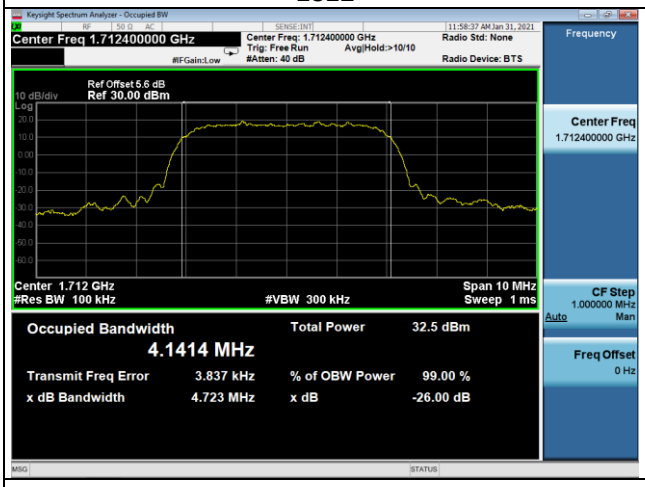
LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				23780CH	23790CH	23800CH
				709MHz	710MHz	711MHz
17 / 10M	QPSK	1	0	23.62	23.42	23.55
		1	25	23.57	23.58	23.57
		1	49	23.48	23.49	23.46
		25	0	22.70	22.63	22.67
		25	13	22.67	22.67	22.71
		25	25	22.69	22.64	22.71
		50	0	22.67	22.65	22.64
	16QAM	1	0	22.53	22.78	22.57
		1	25	22.51	22.89	22.63
		1	49	22.40	22.82	22.45
		25	0	21.69	21.65	21.70
		25	13	21.67	21.68	21.76
		25	25	21.65	21.65	21.77
		50	0	21.66	21.63	21.64
	64QAM	1	0	21.91	21.63	21.79
		1	25	21.94	21.74	21.82
		1	49	21.79	21.67	21.61
		25	0	20.71	20.72	20.75
		25	13	20.72	20.78	20.82
		25	25	20.66	20.72	20.83
		50	0	20.70	20.68	20.68

APPENDIX B - OCCUPIED BANDWIDTH

WCDMA Band IV_WCDMA					
QPSK					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
1312	1712.4	4.1414	1312	1712.4	4.723
1413	1732.6	4.1314	1413	1732.6	4.723
1513	1752.6	4.1415	1513	1752.6	4.729

Spectrum Plot

1312



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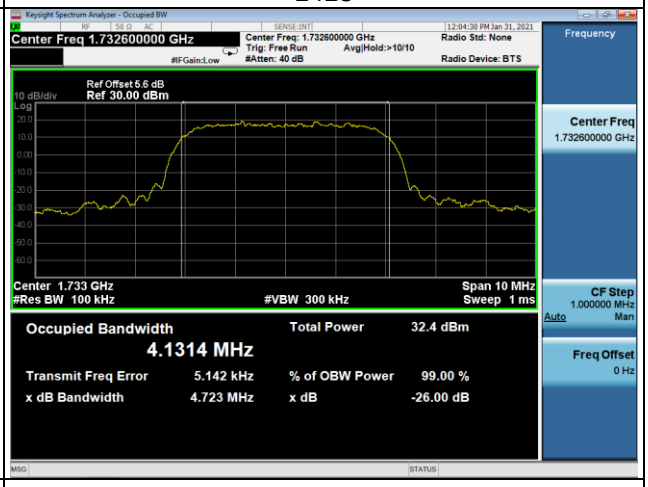

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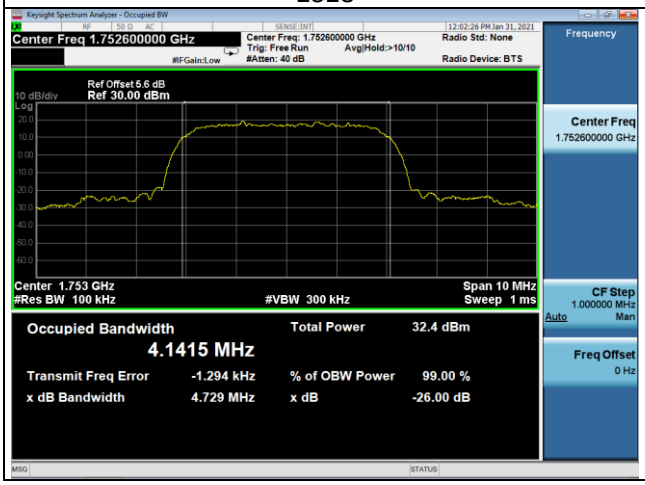

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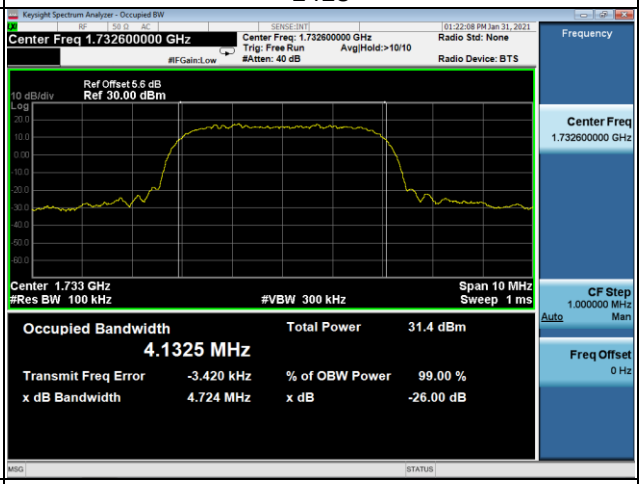
WCDMA Band IV_HSDPA					
QPSK					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
1312	1712.4	4.1289	1312	1712.4	4.727
1413	1732.6	4.1325	1413	1732.6	4.724
1513	1752.6	4.1313	1513	1752.6	4.738

Spectrum Plot

1312

1413



1513

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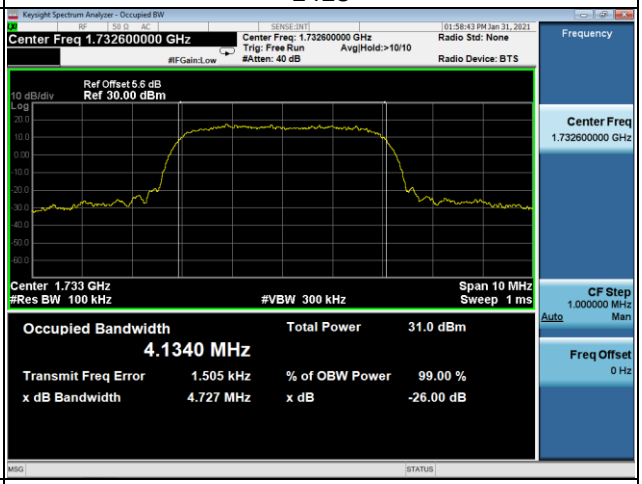
WCDMA Band IV_HSUPA					
QPSK					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
1312	1712.4	4.1427	1312	1712.4	4.747
1413	1732.6	4.1340	1413	1732.6	4.727
1513	1752.6	4.1316	1513	1752.6	4.745

Spectrum Plot

1312

1413



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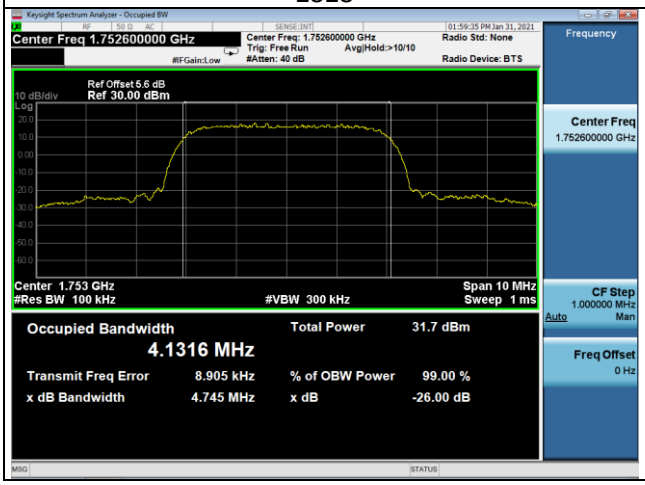

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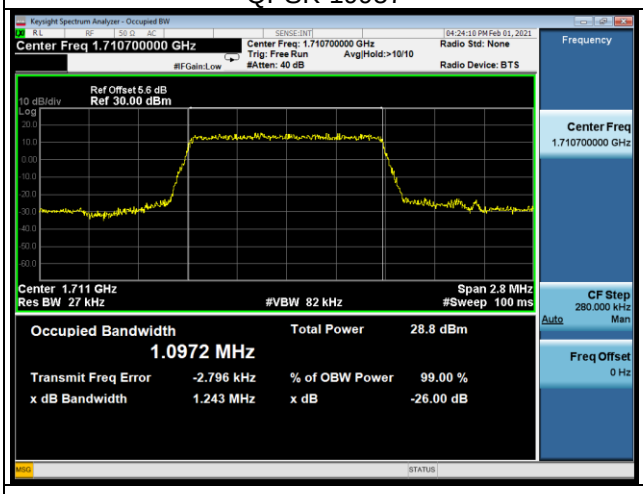
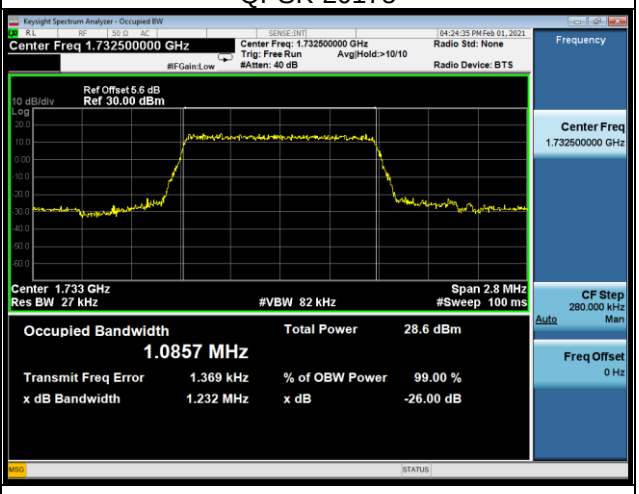
LTE Band 4_1.4M					
QPSK					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
19957	1710.7	1.0972	19957	1710.7	1.243
20175	1732.5	1.0857	20175	1732.5	1.232
20393	1754.3	1.0902	20393	1754.3	1.227
16QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
19957	1710.7	1.0858	19957	1710.7	1.230
20175	1732.5	1.0902	20175	1732.5	1.238
20393	1754.3	1.0911	20393	1754.3	1.232
64QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
19957	1710.7	1.0897	19957	1710.7	1.246
20175	1732.5	1.0841	20175	1732.5	1.224
20393	1754.3	1.0823	20393	1754.3	1.219

Spectrum Plot

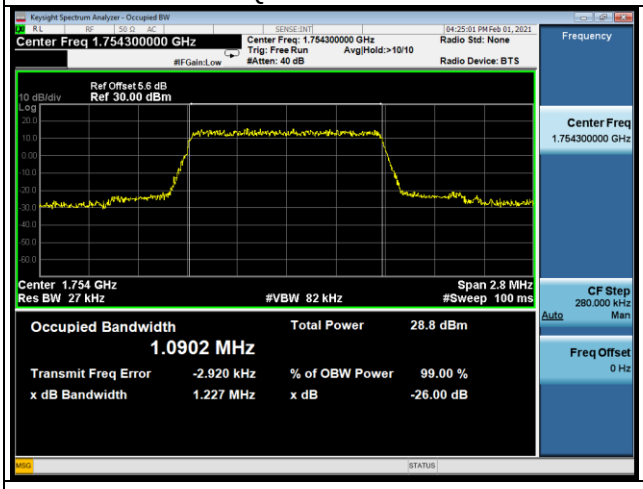
QPSK-19957



QPSK-20175



QPSK-20393



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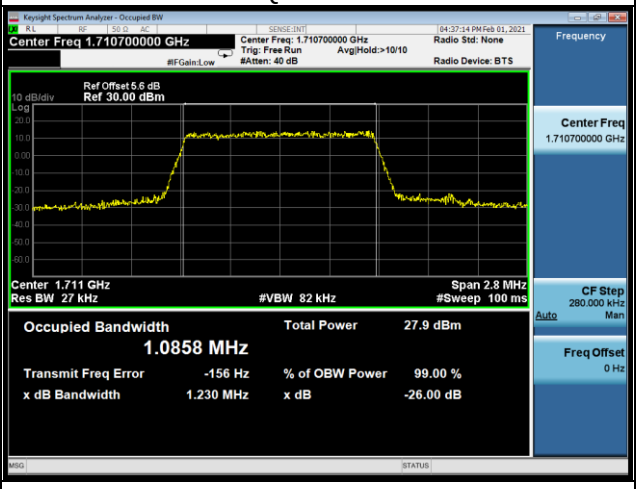
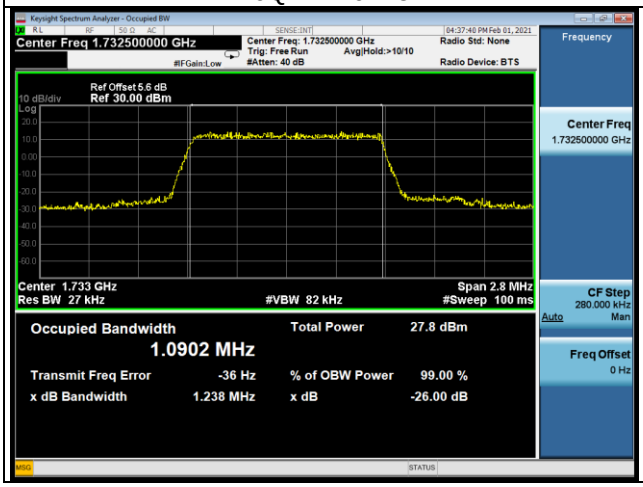
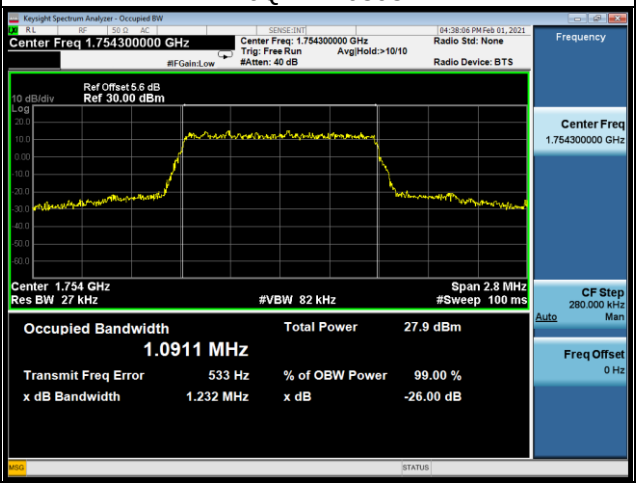
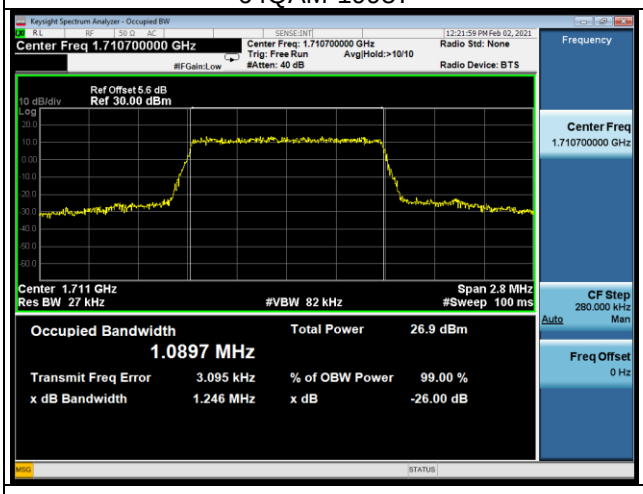
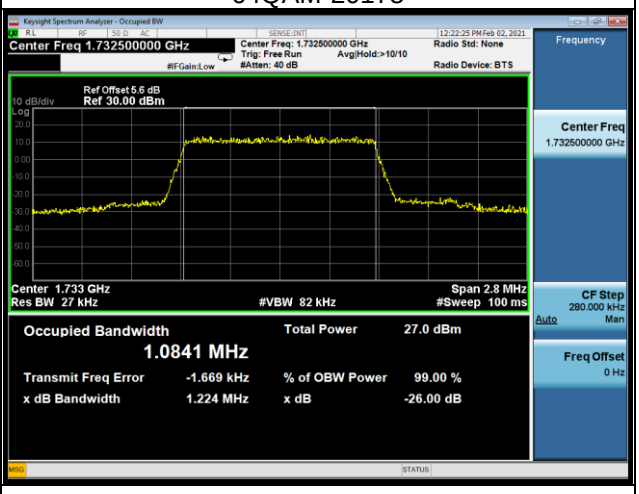
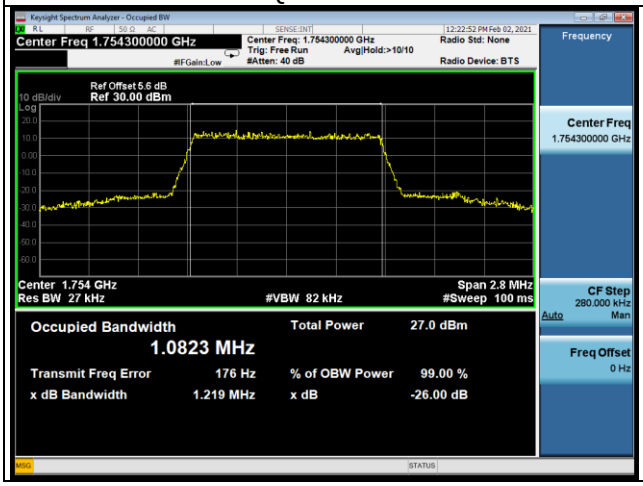


16QAM-20175



16QAM-20393

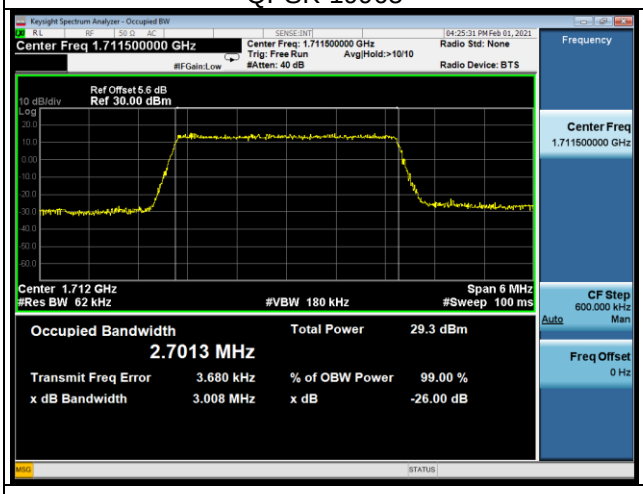


Spectrum Plot	
64QAM-19957	64QAM-20175
	
64QAM-20393	-
	-

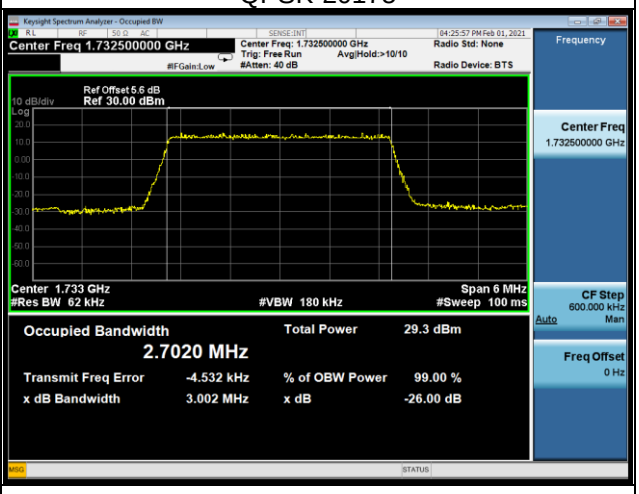
LTE Band 4_3M					
QPSK					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
19965	1711.5	2.7013	19965	1711.5	3.008
20175	1732.5	2.7020	20175	1732.5	3.002
20385	1753.5	2.6978	20385	1753.5	2.986
16QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
19965	1711.5	2.7002	19965	1711.5	3.003
20175	1732.5	2.7003	20175	1732.5	2.989
20385	1753.5	2.6948	20385	1753.5	2.995
64QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
19965	1711.5	2.7015	19965	1711.5	2.997
20175	1732.5	2.7011	20175	1732.5	2.997
20385	1753.5	2.6971	20385	1753.5	3.002

Spectrum Plot

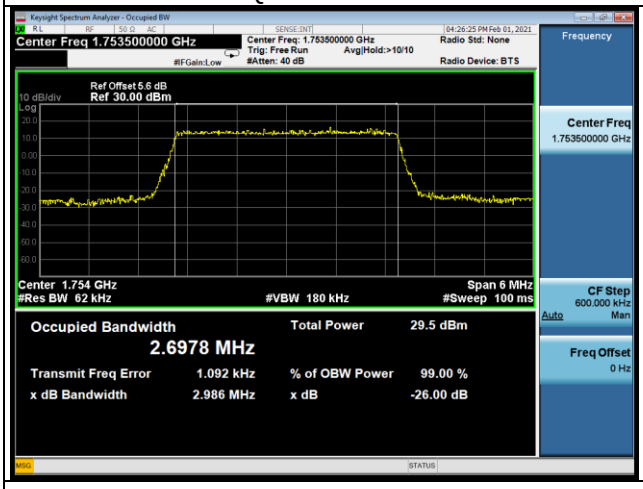
QPSK-19965



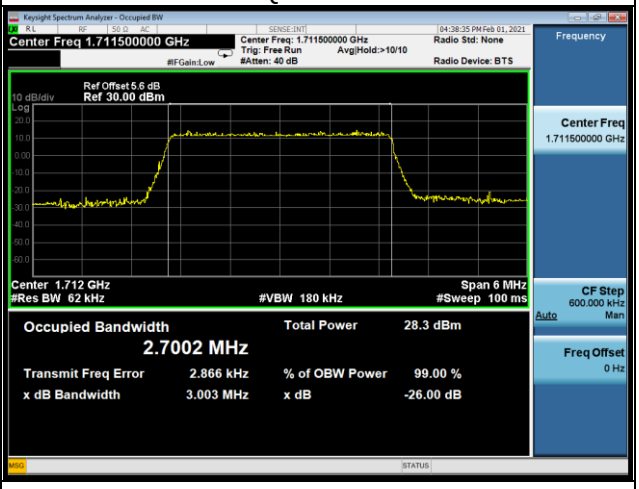
QPSK-20175



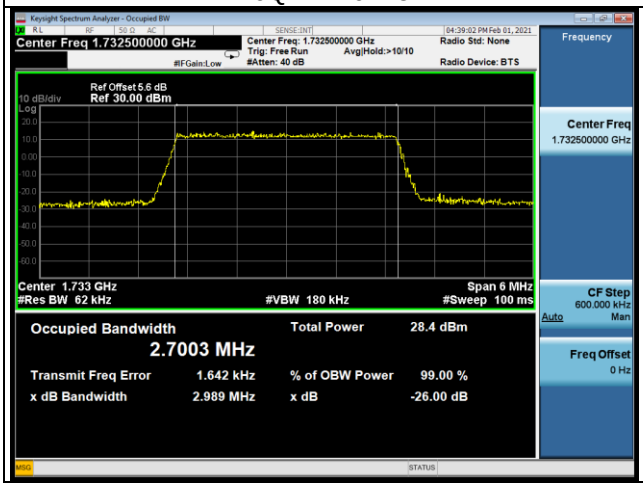
QPSK-20385



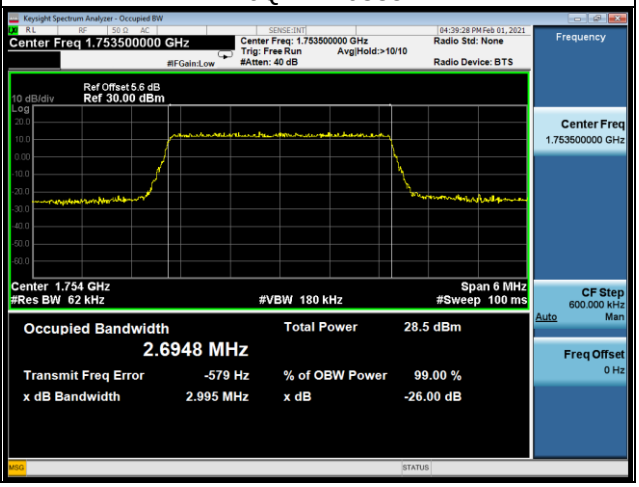
16QAM-19965

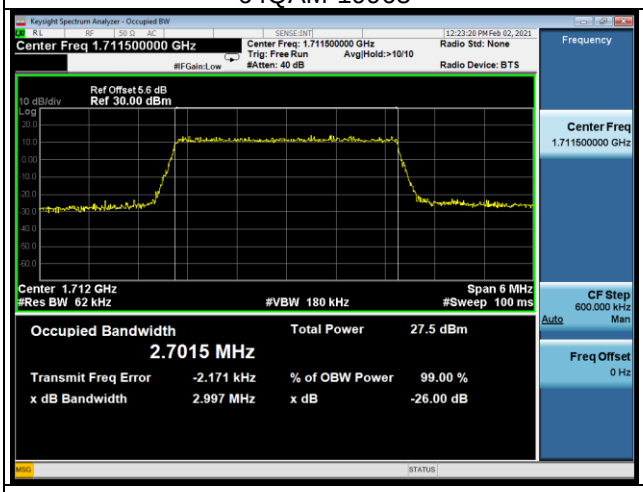
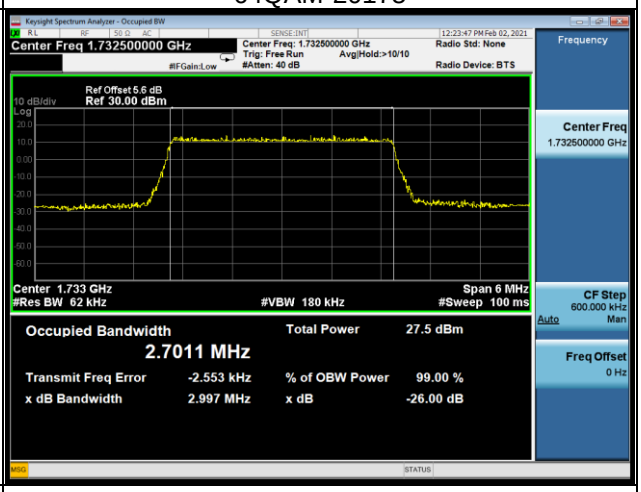


16QAM-20175



16QAM-20385



Spectrum Plot	
64QAM-19965	64QAM-20175
	
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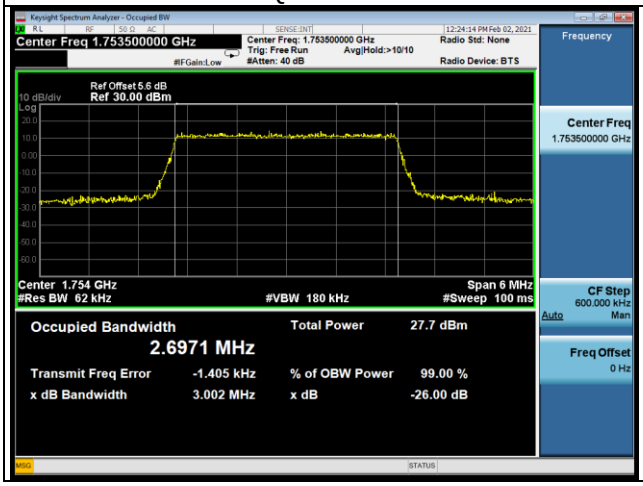
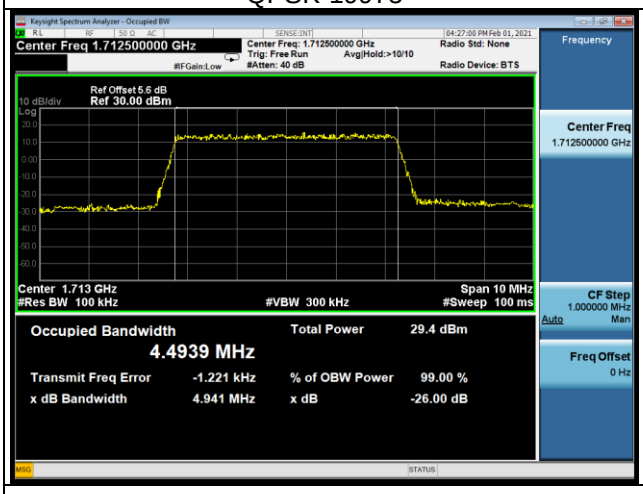
	-

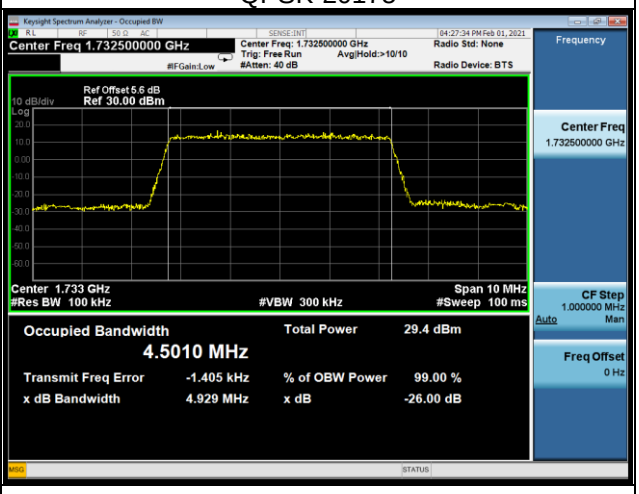
LTE Band 4_5M					
QPSK					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
19975	1712.5	4.4939	19975	1712.5	4.941
20175	1732.5	4.5010	20175	1732.5	4.929
20375	1752.5	4.5077	20375	1752.5	4.921
16QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
19975	1712.5	4.5000	19975	1712.5	4.985
20175	1732.5	4.4967	20175	1732.5	4.968
20375	1752.5	4.4933	20375	1752.5	4.915
64QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
19975	1712.5	4.5064	19975	1712.5	4.987
20175	1732.5	4.5039	20175	1732.5	4.933
20375	1752.5	4.5042	20375	1752.5	4.968

Spectrum Plot

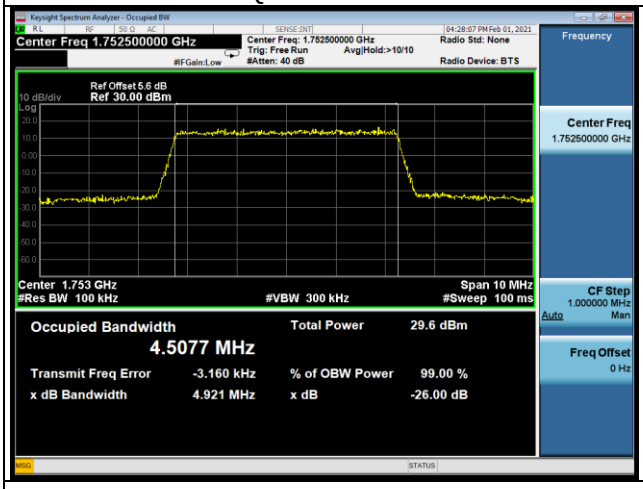
QPSK-19975



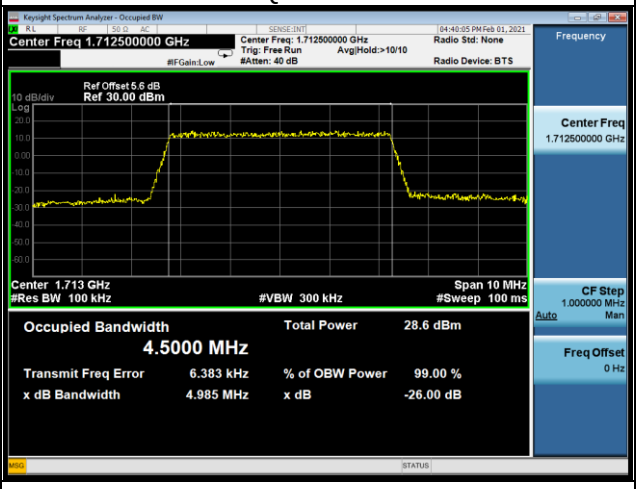
QPSK-20175



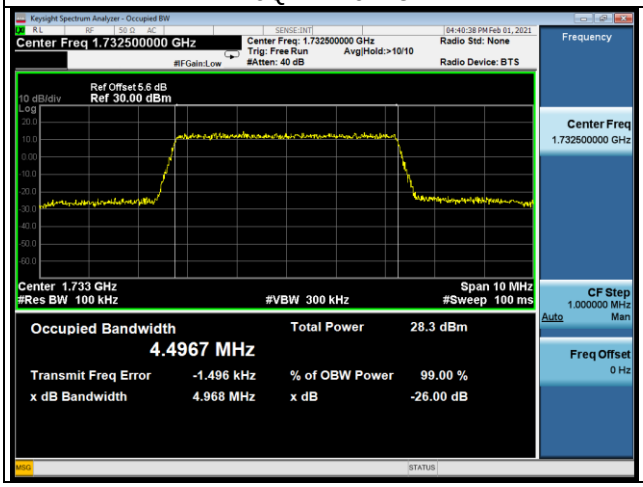
QPSK-20375



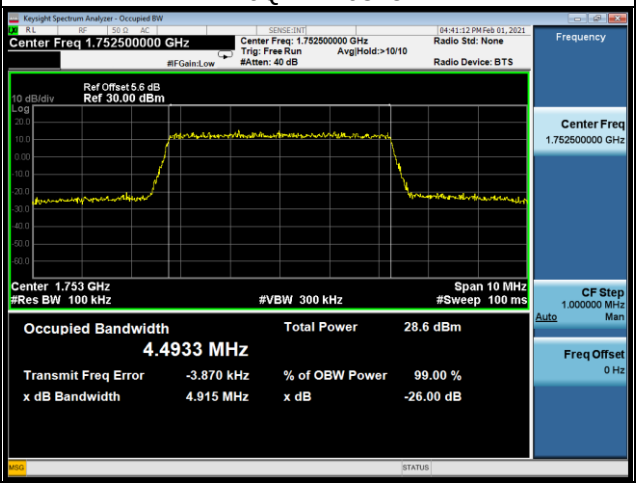
16QAM-19975

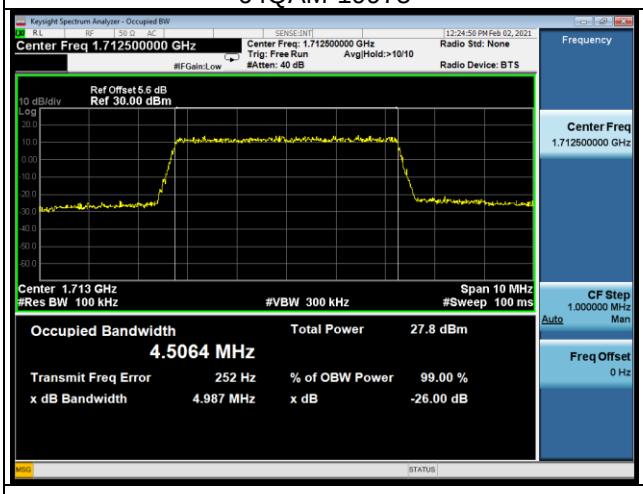
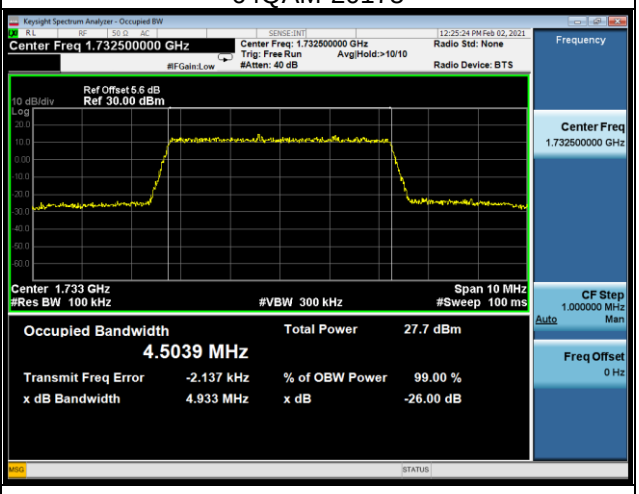
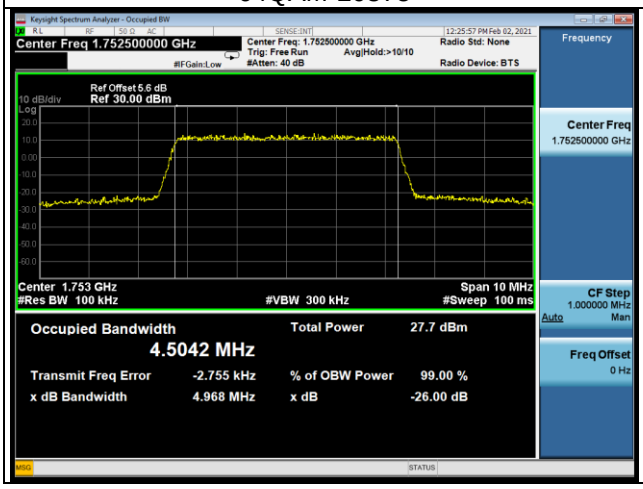


16QAM-20175

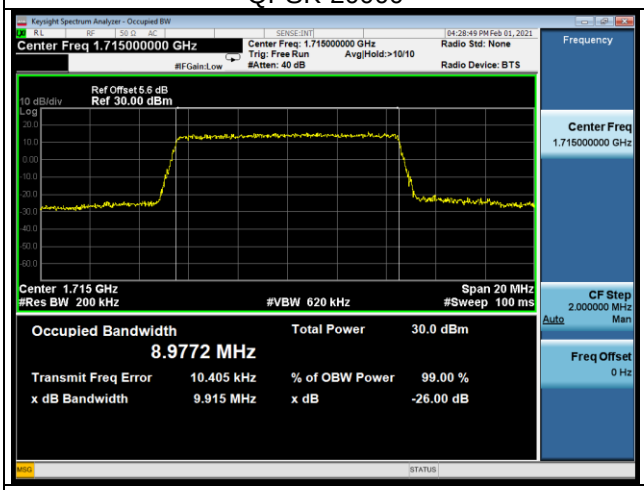
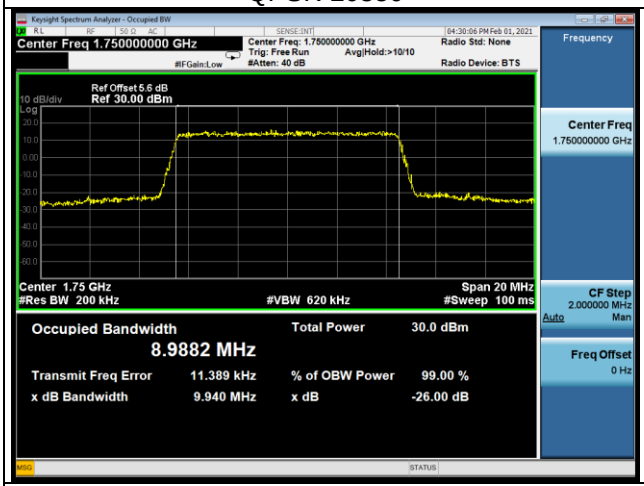
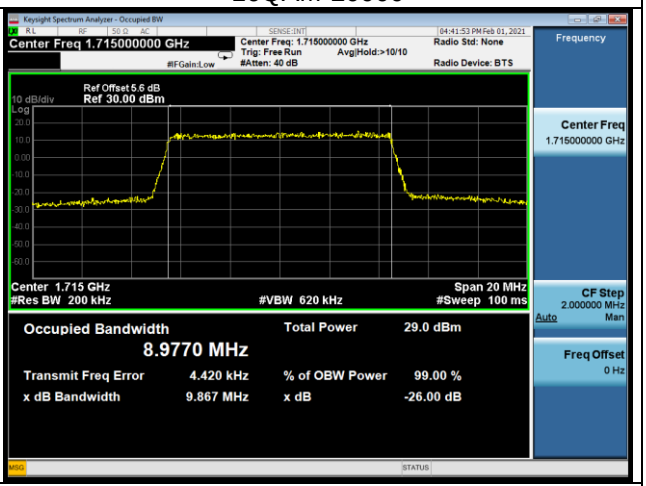
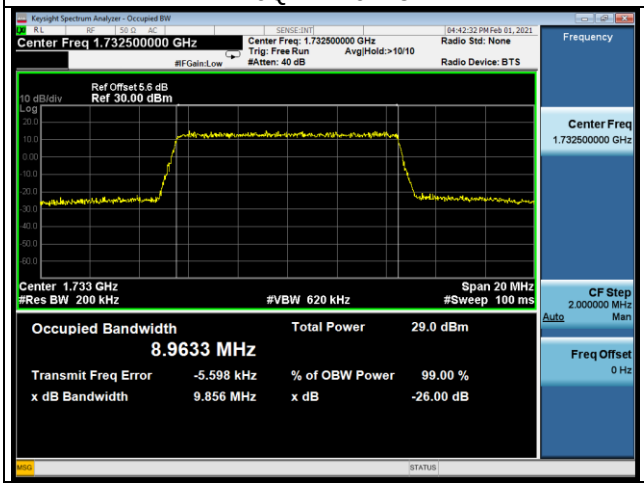
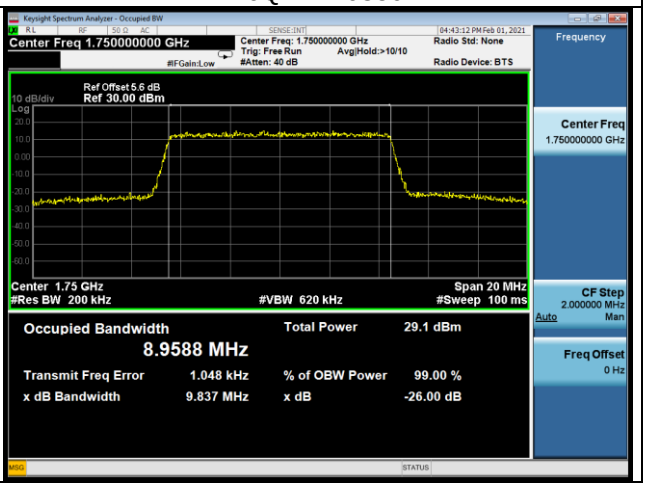


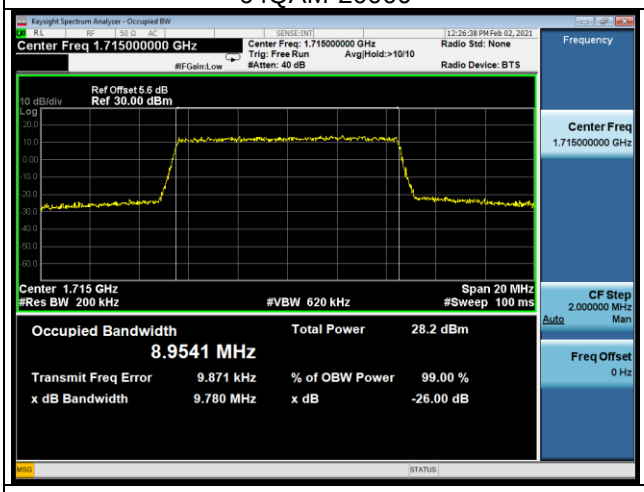
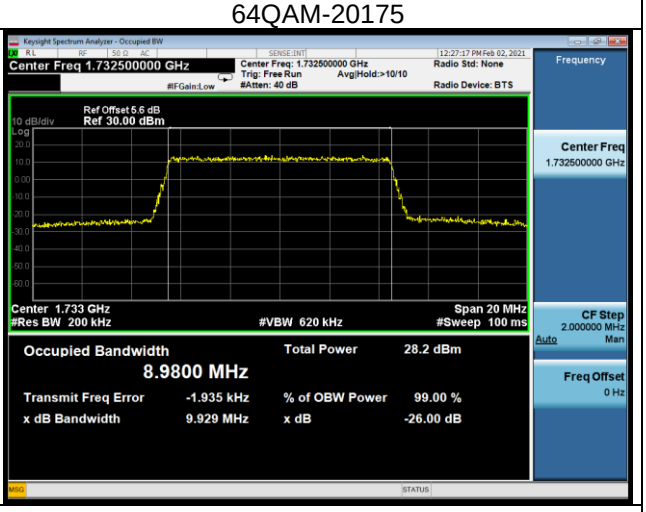
16QAM-20375



Spectrum Plot	
64QAM-19975	64QAM-20175
	
64QAM-20375	-
	-

LTE Band 4_10M					
QPSK					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
20000	1715	8.9772	20000	1715	9.915
20175	1732.5	8.9681	20175	1732.5	9.852
20350	1750	8.9882	20350	1750	9.940
16QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
20000	1715	8.9770	20000	1715	9.867
20175	1732.5	8.9633	20175	1732.5	9.856
20350	1750	8.9588	20350	1750	9.837
64QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
20000	1715	8.9541	20000	1715	9.780
20175	1732.5	8.9800	20175	1732.5	9.929
20350	1750	8.9669	20350	1750	9.849

Spectrum Plot	
QPSK-20000	QPSK-20175
	
QPSK-20350	16QAM-20000
	
16QAM-20175	16QAM-20350
	

Spectrum Plot	
64QAM-20000	64QAM-20175
	
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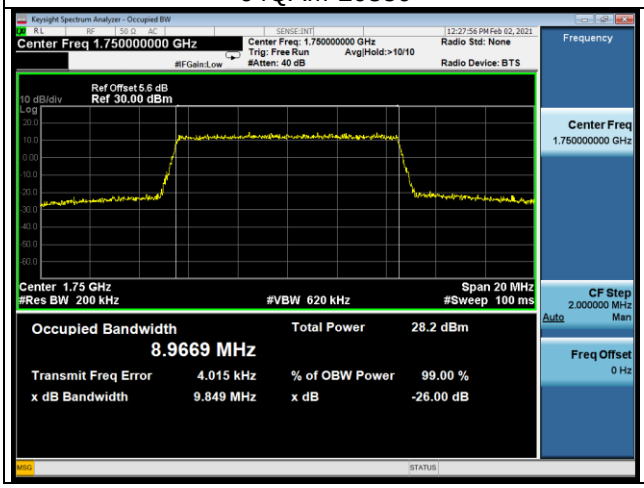
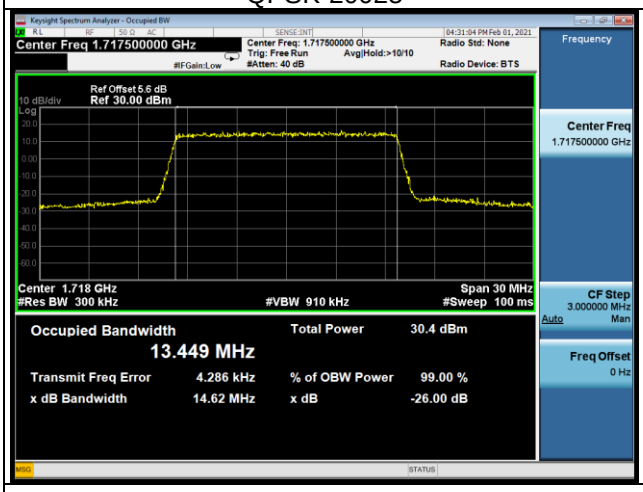
	-

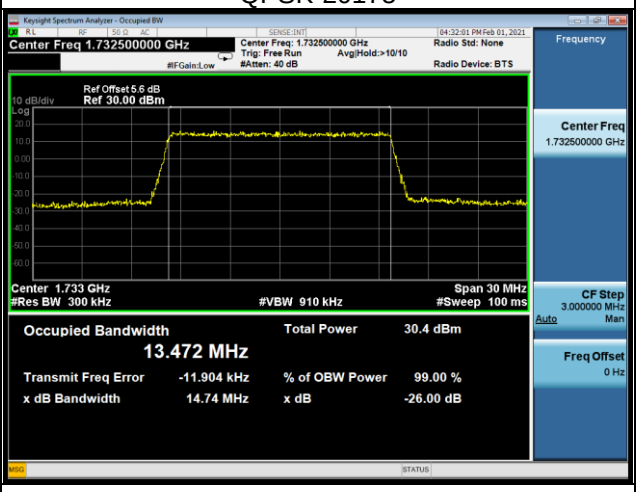
LTE Band 4_15M					
QPSK					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
20025	1717.5	13.449	20025	1717.5	14.62
20175	1732.5	13.472	20175	1732.5	14.74
20325	1747.5	13.445	20325	1747.5	14.78
16QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
20025	1717.5	13.434	20025	1717.5	14.62
20175	1732.5	13.478	20175	1732.5	14.66
20325	1747.5	13.446	20325	1747.5	14.59
64QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
20025	1717.5	13.447	20025	1717.5	14.61
20175	1732.5	13.467	20175	1732.5	14.70
20325	1747.5	13.475	20325	1747.5	14.59

Spectrum Plot

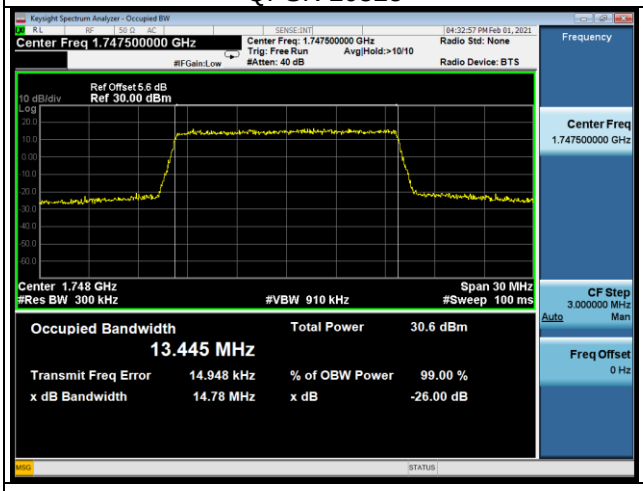
QPSK-20025



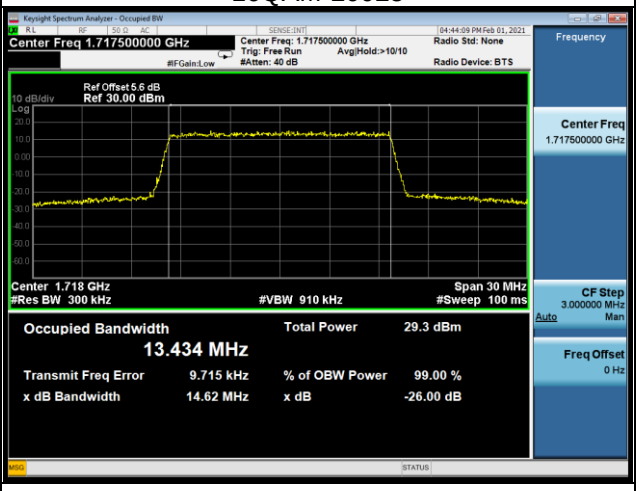
QPSK-20175



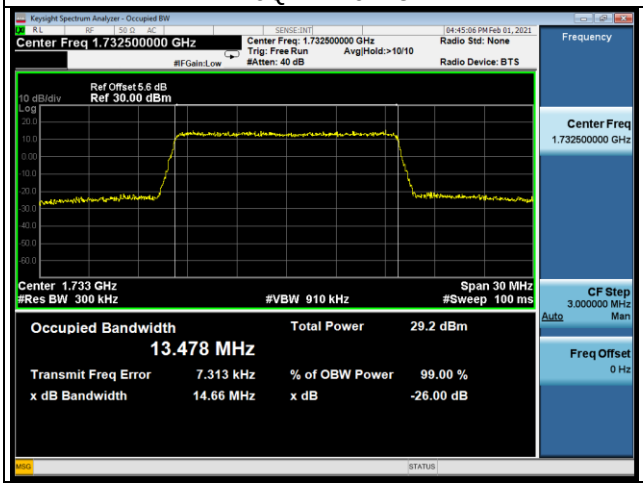
QPSK-20325



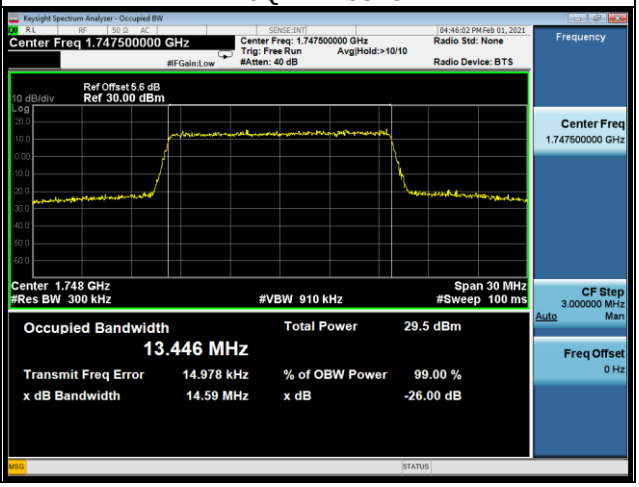
16QAM-20025

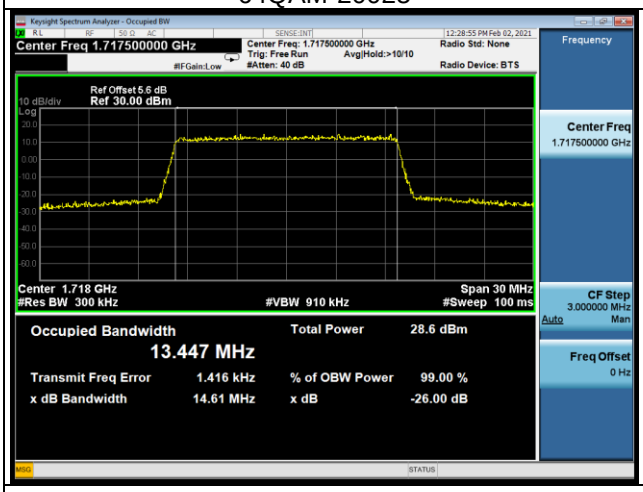
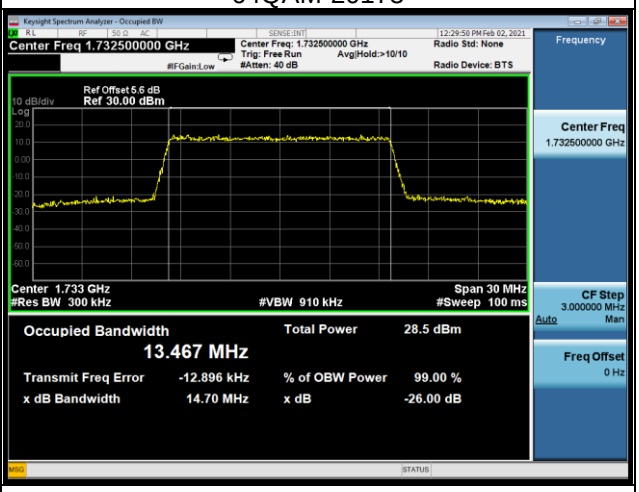
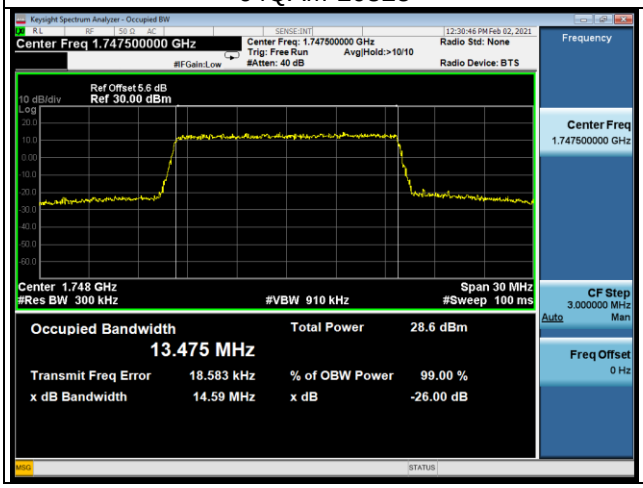


16QAM-20175



16QAM-20325



Spectrum Plot	
64QAM-20025	64QAM-20175
	
64QAM-20325	-
	-