

Figure 195: 256QAM 50MHz B.W.; 1962.5MHz, 15kHz

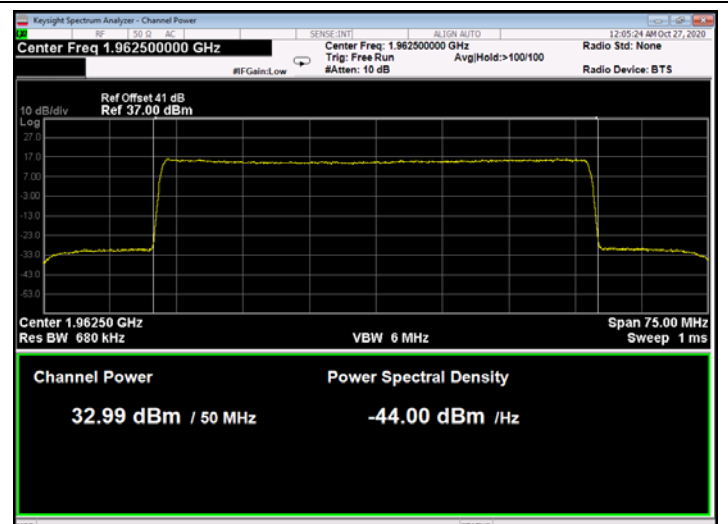


Figure 196: 256QAM 50MHz B.W.; 1962.5MHz, 30kHz

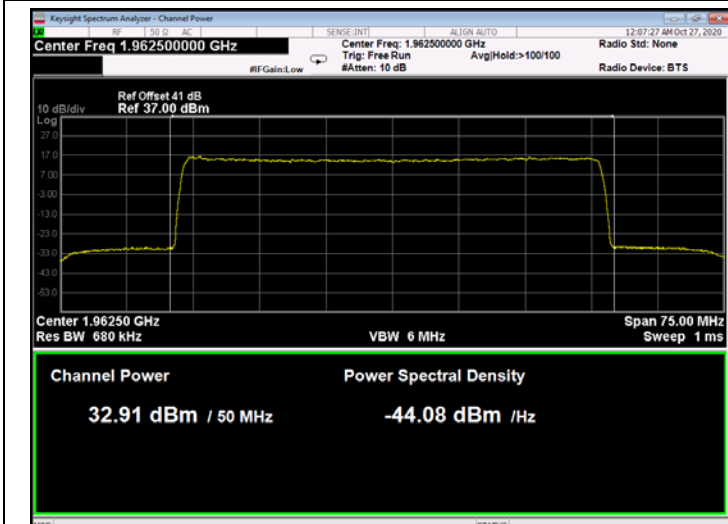


Figure 197: 256QAM 50MHz B.W.; 1962.5MHz, 60kHz

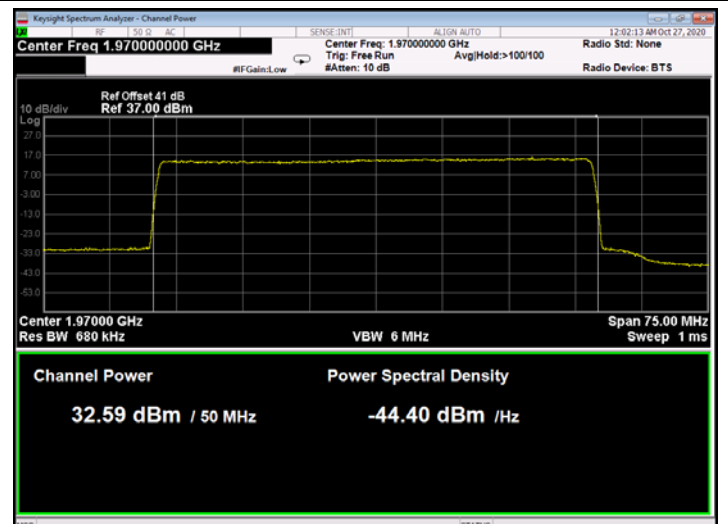


Figure 198: 256QAM 50MHz B.W.; 1970.0MHz, 15kHz

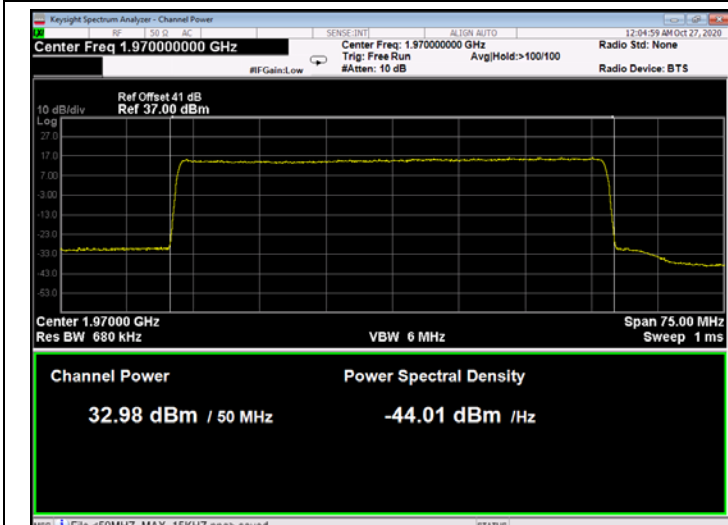


Figure 199: 256QAM 50MHz B.W.; 1970.0MHz, 30kHz

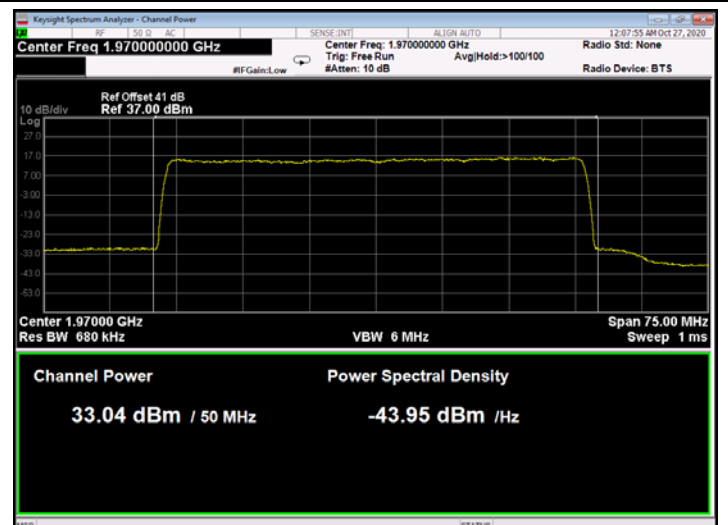


Figure 200: 256QAM 50MHz B.W.; 1970.0MHz, 60kHz

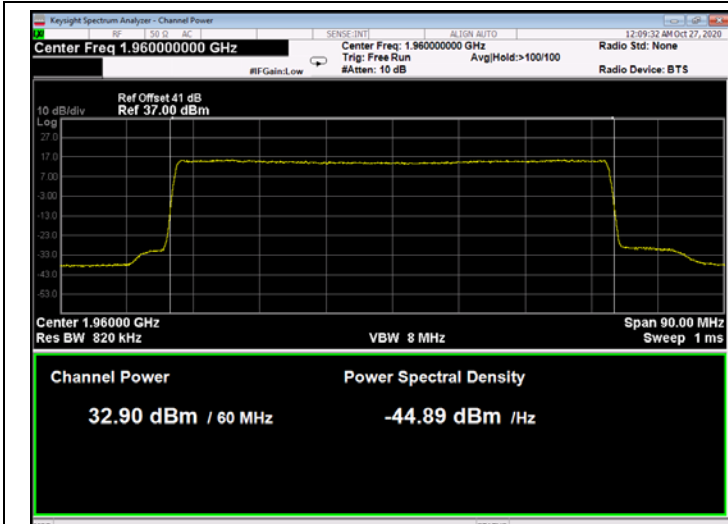


Figure 201: 256QAM 60MHz B.W.; 1960.0MHz, 30kHz

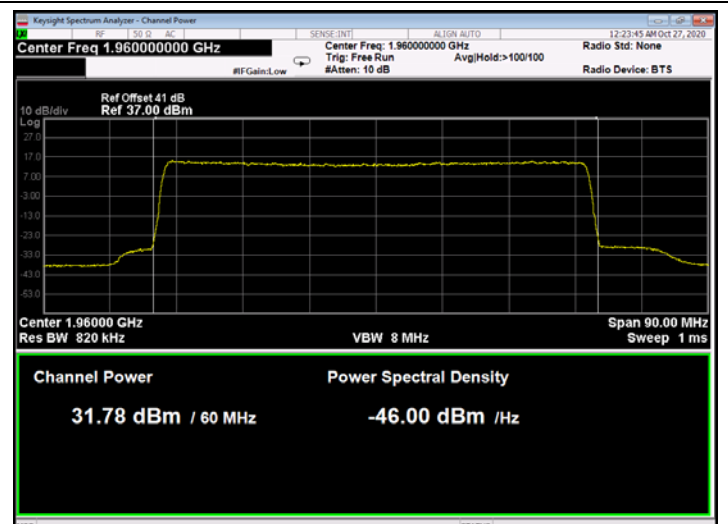


Figure 202: 256QAM 60MHz B.W.; 1960.0MHz, 60kHz

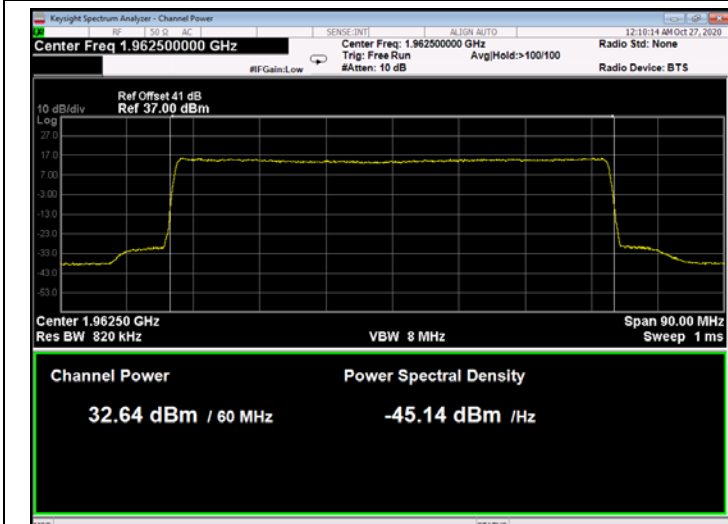


Figure 203: 256QAM 60MHz B.W.; 1962.5MHz, 30kHz

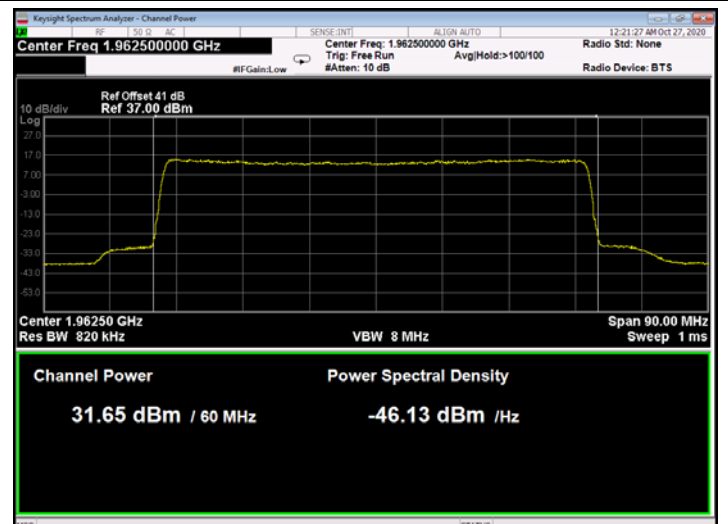


Figure 204: 256QAM 60MHz B.W.; 1962.5MHz, 60kHz

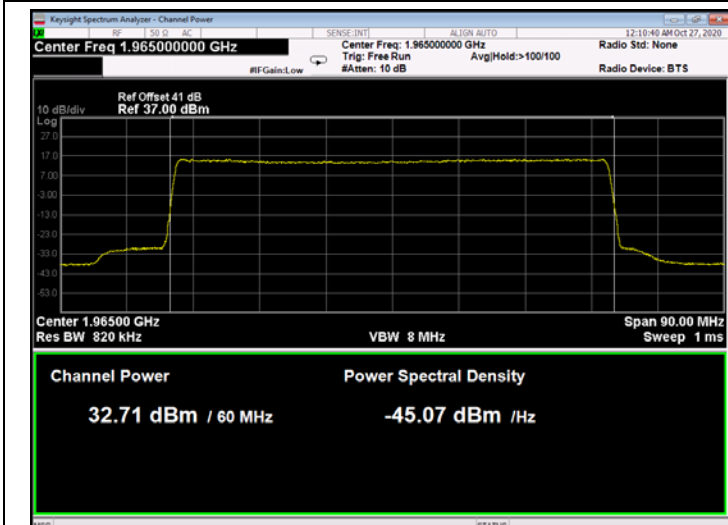


Figure 205: 256QAM 60MHz B.W.; 1965.0MHz, 30kHz

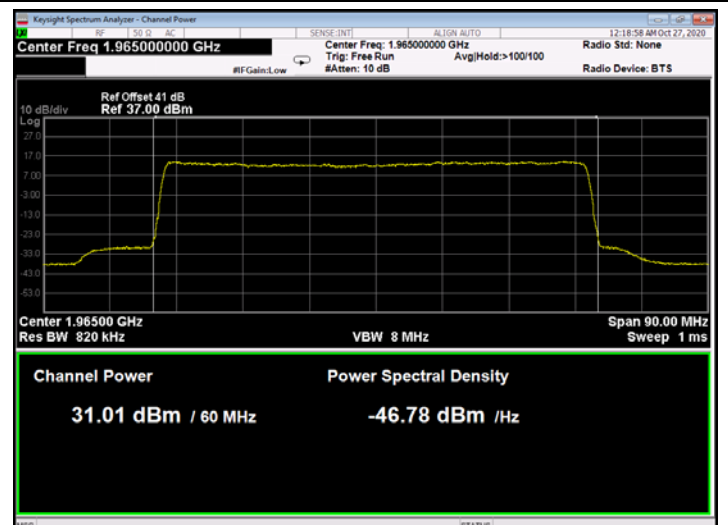


Figure 206: 256QAM 60MHz B.W.; 1965.0MHz, 60kHz

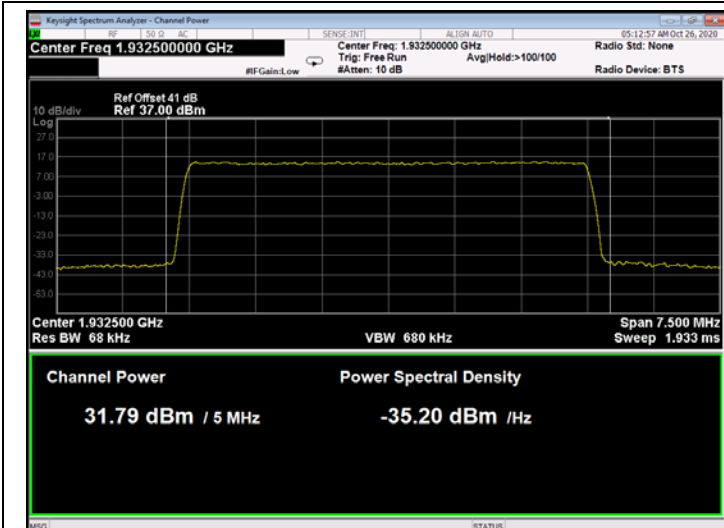


Figure 207: QPSK 5MHz B.W.; 1932.5MHz, 15kHz

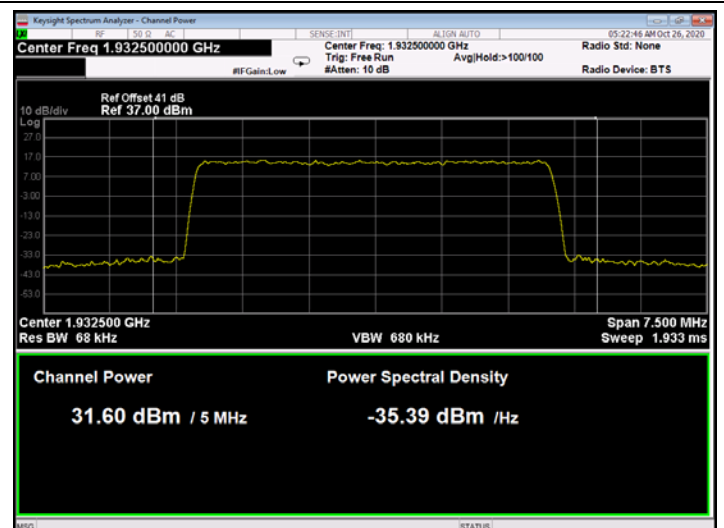


Figure 208: QPSK 5MHz B.W.; 1932.5MHz, 30kHz

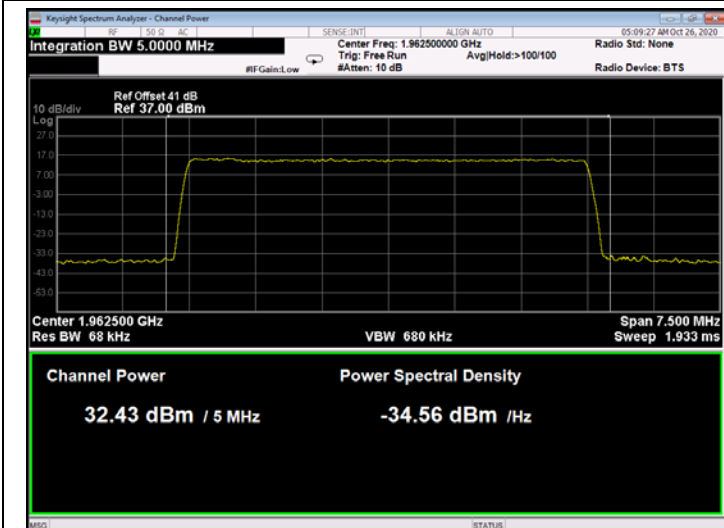


Figure 209: QPSK 5MHz B.W.; 1962.5MHz, 15kHz

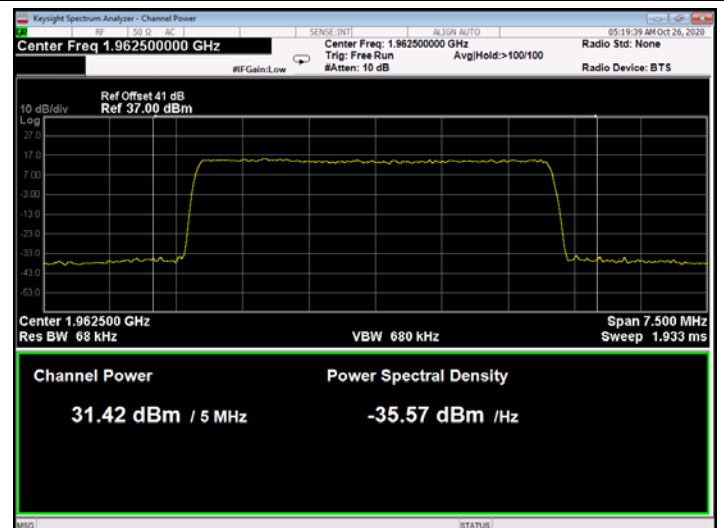


Figure 210: QPSK 5MHz B.W.; 1962.5MHz, 30kHz

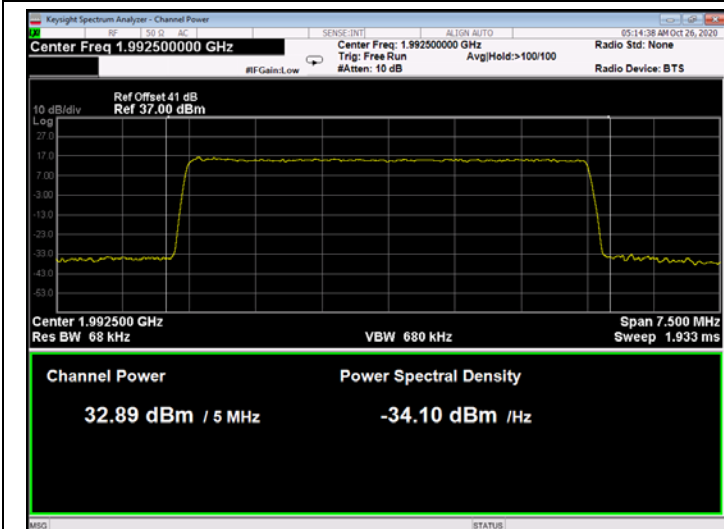


Figure 211: QPSK 5MHz B.W.; 1992.5MHz, 15kHz

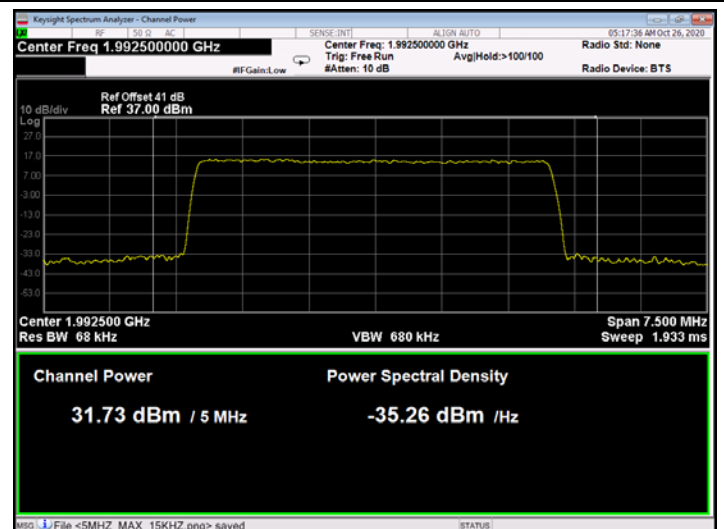


Figure 212: QPSK 5MHz C.S.; 1992.5MHz, 30kHz

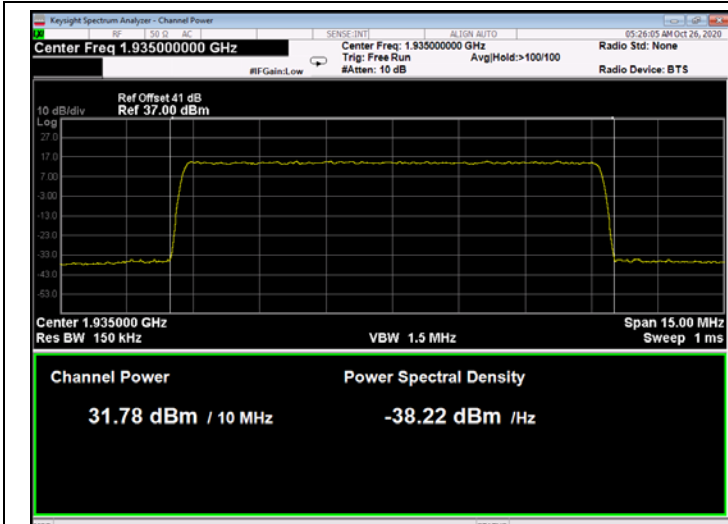


Figure 213: QPSK 10MHz B.W.; 1935.00MHz, 15kHz

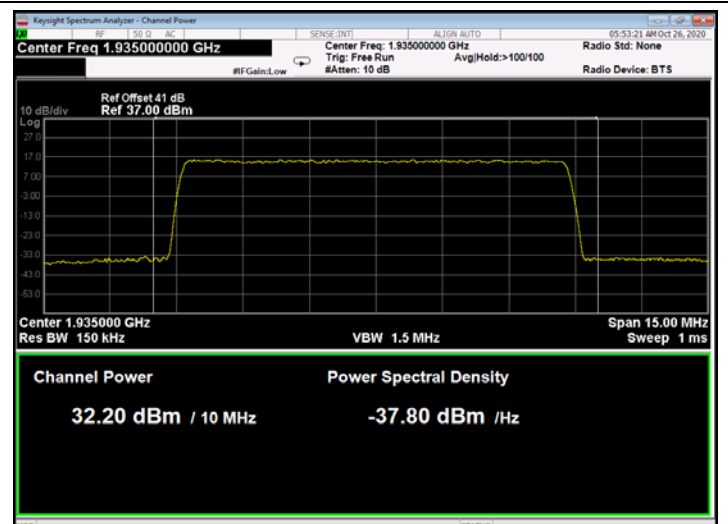


Figure 214: QPSK 10MHz B.W.; 1935.00MHz, 30kHz

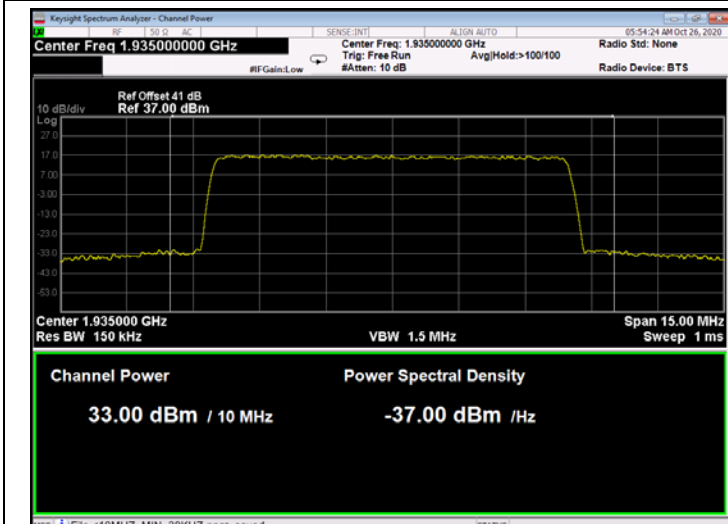


Figure 215: QPSK 10MHz B.W.; 1935.00MHz, 60kHz

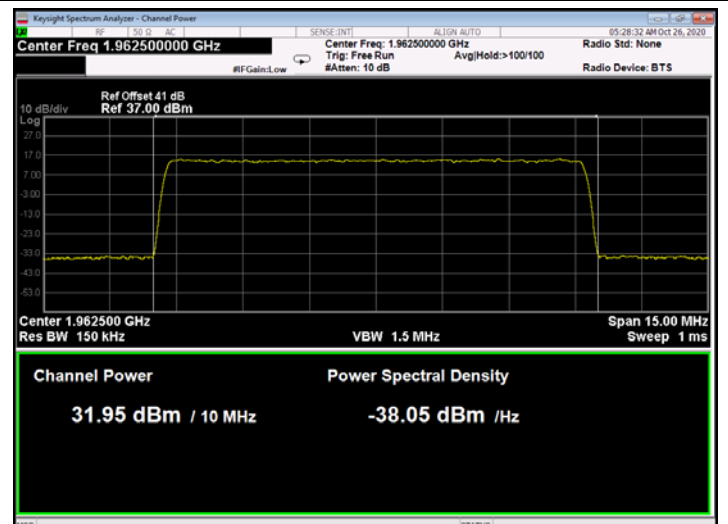


Figure 216: QPSK 10MHz B.W.; 1962.50MHz, 15kHz

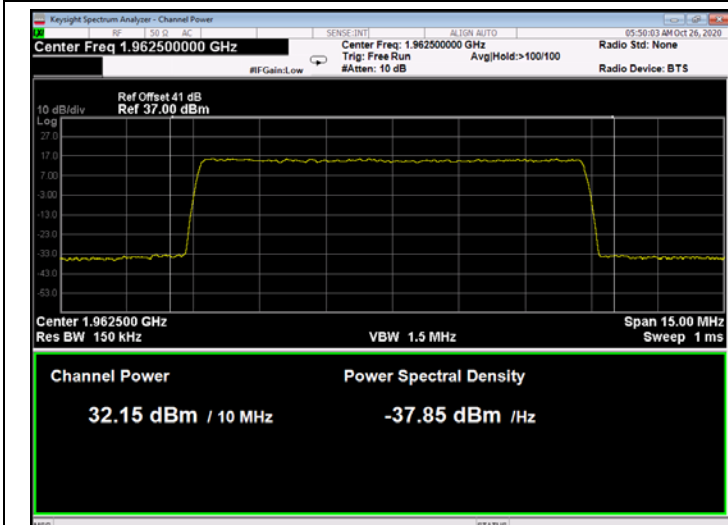


Figure 217: QPSK 10MHz B.W.; 1962.50MHz, 30kHz

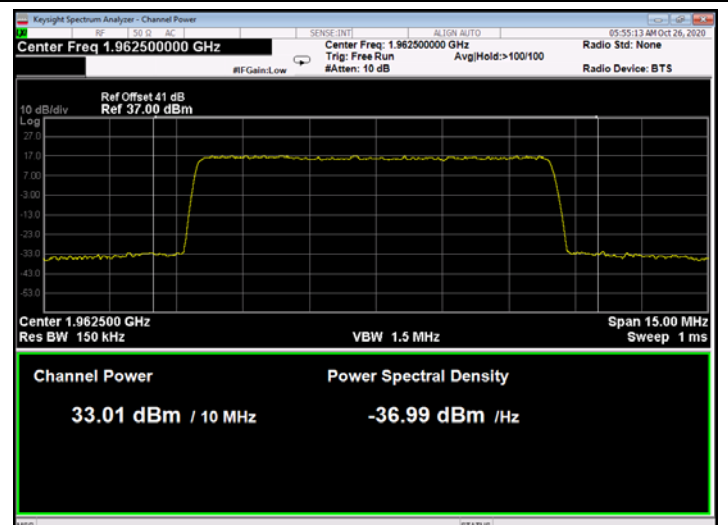


Figure 218: QPSK 10MHz B.W.; 1962.50MHz, 60kHz

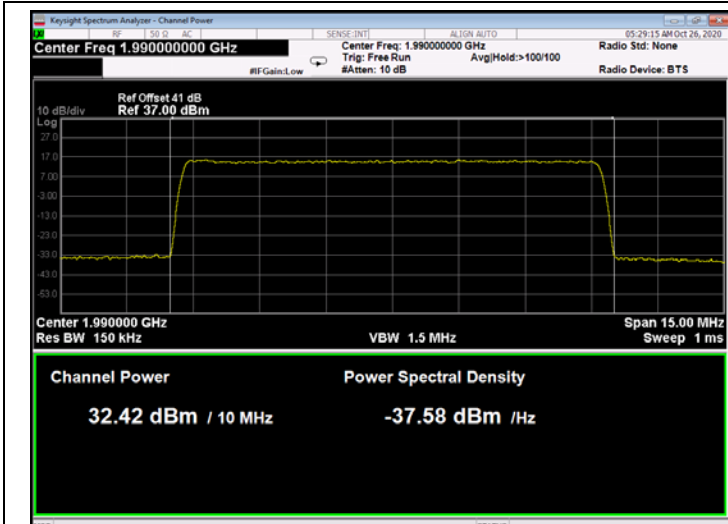


Figure 219: QPSK 10MHz B.W.; 1990.0MHz, 15kHz

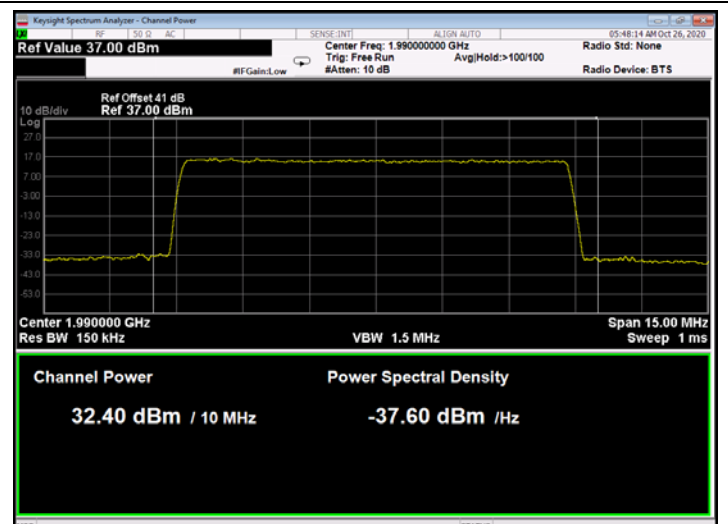


Figure 220: QPSK 10MHz B.W.; 1990.0MHz, 30kHz

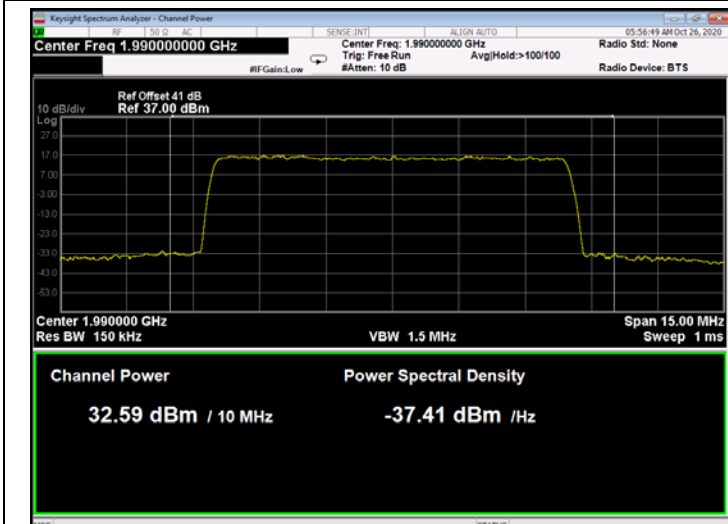


Figure 221: QPSK 10MHz B.W.; 1990.0MHz, 60kHz

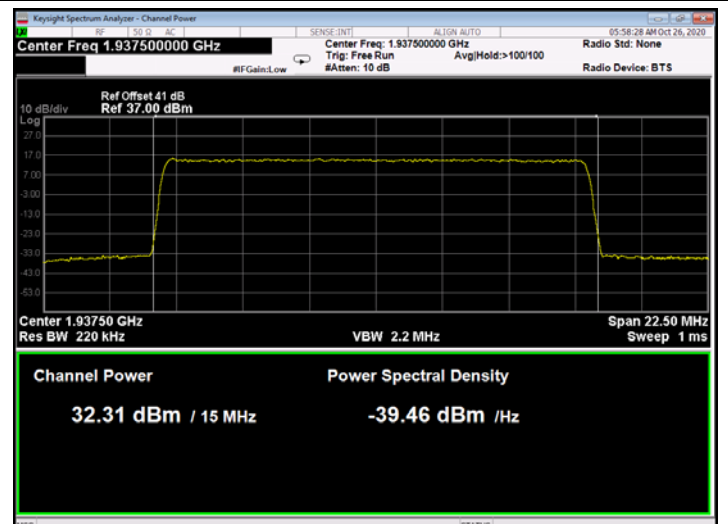


Figure 222: QPSK 15MHz B.W.; 1937.5MHz, 15kHz

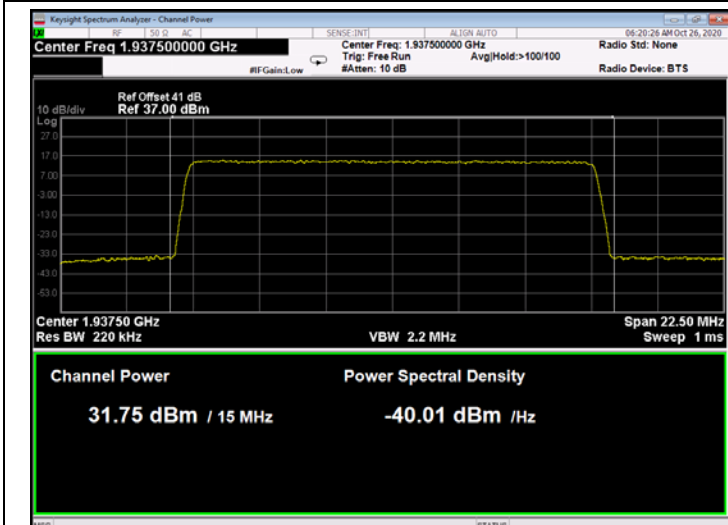


Figure 223: QPSK 15MHz B.W.; 1937.5MHz, 30kHz

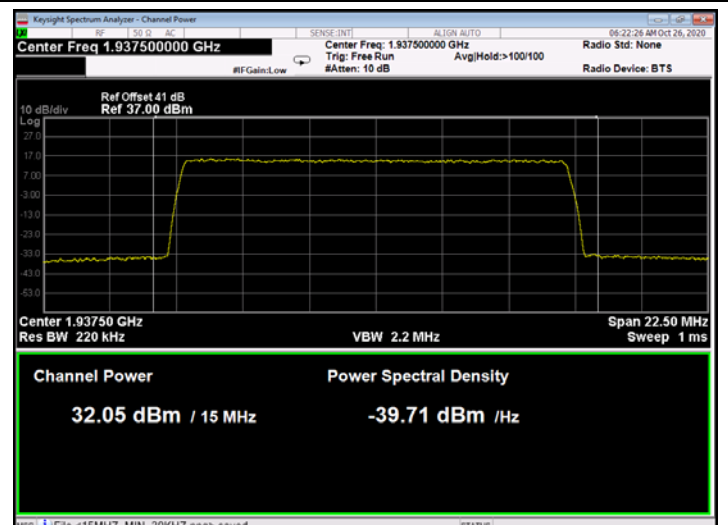


Figure 224: QPSK 10MHz B.W.; 1937.5MHz, 60kHz

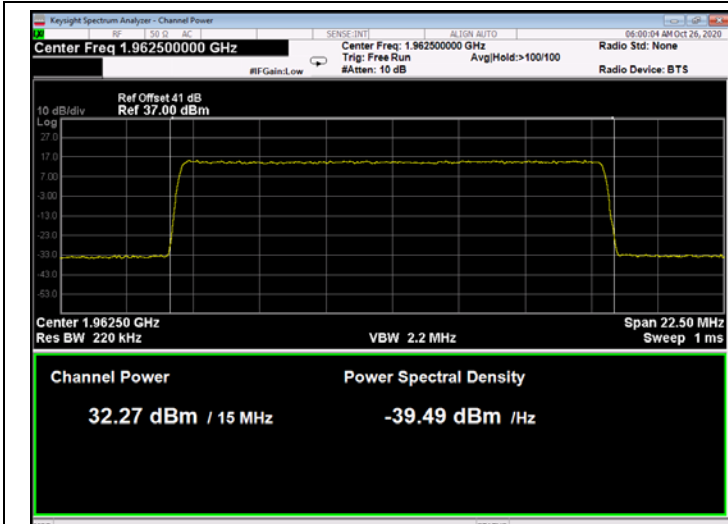


Figure 225: QPSK 15MHz B.W.; 1962.5MHz, 15kHz

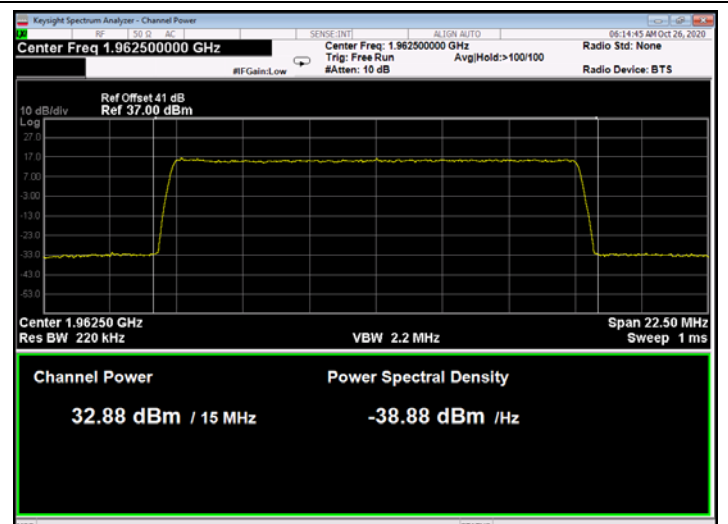


Figure 226: QPSK 15MHz B.W.; 1962.5MHz, 30kHz

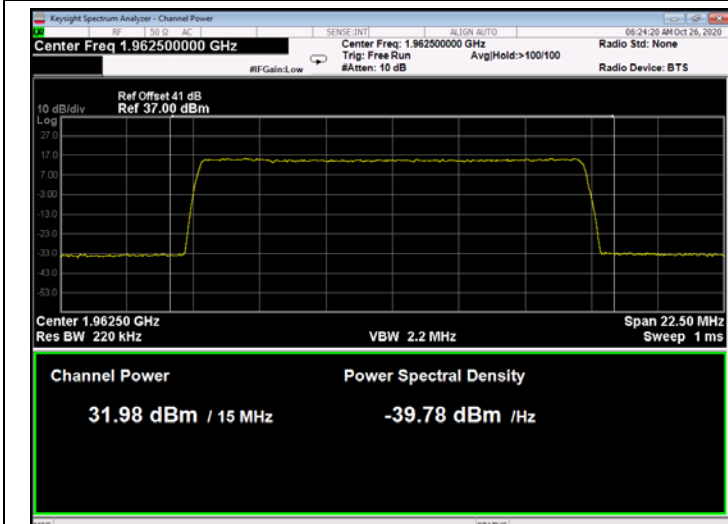


Figure 227: QPSK 15MHz B.W.; 1962.5MHz, 60kHz

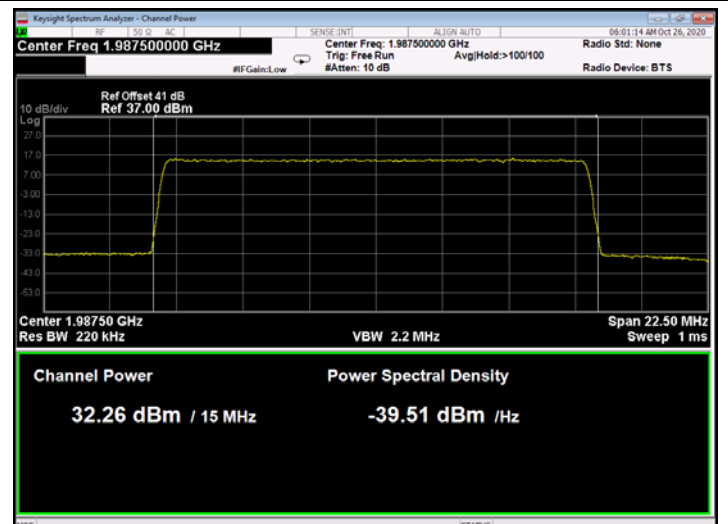


Figure 228: QPSK 15MHz B.W.; 1987.5MHz, 15kHz

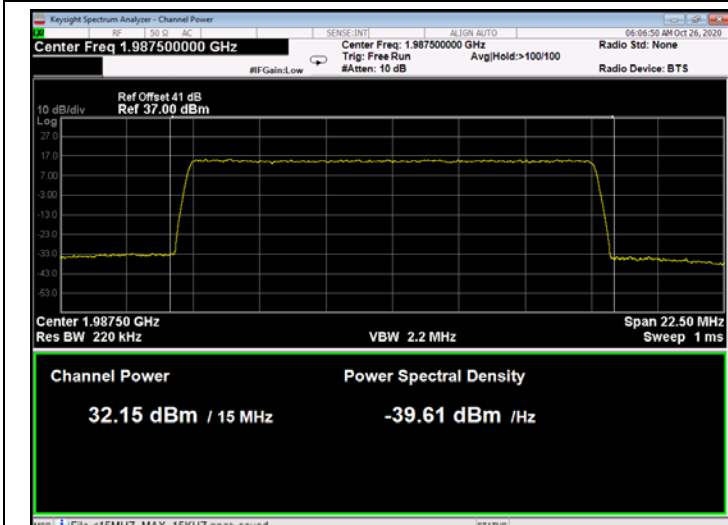


Figure 229: QPSK 15MHz B.W.; 1987.5MHz, 30kHz

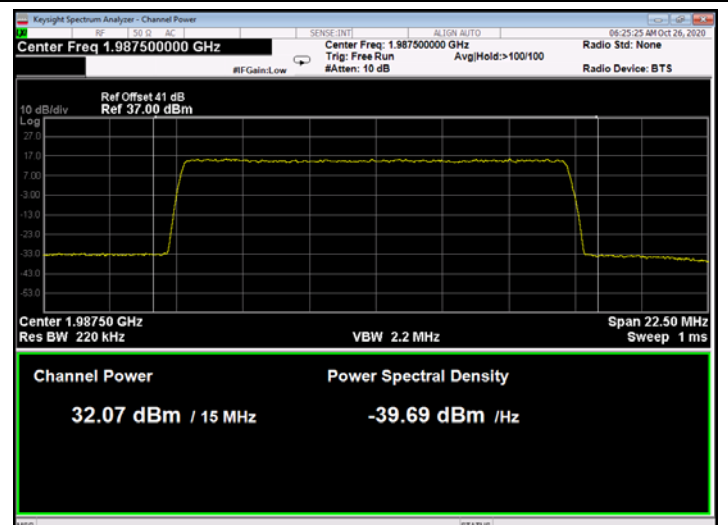


Figure 230: QPSK 15MHz B.W.; 1987.5MHz, 60kHz

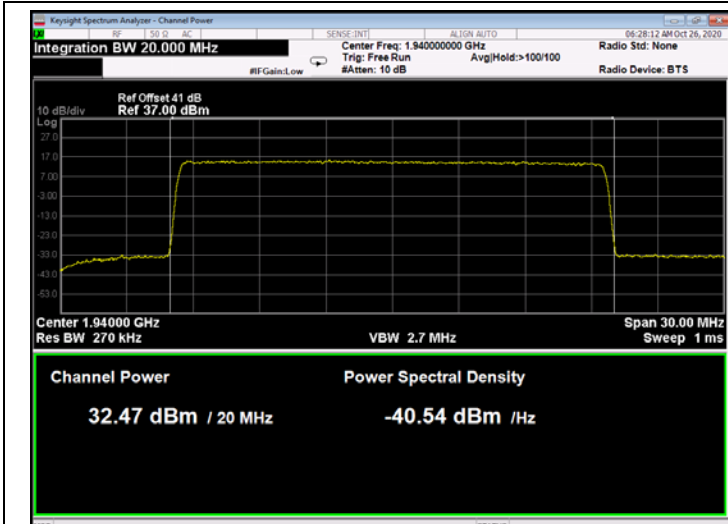


Figure 231: QPSK 20MHz B.W.; 1940.0MHz, 15kHz

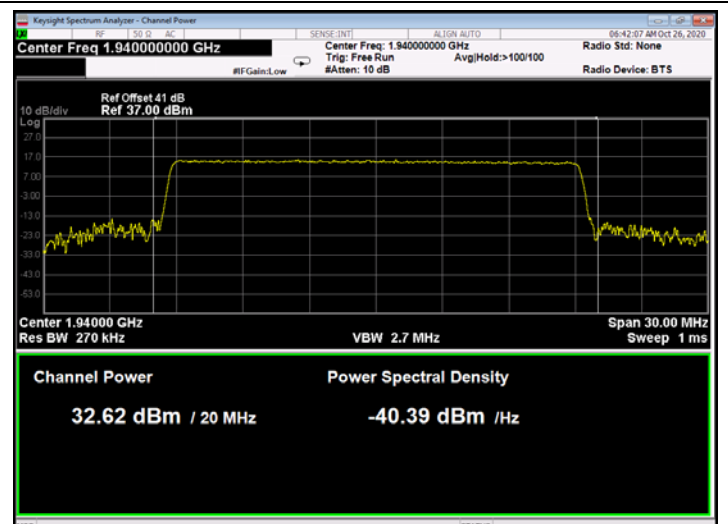


Figure 232: QPSK 20MHz B.W.; 1940.0MHz, 30kHz

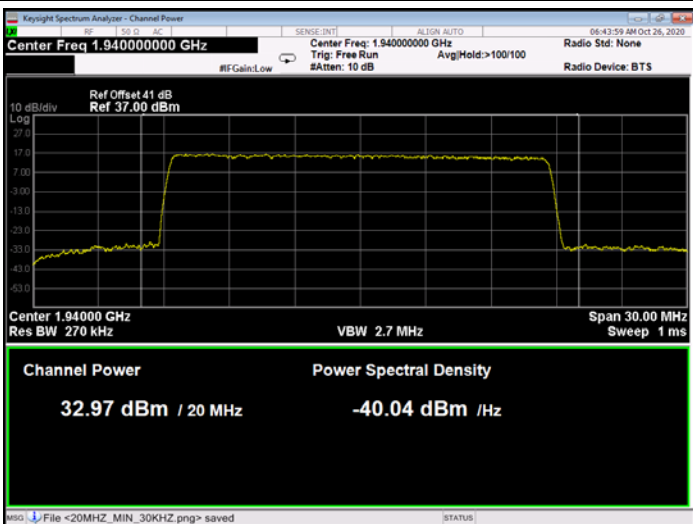


Figure 233: QPSK 20MHz B.W.; 1940.0MHz, 60kHz

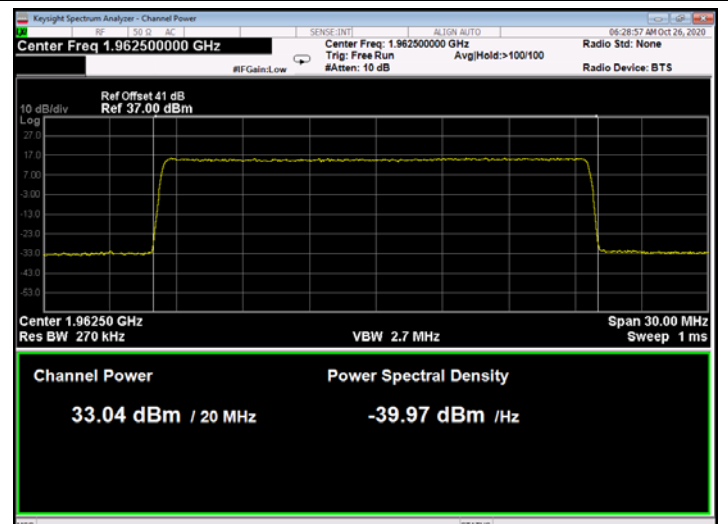


Figure 234: QPSK 20MHz B.W.; 1962.5MHz, 15kHz

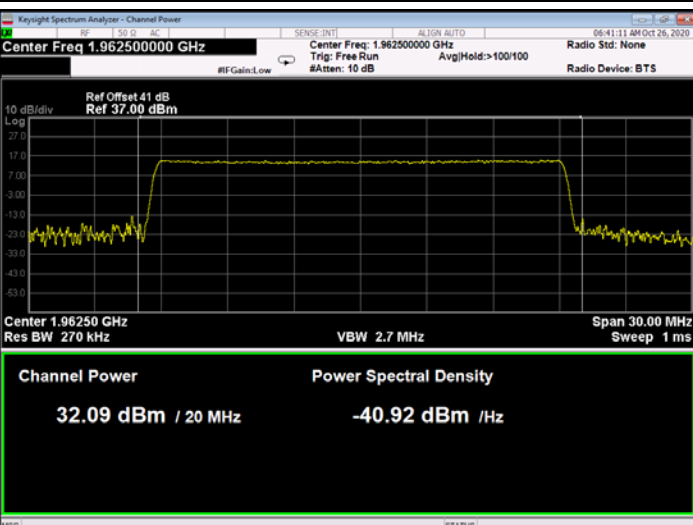


Figure 235: QPSK 20MHz B.W.; 1962.5MHz, 30kHz

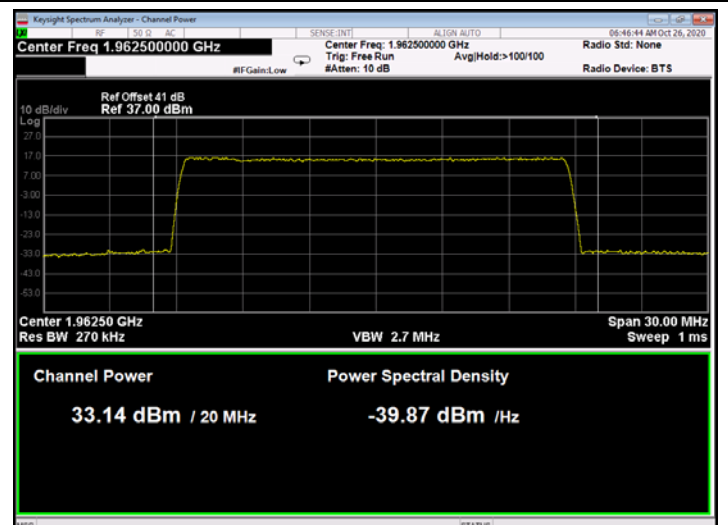


Figure 236: QPSK 20MHz B.W.; 1962.5MHz, 60kHz

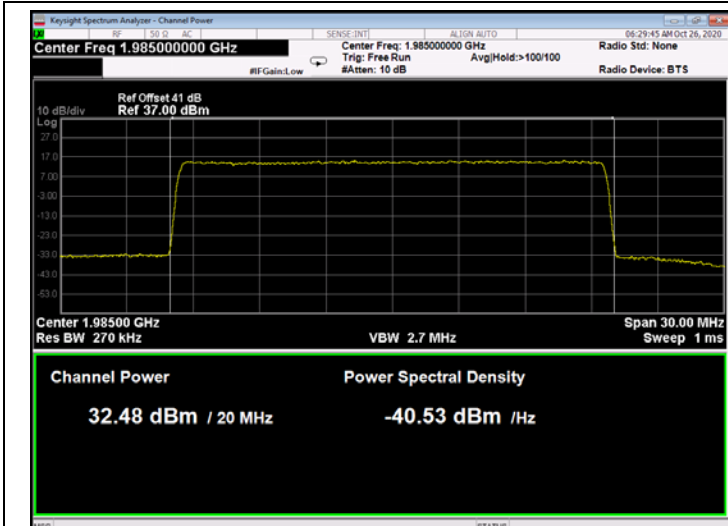


Figure 237: QPSK 20MHz B.W.; 1985.0MHz, 15kHz

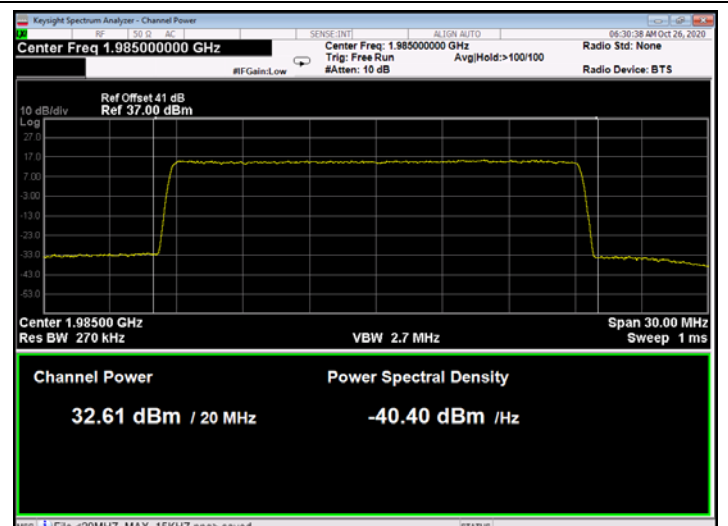


Figure 238: QPSK 20MHz B.W.; 1985.0MHz, 30kHz

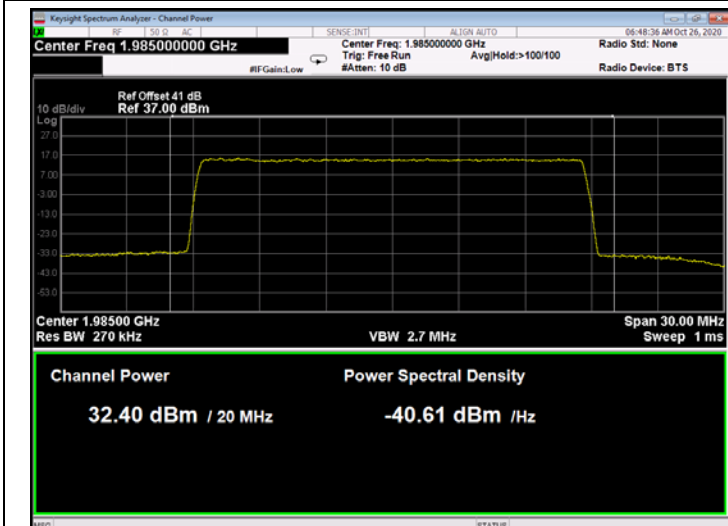


Figure 239: QPSK 20MHz B.W.; 1985.0MHz, 60kHz

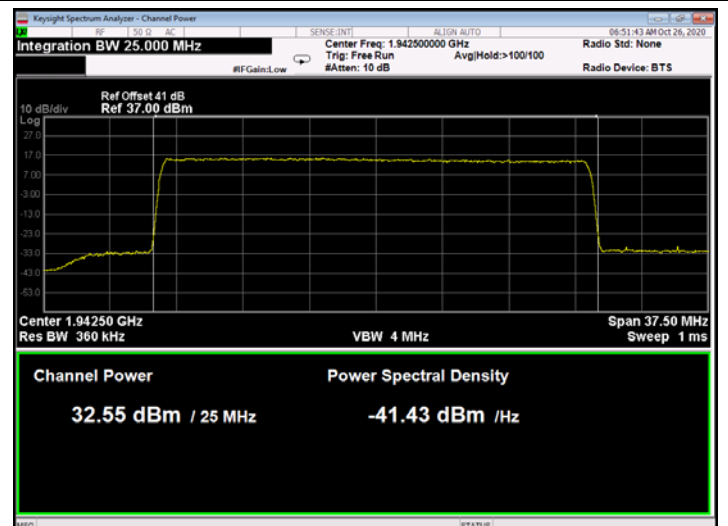


Figure 240: QPSK 25MHz B.W.; 1942.5MHz, 15kHz

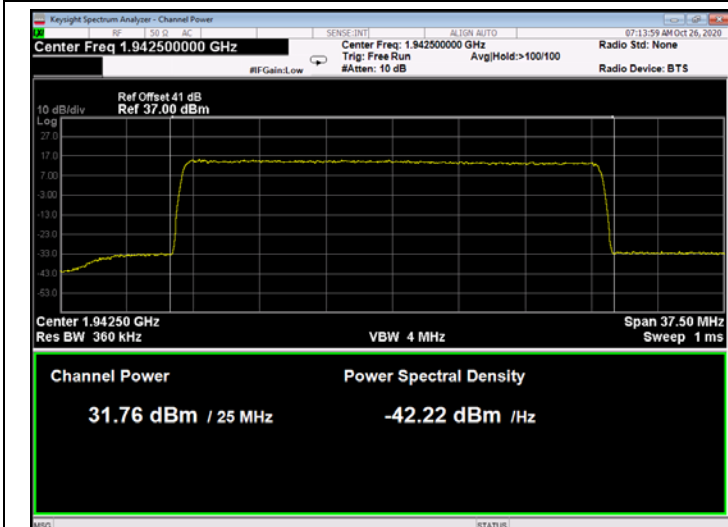


Figure 241: QPSK 25MHz B.W.; 1942.5MHz, 30kHz

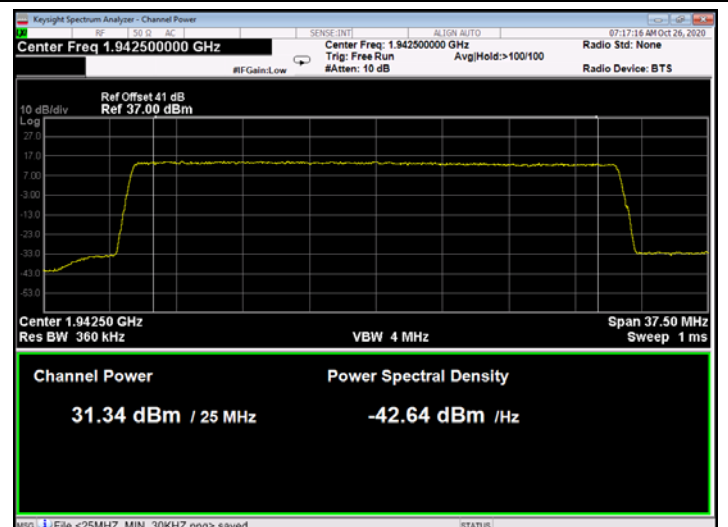


Figure 242: QPSK 25MHz B.W.; 1942.5MHz, 60kHz

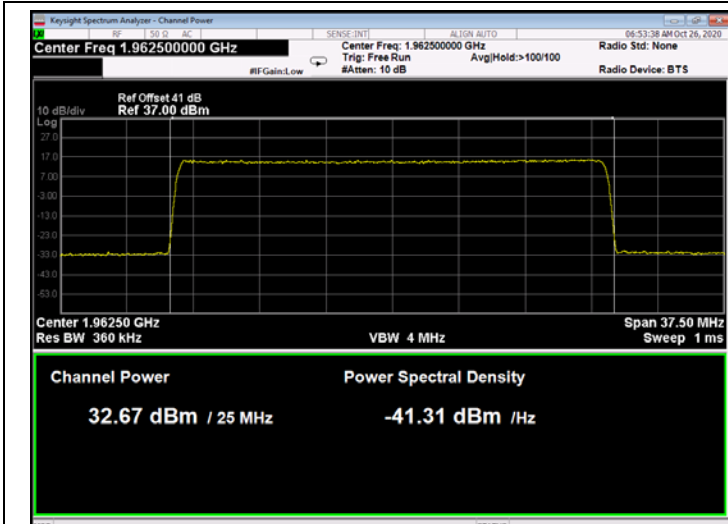


Figure 243: QPSK 25MHz B.W.; 1962.5MHz, 15kHz

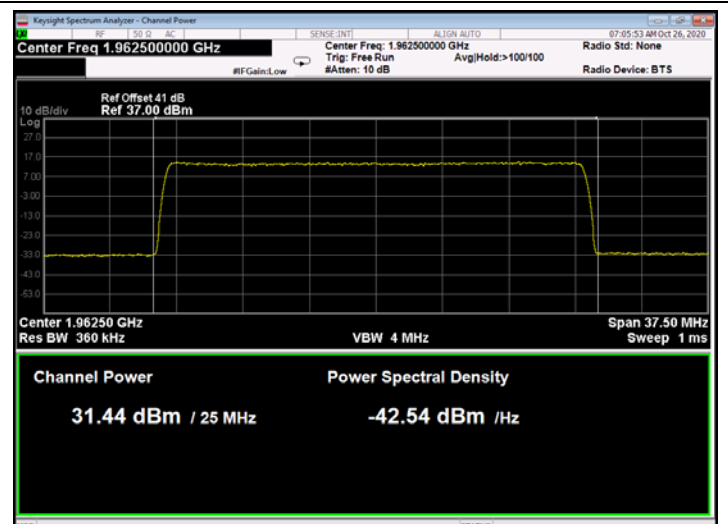


Figure 244: QPSK 25MHz B.W.; 1962.5MHz, 30kHz

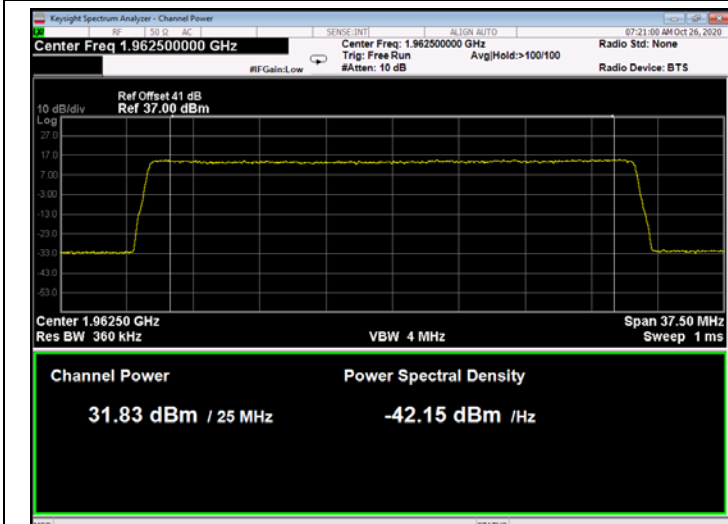


Figure 245: QPSK 25MHz B.W.; 1962.5MHz, 60kHz

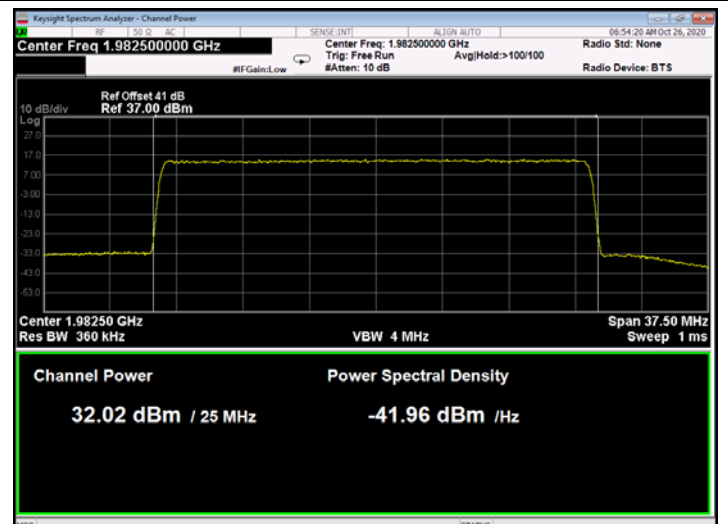


Figure 246: QPSK 25MHz B.W.; 1982.5MHz, 15kHz

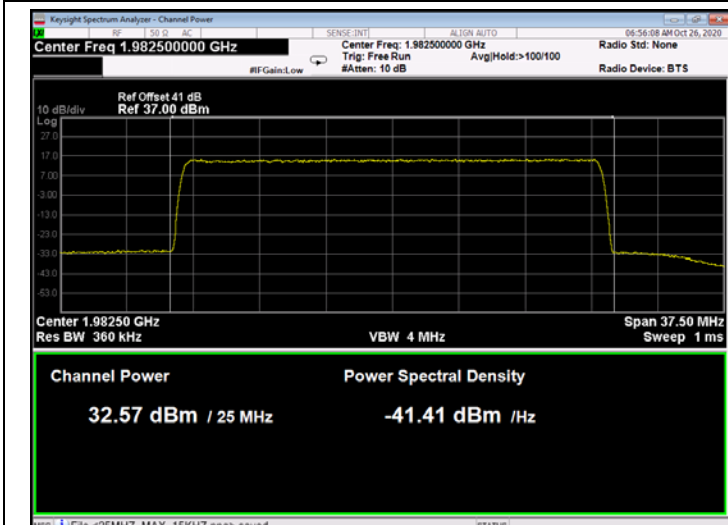


Figure 247: QPSK 25MHz B.W.; 1982.5MHz, 30kHz

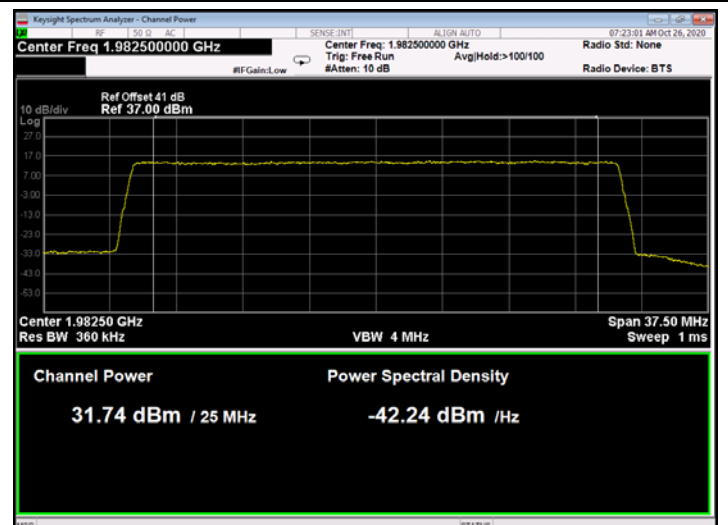


Figure 248: QPSK 25MHz B.W.; 1982.5MHz, 60kHz

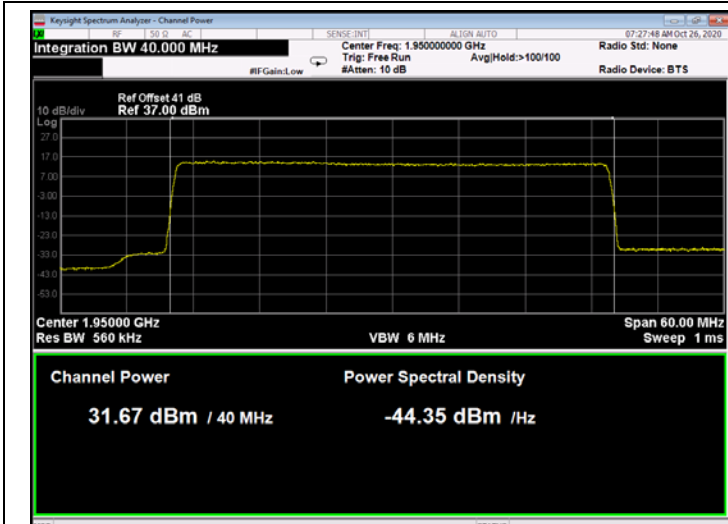


Figure 249: QPSK 40MHz B.W.; 1950.0MHz, 15kHz

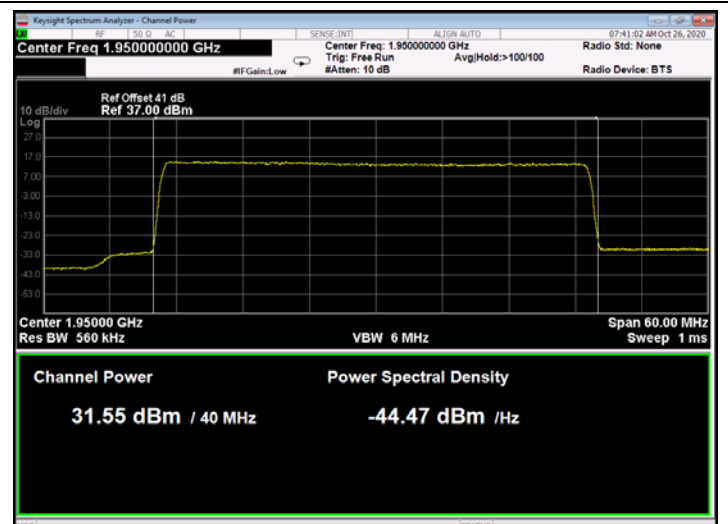


Figure 250: QPSK 40MHz B.W.; 1950.0MHz, 30kHz

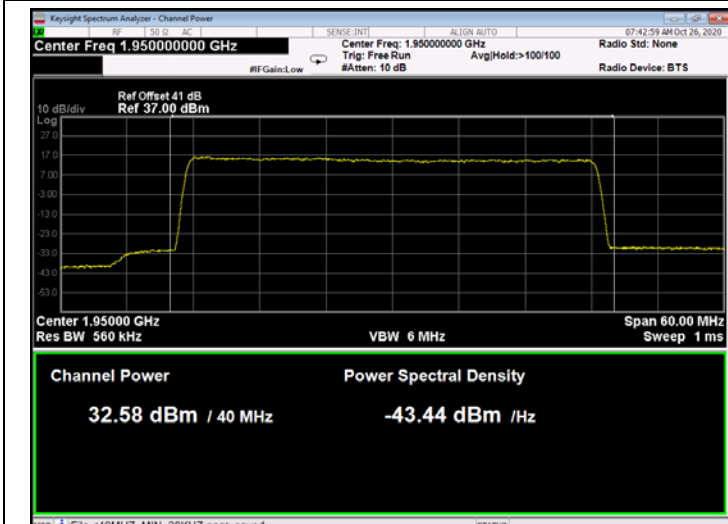


Figure 251: QPSK 40MHz B.W.; 1950.0MHz, 60kHz

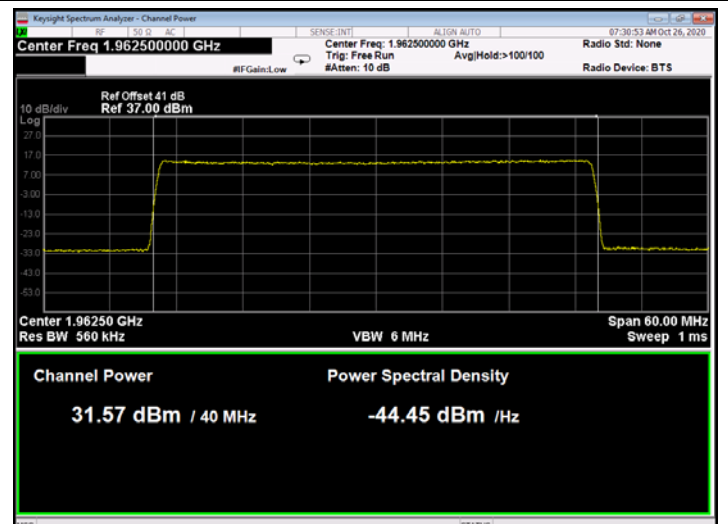


Figure 252: QPSK 40MHz B.W.; 1962.5MHz, 15kHz

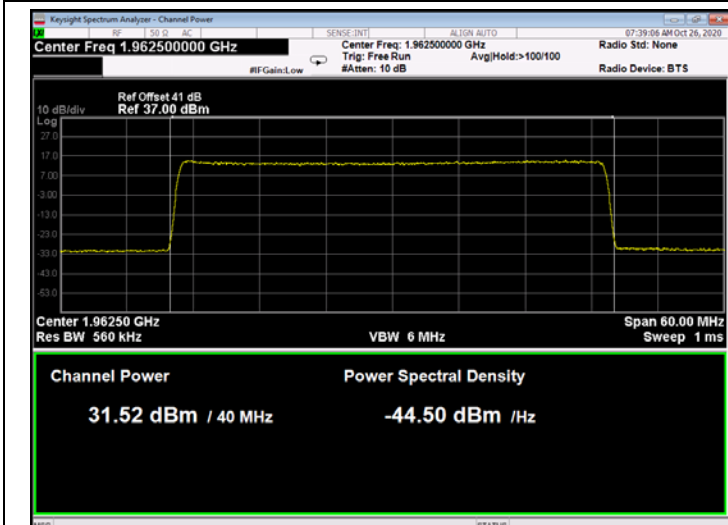


Figure 253: QPSK 40MHz B.W.; 1962.5MHz, 30kHz

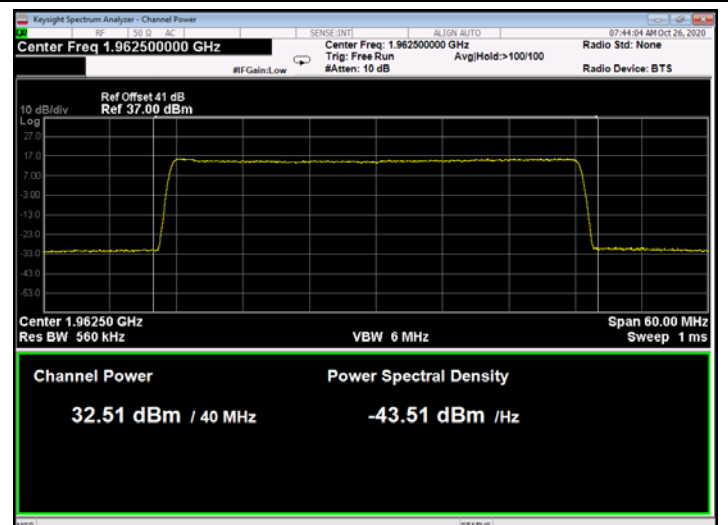


Figure 254: QPSK 40MHz B.W.; 1962.5MHz, 60kHz

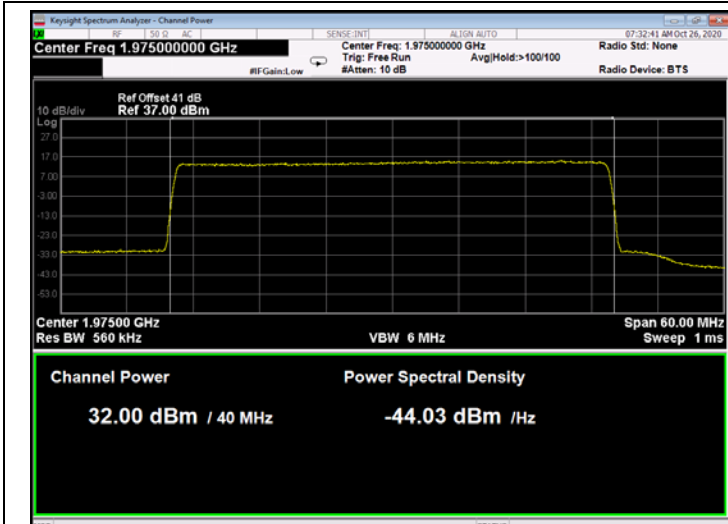


Figure 255: QPSK 40MHz B.W.; 1975.0MHz, 15kHz

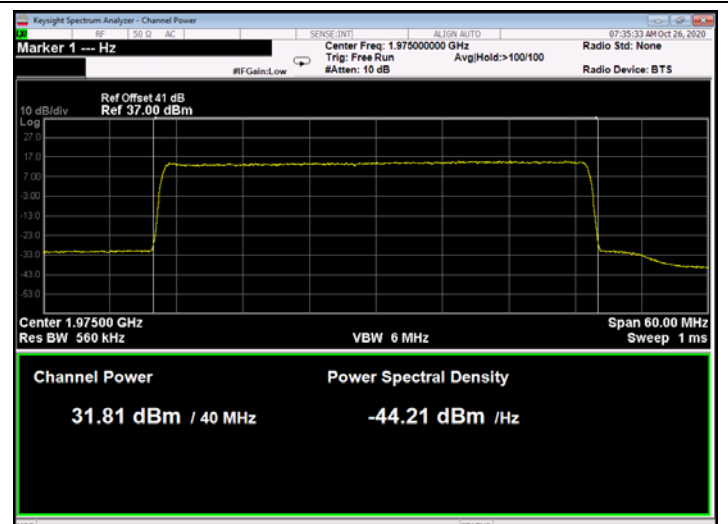


Figure 256: QPSK 40MHz B.W.; 1975.0MHz, 30kHz

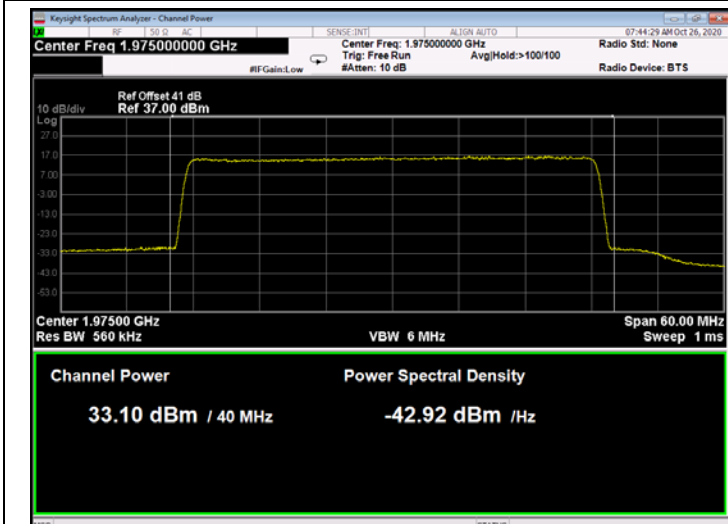


Figure 257: QPSK 40MHz B.W.; 1975.0MHz, 60kHz

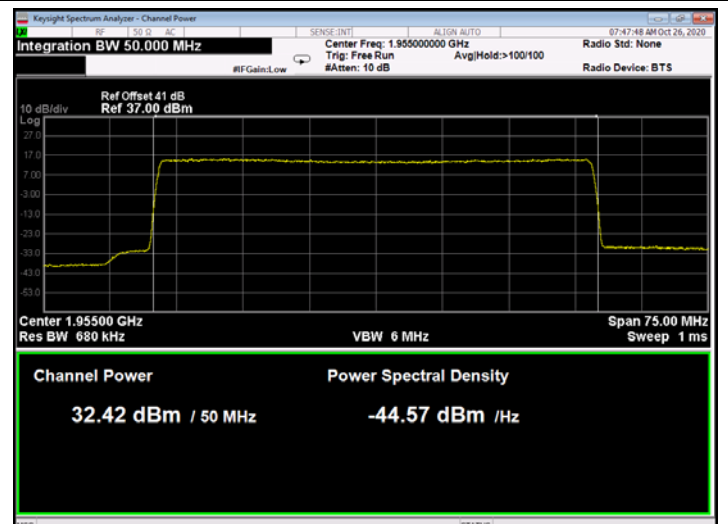


Figure 258: QPSK 50MHz B.W.; 1955.0MHz, 15kHz

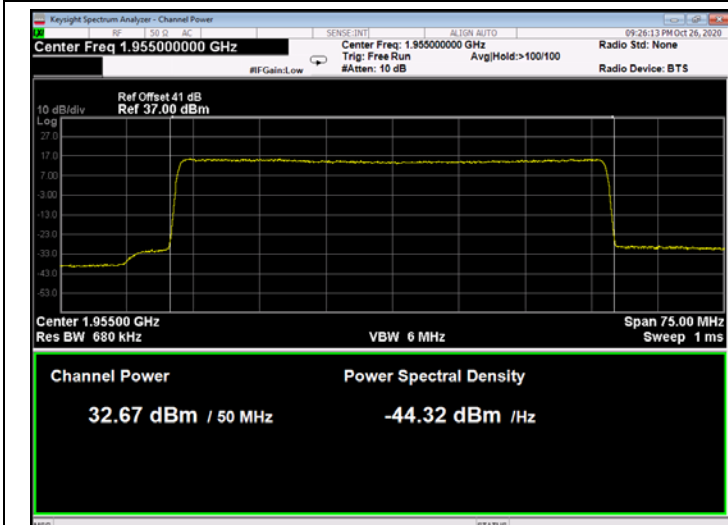


Figure 259: QPSK 50MHz B.W.; 1955.0MHz, 30kHz

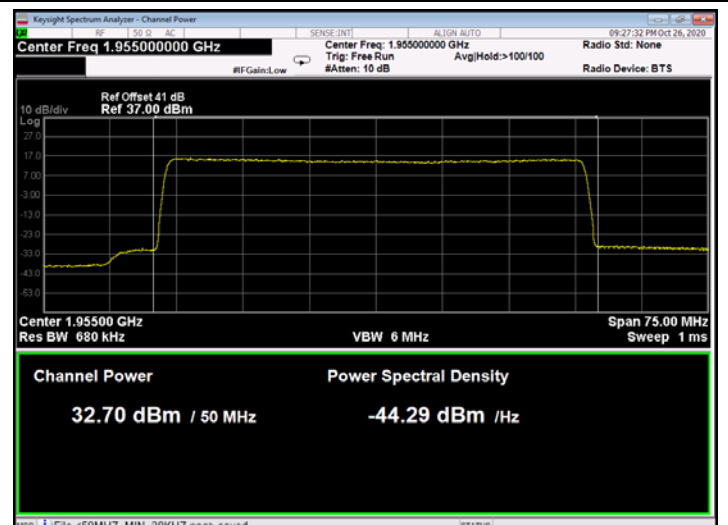


Figure 260: QPSK 50MHz B.W.; 1955.0MHz, 60kHz

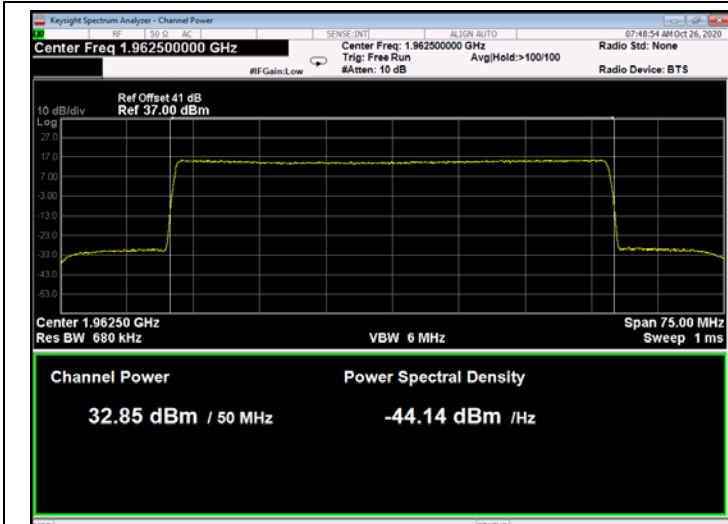


Figure 261: QPSK 50MHz B.W.; 1962.5MHz, 15kHz

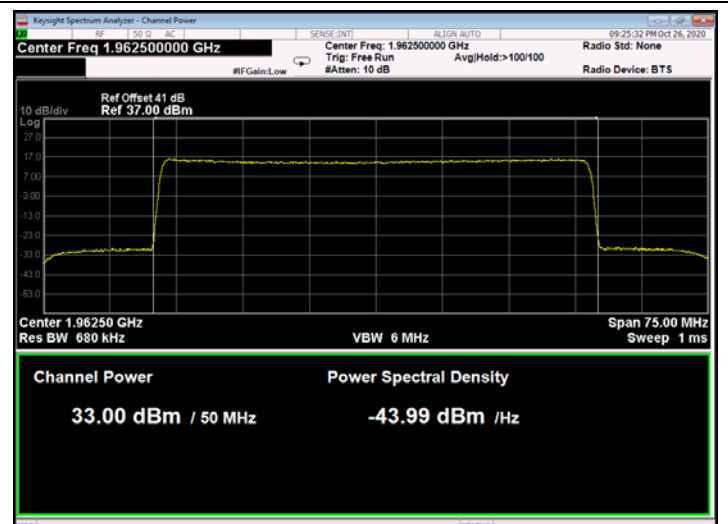


Figure 262: QPSK 50MHz B.W.; 1962.5MHz, 30kHz

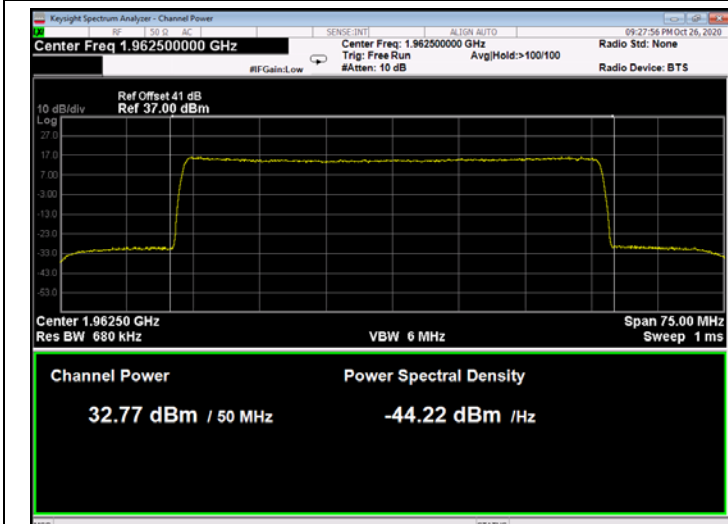


Figure 263: QPSK 50MHz B.W.; 1962.5MHz, 60kHz

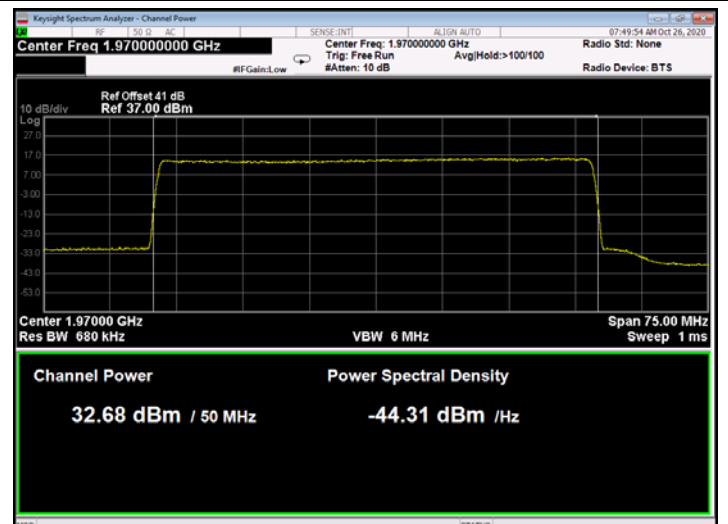


Figure 264: QPSK 50MHz B.W.; 1970.0MHz, 15kHz

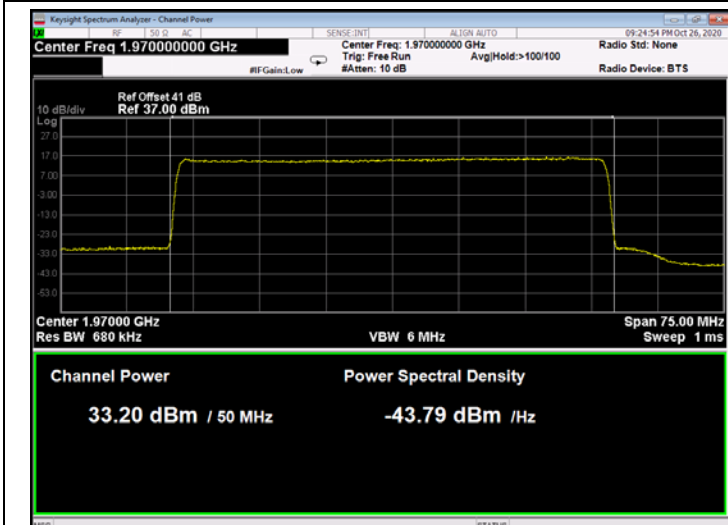


Figure 265: QPSK 50MHz B.W.; 1970.0MHz, 30kHz

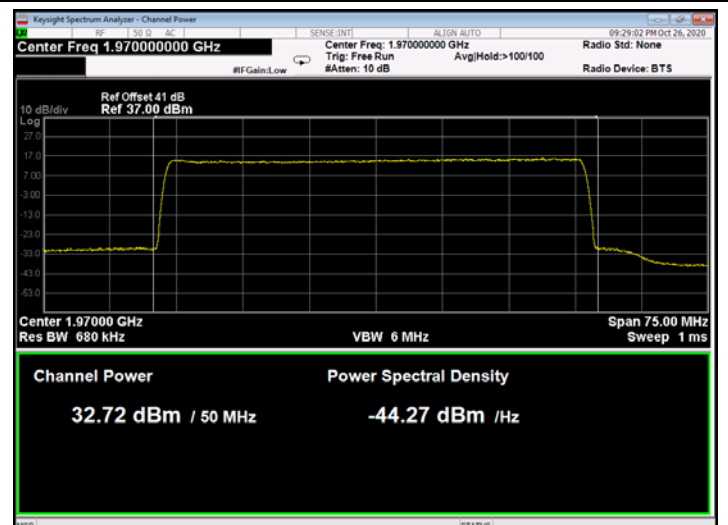


Figure 266: QPSK 50MHz B.W.; 1970.0MHz, 60kHz

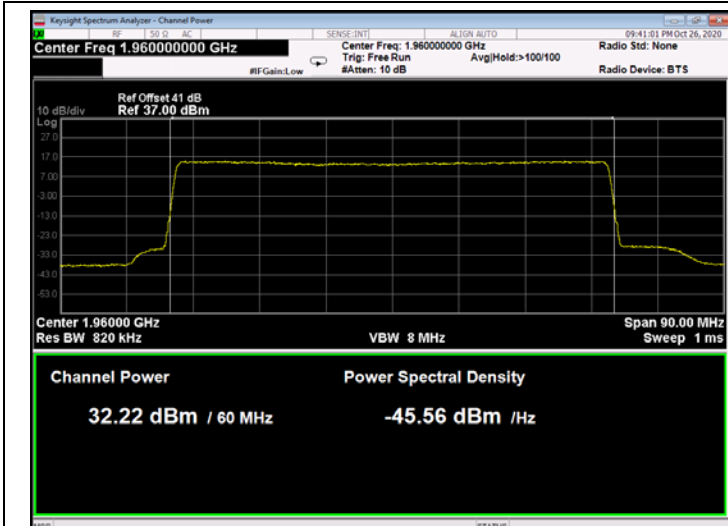


Figure 267: QPSK 60MHz B.W.; 1960.0MHz, 30kHz

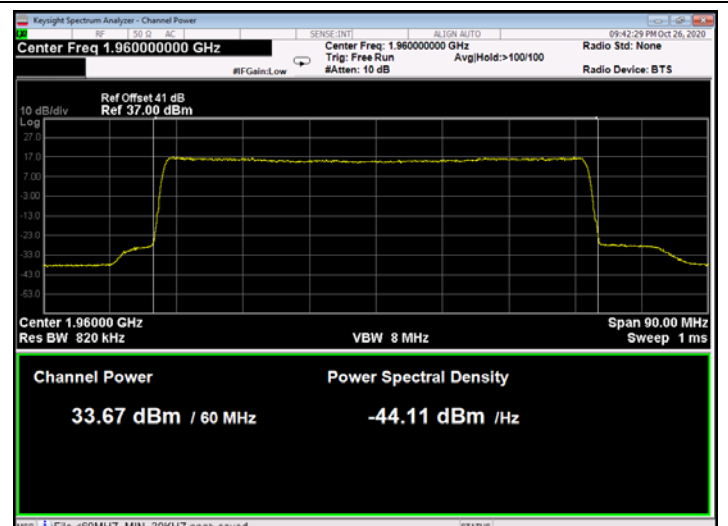


Figure 268: QPSK 60MHz B.W.; 1960.0MHz, 60kHz

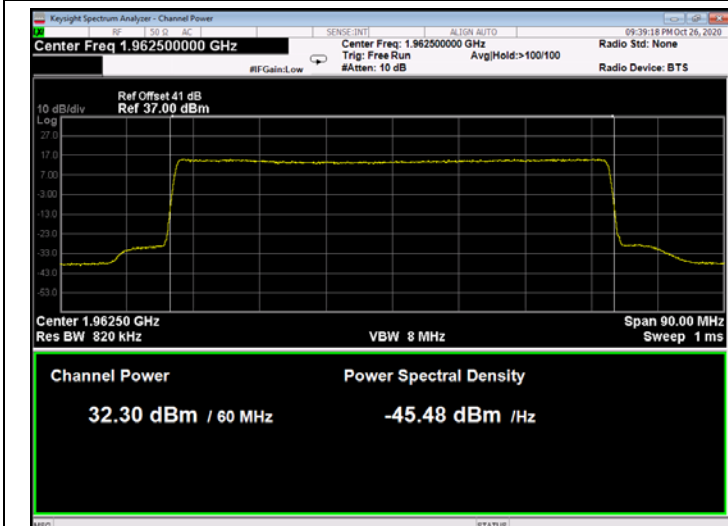


Figure 269: QPSK 60MHz B.W.; 1962.5MHz, 30kHz

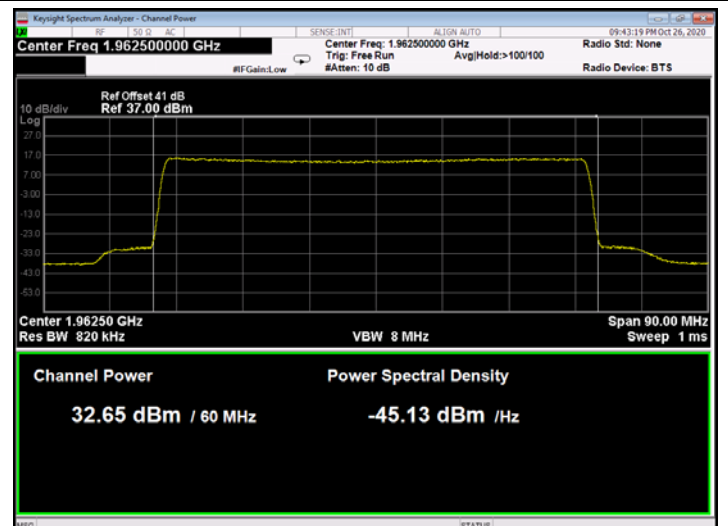


Figure 270: QPSK 60MHz B.W.; 1962.5MHz, 60kHz

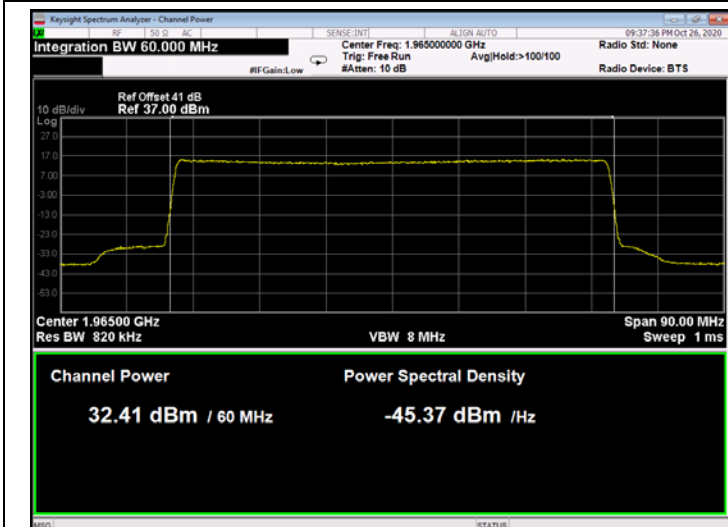


Figure 271: QPSK 60MHz B.W.; 1965.0MHz, 30kHz

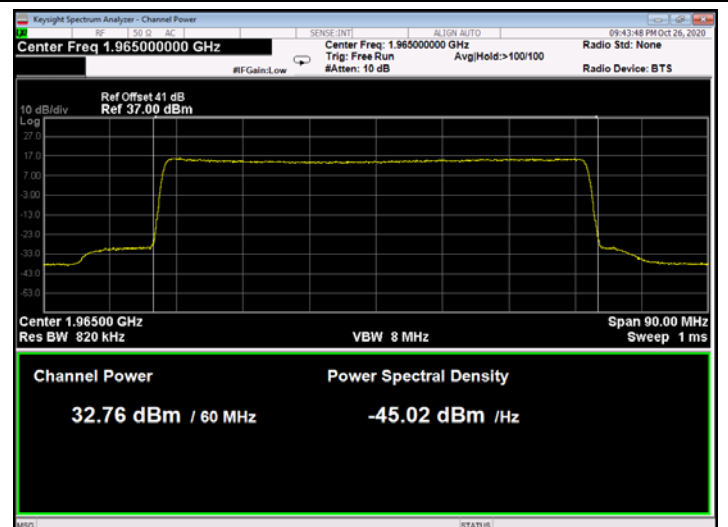


Figure 272: QPSK 60MHz B.W.; 1965.0MHz, 60kHz



4.4 Test Equipment Used; RF Power Output

Instrument	Manufacturer	Model	Serial Number	Calibration	
				Last Calibration Date	Next Calibration Due
EXA signal Analyzer	Agilent Technologies	N9010A	MY52220686	November 28, 2018	November 28, 2020
Vector Signal Generator	R&S	SMBV100B	1423.1003K02-101470-XE	October 2, 2019	October 2, 2022
40 dB Attenuator	Weinschel	WA 39-40-33	A1323	July 7, 2020	July 31, 2021
RF Cable	Huber Suner	Sucoflex	27504/4PEA	August 23, 2020	August 31, 2021

Table 9 Test Equipment Used



5 Occupied Bandwidth

5.1 Test Specification

FCC Part 2, Section 1049

5.2 Test Procedure

(Temperature (20°C)/ Humidity (57%RH))

The E.U.T. antenna terminal was connected to the spectrum analyzer through an external attenuator and an appropriate coaxial cable. The spectrum analyzer was set to proper resolution B.W.

OBW function (99%) was employed for this evaluation.

Occupied bandwidth measured was repeated for each modulation.

5.3 Test Limit

N/A

5.4 Test Results

JUDGEMENT: Passed

See additional information in *Table 10* to *Table 25* and *Figure 273* to *Figure 800*.



Modulation	Bandwidth (MHz)	Sub Carrier (kHz)	Operation Frequency (MHz)	Reading (MHz)	
16QAM	5	15	1932.5	4.4861	
		30	1932.5	3.9432	
		15	1962.5	4.4847	
		30	1962.5	3.9431	
		15	1992.5	4.4858	
		30	1992.5	3.9432	
	10	15	1935.0	9.2424	
			30	1935.0	8.5345
			60	1935.0	7.8832
		30	1962.5	9.2455	
			1962.5	8.5317	
			1962.5	7.8840	
		60	1990.0	9.2452	
			1990.0	8.5375	
			1990.0	7.8835	
	15	15	1937.5	14.165	
			30	1937.5	13.668
			60	1937.5	12.915
		30	1962.5	14.166	
			1962.5	13.665	
			1962.5	12.916	
		60	1987.5	14.169	
			1987.5	13.669	
			1987.5	12.917	
	20	15	1940.0	19.003	
			30	1940.0	18.328
			60	1940.0	17.145
		30	1962.5	18.997	
			1962.5	18.328	
			1962.5	17.150	
		60	1985.0	19.004	
			1985.0	18.338	
			1985.0	17.149	
	25	15	1942.5	23.843	
			30	1942.5	23.338
			60	1942.5	22.297
30		1962.5	23.827		
		1962.5	23.321		
		1962.5	22.295		
60		1982.5	23.826		
		1982.5	23.325		
		1982.5	22.300		

Table 10 Occupied Bandwidth 16QAM -Input



Modulation	Bandwidth (MHz)	Sub Carrier (kHz)	Operation Frequency (MHz)	Reading (MHz)
16QAM	40	15	1950.0	38.853
		30	1950.0	37.950
		60	1950.0	36.651
		15	1962.5	38.817
		30	1962.5	37.939
		60	1962.5	36.635
		15	1975.0	38.834
		30	1975.0	37.961
		60	1975.0	36.648
	50	15	1955.0	48.200
		30	1955.0	47.644
		60	1955.0	46.624
		15	1962.5	48.203
		30	1962.5	47.655
		60	1962.5	46.618
		15	1970.0	48.193
		30	1970.0	47.628
		60	1970.0	46.608
	60	30	1960.0	58.062
		60	1960.0	56.705
		30	1962.5	58.055
		60	1962.5	56.694
		30	1965.0	58.039
		60	1965.0	56.681

Table 11 Occupied Bandwidth 16QAM - Input



Modulation	Bandwidth (MHz)	Sub Carrier (kHz)	Operation Frequency (MHz)	Reading (MHz)
64QAM	5	15	1932.5	4.4924
		30	1932.5	3.9413
		15	1962.5	4.4935
		30	1962.5	3.9421
		15	1992.5	4.4919
		30	1992.5	3.9413
	10	15	1935.0	9.3160
		30	1935.0	8.5896
		60	1935.0	7.887
		15	1962.5	9.3134
		30	1962.5	8.5923
		60	1962.5	7.8883
		15	1990.0	9.3162
		30	1990.0	8.5898
		60	1990.0	7.8884
	15	15	1937.5	14.144
		30	1937.5	13.603
		60	1937.5	12.893
		15	1962.5	14.140
		30	1962.5	13.605
		60	1962.5	12.894
		15	1987.5	14.143
		30	1987.5	13.607
		60	1987.5	12.889
	20	15	1940.0	18.971
		30	1940.0	18.236
		60	1940.0	18.239
		15	1962.5	18.970
		30	1962.5	18.235
		60	1962.5	17.188
		15	1985.0	18.970
		30	1985.0	18.240
		60	1985.0	17.183
	25	15	1942.5	23.807
		30	1942.5	23.275
		60	1942.5	22.209
		15	1962.5	23.792
		30	1962.5	23.254
		60	1962.5	22.214
		15	1982.5	23.805
		30	1982.5	23.263
		60	1982.5	22.212

Table 12 Occupied Bandwidth – 64QAM -Input



Modulation	Bandwidth (MHz)	Sub Carrier (kHz)	Operation Frequency (MHz)	Reading (MHz)
64QAM	40	15	1950.0	38.668
		30	1950.0	37.902
		60	1950.0	36.503
		15	1962.5	38.658
		30	1962.5	37.882
		60	1962.5	36.457
		15	1975.0	38.661
		30	1975.0	37.902
		60	1975.0	36.478
	50	15	1955.0	48.355
		30	1955.0	47.555
		60	1955.0	46.536
		15	1962.5	48.345
		30	1962.5	47.542
		60	1962.5	46.523
		15	1970.0	48.340
		30	1970.0	47.548
		60	1970.0	46.512
	60	30	1960.0	58.031
		60	1960.0	56.602
		30	1962.5	58.029
		60	1962.5	56.595
		30	1965.0	58.037
		60	1965.0	56.579

Table 13 Occupied Bandwidth 64QAM - Input

Modulation	Bandwidth (MHz)	Sub Carrier (kHz)	Operation Frequency (MHz)	Reading (MHz)
256QAM	5	15	1932.5	4.4958
		30	1932.5	3.9445
		15	1962.5	4.4954
		30	1962.5	3.9439
		15	1992.5	4.4957
		30	1992.5	3.9445
	10	15	1935.0	9.3022
			1935.0	8.5839
			1935.0	7.8833
		30	1962.5	9.3015
			1962.5	8.5854
			1962.5	7.8839
		60	1990.0	9.3021
			1990.0	8.5861
			1990.0	7.8842
	15	15	1937.5	14.146
			1937.5	13.623
			1937.5	12.946
		30	1962.5	14.145
			1962.5	13.617
			1962.5	12.947
		60	1987.5	14.143
			1987.5	13.613
			1987.5	12.949
	20	15	1940.0	18.971
			1940.0	18.259
			1940.0	17.180
		30	1962.5	18.971
			1962.5	18.262
			1962.5	17.167
		60	1985.0	18.968
			1985.0	18.261
			1985.0	17.166
	25	15	1942.5	23.841
			1942.5	23.275
			1942.5	22.168
		30	1962.5	23.821
			1962.5	23.266
			1962.5	22.168
		60	1982.5	23.829
			1982.5	23.268
			1982.5	22.171

Table 14 Occupied Bandwidth 256QAM - Input



Modulation	Bandwidth (MHz)	Sub Carrier (kHz)	Operation Frequency (MHz)	Reading (MHz)
256QAM	40	15	1950.0	38.610
		30	1950.0	37.886
		60	1950.0	36.496
		15	1962.5	38.604
		30	1962.5	37.859
		60	1962.5	36.474
		15	1975.0	38.596
		30	1975.0	37.873
		60	1975.0	36.474
	50	15	1955.0	48.266
		30	1955.0	47.579
		60	1955.0	46.506
		15	1962.5	48.269
		30	1962.5	47.609
		60	1962.5	46.487
		15	1970.0	48.256
		30	1970.0	47.604
		60	1970.0	46.480
	60	30	1960.0	57.910
		60	1960.0	56.570
		30	1962.5	57.945
		60	1962.5	56.569
		30	1965.0	57.917
		60	1965.0	56.549

Table 15 Occupied Bandwidth 256QAM - Input

Modulation	Bandwidth (MHz)	Sub Carrier (kHz)	Operation Frequency (MHz)	Reading (MHz)
QPSK	5	15	1932.5	4.4953
		30	1932.5	3.9683
		15	1962.5	4.4953
		30	1962.5	3.9676
		15	1992.5	4.4951
		30	1992.5	3.9677
	10	15	1935.0	9.3105
			1935.0	8.5966
			1935.0	7.9272
		30	1962.5	9.3119
			1962.5	8.5962
			1962.5	7.9282
		60	1990.0	9.3103
			1990.0	8.5964
			1990.0	7.9259
	15	15	1937.5	14.154
			1937.5	13.672
			1937.5	12.993
		30	1962.5	14.153
			1962.5	13.667
			1962.5	12.995
		60	1987.5	14.154
			1987.5	13.671
			1987.5	12.994
	20	15	1940.0	18.881
			1940.0	18.227
			1940.0	17.197
		30	1962.5	18.880
			1962.5	18.213
			1962.5	17.193
		60	1985.0	18.884
			1985.0	18.219
			1985.0	17.193
	25	15	1942.5	23.827
			1942.5	23.247
			1942.5	22.198
		30	1962.5	23.813
			1962.5	23.248
			1962.5	22.185
		60	1982.5	23.820
			1982.5	23.250
			1982.5	22.192

Table 16 Occupied Bandwidth QPSK - Input



Modulation	Bandwidth (MHz)	Sub Carrier (kHz)	Operation Frequency (MHz)	Reading (MHz)
QPSK	40	15	1950.0	38.677
		30	1950.0	37.856
		60	1950.0	36.504
		15	1962.5	38.667
		30	1962.5	37.869
		60	1962.5	36.486
		15	1975.0	38.682
		30	1975.0	37.858
		60	1975.0	36.478
	50	15	1955.0	48.258
		30	1955.0	47.598
		60	1955.0	46.455
		15	1962.5	48.247
		30	1962.5	47.599
		60	1962.5	46.446
		15	1970.0	48.242
		30	1970.0	47.590
		60	1970.0	46.443
	60	30	1960.0	57.879
		60	1960.0	56.599
		30	1962.5	57.886
		60	1962.5	56.596
		30	1965.0	57.859
		60	1965.0	56.596

Table 17 Occupied Bandwidth QPSK – Input



Modulation	Bandwidth (MHz)	Sub Carrier (kHz)	Operation Frequency (MHz)	Reading (MHz)	
16QAM	5	15	1932.5	4.4918	
		30	1932.5	3.9426	
		15	1962.5	4.4929	
		30	1962.5	3.9442	
		15	1992.5	4.5224	
		30	1992.5	3.9444	
	10	15	1935.0	9.4418	
			30	1935.0	8.5541
			60	1935.0	7.8774
		30	1962.5	9.3683	
			1962.5	8.5614	
			1962.5	7.8862	
		60	1990.0	9.3955	
			1990.0	8.5663	
			1990.0	7.8981	
	15	15	1937.5	13.942	
			30	1937.5	13.717
			60	1937.5	12.635
		30	1962.5	14.351	
			1962.5	13.699	
			1962.5	12.683	
		60	1987.5	14.443	
			1987.5	13.698	
			1987.5	12.674	
	20	15	1940.0	20.103	
			30	1940.0	18.457
			60	1940.0	17.172
		30	1962.5	19.943	
			1962.5	18.435	
			1962.5	17.178	
		60	1985.0	21.380	
			1985.0	18.438	
			1985.0	17.206	
	25	15	1942.5	24.233	
			30	1942.5	23.645
			60	1942.5	22.493
		30	1962.5	25.494	
			1962.5	23.691	
			1962.5	22.536	
		60	1982.5	26.493	
			1982.5	23.963	
			1982.5	22.928	

Table 18 Occupied Bandwidth 16QAM -Output



Modulation	Bandwidth (MHz)	Sub Carrier (kHz)	Operation Frequency (MHz)	Reading (MHz)
16QAM	40	15	1950.0	39.382
		30	1950.0	39.018
		60	1950.0	36.813
		15	1962.5	39.707
		30	1962.5	38.926
		60	1962.5	36.901
		15	1975.0	39.970
		30	1975.0	38.681
		60	1975.0	36.850
	50	15	1955.0	48.763
		30	1955.0	48.164
		60	1955.0	46.938
		15	1962.5	48.947
		30	1962.5	48.549
		60	1962.5	47.122
		15	1970.0	48.998
		30	1970.0	48.478
		60	1970.0	47.148
	60	30	1960.0	58.278
		60	1960.0	56.932
		30	1962.5	58.444
		60	1962.5	57.006
		30	1965.0	58.307
		60	1965.0	56.984

Table 19 Occupied Bandwidth 16QAM - Output



Modulation	Bandwidth (MHz)	Sub Carrier (kHz)	Operation Frequency (MHz)	Reading (MHz)	
64QAM	5	15	1932.5	4.4906	
		30	1932.5	3.9425	
		15	1962.5	4.4925	
		30	1962.5	3.9436	
		15	1992.5	4.4921	
		30	1992.5	3.9443	
	10	15	1935.0	9.3076	
			30	1935.0	8.5844
			60	1935.0	7.8812
		30	1962.5	9.3157	
			1962.5	8.5926	
			1962.5	7.8892	
		60	1990.0	9.3130	
			1990.0	8.5879	
			1990.0	7.8851	
	15	15	1937.5	14.124	
			30	1937.5	13.580
			60	1937.5	12.876
		30	1962.5	14.157	
			1962.5	13.592	
			1962.5	12.899	
		60	1987.5	14.142	
			1987.5	13.602	
			1987.5	12.901	
	20	15	1940.0	18.934	
			30	1940.0	18.202
			60	1940.0	17.158
		30	1962.5	18.981	
			1962.5	18.253	
			1962.5	17.200	
		60	1985.0	18.962	
			1985.0	18.232	
			1985.0	17.183	
	25	15	1942.5	23.765	
			30	1942.5	23.226
			60	1942.5	22.185
		30	1962.5	23.819	
			1962.5	23.286	
			1962.5	22.233	
		60	1982.5	23.782	
			1982.5	23.241	
			1982.5	22.196	

Table 20 Occupied Bandwidth – 64QAM - Output



Modulation	Bandwidth (MHz)	Sub Carrier (kHz)	Operation Frequency (MHz)	Reading (MHz)
64QAM	40	15	1950.0	38.671
		30	1950.0	37.909
		60	1950.0	36.494
		15	1962.5	38.741
		30	1962.5	37.980
		60	1962.5	36.562
		15	1975.0	38.636
		30	1975.0	37.891
		60	1975.0	36.463
	50	15	1955.0	48.406
		30	1955.0	47.619
		60	1955.0	46.616
		15	1962.5	48.427
		30	1962.5	47.671
		60	1962.5	46.641
		15	1970.0	48.379
		30	1970.0	47.581
		60	1970.0	46.555
	60	30	1960.0	58.100
		60	1960.0	56.690
		30	1962.5	58.134
		60	1962.5	56.662
		30	1965.0	58.139
		60	1965.0	56.645

Table 21 Occupied Bandwidth 64QAM - Output



Modulation	Bandwidth (MHz)	Sub Carrier (kHz)	Operation Frequency (MHz)	Reading (MHz)	
256QAM	5	15	1932.5	4.4867	
		30	1932.5	3.9316	
		15	1962.5	4.4911	
		30	1962.5	3.9316	
		15	1992.5	4.4915	
		30	1992.5	3.9330	
	10	10	15	1935.0	9.2807
			30	1935.0	8.5683
			60	1935.0	8.5544
			15	1962.5	9.2948
			30	1962.5	8.5786
			60	1962.5	7.8742
			15	1990.0	9.2915
			30	1990.0	8.5748
			60	1990.0	7.8717
	15	15	15	1937.5	14.112
			30	1937.5	13.594
			60	1937.5	12.904
			15	1962.5	14.145
			30	1962.5	13.620
			60	1962.5	12.929
			15	1987.5	14.143
			30	1987.5	13.601
			60	1987.5	12.928
	20	20	15	1940.0	18.904
			30	1940.0	18.222
			60	1940.0	17.149
			15	1962.5	18.980
			30	1962.5	18.272
			60	1962.5	17.201
			15	1985.0	18.939
			30	1985.0	18.247
			60	1985.0	17.198
	25	25	15	1942.5	23.772
			30	1942.5	23.247
			60	1942.5	22.143
15			1962.5	23.848	
30			1962.5	23.310	
60			1962.5	22.197	
15			1982.5	23.780	
30			1982.5	23.266	
60			1982.5	22.155	

Table 22 Occupied Bandwidth 256QAM - Output



Modulation	Bandwidth (MHz)	Sub Carrier (kHz)	Operation Frequency (MHz)	Reading (MHz)
256QAM	40	15	1950.0	38.654
		30	1950.0	37.966
		60	1950.0	36.569
		15	1962.5	38.738
		30	1962.5	38.026
		60	1962.5	36.587
		15	1975.0	38.586
		30	1975.0	37.901
		60	1975.0	36.477
	50	15	1955.0	48.442
		30	1955.0	47.772
		60	1955.0	46.701
		15	1962.5	48.473
		30	1962.5	47.787
		60	1962.5	46.714
		15	1970.0	48.378
		30	1970.0	47.715
		60	1970.0	46.611
	60	30	1960.0	58.179
		60	1960.0	56.715
		30	1962.5	58.195
		60	1962.5	56.775
		30	1965.0	58.154
		60	1965.0	56.765

Table 23 Occupied Bandwidth 256QAM - Output



Modulation	Bandwidth (MHz)	Sub Carrier (kHz)	Operation Frequency (MHz)	Reading (MHz)	
QPSK	5	15	1932.5	4.4944	
		30	1932.5	3.9670	
		15	1962.5	4.4959	
		30	1962.5	3.9689	
		15	1992.5	4.4926	
		30	1992.5	3.9677	
	10	15	1935.0	9.2991	
			30	1935.0	8.5971
			60	1935.0	7.9220
		30	1962.5	9.3143	
			1962.5	8.6014	
			1962.5	7.9304	
		60	1990.0	9.3113	
			1990.0	8.5951	
			1990.0	7.9250	
	15	15	1937.5	14.122	
			30	1937.5	14.779
			60	1937.5	12.963
		30	1962.5	14.152	
			1962.5	13.891	
			1962.5	12.992	
		60	1987.5	14.138	
			1987.5	13.661	
			1987.5	12.980	
	20	15	1940.0	18.896	
			30	1940.0	18.176
			60	1940.0	17.165
		30	1962.5	18.955	
			1962.5	18.237	
			1962.5	17.199	
		60	1985.0	18.917	
			1985.0	18.222	
			1985.0	17.190	
	25	15	1942.5	23.786	
			30	1942.5	23.225
			60	1942.5	22.168
		30	1962.5	23.842	
			1962.5	23.301	
			1962.5	22.223	
		60	1982.5	23.805	
			1982.5	23.246	
			1982.5	22.176	

Table 24 Occupied Bandwidth QPSK - Output



Modulation	Bandwidth (MHz)	Sub Carrier (kHz)	Operation Frequency (MHz)	Reading (MHz)	
QPSK	40	15	1950.0	38.753	
		30	1950.0	37.974	
		60	1950.0	36.585	
		15	1962.5	38.824	
		30	1962.5	38.042	
		60	1962.5	36.635	
		15	1975.0	38.707	
		30	1975.0	37.902	
		60	1975.0	36.535	
	50	50	15	1955.0	48.485
			30	1955.0	47.752
			60	1955.0	46.665
			15	1962.5	48.502
			30	1962.5	47.808
			60	1962.5	46.684
			15	1970.0	48.407
			30	1970.0	47.695
			60	1970.0	46.611
	60	60	30	1960.0	58.154
			60	1960.0	56.823
			30	1962.5	58.192
			60	1962.5	56.852
			30	1965.0	58.169
			60	1965.0	56.840

Table 25 Occupied Bandwidth QPSK - Output

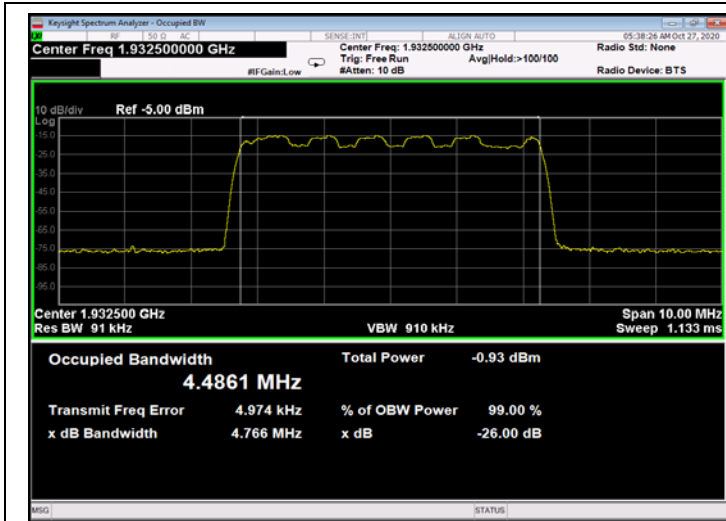


Figure 273: 16QAM 5MHz B.W.; 1932.5MHz, 15kHz - Input

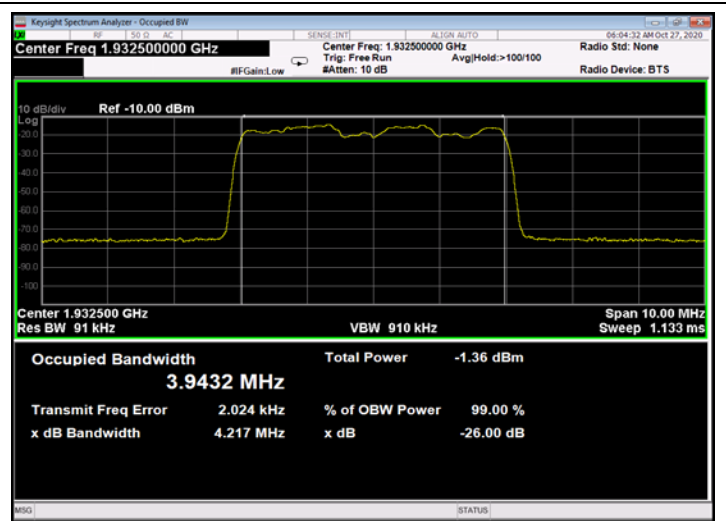


Figure 274: 16QAM 5MHz B.W.; 1932.5MHz, 30kHz - Input

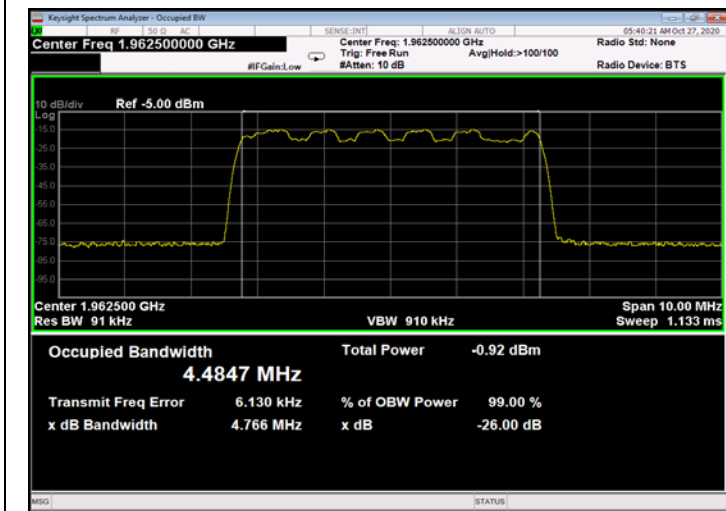


Figure 275: 16QAM 5MHz B.W.; 1962.5MHz, 15kHz - Input

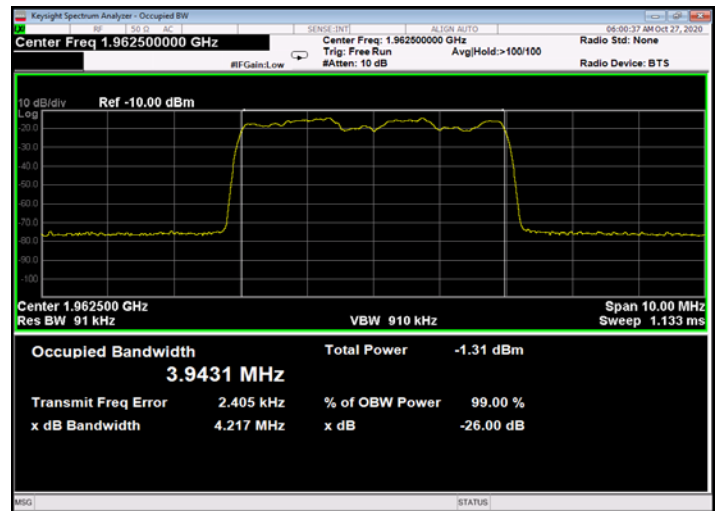


Figure 276: 16QAM 5MHz B.W.; 1962.5MHz, 30kHz - Input

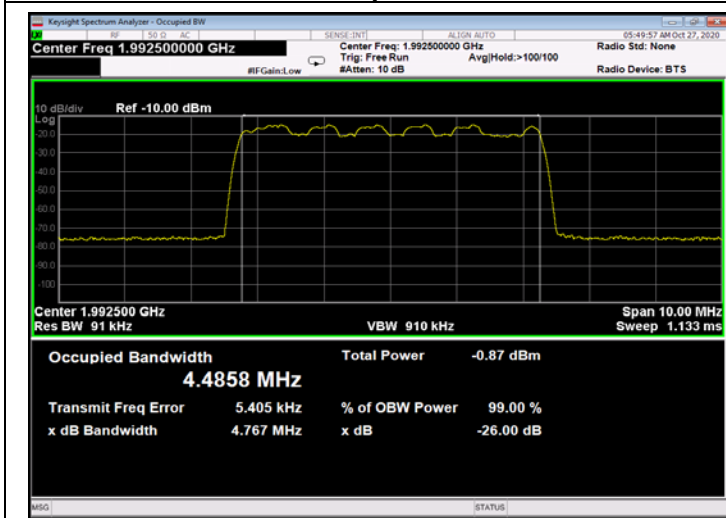


Figure 277: 16QAM 5MHz B.W.; 1992.5MHz, 15kHz - Input

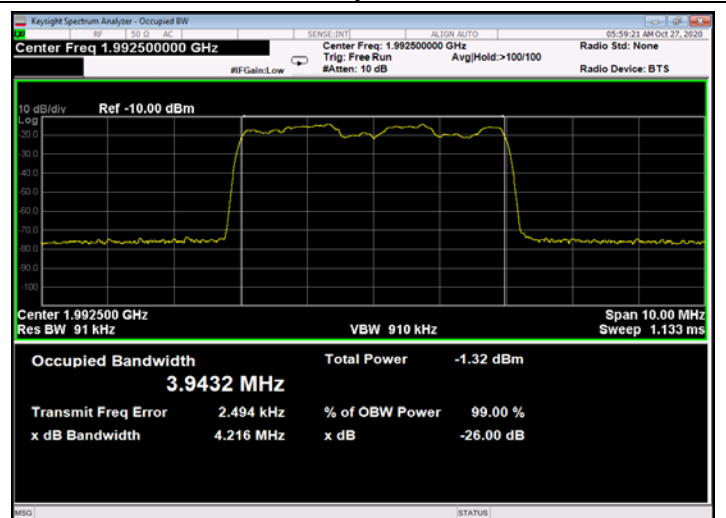


Figure 278: 16QAM 5MHz C.S.; 1992.5MHz, 30kHz - Input

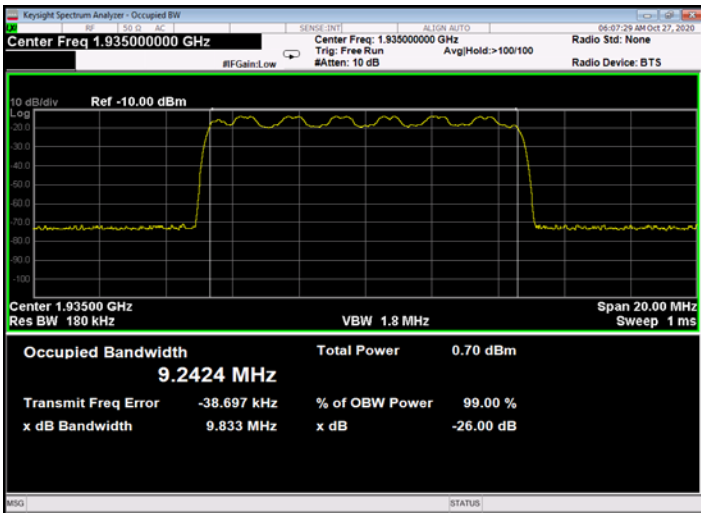


Figure 279: 16QAM 10MHz B.W.; 1935.00MHz, 15kHz - Input

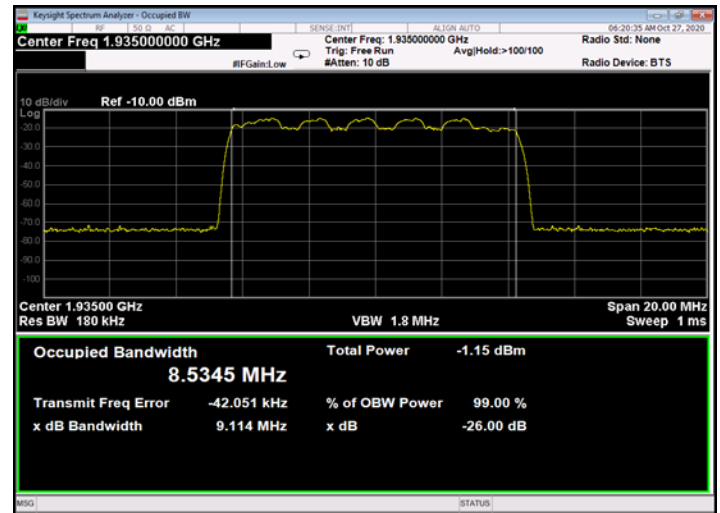


Figure 280: 16QAM 10MHz B.W.; 1935.0MHz, 30kHz - Input

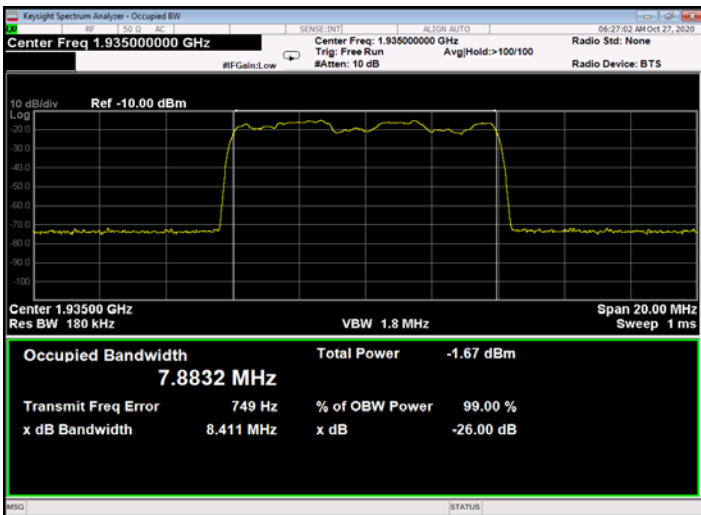


Figure 281: 16QAM 10MHz B.W.; 1935.0MHz, 60kHz - Input

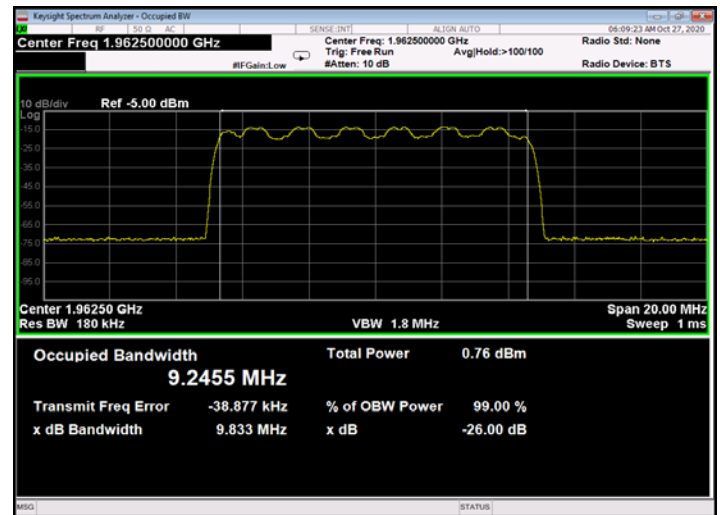


Figure 282: 16QAM 10MHz B.W.; 1962.5MHz, 15kHz - Input

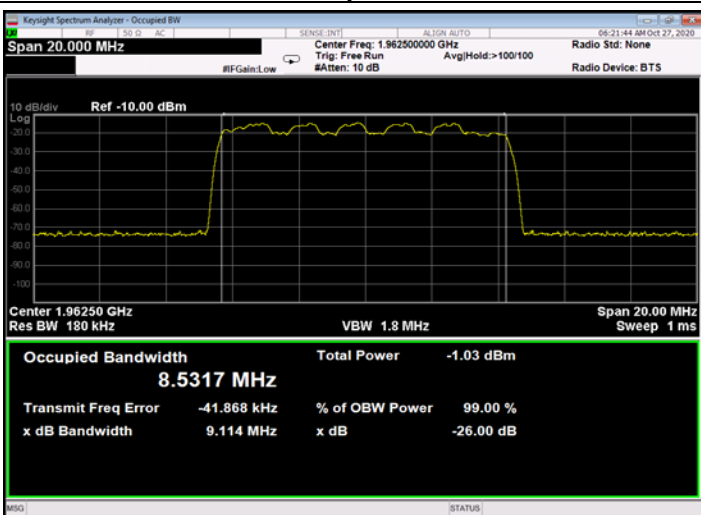


Figure 283: 16QAM 10MHz B.W.; 1962.5MHz, 30kHz - Input

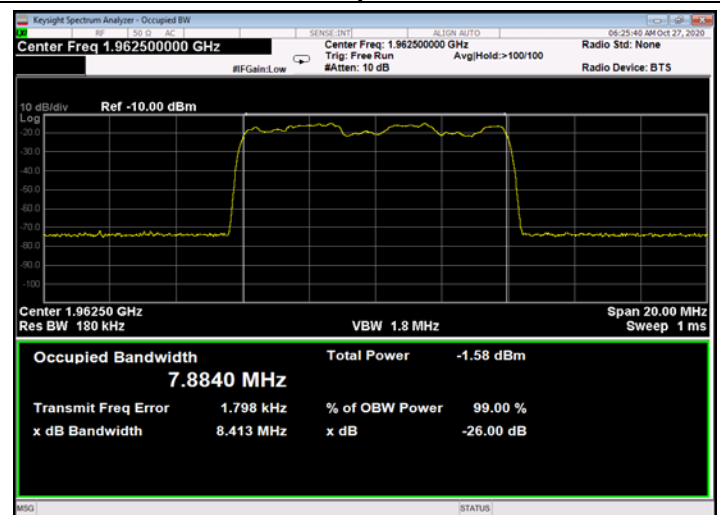


Figure 284: 16QAM 10MHz B.W.; 1962.5MHz, 60kHz - Input

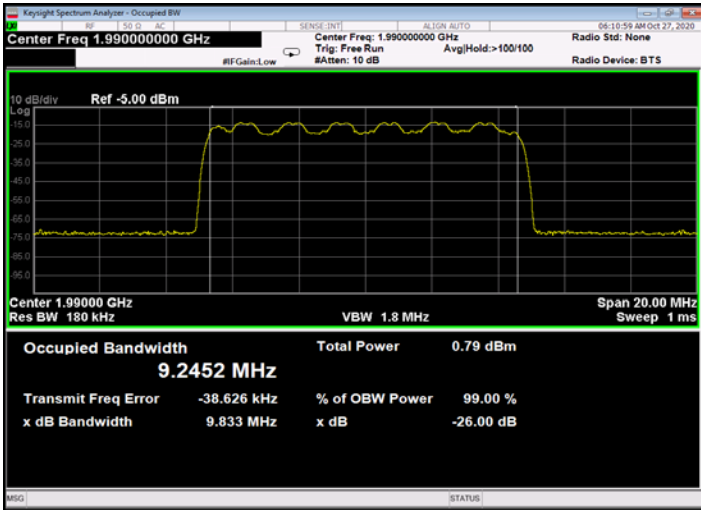


Figure 285: 16QAM 10MHz B.W.; 1990.0MHz, 15kHz - Input

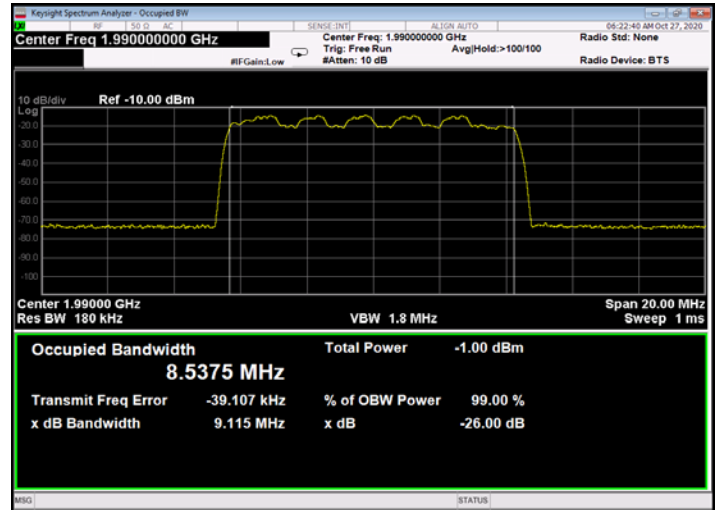


Figure 286: 16QAM 10MHz B.W.; 1990.0MHz, 30kHz - Input

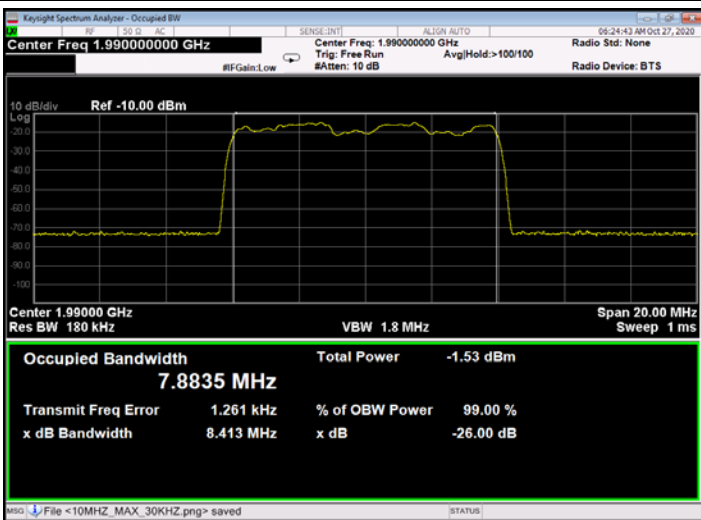


Figure 287: 16QAM 10MHz B.W.; 1990.0MHz, 60kHz - Input

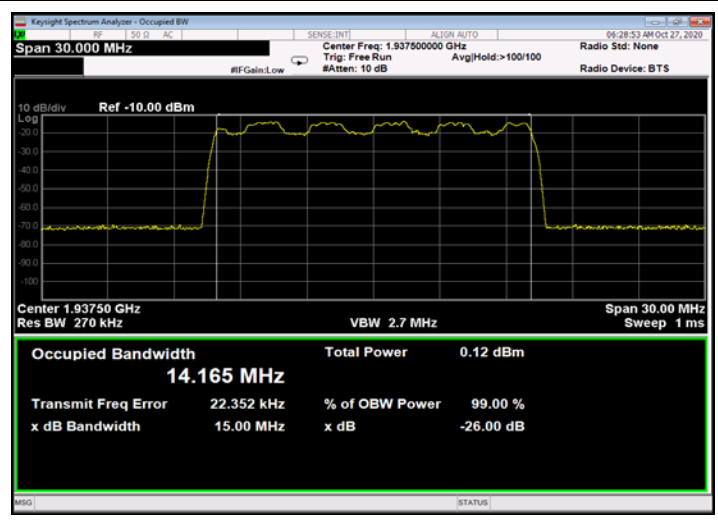


Figure 288: 16QAM 15MHz B.W.; 1937.5MHz, 15kHz - Input

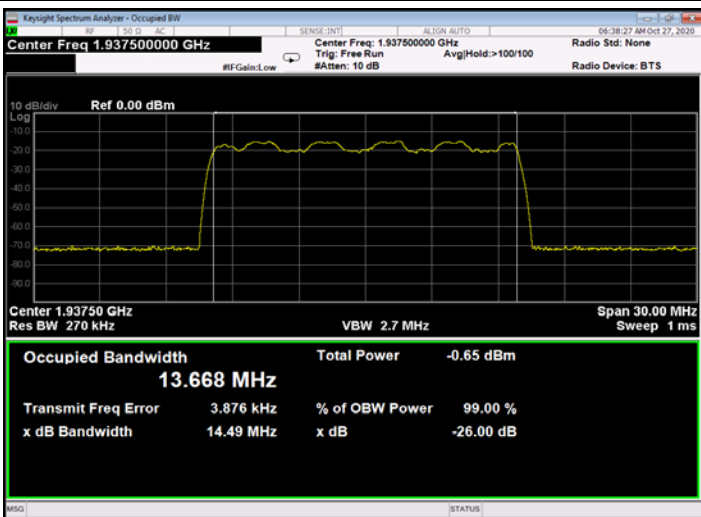


Figure 289: 16QAM 15MHz B.W.; 1937.5MHz, 30kHz - Input

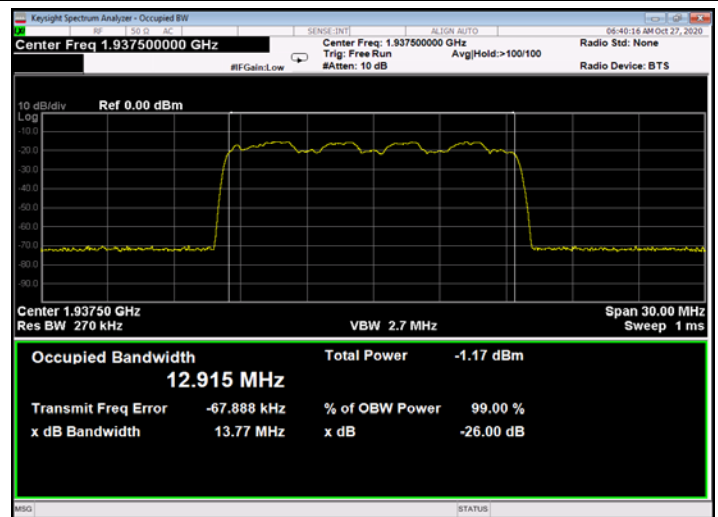


Figure 290: 16QAM 10MHz B.W.; 1937.5MHz, 60kHz - Input