



Figure 203: QPSK 20MHz B.W.; 2506.0MHz OUTPUT



Figure 204: QPSK 20MHz B.W.; 2593.0MHz OUTPUT



Figure 205: QPSK 20MHz B.W.; 2680.0MHz OUTPUT



Figure 207: 16QAM 20MHz B.W.; 2593.0MHz INPUT

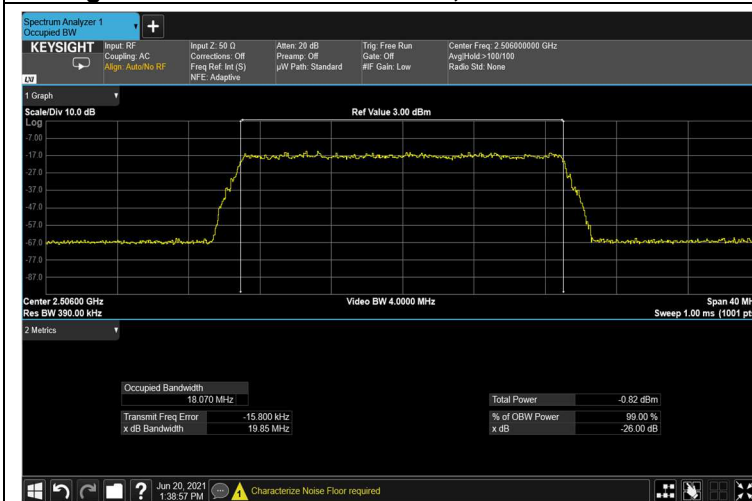


Figure 206: 16QAM 20MHz B.W.; 2506.0MHz INPUT





Figure 214: QPSK 20MHz B.W.; 2680.0MHz INPUT

5.5 Test Equipment Used; Occupied Bandwidth

Instrument	Manufacturer	Model	Serial Number	Calibration	
				Last Calibration	Calibration Due
EXA signal Analyzer	Keysight	UXA N9040B	MY56080119	January 31, 2020	January 31, 2022
EXG Vector Signal Generator	Agilent Technologies	N5172B	MY53051952	January 17, 2019	January 17, 2022
40 dB Attenuator	Weinschel Associates	WA 39-40-33	-	November 1, 2020	November 1, 2021
RF Coaxial Cable	Huber-Suner	SLLS210B	-	November 1, 2020	November 1, 2021

Table 17 Test Equipment Used

6 Peak to Average Power Ratio

6.1 Test Specification

FCC Part 27.50(a)(1)(B)

6.2 Test Procedure

(Temperature (22°C)/ Humidity (40%RH))

The method used is detailed in FCC KDB 971168 D03 v01

Measurements was using CCDF function for each modulation.

6.3 Test Limit

The peak-to-average power ratio (PAPR) of the transmitter output power must not exceed 13 dB.

6.4 Test Results

JUDGEMENT: Passed

For additional information see:

5G: Table 18 to Table 21, and Figure 215 to Figure 274.

4G: Table 22 and Figure 275 to Figure 283.

5G

	Bandwidth	Sub Carrier	Operation Frequency	0.1% PAPR	Limit
	(MHz)	(kHz)	(MHz)	(dB)	(dB)
Modulation 16QAM	40	15	2516	9.98	13
		30		9.96	13
		60		9.97	13
		15	2593	10.09	13
		30		10.16	13
		60		9.79	13
		15	2670	9.79	13
		30		9.85	13
		60		9.81	13
	60	30	2526	10.07	13
		60		9.73	13
		30	2593	10.82	13
		60		10.03	13
		30	2660	10.32	13
60		9.35		13	

Table 18 Test Results Peak to Average Power Ratio 16 QAM

	Bandwidth	Sub Carrier	Operation Frequency	0.1% PAPR	Limit
	(MHz)	(kHz)	(MHz)	(dB)	(dB)
Modulation 64QAM	40	15	2516	7.75	13
		30		7.76	13
		60		7.75	13
		15	2593	8.19	13
		30		8.20	13
		60		8.31	13
		15	2670	7.40	13
		30		7.40	13
		60		7.47	13
	60	30	2526	8.12	13
		60		8.17	13
		30	2593	8.50	13
		60		8.73	13
		30	2660	7.94	13
		60		8.02	13

Table 19 Test Results Peak to Average Power Ratio 64 QAM

	Bandwidth	Sub Carrier	Operation Frequency	0.1% PAPR	Limit
	(MHz)	(kHz)	(MHz)	(dB)	(dB)
Modulation 256QAM	40	15	2516	7.65	13
		30		8.09	13
		60		8.28	13
		15	2593	8.57	13
		30		8.73	13
		60		8.96	13
		15	2670	7.75	13
		30		7.93	13
		60		7.95	13
	60	30	2526	8.49	13
		60		8.66	13
		30	2593	9.26	13
		60		8.91	13
		30	2660	8.36	13
		60		8.56	13

Table 20 Test Results Peak to Average Power Ratio 256 QAM

	Bandwidth	Sub Carrier	Operation Frequency	0.1% PAPR	Limit
	(MHz)	(kHz)	(MHz)	(dB)	(dB)
Modulation QPSK	40	15	2516	8.01	13
		30		7.78	13
		60		7.79	13
		15	2593	8.58	13
		30		8.79	13
		60		9.03	13
		15	2670	7.97	13
		30		8.24	13
		60		8.37	13
	60	30	2526	8.66	13
		60		8.94	13
		30	2593	9.21	13
		60		9.56	13
		30	2660	8.49	13
		60		8.81	13

Table 21 Test Results Peak to Average Power Ratio QPSK



Figure 215: 16QAM 40MHz B.W.; 2516.0MHz, 15kHz



Figure 216: 16QAM 40MHz B.W.; 2516.0MHz, 30kHz



Figure 217: 16QAM 40MHz B.W.; 2516.0MHz, 60kHz



Figure 218: 16QAM 40MHz B.W.; 2593.0MHz, 15kHz



Figure 219: 16QAM 40MHz B.W.; 2593.0MHz, 30kHz



Figure 220: 16QAM 40MHz B.W.; 2593.0MHz, 60kHz



Figure 221: 16QAM 40MHz B.W.; 2670.0MHz, 15kHz

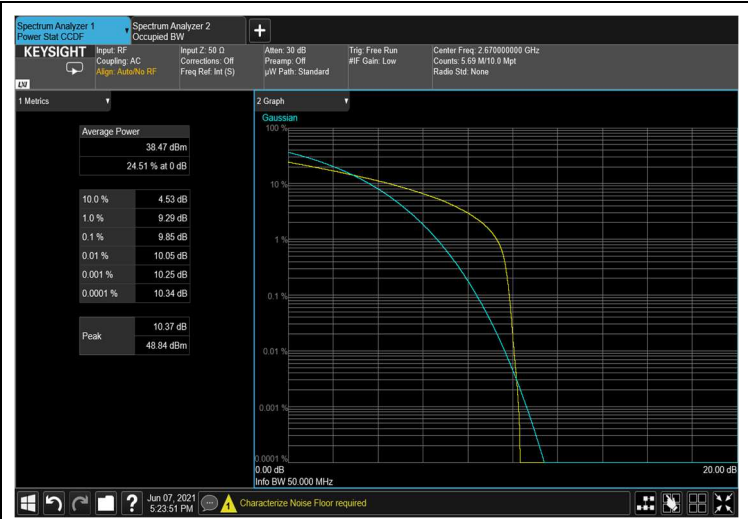


Figure 222: 16QAM 40MHz B.W.; 2670.0MHz, 30kHz



Figure 223: 16QAM 40MHz B.W.; 2670.0MHz, 60kHz



Figure 224: 16QAM 60MHz B.W.; 2526.0MHz, 30kHz



Figure 225: 16QAM 60MHz B.W.; 2526.0MHz, 60kHz



Figure 226: 16QAM 60MHz B.W.; 2593.0MHz, 30kHz



Figure 227: 16QAM 60MHz B.W.; 2593.0MHz, 60kHz



Figure 228: 16QAM 60MHz B.W.; 2660.0MHz, 30kHz



Figure 229: 16QAM 60MHz B.W.; 2660.0MHz, 60kHz

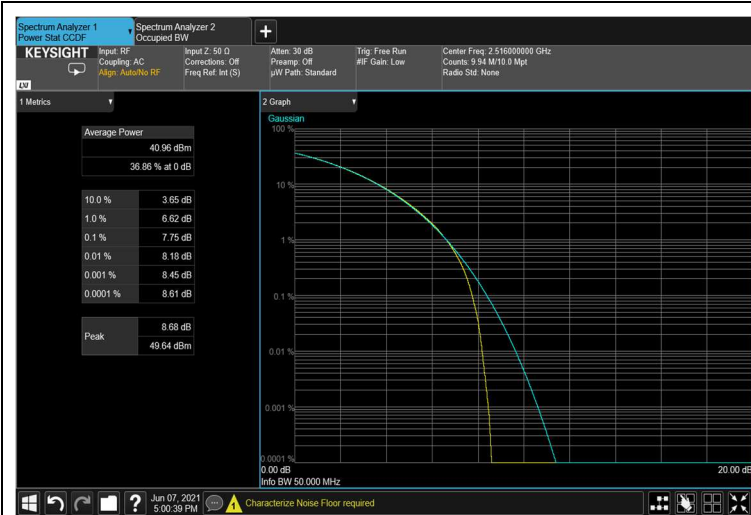


Figure 230: 64QAM 40MHz B.W.; 2516.0MHz, 15kHz

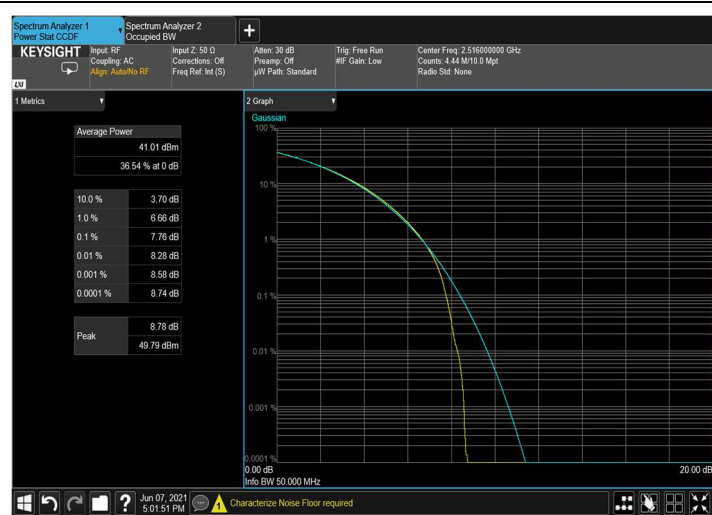


Figure 231: 64QAM 40MHz B.W.; 2516.0MHz, 30kHz



Figure 232: 64QAM 40MHz B.W.; 2516.0MHz, 60kHz

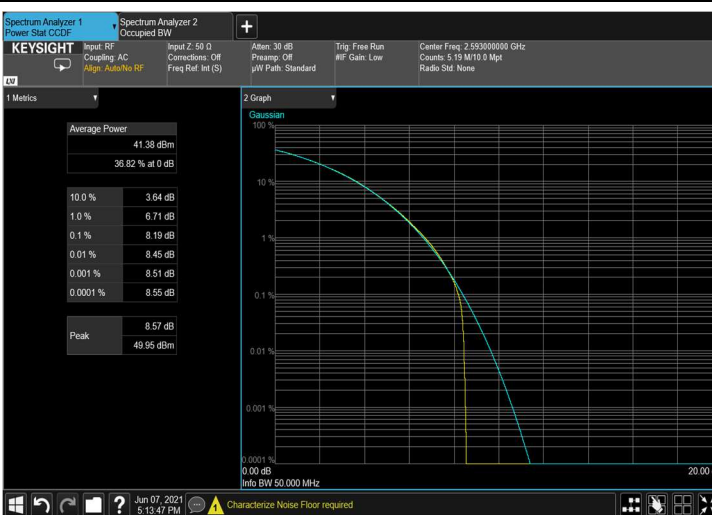


Figure 233: 64QAM 40MHz B.W.; 2593.0MHz, 15kHz

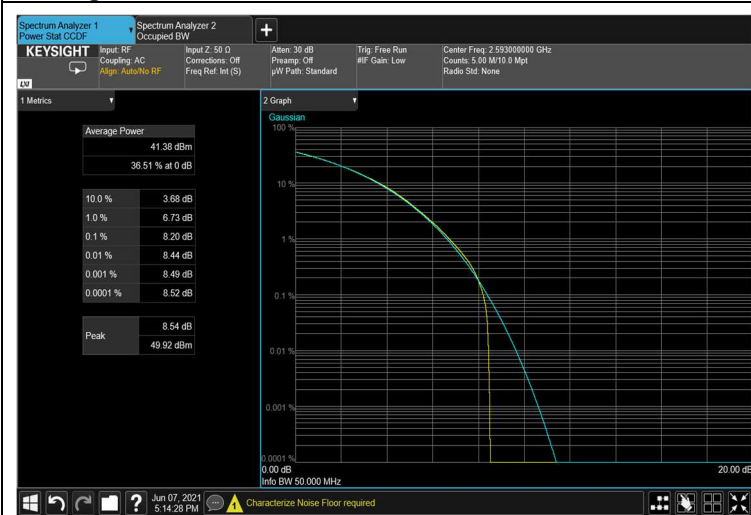


Figure 234: 64QAM 40MHz B.W.; 2593.0MHz, 30kHz

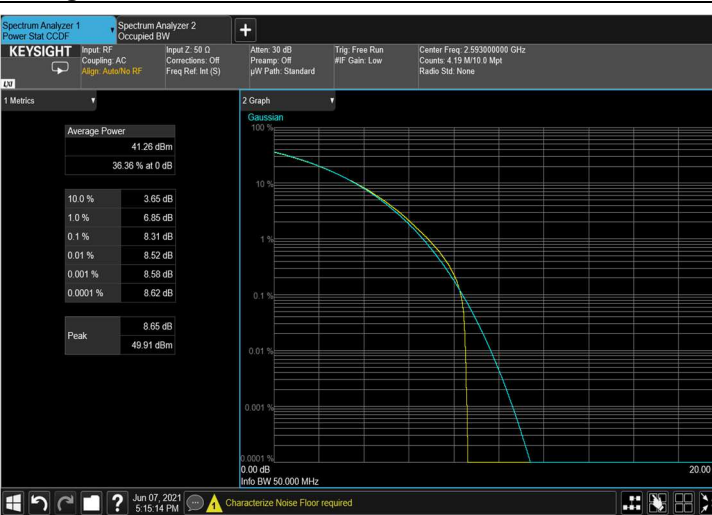


Figure 235: 64QAM 40MHz B.W.; 2593.0MHz, 60kHz