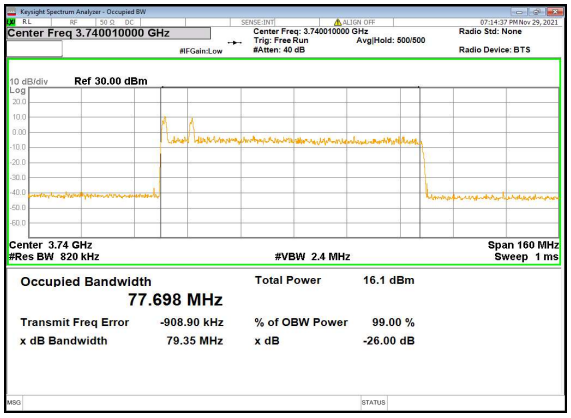
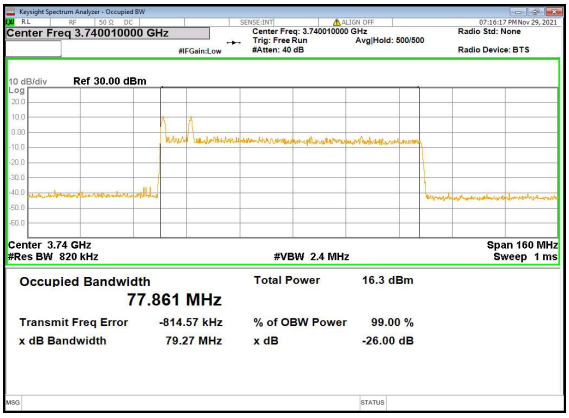
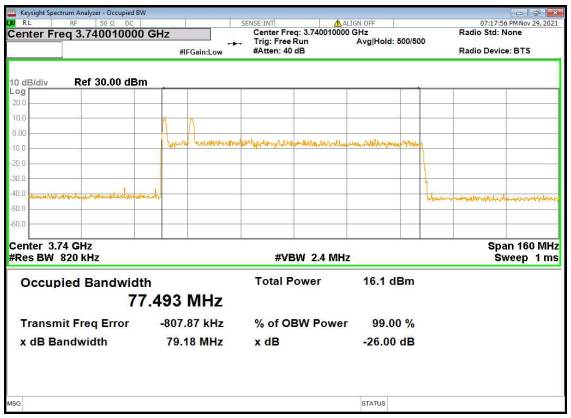
N77(80M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Low_CH



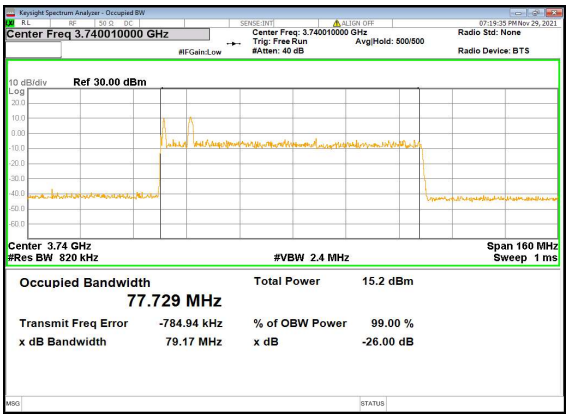
N77(80M)_DFT-s-OFDM_QPSK_Outer_Full_Low_CH



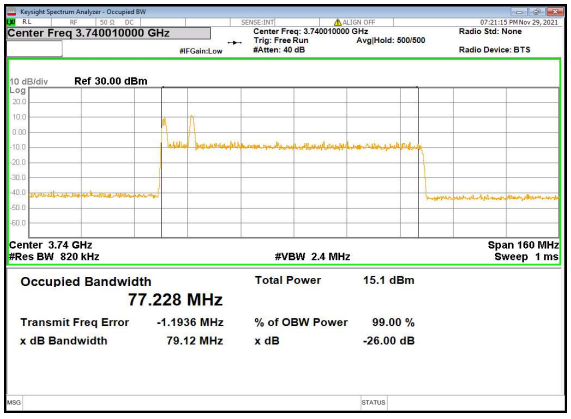
N77(80M)_DFT-s-OFDM_16QAM_Outer_Full_Low_CH



N77(80M)_DFT-s-OFDM_64QAM_Outer_Full_Low_CH



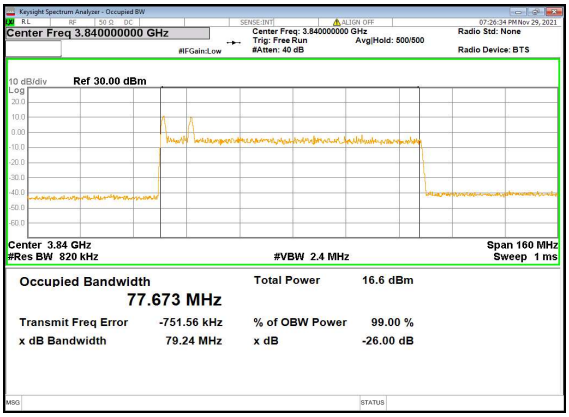
N77(80M)_DFT-s-OFDM_256QAM_Outer_Full_Low_CH



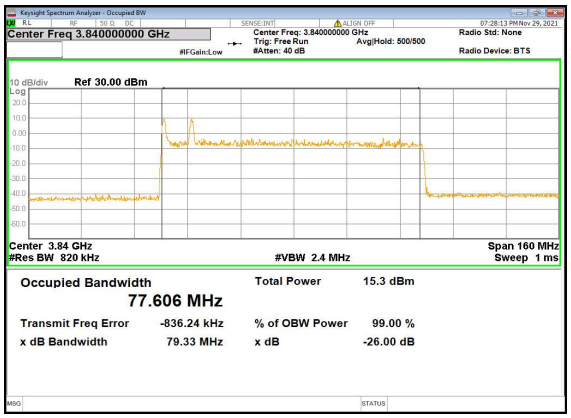
N77(80M)_CP-OFDM_QPSK_Outer_Full_Low_CH

N77(80M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Mid_CH

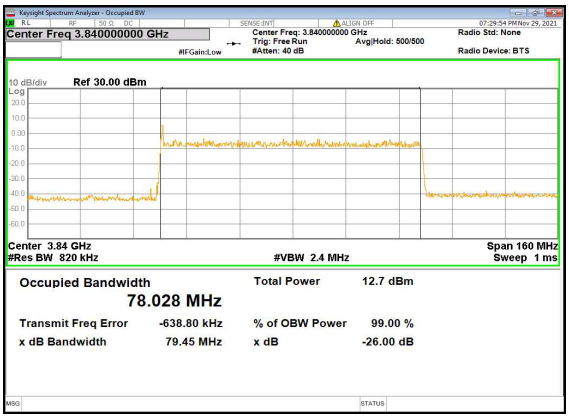
N77(80M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH



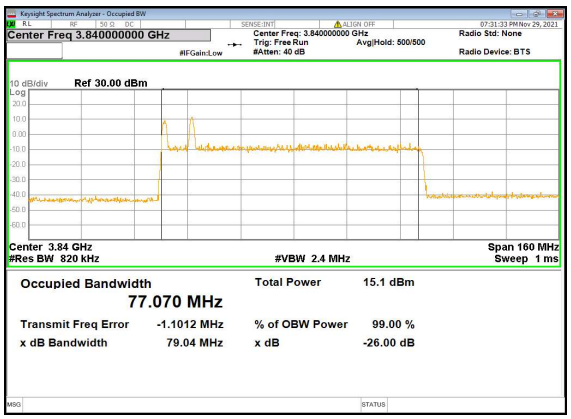
N77(80M)_DFT-s-OFDM_16QAM_Outer_Full_Mid_CH



N77(80M)_DFT-s-OFDM_64QAM_Outer_Full_Mid_CH

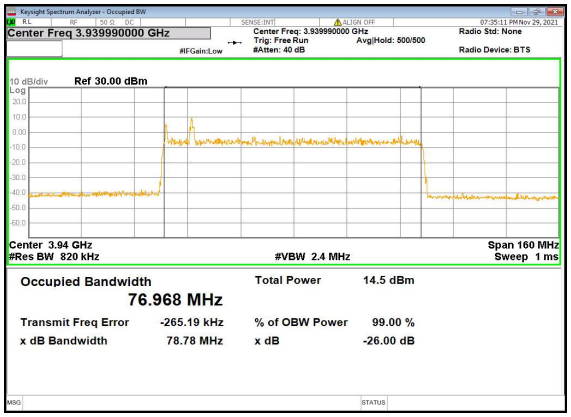


N77(80M)_DFT-s-OFDM_256QAM_Outer_Full_Mid_CH

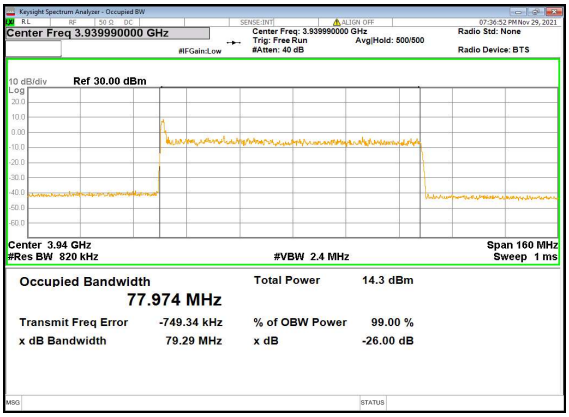


N77(80M)_CP-OFDM_QPSK_Outer_Full_Mid_CH

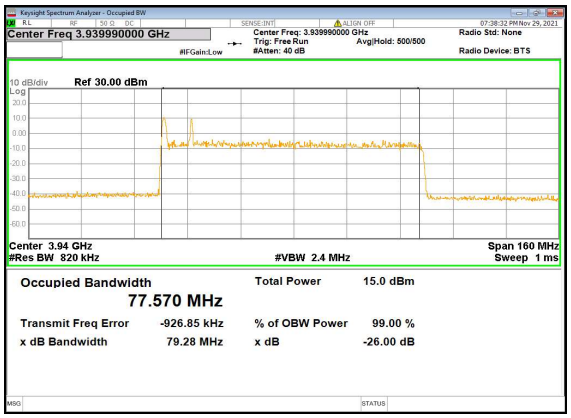
N77(80M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_High_CH



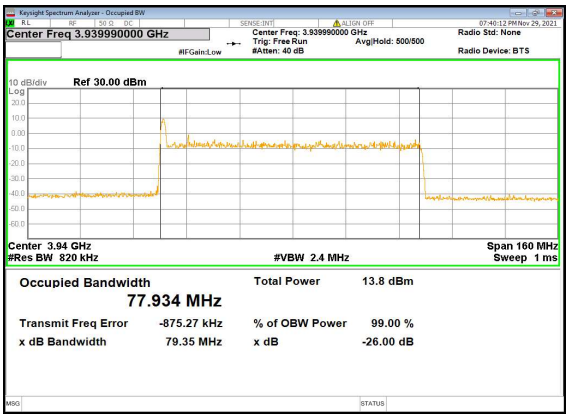
N77(80M)_DFT-s-OFDM_QPSK_Outer_Full_High_CH



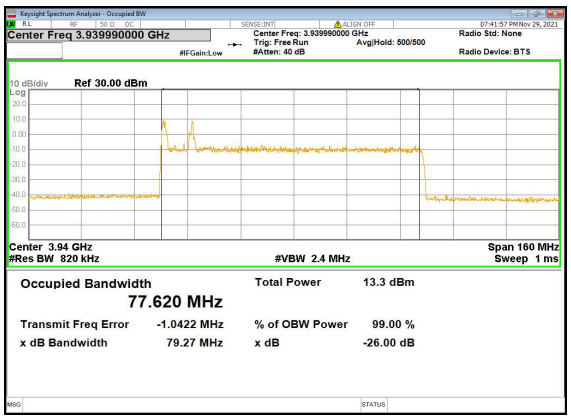
N77(80M)_DFT-s-OFDM_16QAM_Outer_Full_High_CH



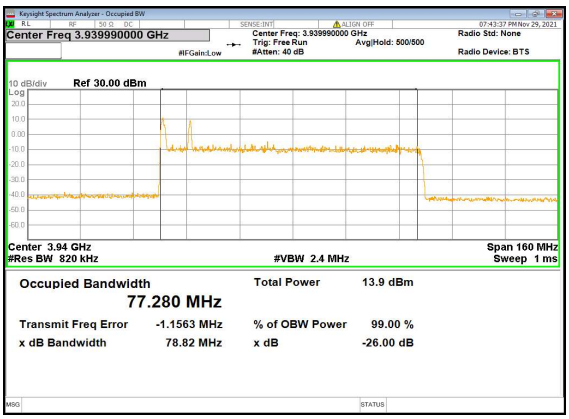
N77(80M)_DFT-s-OFDM_64QAM_Outer_Full_High_CH



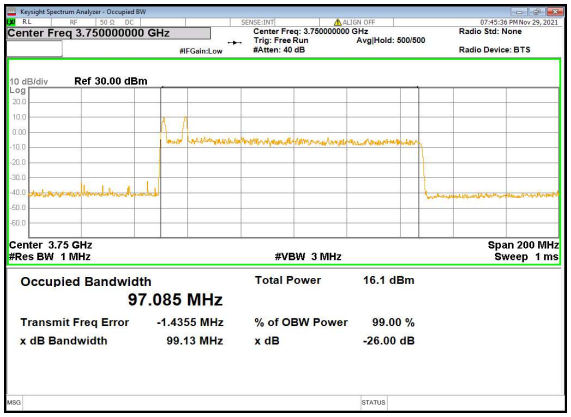
N77(80M)_DFT-s-OFDM_256 QAM_Outer_Full_High_CH



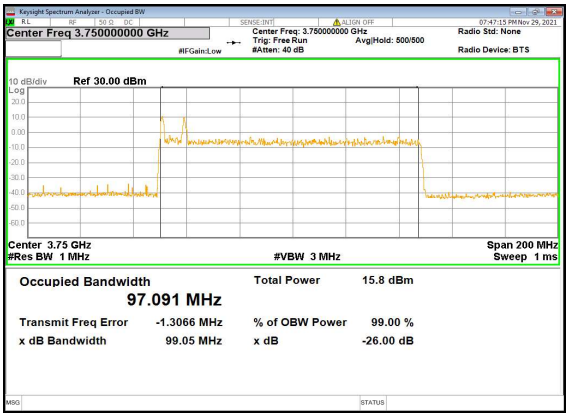
N77(80M)_CP-OFDM_QPSK_Outer_Full_High_CH



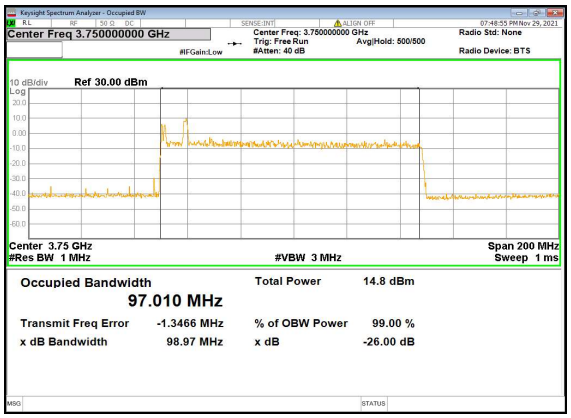
N77(100M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Low_CH



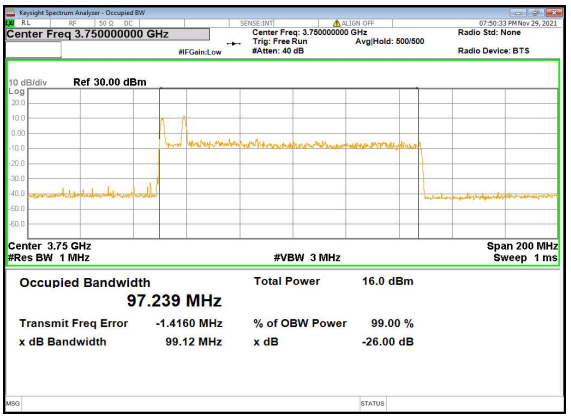
N77(100M)_DFT-s-OFDM_QPSK_Outer_Full_Low_CH



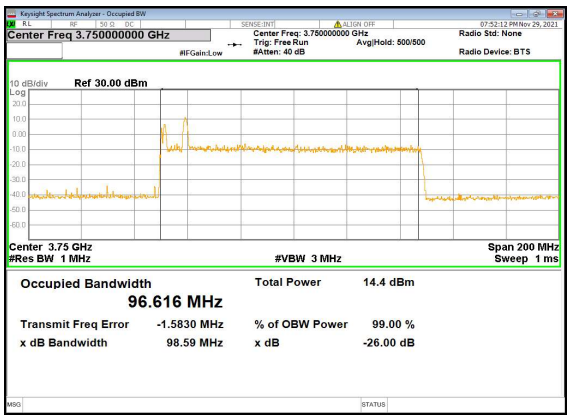
N77(100M)_DFT-s-OFDM_16QAM_Outer_Full_Low_CH



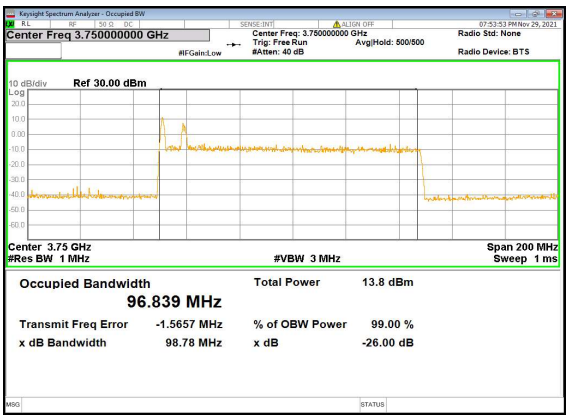
N77(100M)_DFT-s-OFDM_64QAM_Oute_Full_Low_CH



N77(100M)_DFT-s-OFDM_256QAM_Outer_Full_Low_CH

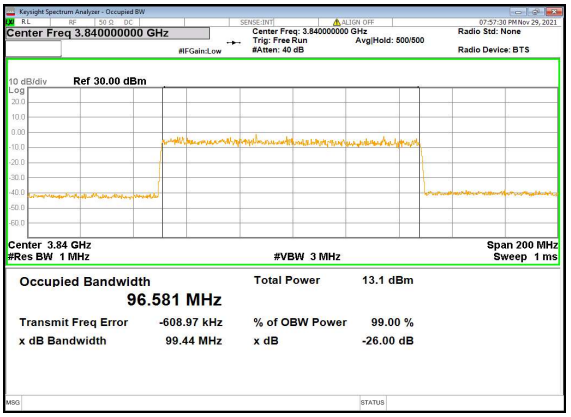


N77(100M)_CP-OFDM_QPSK_Outer_Full_Low_CH

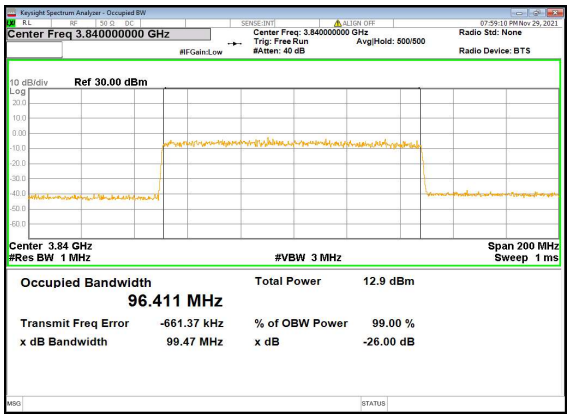


N77(100M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Mid_CH

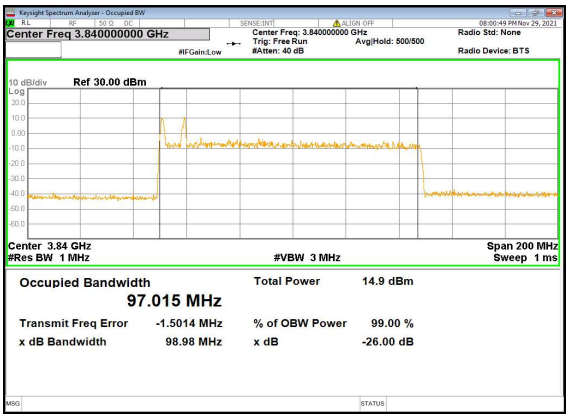
N77(100M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH



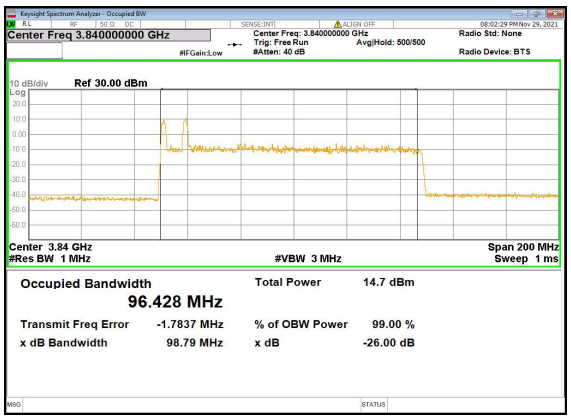
N77(100M)_DFT-s-OFDM_16QAM_Outer_Full_Mid_CH



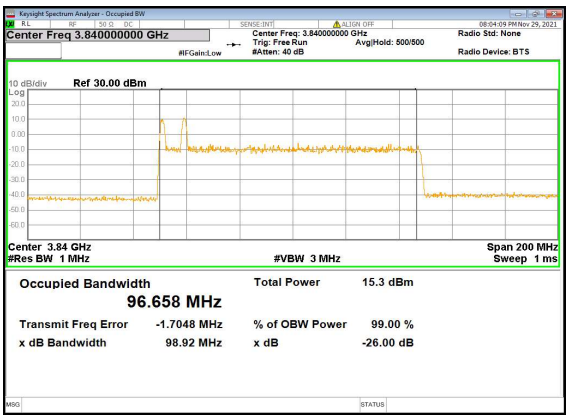
N77(100M)_DFT-s-OFDM_64QAM_Outer_Full_Mid_CH



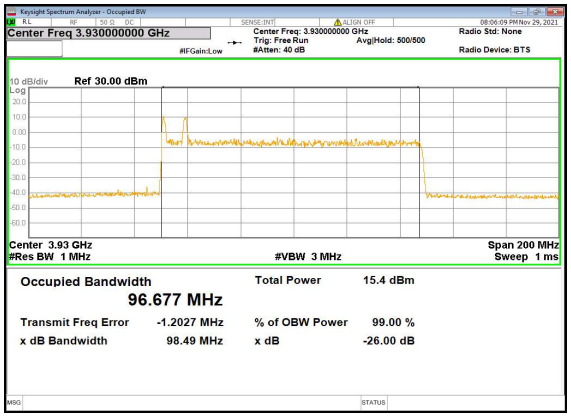
N77(100M)_DFT-s-OFDM_256QAM_Outer_Full_Mid_CH



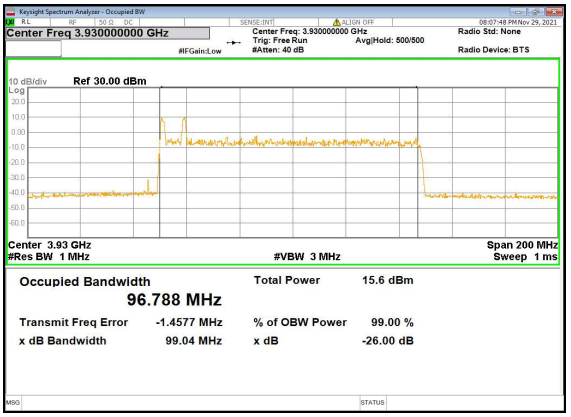
N77(100M)_CP-OFDM_QPSK_Outer_Full_Mid_CH



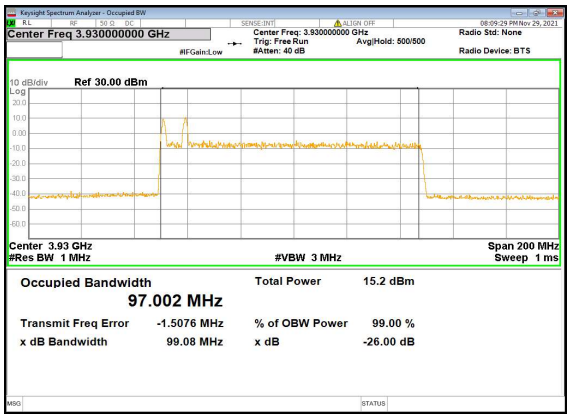
N77(100M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_High_CH



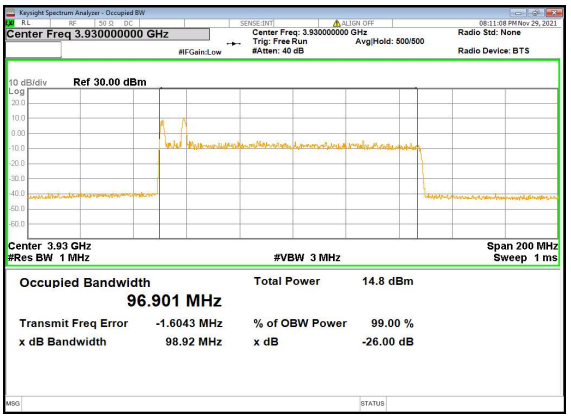
N77(100M)_DFT-s-OFDM_QPSK_Outer_Full_High_CH



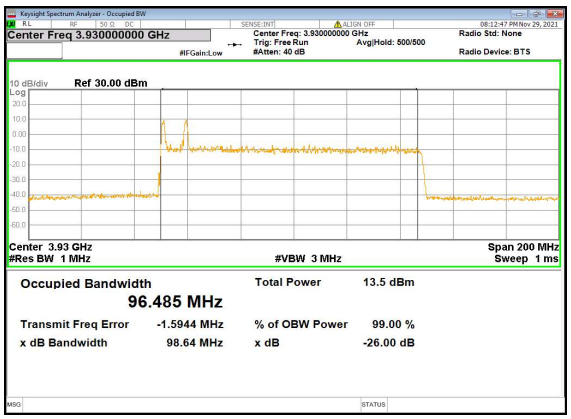
N77(100M)_DFT-s-OFDM_16QAM_Outer_Full_High_CH



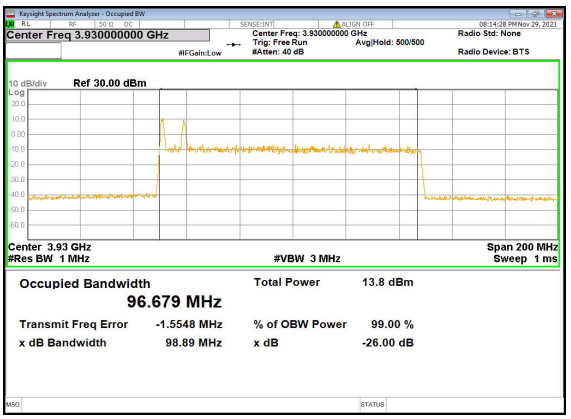
N77(100M)_DFT-s-OFDM_64QAM_Outer_Full_High_CH



N77(100M)_DFT-s-OFDM_256QAM_Outer_Full_High_CH



N77(100M)_CP-OFDM_QPSK_Outer_Full_High_CH



2.3. Frequency Stability

2.3.1. Requirement

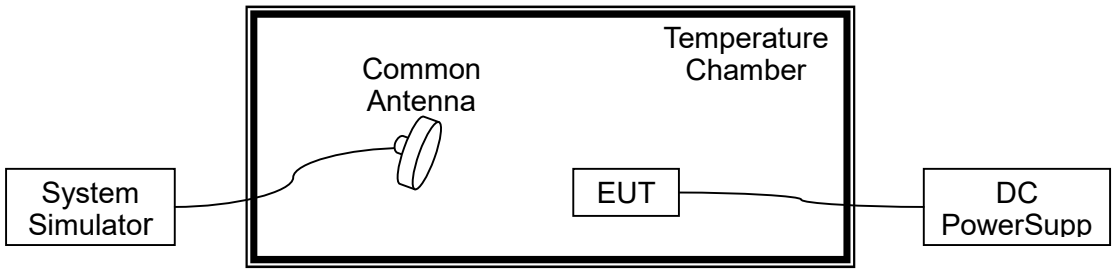
According to FCC section 2.1055, the frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block. According to FCC section 2.1055, the test conditions are:

(a) The temperature is varied from -30°C to +50°C at intervals of not more than 10°C.

(b) For hand carried battery powered equipment, the primary supply voltage is reduced to the battery operating end point which shall be specified by the manufacture. The supply voltage shall be measured at the input to the cable normally provided with the equipment, or at the power supply terminals if cables are not normally provided.

Note: The operating temperature of EUT is from 0°C to 40°C, which are specified by the applicant.

2.3.2. Test Description



The EUT which is powered by the DC Power Supply directly, is located in the Temperature Chamber. The EUT is commanded by the System Simulator (SS) to operate at the maximum output power. A call is established between the EUT and the SS via a Common Antenna.

2.3.3. Test procedure

KDB 971168 D01v03 Section 9.0 and ANSI/TIA-603-E-2016.

2.3.4. Test Result

The nominal, highest and lowest extreme voltages are separately 6VDC, 7.74VDC and 8.9VDC, which are specified by the applicant; the normal temperature here used is 20°C.

NR n41, QPSK, Channel 518598, SCS 30kHz, Frequency 2593MHz Limit =±2.5ppm					
Voltage (%)	Power (VDC)	Temp (°C)	Fre. Dev. (Hz)	Deviation (ppm)	Result
100	7.74	+20（Ref）	-13	-0.005	PASS
100		0	34	0.013	
100		+10	14	0.005	
100		+20	-29	-0.011	
100		+30	23	0.009	
100		+40	22	0.008	
115	8.9	+20	21	0.008	
85	6	+20	24	0.009	

NR n77, QPSK, Channel 656000, SCS 30kHz, Frequency 3840MHz Limit =±2.5ppm					
Voltage (%)	Power (VDC)	Temp (°C)	Fre. Dev. (Hz)	Deviation (ppm)	Result
100	7.74	+20（Ref）	27	0.007	PASS
100		0	-26	-0.007	
100		+10	18	0.005	
100		+20	34	0.009	
100		+30	19	0.005	
100		+40	-24	-0.006	
115	8.9	+20	-18	-0.005	
85	6	+20	23	0.006	

NR n78, QPSK, Channel 650000, SCS 30kHz, Frequency 3750MHz Limit =±2.5ppm					
Voltage (%)	Power (VDC)	Temp (°C)	Fre. Dev. (Hz)	Deviation (ppm)	Result
100	7.74	+20（Ref）	21	0.006	PASS
100		0	-24	-0.006	
100		+10	30	0.008	
100		+20	-22	-0.006	
100		+30	14	0.004	
100		+40	35	0.009	
115	8.9	+20	36	0.010	
85	6	+20	18	0.005	

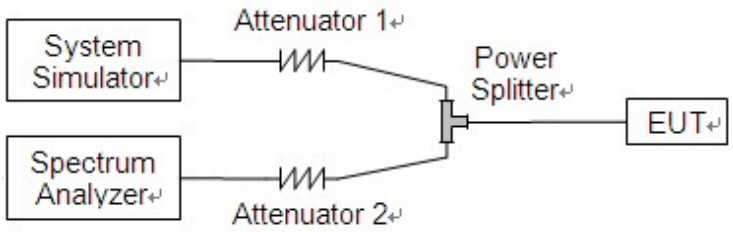
2.4. Peak to Average Ratio

2.4.1. Requirement

According to FCC section 24.232(d), the peak to average ratio (PAR) of the transmission may not exceed 13dB.
According to FCC section 27.50(j)(4) for N77,In measuring transmissions in this band using an average power technique, the peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.

2.4.2. Test Description

Test Set:



The EUT is coupled to the Spectrum Analyzer (SA) and the System Simulator (SS) with Attenuators through the Power Splitter; the RF load attached to the EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading. The EUT is commanded by the SS to operate at the maximum output power. A call is established between the EUT and the SS.

2.4.3. Test procedure

KDB 971168 D01v03 Section 5.7 and ANSI/TIA-603-E-2016.

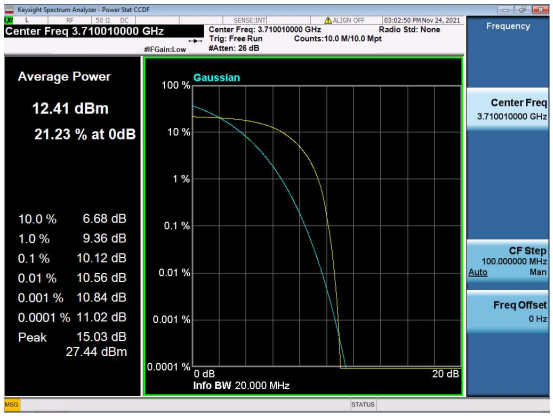
2.4.4. Test Result

Record the maximum PAPR level associated with a probability of 0.1%.

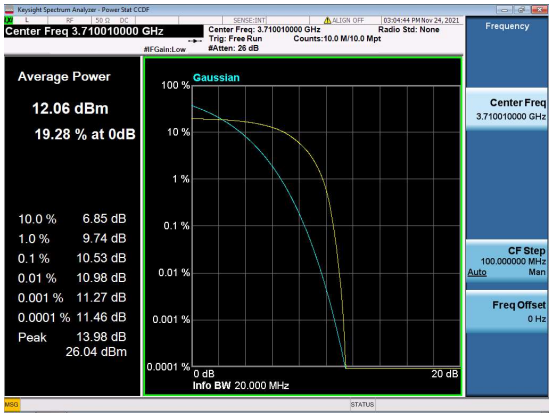
N77					
BW(MHz)	Channel Level	Modulation	Peak to Average Radio(dB)	Limit (dB)	Verdict
20	Low	BPSK	10.12	<=13	PASS
20	Low	QPSK	10.53	<=13	PASS
20	Mid	BPSK	10.68	<=13	PASS
20	Mid	QPSK	10.40	<=13	PASS
20	High	BPSK	10.66	<=13	PASS
20	High	QPSK	10.55	<=13	PASS
30	Low	BPSK	11.15	<=13	PASS
30	Low	QPSK	11.50	<=13	PASS
30	Mid	BPSK	10.85	<=13	PASS
30	Mid	QPSK	10.93	<=13	PASS
30	High	BPSK	10.81	<=13	PASS
30	High	QPSK	10.85	<=13	PASS
40	Low	BPSK	10.55	<=13	PASS
40	Low	QPSK	10.83	<=13	PASS
40	Mid	BPSK	10.85	<=13	PASS
40	Mid	QPSK	10.22	<=13	PASS
40	High	BPSK	10.56	<=13	PASS
40	High	QPSK	10.30	<=13	PASS
60	Low	BPSK	10.15	<=13	PASS
60	Low	QPSK	10.90	<=13	PASS
60	Mid	BPSK	8.94	<=13	PASS
60	Mid	QPSK	10.65	<=13	PASS
60	High	BPSK	10.65	<=13	PASS
60	High	QPSK	10.60	<=13	PASS
80	Low	BPSK	9.78	<=13	PASS
80	Low	QPSK	10.41	<=13	PASS
80	Mid	BPSK	10.23	<=13	PASS
80	Mid	QPSK	10.49	<=13	PASS
80	High	BPSK	10.01	<=13	PASS
80	High	QPSK	9.94	<=13	PASS
100	Low	BPSK	10.75	<=13	PASS
100	Low	QPSK	10.49	<=13	PASS
100	Mid	BPSK	10.47	<=13	PASS
100	Mid	QPSK	10.92	<=13	PASS

100	High	BPSK	10.03	<=13	PASS
100	High	QPSK	10.07	<=13	PASS

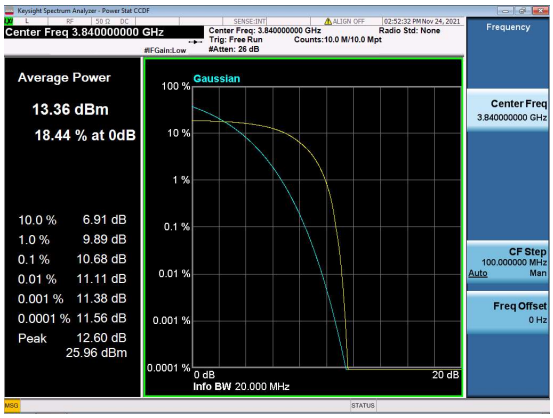
N77(20M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Low_CH



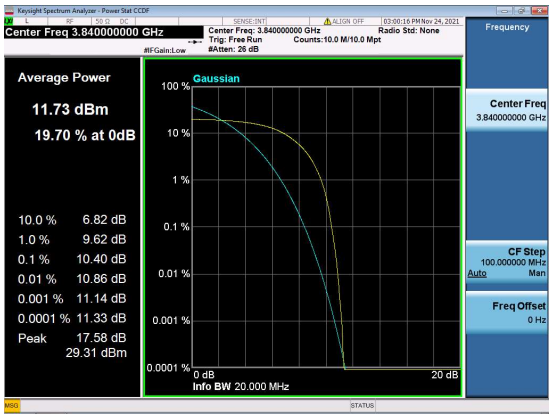
N77(20M)_DFT-s-OFDM_QPSK_Outer_Full_Low_CH



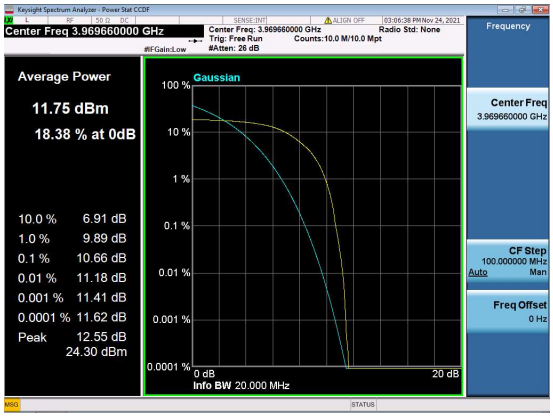
N77(20M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Mid_CH



N77(20M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH



N77(20M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_High_CH



N77(20M)_DFT-s-OFDM_QPSK_Outer_Full_High_CH