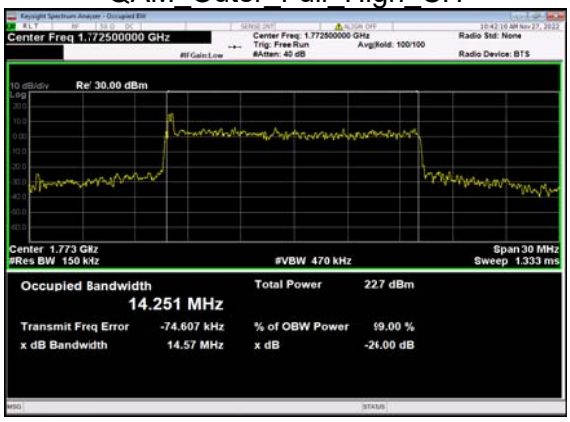
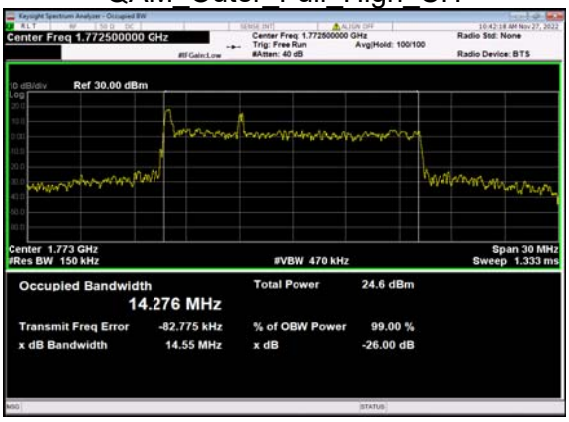
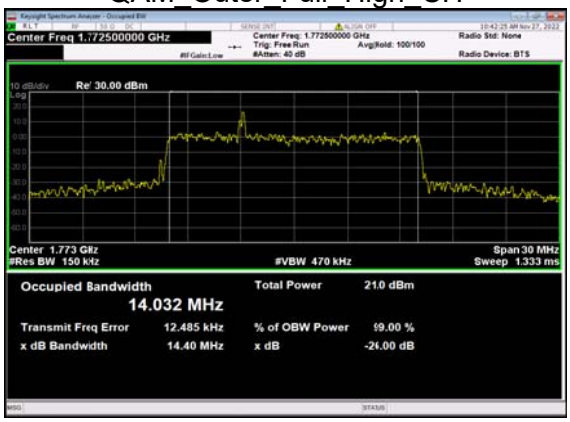
N66(15M)_CP-OFDM_16 QAM_Outer_Full_High_CH



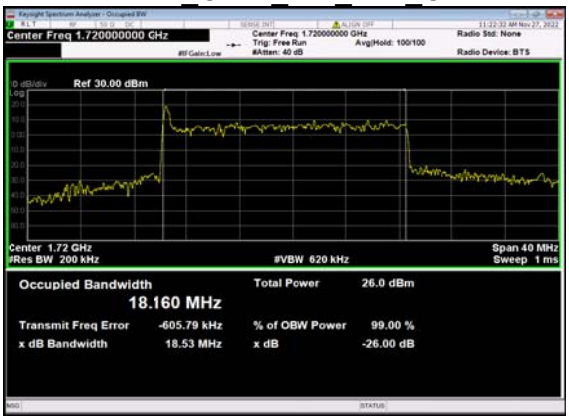
N66(15M)_CP-OFDM_64 QAM_Outer_Full_High_CH



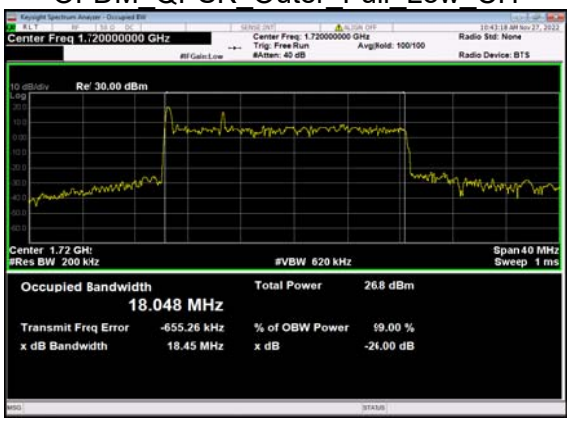
N66(15M)_CP-OFDM_256 QAM_Outer_Full_High_CH



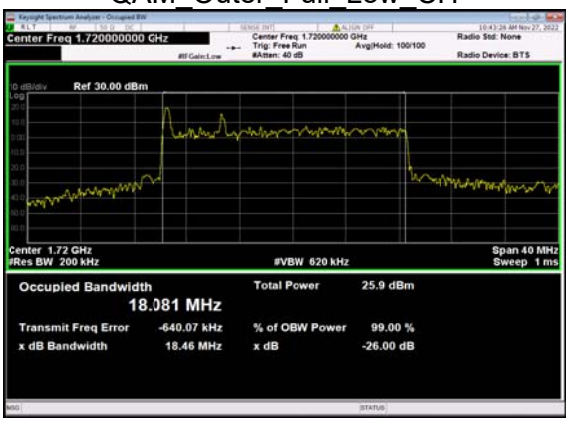
N66(20M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Low_CH



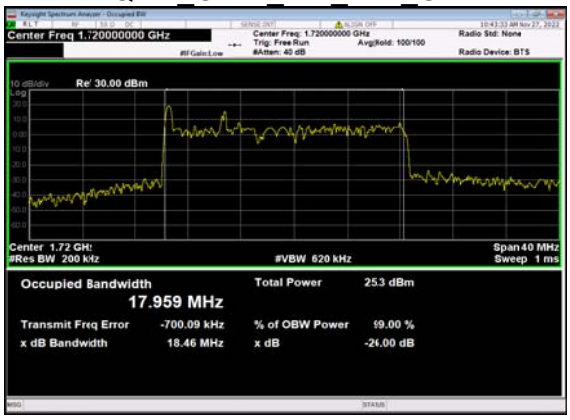
N66(20M)_DFT-s-OFDM_QPSK_Outer_Full_Low_CH



N66(20M)_DFT-s-OFDM_16 QAM_Outer_Full_Low_CH



N66(20M)_DFT-s-OFDM_64 QAM_Outer_Full_Low_CH



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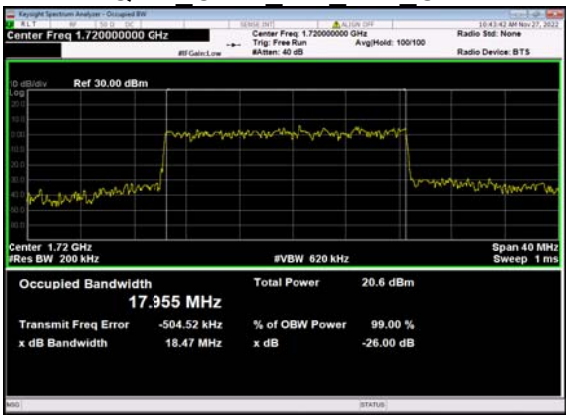
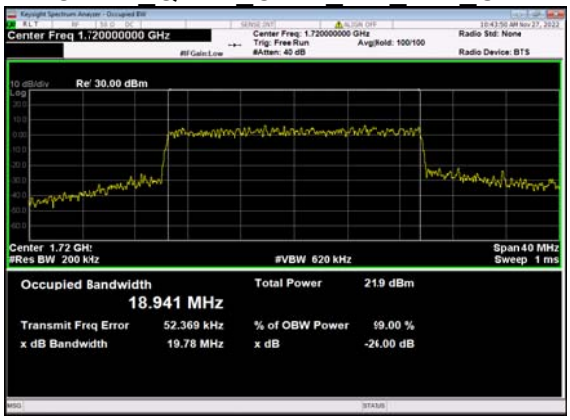
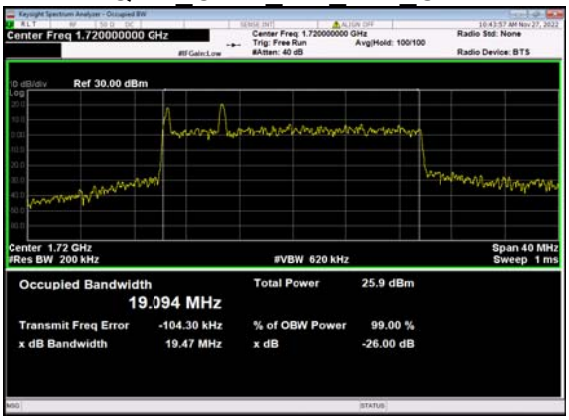


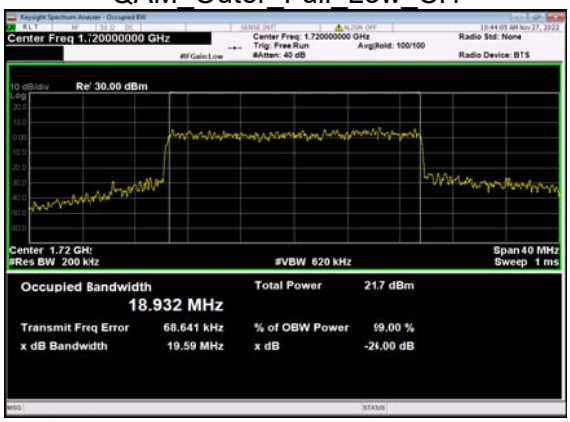
N66(20M)_CP-OFDM_QPSK_Outer_Full_Low_CH



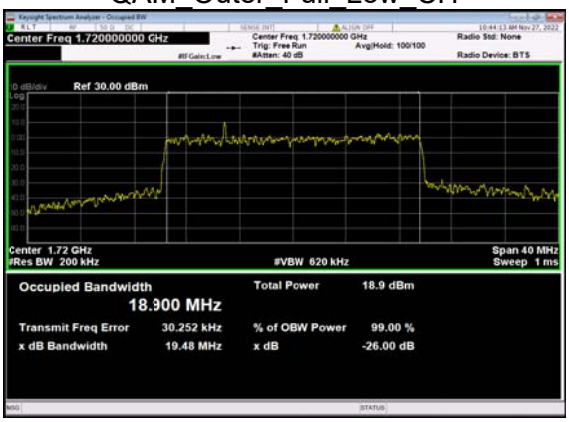
N66(20M)_CP-OFDM_16 QAM_Outer_Full_Low_CH



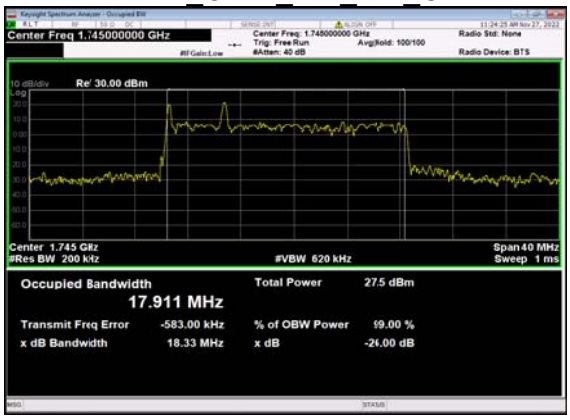
N66(20M)_CP-OFDM_64 QAM_Outer_Full_Low_CH



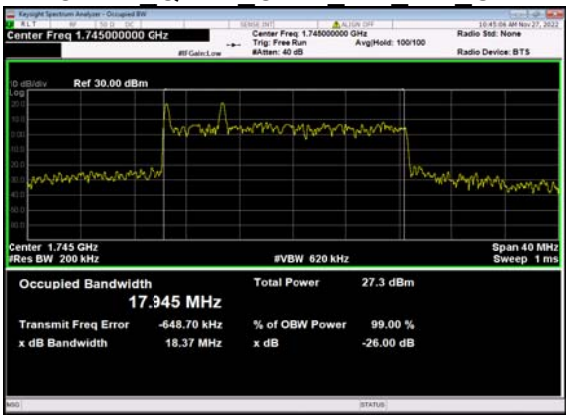
N66(20M)_CP-OFDM_256 QAM_Outer_Full_Low_CH



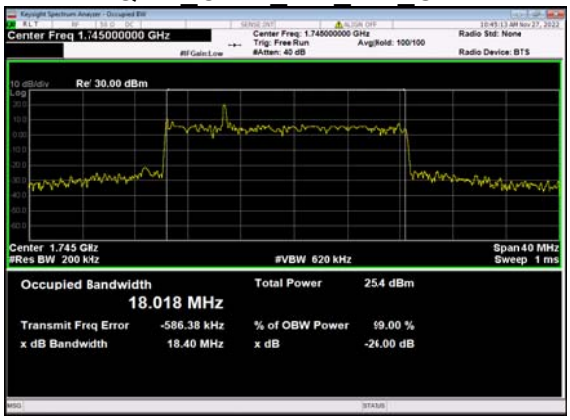
N66(20M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Mid_CH



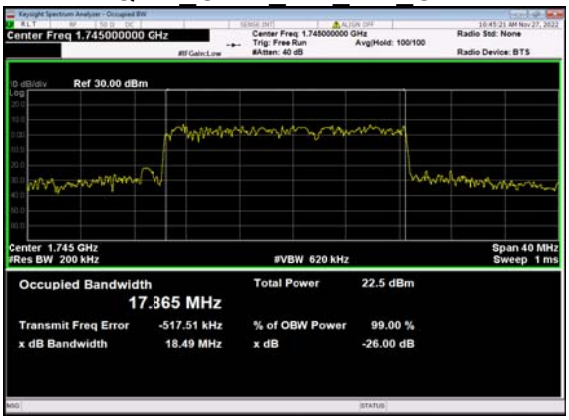
N66(20M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH



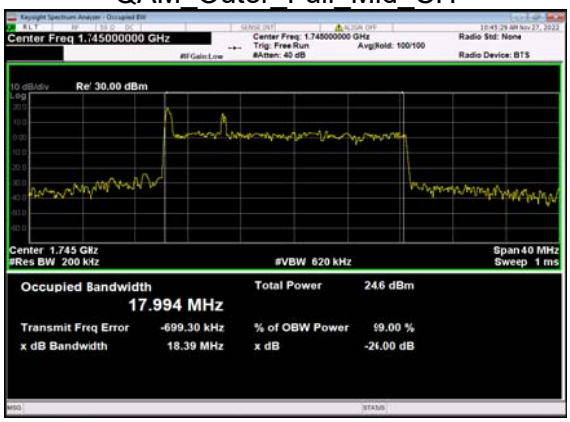
N66(20M)_DFT-s-OFDM_16 QAM_Outer_Full_Mid_CH



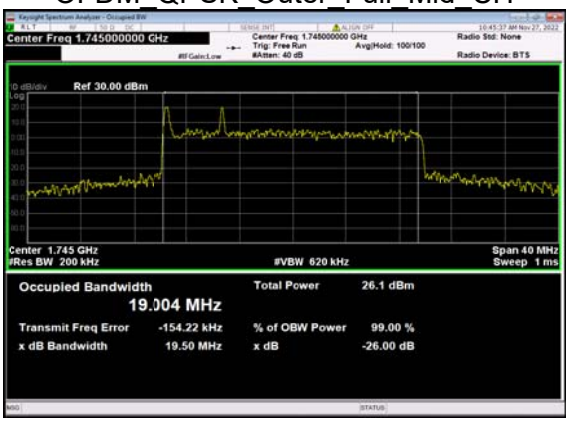
N66(20M)_DFT-s-OFDM_64 QAM_Outer_Full_Mid_CH



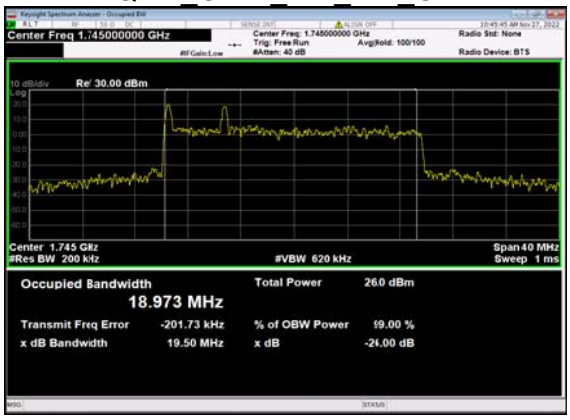
N66(20M)_DFT-s-OFDM_256 QAM_Outer_Full_Mid_CH



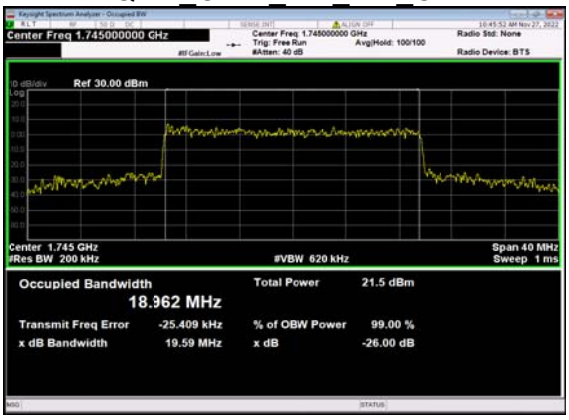
N66(20M)_CP-OFDM_QPSK_Outer_Full_Mid_CH



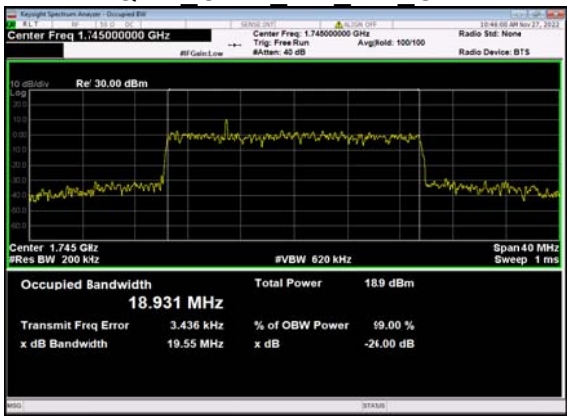
N66(20M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH



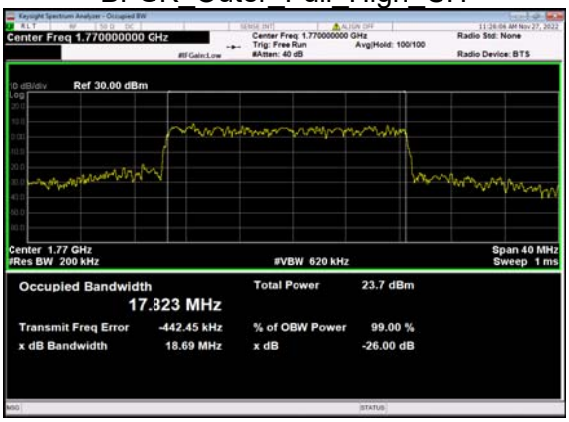
N66(20M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH



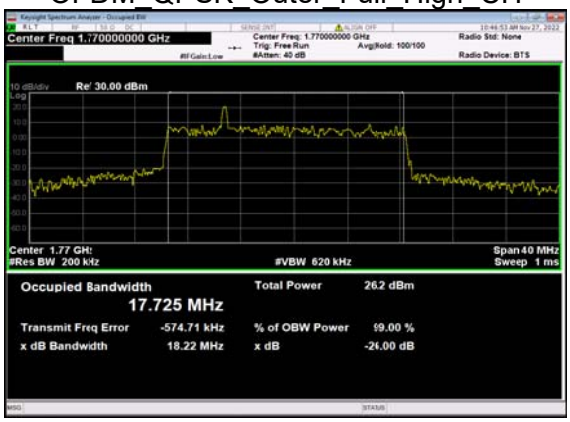
N66(20M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH



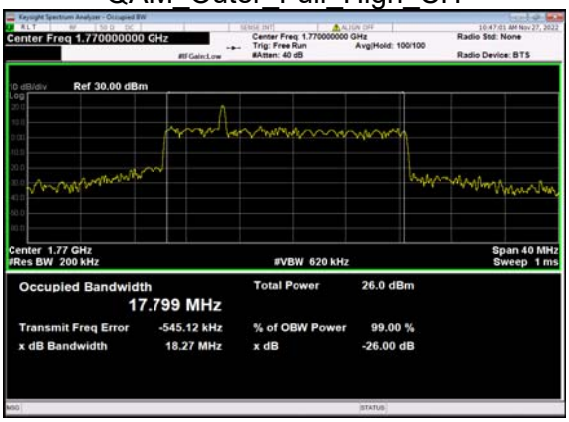
N66(20M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_High_CH



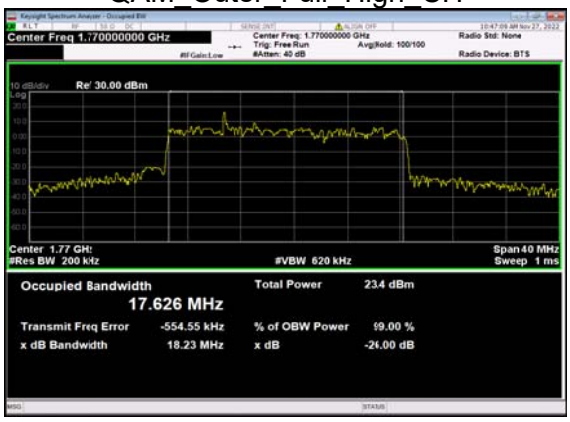
N66(20M)_DFT-s-OFDM_QPSK_Outer_Full_High_CH



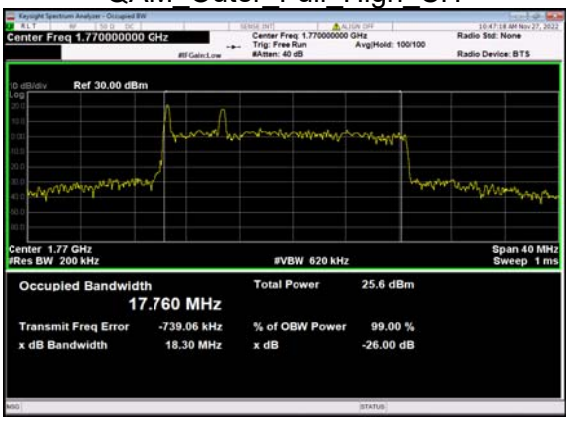
N66(20M)_DFT-s-OFDM_16 QAM_Outer_Full_High_CH



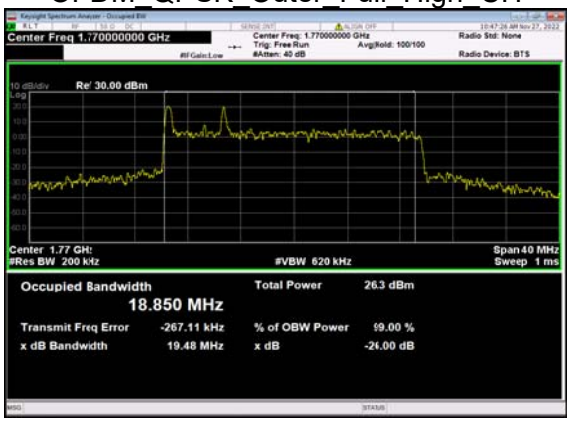
N66(20M)_DFT-s-OFDM_64 QAM_Outer_Full_High_CH



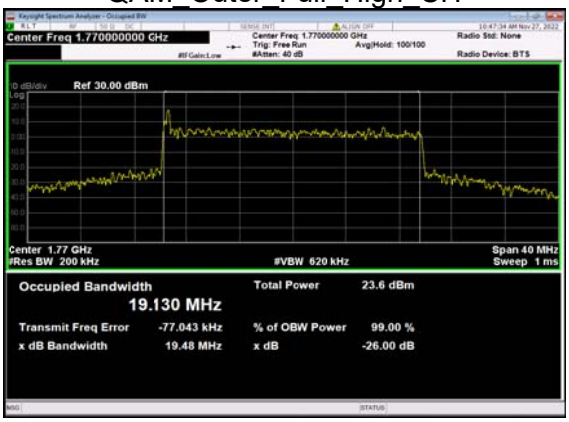
N66(20M)_DFT-s-OFDM_256 QAM_Outer_Full_High_CH



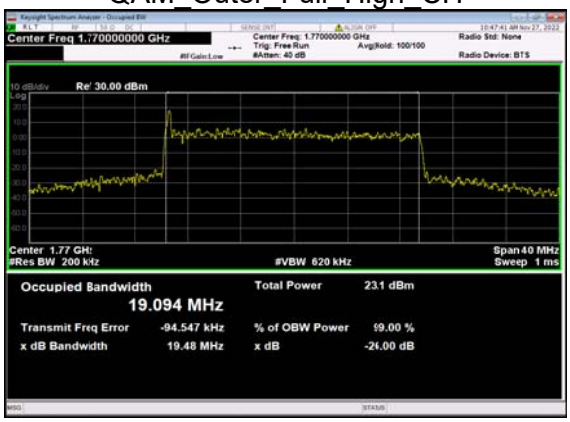
N66(20M)_CP-OFDM_QPSK_Outer_Full_High_CH



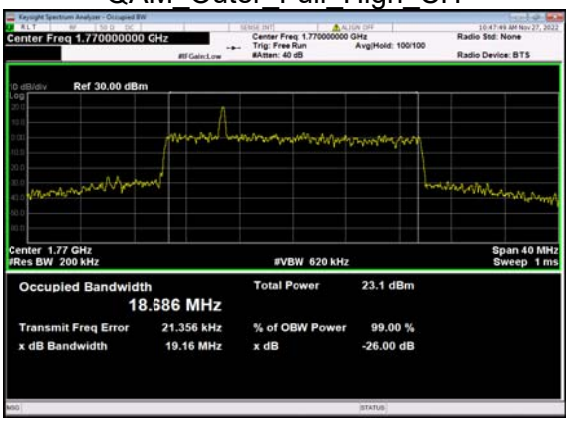
N66(20M)_CP-OFDM_16 QAM_Outer_Full_High_CH



N66(20M)_CP-OFDM_64 QAM_Outer_Full_High_CH



N66(20M)_CP-OFDM_256 QAM_Outer_Full_High_CH



2.3. Frequency Stability

2.3.1.Requirement

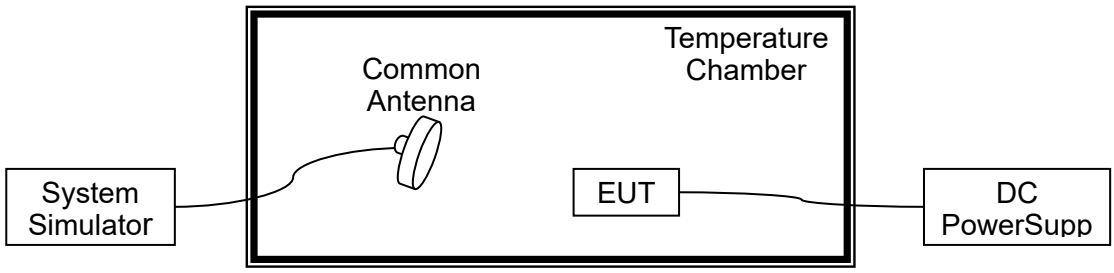
According to FCC section 2.1055, the frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block. According to FCC section 2.1055, the test conditions are:

(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 12.0VDC, 13.8VDC and 10.2VDC, which are specified by the applicant; the normal temperature here used is 20°C.

NR n66, QPSK, Channel 349000, SCS 15kHz, Frequency 1745MHz Limit =Within Authorized Band					
Voltage (%)	**Power (VDC)**	**Temp (°C)**	**Fre. Dev. (Hz)**	**Deviation (ppm)**	**Result**
100	12.0	+20(Ref)	22	0.013	PASS
100		0	20	0.011	
100		+10	47	0.027	
100		+20	-18	-0.010	
100		+30	15	0.009	
100		+40	-14	-0.008	
100		+45	32	0.018	
115	13.8	+20	37	0.021	
85	10.2	+20	40	0.023	

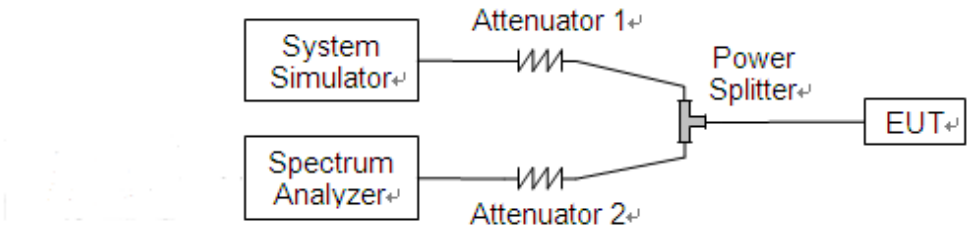
2.4. Peak to Average Ratio

2.4.1.Requirement

According to FCC section 27.50(d)(5)for n66, 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

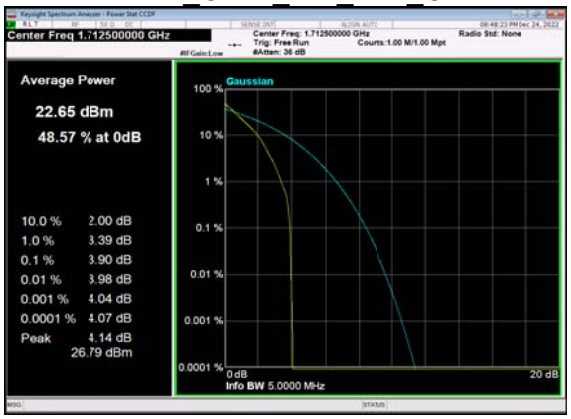
Record the maximum PAPR level associated with a probability of 0.1%.
Note: In the same NR frequency band, The measured power in SA mode is higher than that in NSA mode，SA mode is selected to test all test cases.

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Result (dB)	Limit (dB)	Verdict
66	15	5	422500	1712.5	DFT-s-OFDM PI/2 BPSK	25@0	3.9	13	PASS
66	15	5	422500	1712.5	DFT-s-OFDM QPSK	25@0	4.44	13	PASS
66	15	5	422500	1712.5	CP-OFDM QPSK	25@0	6.46	13	PASS
66	15	5	422500	1712.5	CP-OFDM 16 QAM	25@0	6.65	13	PASS
66	15	5	429000	1745.0	DFT-s-OFDM PI/2 BPSK	25@0	3.92	13	PASS
66	15	5	429000	1745.0	DFT-s-OFDM QPSK	25@0	4.47	13	PASS
66	15	5	429000	1745.0	CP-OFDM QPSK	25@0	6.51	13	PASS
66	15	5	429000	1745.0	CP-OFDM 16 QAM	25@0	6.69	13	PASS
66	15	5	435500	1777.5	DFT-s-OFDM PI/2 BPSK	25@0	3.9	13	PASS
66	15	5	435500	1777.5	DFT-s-OFDM QPSK	25@0	4.43	13	PASS
66	15	5	435500	1777.5	CP-OFDM QPSK	25@0	6.51	13	PASS
66	15	5	435500	1777.5	CP-OFDM 16 QAM	25@0	6.68	13	PASS
66	15	10	423000	1715.0	DFT-s-OFDM PI/2 BPSK	50@0	4.07	13	PASS
66	15	10	423000	1715.0	DFT-s-OFDM QPSK	50@0	4.6	13	PASS
66	15	10	423000	1715.0	CP-OFDM QPSK	52@0	6.77	13	PASS
66	15	10	423000	1715.0	CP-OFDM 16 QAM	52@0	6.61	13	PASS
66	15	10	429000	1745.0	DFT-s-OFDM PI/2 BPSK	50@0	4.0	13	PASS
66	15	10	429000	1745.0	DFT-s-OFDM QPSK	50@0	4.61	13	PASS
66	15	10	429000	1745.0	CP-OFDM QPSK	52@0	6.75	13	PASS
66	15	10	429000	1745.0	CP-OFDM 16 QAM	52@0	6.6	13	PASS
66	15	10	435000	1775.0	DFT-s-OFDM PI/2 BPSK	50@0	4.07	13	PASS
66	15	10	435000	1775.0	DFT-s-OFDM QPSK	50@0	4.6	13	PASS
66	15	10	435000	1775.0	CP-OFDM QPSK	52@0	6.84	13	PASS

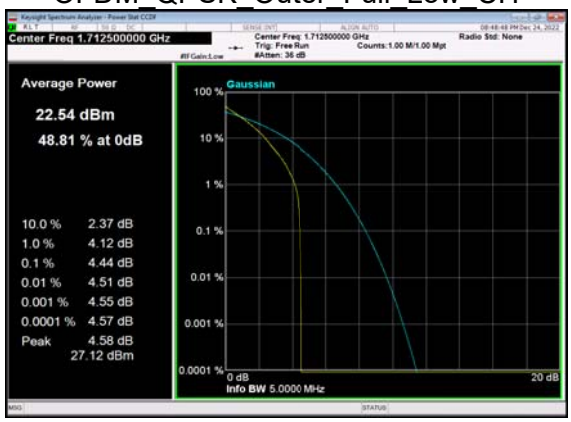
66	15	10	435000	1775.0	CP-OFDM 16 QAM	52@0	6.65	13	PASS
66	15	15	423500	1717.5	DFT-s-OFDM PI/2 BPSK	75@0	4.34	13	PASS
66	15	15	423500	1717.5	DFT-s-OFDM QPSK	75@0	4.85	13	PASS
66	15	15	423500	1717.5	CP-OFDM QPSK	79@0	6.89	13	PASS
66	15	15	423500	1717.5	CP-OFDM 16 QAM	79@0	6.86	13	PASS
66	15	15	429000	1745.0	DFT-s-OFDM PI/2 BPSK	75@0	4.21	13	PASS
66	15	15	429000	1745.0	DFT-s-OFDM QPSK	75@0	4.87	13	PASS
66	15	15	429000	1745.0	CP-OFDM QPSK	79@0	6.79	13	PASS
66	15	15	429000	1745.0	CP-OFDM 16 QAM	79@0	6.78	13	PASS
66	15	15	434500	1772.5	DFT-s-OFDM PI/2 BPSK	75@0	4.19	13	PASS
66	15	15	434500	1772.5	DFT-s-OFDM QPSK	75@0	4.96	13	PASS
66	15	15	434500	1772.5	CP-OFDM QPSK	79@0	6.87	13	PASS
66	15	15	434500	1772.5	CP-OFDM 16 QAM	79@0	6.87	13	PASS
66	15	20	424000	1720.0	DFT-s-OFDM PI/2 BPSK	100@0	4.23	13	PASS
66	15	20	424000	1720.0	DFT-s-OFDM QPSK	100@0	4.61	13	PASS
66	15	20	424000	1720.0	CP-OFDM QPSK	106@0	6.8	13	PASS
66	15	20	424000	1720.0	CP-OFDM 16 QAM	106@0	6.8	13	PASS
66	15	20	429000	1745.0	DFT-s-OFDM PI/2 BPSK	100@0	4.2	13	PASS
66	15	20	429000	1745.0	DFT-s-OFDM QPSK	100@0	4.74	13	PASS
66	15	20	429000	1745.0	CP-OFDM QPSK	106@0	6.82	13	PASS
66	15	20	429000	1745.0	CP-OFDM 16 QAM	106@0	6.87	13	PASS
66	15	20	434000	1770.0	DFT-s-OFDM PI/2 BPSK	100@0	4.04	13	PASS
66	15	20	434000	1770.0	DFT-s-OFDM QPSK	100@0	4.82	13	PASS
66	15	20	434000	1770.0	CP-OFDM QPSK	106@0	6.83	13	PASS

66	15	20	434000	1770.0	CP-OFDM 16 QAM	106@0	6.86	13	PASS

N66(5M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Low_CH



N66(5M)_DFT-s-OFDM_QPSK_Outer_Full_Low_CH

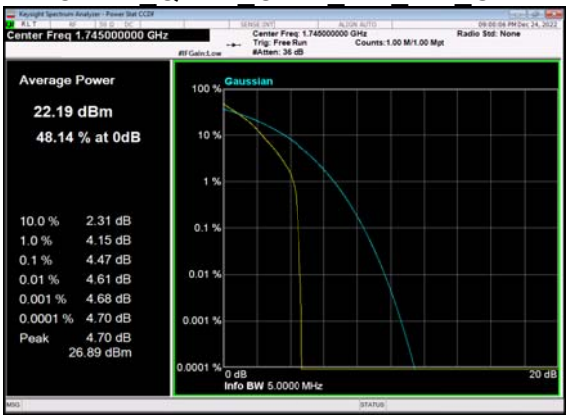


N66(5M)_CP-OFDM_QPSK_Outer_Full_Low_CH

N66(5M)_CP-OFDM_16 QAM_Outer_Full_Low_CH

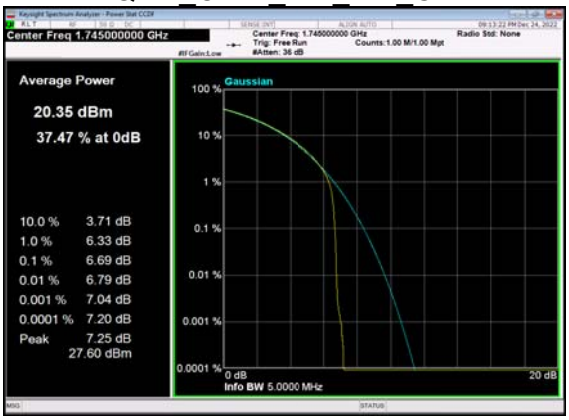
N66(5M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Mid_CH

N66(5M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH



N66(5M)_CP-OFDM_QPSK_Outer_Full_Mid_CH

N66(5M)_CP-OFDM_16QAM_Outer_Full_Mid_CH

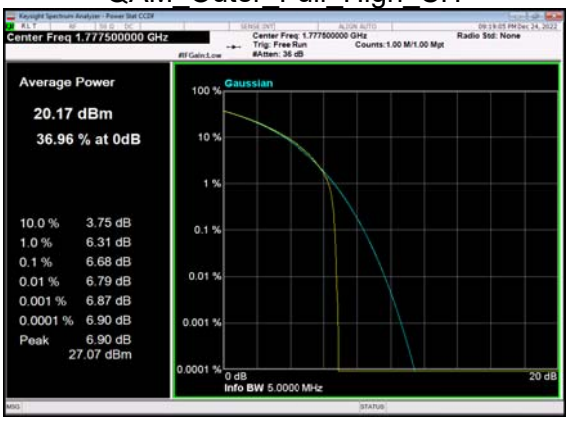


N66(5M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_High_CH

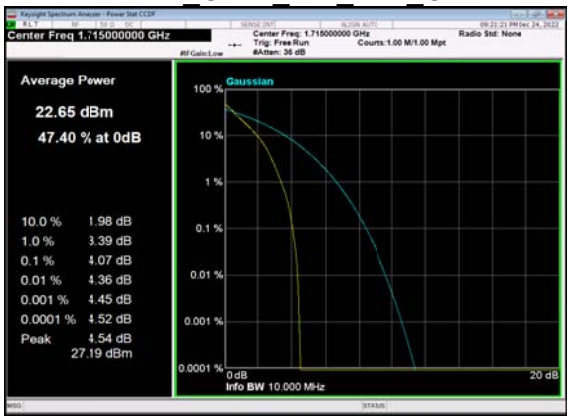
N66(5M)_DFT-s-OFDM_QPSK_Outer_Full_High_CH

N66(5M)_CP-OFDM_QPSK_Outer_Full_High_CH

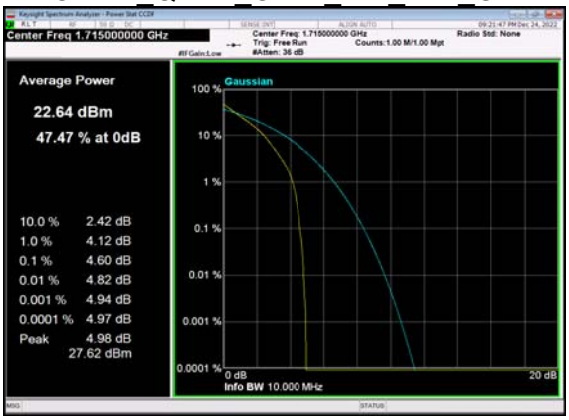
N66(5M)_CP-OFDM_16QAM_Outer_Full_High_CH



N66(10M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Low_CH



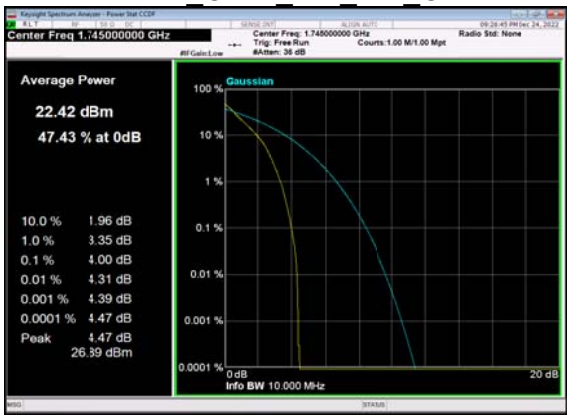
N66(10M)_DFT-s-OFDM_QPSK_Outer_Full_Low_CH



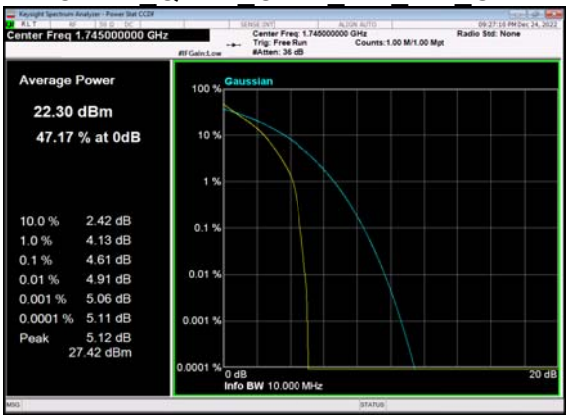
N66(10M)_CP-OFDM_QPSK_Outer_Full_Low_CH

N66(10M)_CP-OFDM_16QAM_Outer_Full_Low_CH

N66(10M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Mid_CH

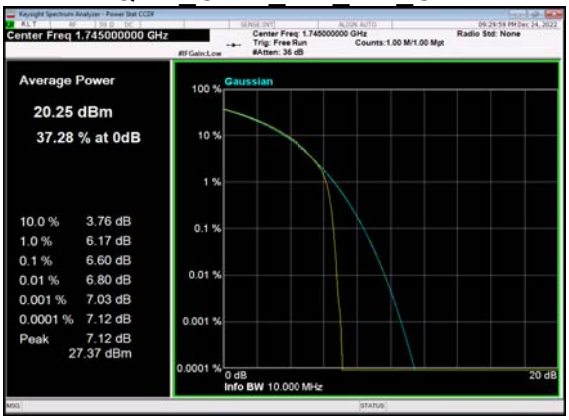


N66(10M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH



N66(10M)_CP-OFDM_QPSK_Outer_Full_Mid_CH

N66(10M)_CP-OFDM_16QAM_Outer_Full_Mid_CH

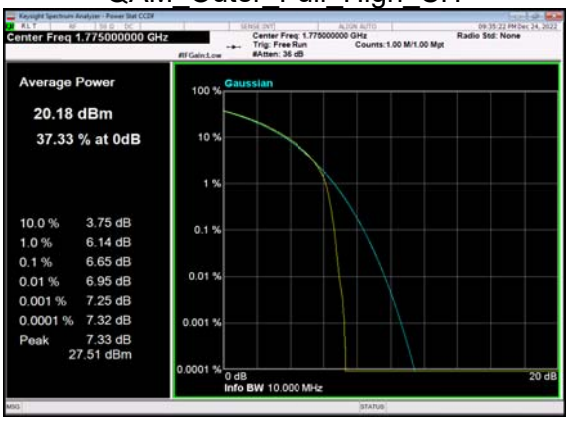


N66(10M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_High_CH

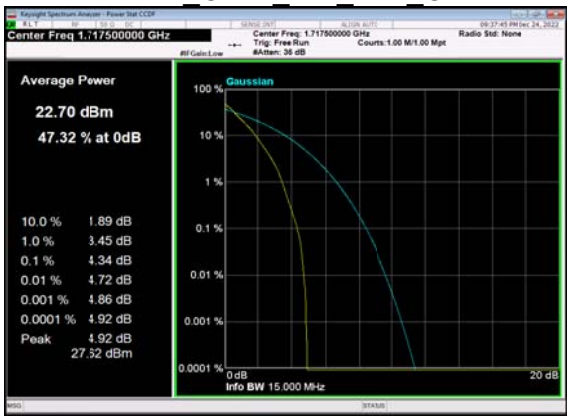
N66(10M)_DFT-s-OFDM_QPSK_Outer_Full_High_CH

N66(10M)_CP-OFDM_QPSK_Outer_Full_High_CH

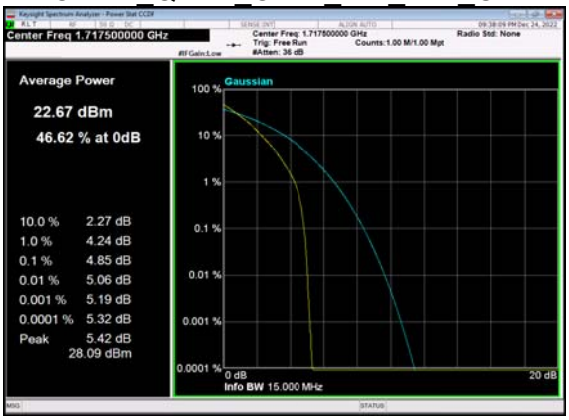
N66(10M)_CP-OFDM_16QAM_Outer_Full_High_CH



N66(15M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Low_CH

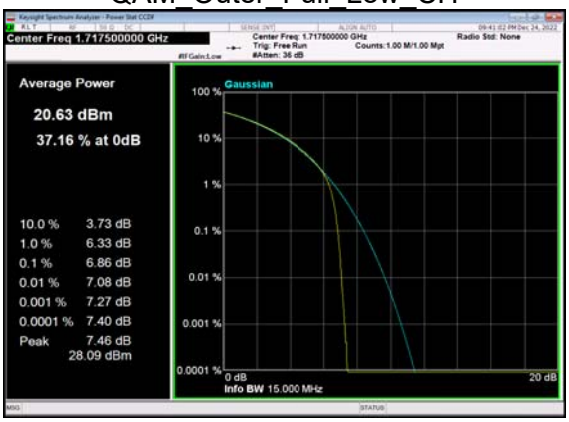


N66(15M)_DFT-s-OFDM_QPSK_Outer_Full_Low_CH



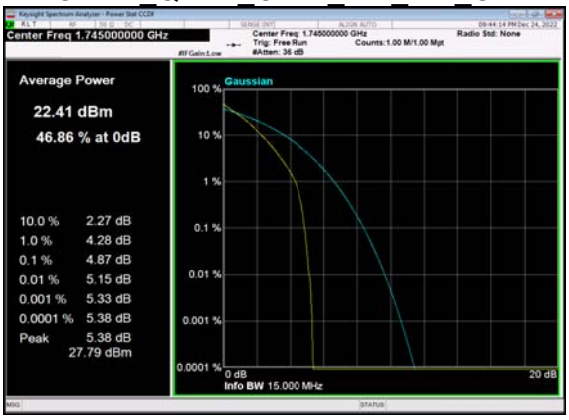
N66(15M)_CP-OFDM_QPSK_Outer_Full_Low_CH

N66(15M)_CP-OFDM_16QAM_Outer_Full_Low_CH



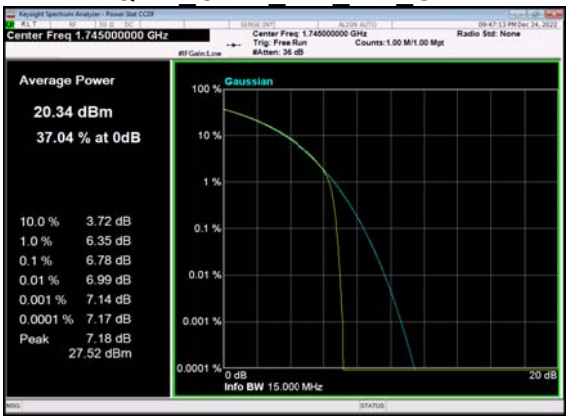
N66(15M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Mid_CH

N66(15M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH



N66(15M)_CP-OFDM_QPSK_Outer_Full_Mid_CH

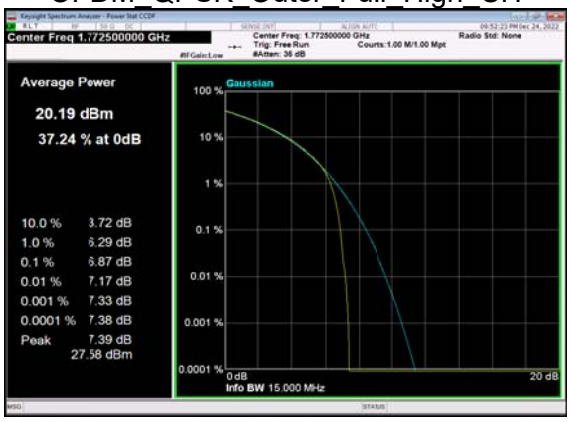
N66(15M)_CP-OFDM_16QAM_Outer_Full_Mid_CH



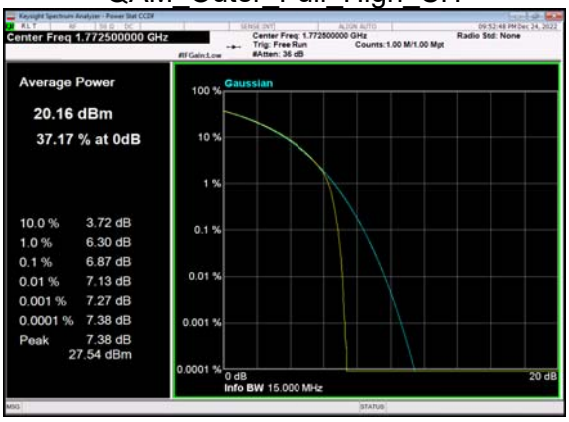
N66(15M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_High_CH

N66(15M)_DFT-s-OFDM_QPSK_Outer_Full_High_CH

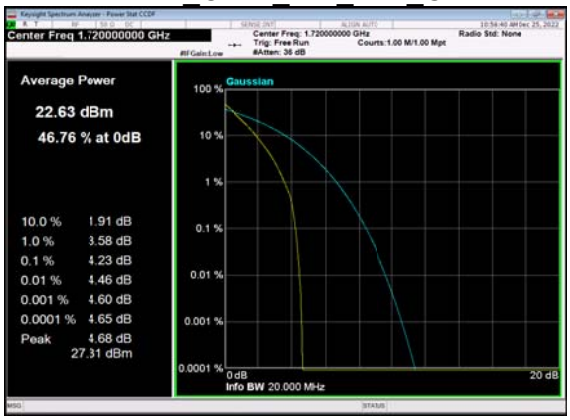
N66(15M)_CP-OFDM_QPSK_Outer_Full_High_CH



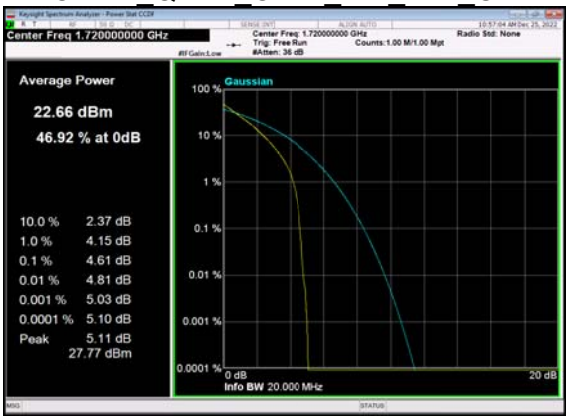
N66(15M)_CP-OFDM_16QAM_Outer_Full_High_CH



N66(20M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Low_CH

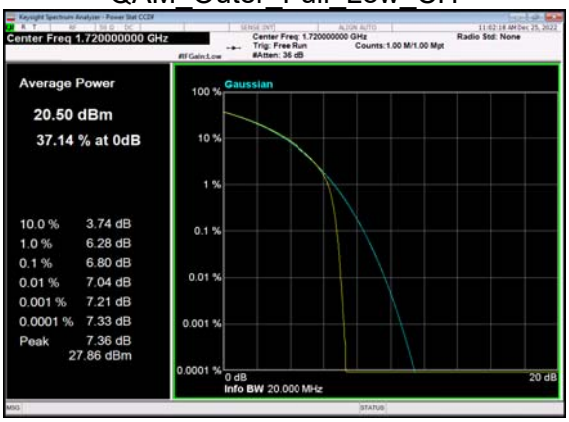


N66(20M)_DFT-s-OFDM_QPSK_Outer_Full_Low_CH

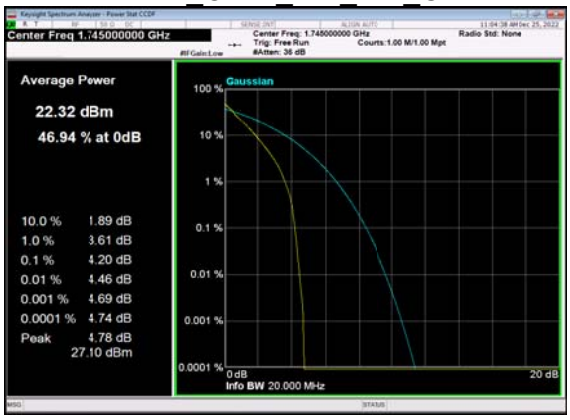


N66(20M)_CP-OFDM_QPSK_Outer_Full_Low_CH

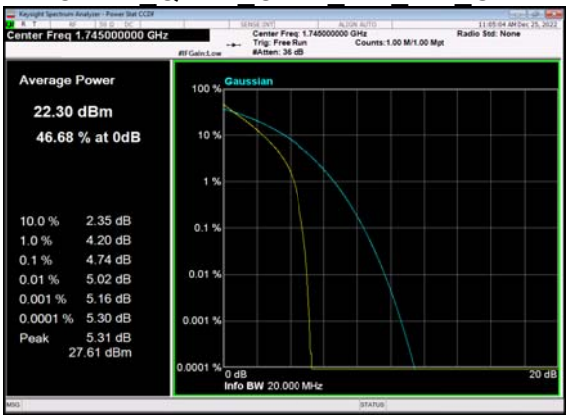
N66(20M)_CP-OFDM_16QAM_Outer_Full_Low_CH



N66(20M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Mid_CH

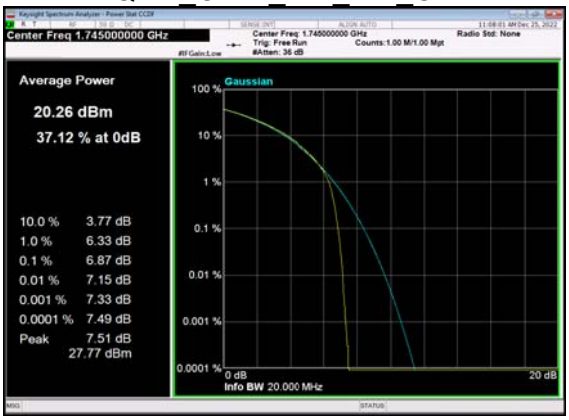


N66(20M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH



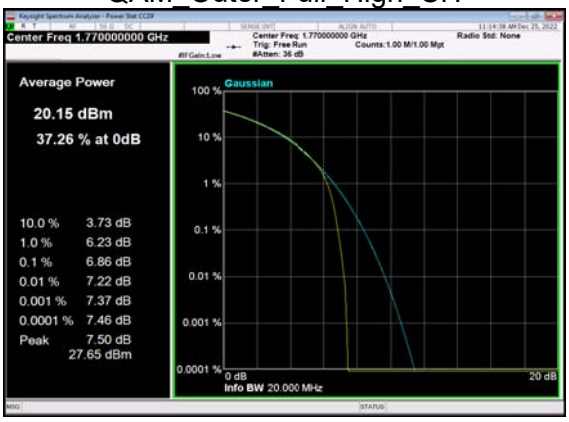
N66(20M)_CP-OFDM_QPSK_Outer_Full_Mid_CH

N66(20M)_CP-OFDM_16QAM_Outer_Full_Mid_CH



N66(20M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_High_CH

N66(20M)_DFT-s-OFDM_QPSK_Outer_Full_High_CH

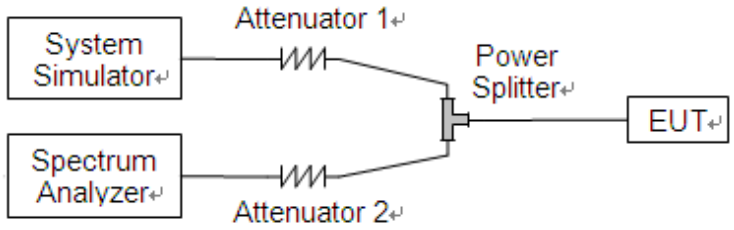
N66(20M)_CP-OFDM_QPSK_Outer_Full_High_CH	N66(20M)_CP-OFDM_16 QAM_Outer_Full_High_CH
	

2.5. Conducted Spurious Emissions

2.5.1.Requirement

According to FCC section 2.1051, section 27.53(h), the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43+10*log(P)dB. This calculated to be -13dBm.

2.5.2.Test Description

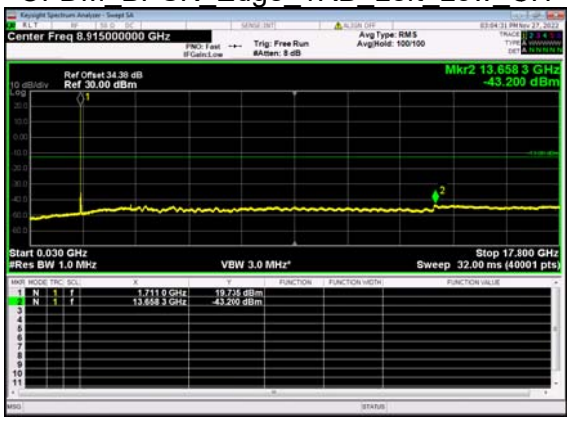
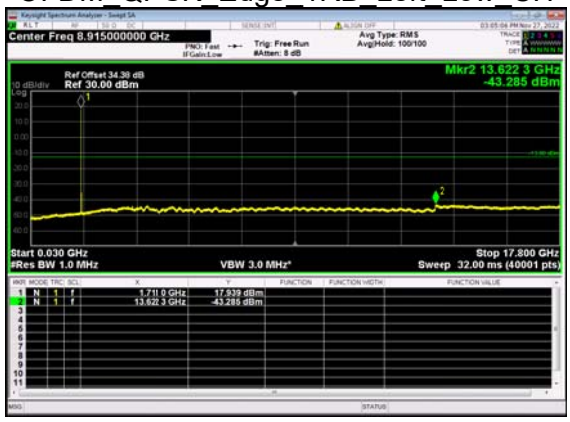
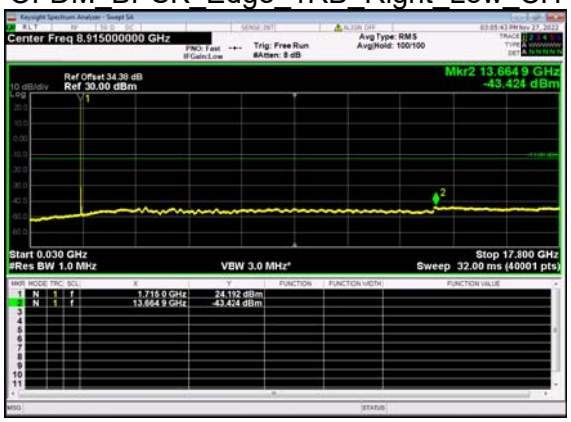
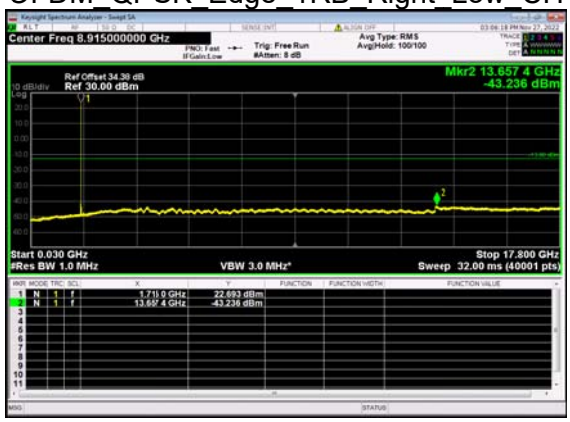


The EUT is coupled to the Spectrum Analyzer (SA) and the System Simulator (SS) with Attenuators through the Power Splitter; the RF load attached to the EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading. The EUT is commanded by the SS to operate at the maximum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

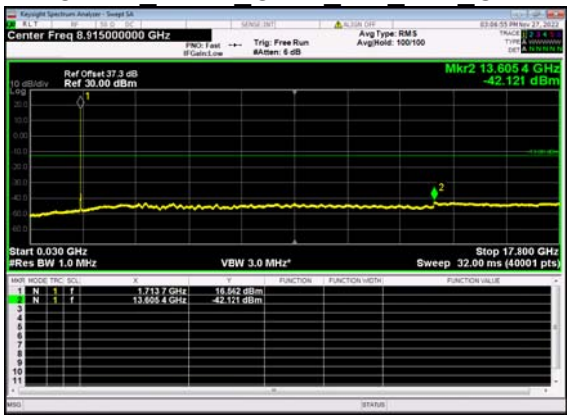
2.5.3.Test procedure

KDB 971168 D01v03 Section 6.0 and ANSI/TIA-603-E-2016.

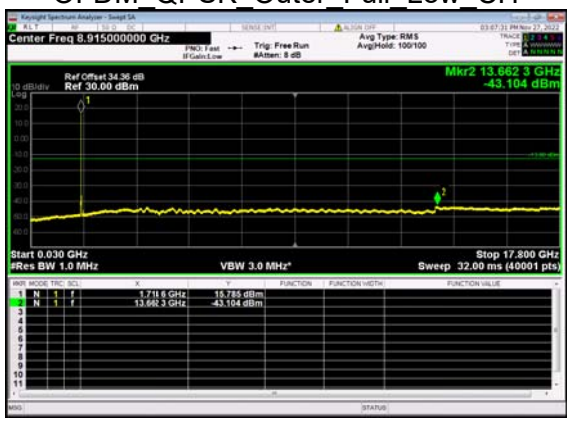
2.5.4.Test Result

N66(5M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Low_CH 	N66(5M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH 
N66(5M)_DFT-s-OFDM_BPSK_Edge_1RB_Right_Low_CH 	N66(5M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_Low_CH 

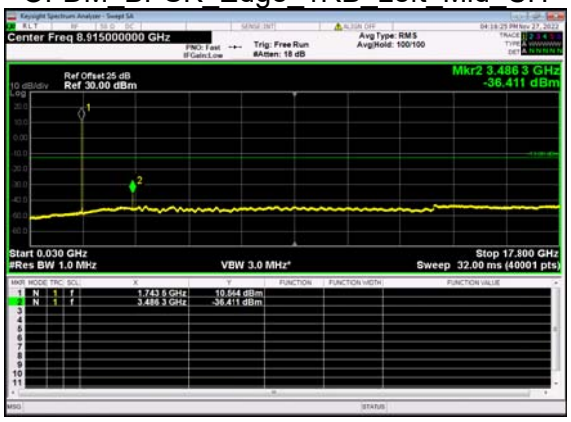
N66(5M)_DFT-s-OFDM_BPSK_Outer_Full_Low_CH



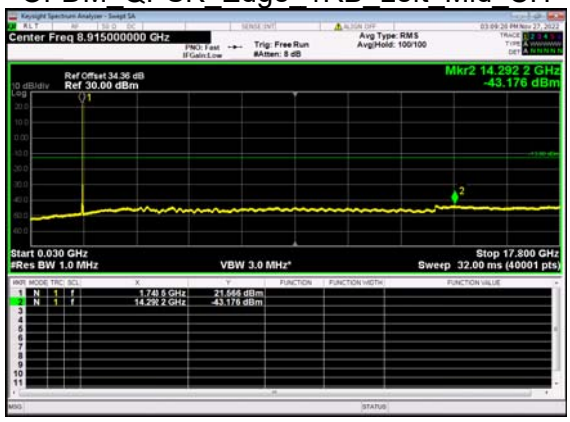
N66(5M)_DFT-s-OFDM_QPSK_Outer_Full_Low_CH



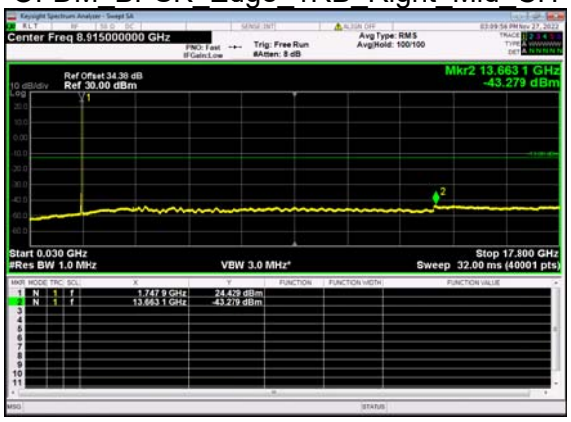
N66(5M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Mid_CH



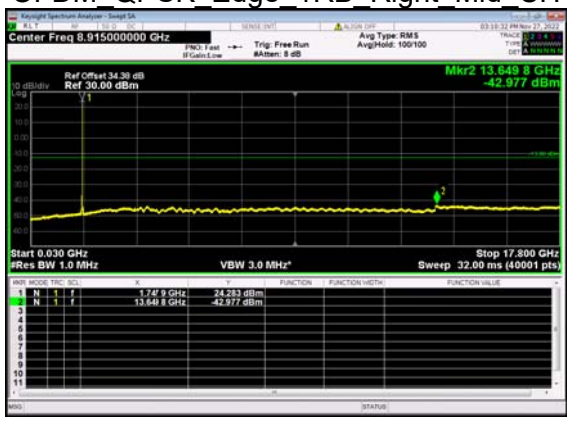
N66(5M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH



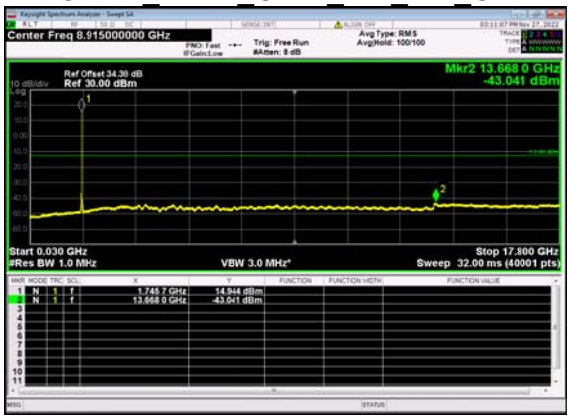
N66(5M)_DFT-s-OFDM_BPSK_Edge_1RB_Right_Mid_CH



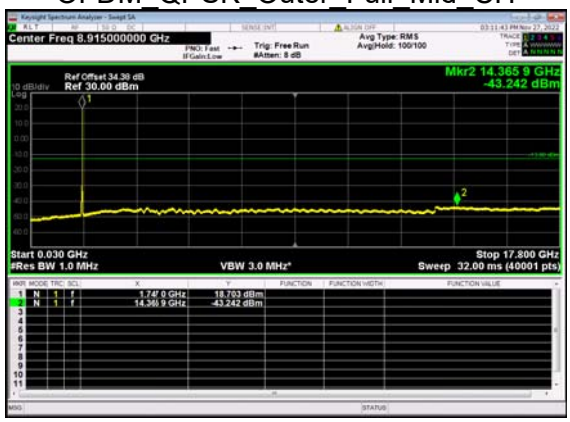
N66(5M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_Mid_CH



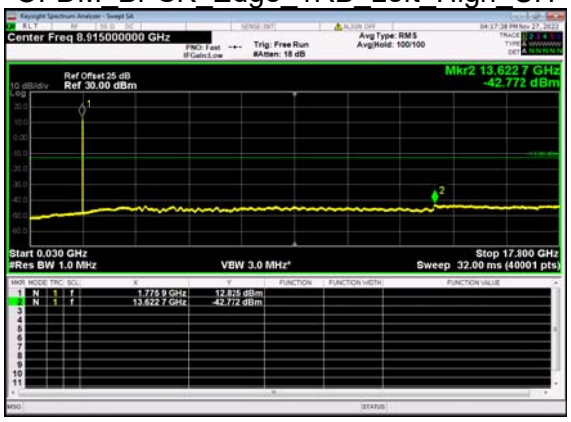
N66(5M)_DFT-s-OFDM_BPSK_Outer_Full_Mid_CH



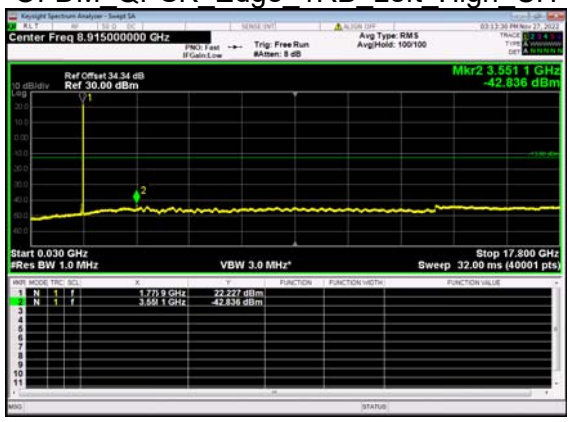
N66(5M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH



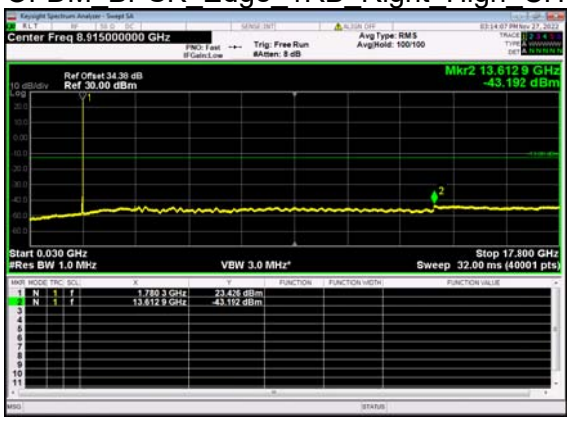
N66(5M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_High_CH



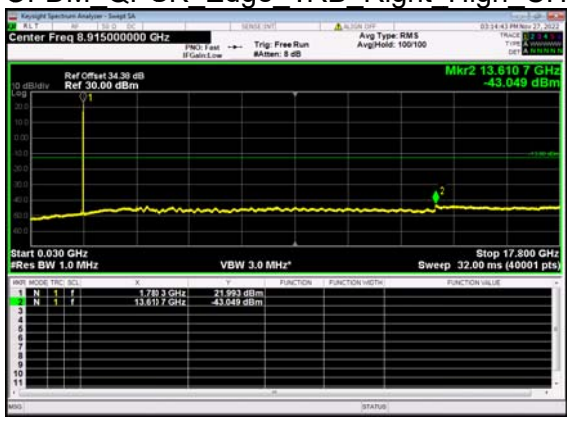
N66(5M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_High_CH



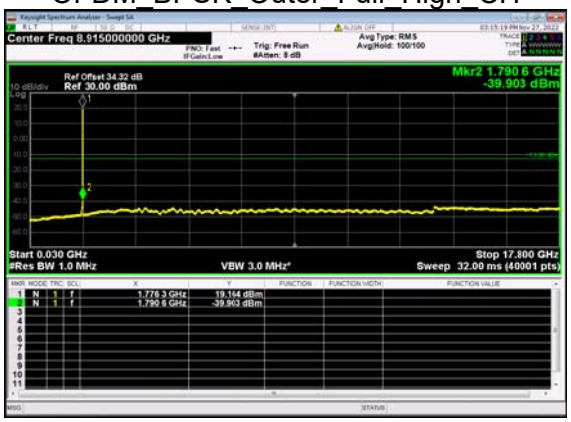
N66(5M)_DFT-s-OFDM_BPSK_Edge_1RB_Right_High_CH



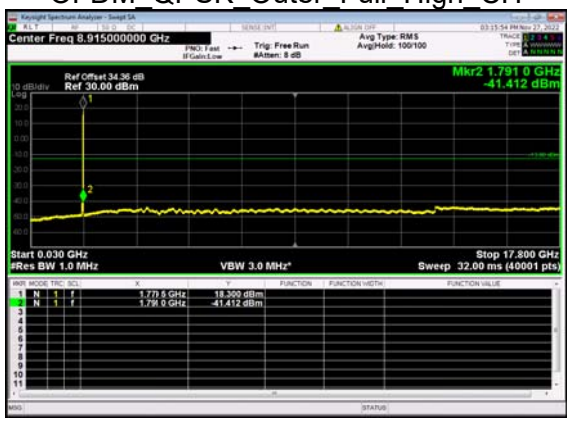
N66(5M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_High_CH



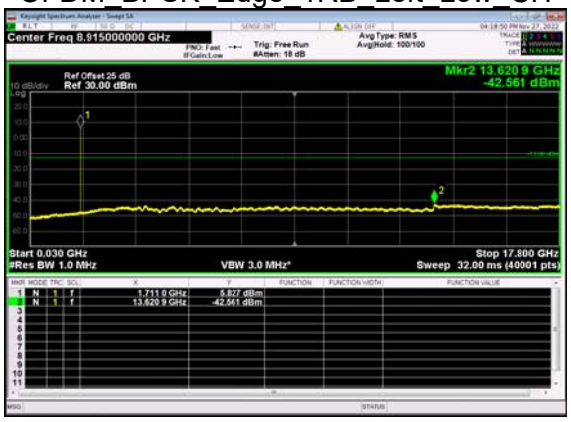
N66(5M)_DFT-s-OFDM_BPSK_Outer_Full_High_CH



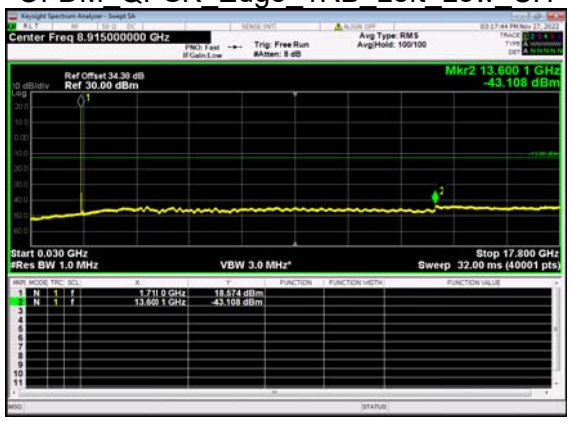
N66(5M)_DFT-s-OFDM_QPSK_Outer_Full_High_CH



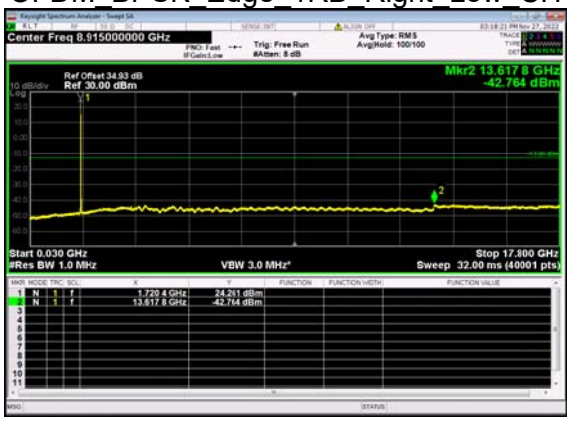
N66(10M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Low_CH



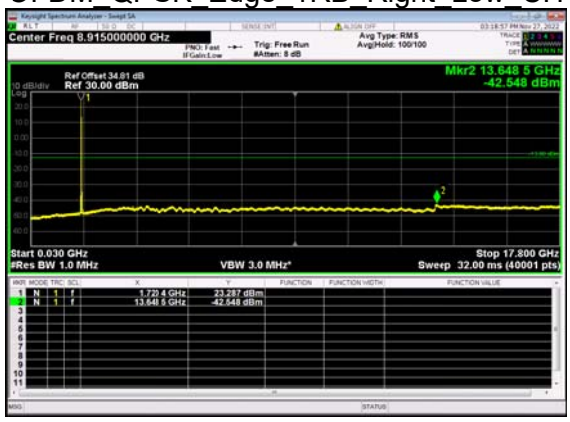
N66(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



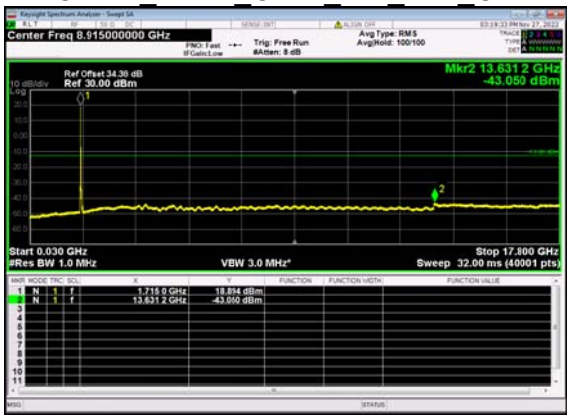
N66(10M)_DFT-s-OFDM_BPSK_Edge_1RB_Right_Low_CH



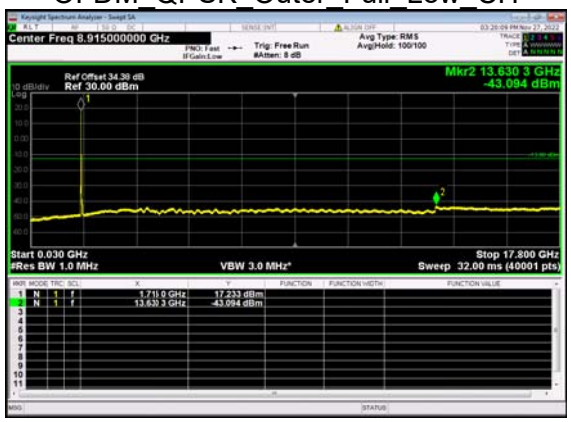
N66(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_Low_CH



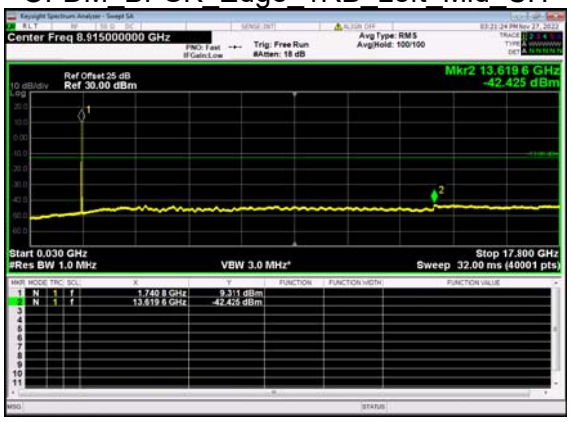
N66(10M)_DFT-s-OFDM_BPSK_Outer_Full_Low_CH



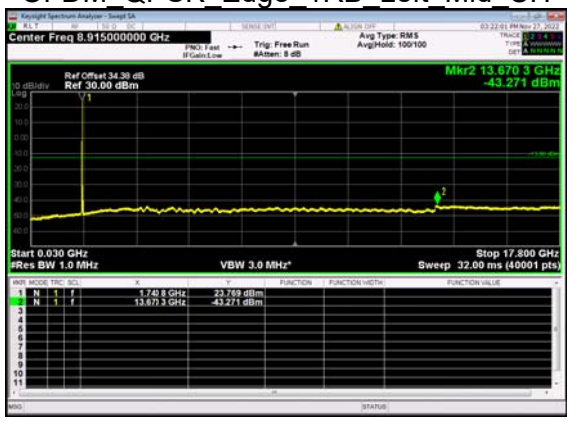
N66(10M)_DFT-s-OFDM_QPSK_Outer_Full_Low_CH



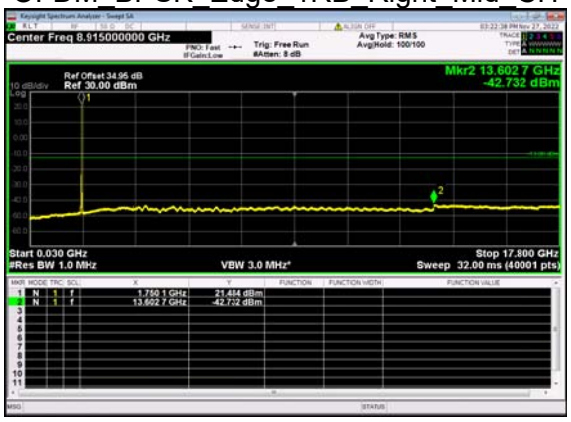
N66(10M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Mid_CH



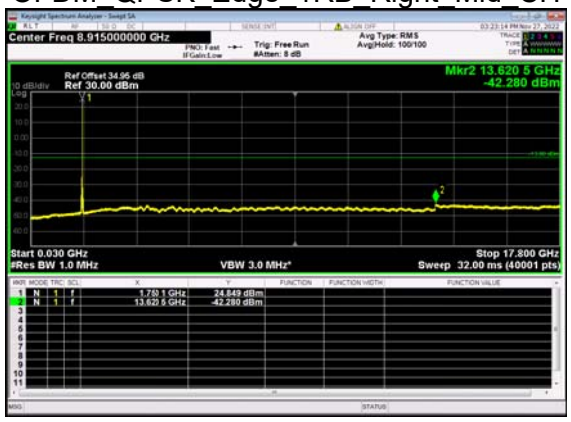
N66(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH



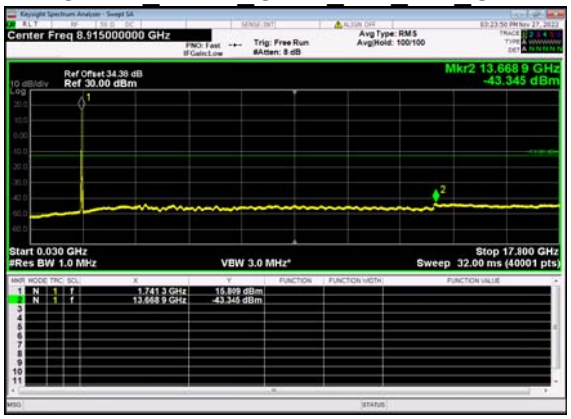
N66(10M)_DFT-s-OFDM_BPSK_Edge_1RB_Right_Mid_CH



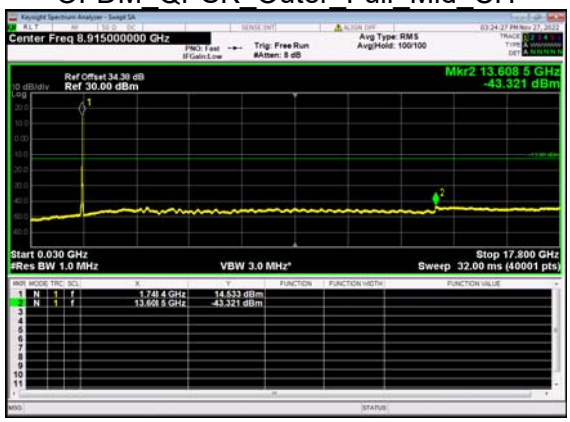
N66(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_Mid_CH



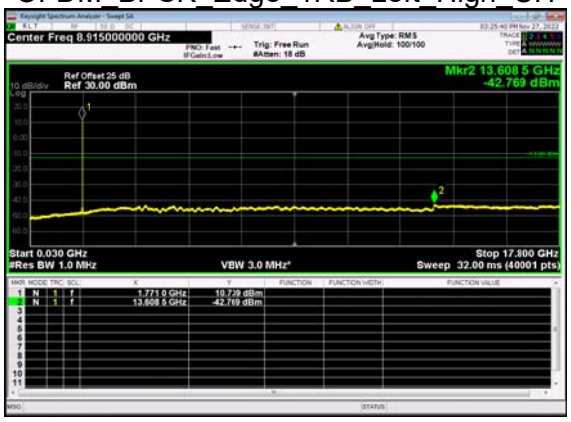
N66(10M)_DFT-s-OFDM_BPSK_Outer_Full_Mid_CH



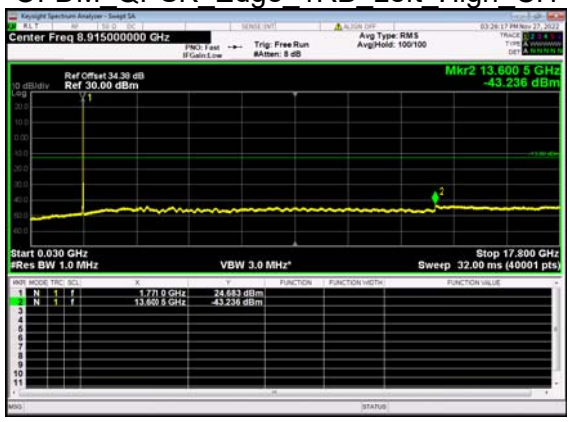
N66(10M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH



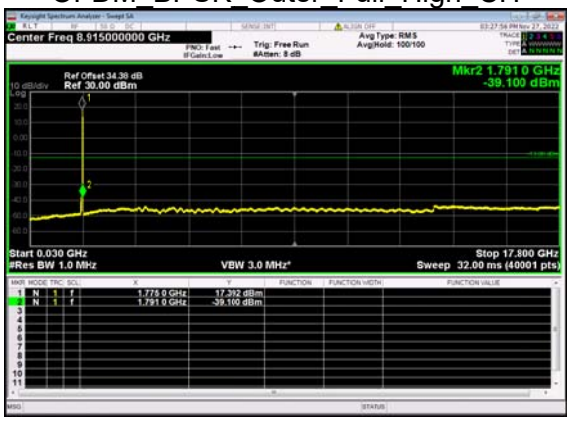
N66(10M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_High_CH



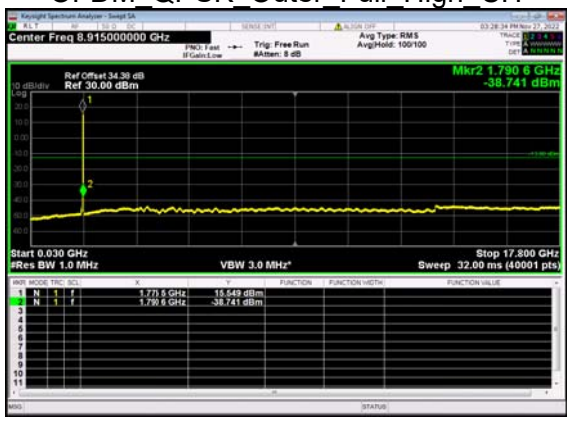
N66(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_High_CH



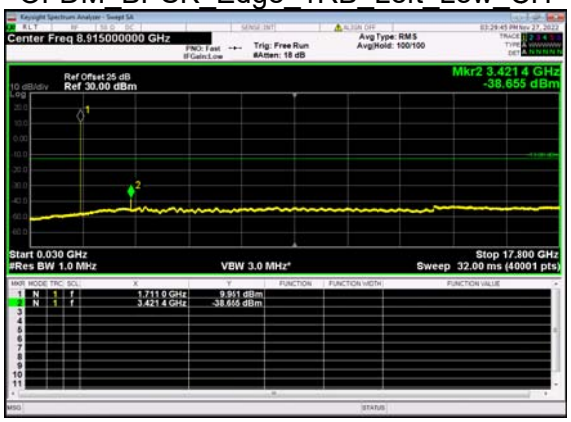
N66(10M)_DFT-s-OFDM_BPSK_Outer_Full_High_CH



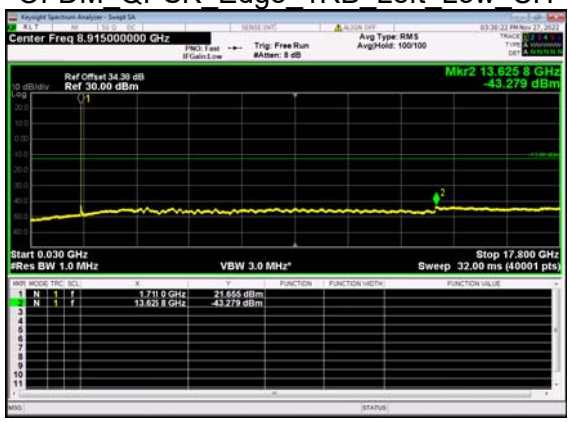
N66(10M)_DFT-s-OFDM_QPSK_Outer_Full_High_CH



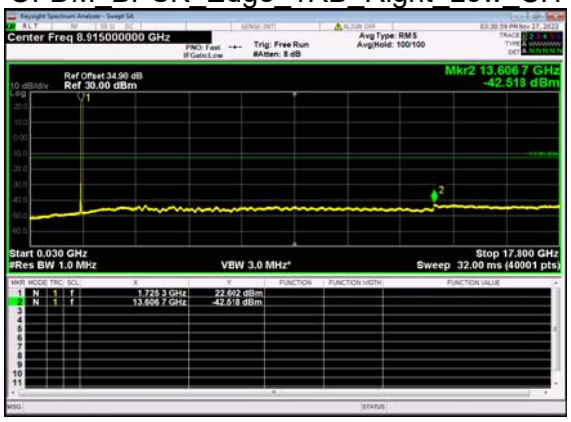
N66(15M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Low_CH



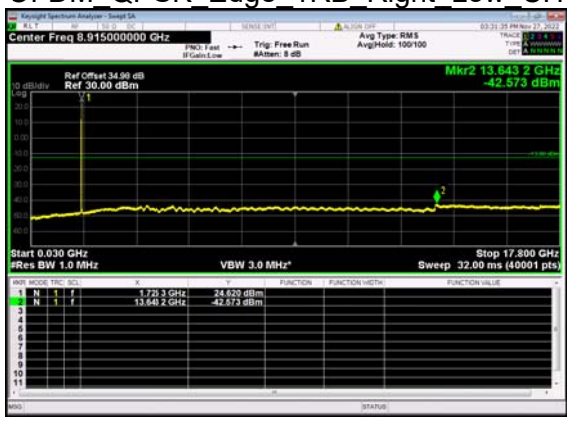
N66(15M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



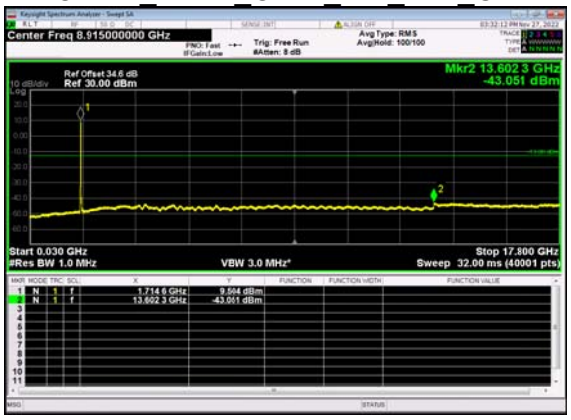
N66(15M)_DFT-s-OFDM_BPSK_Edge_1RB_Right_Low_CH



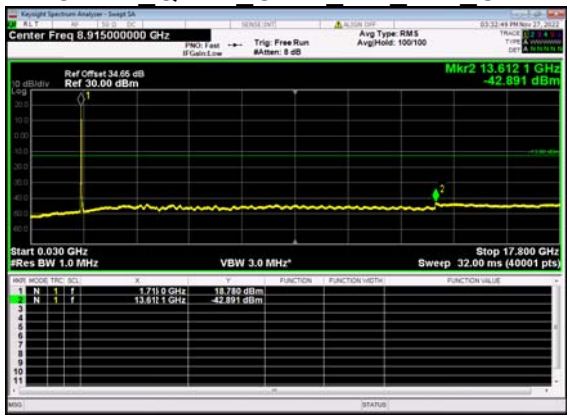
N66(15M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_Low_CH



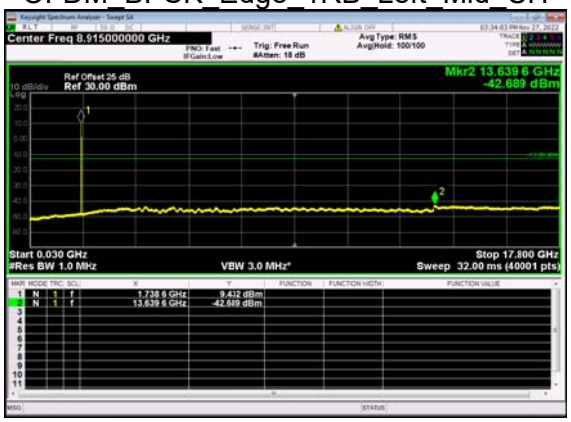
N66(15M)_DFT-s-OFDM_BPSK_Outer_Full_Low_CH



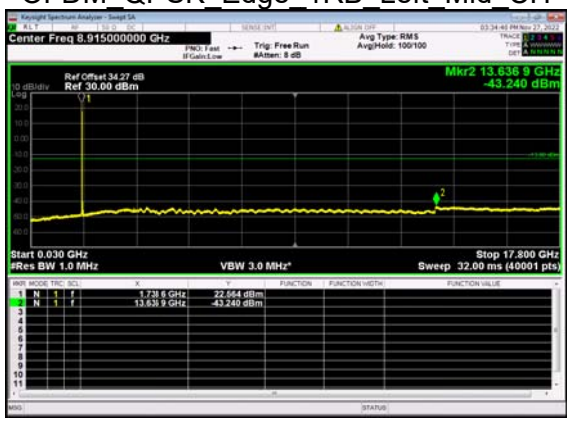
N66(15M)_DFT-s-OFDM_QPSK_Outer_Full_Low_CH



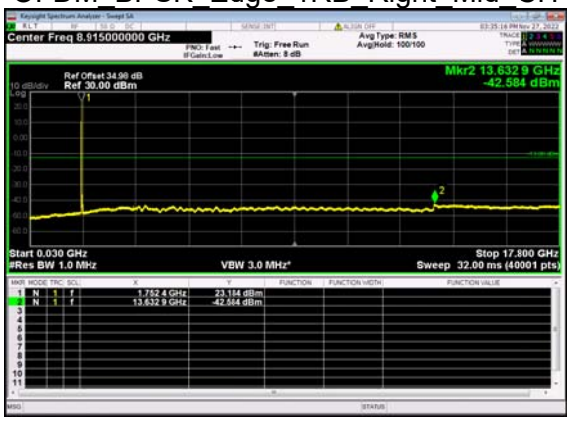
N66(15M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Mid_CH



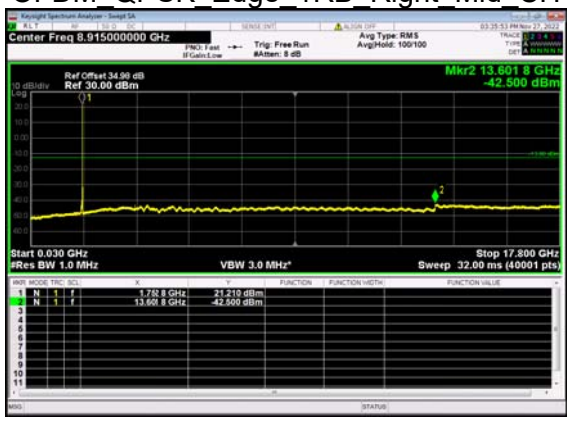
N66(15M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH



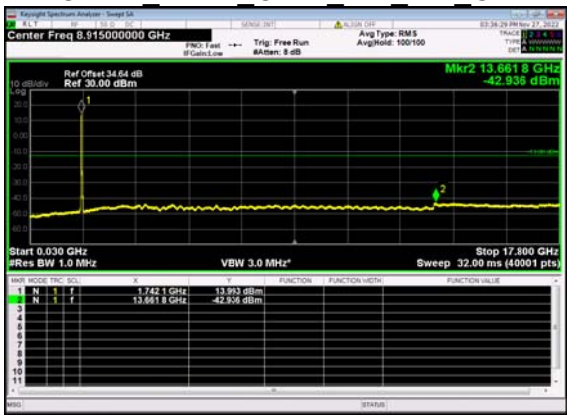
N66(15M)_DFT-s-OFDM_BPSK_Edge_1RB_Right_Mid_CH



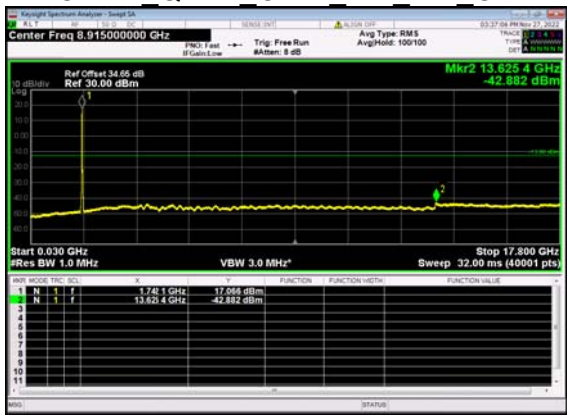
N66(15M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_Mid_CH



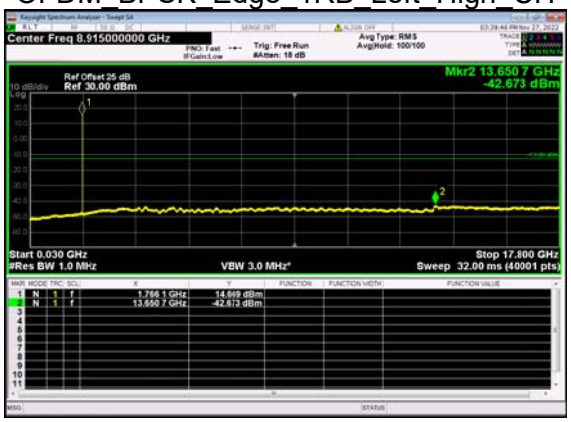
N66(15M)_DFT-s-OFDM_BPSK_Outer_Full_Mid_CH



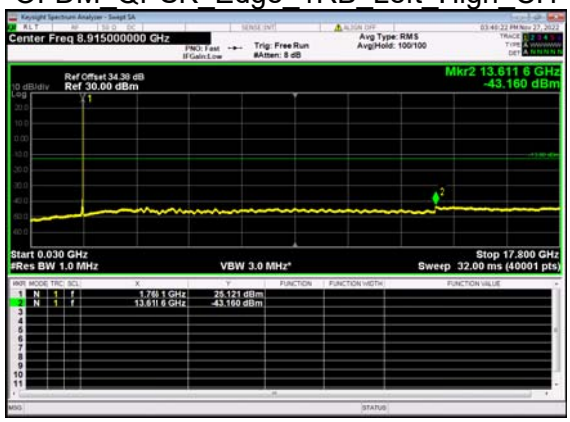
N66(15M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH



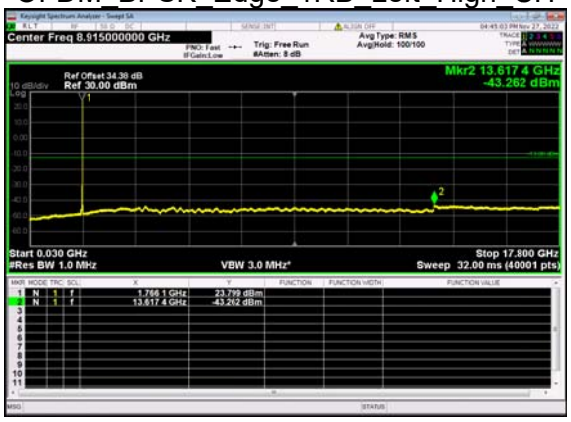
N66(15M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_High_CH



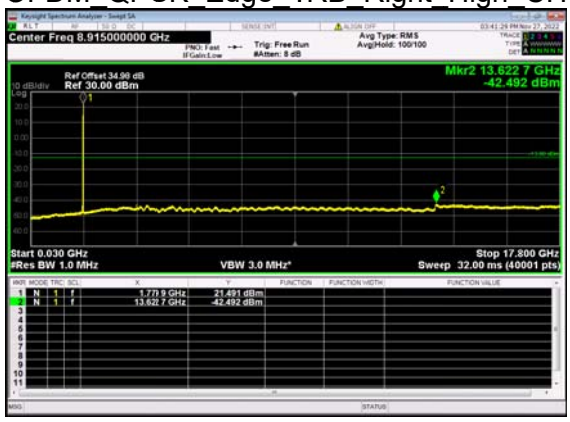
N66(15M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_High_CH



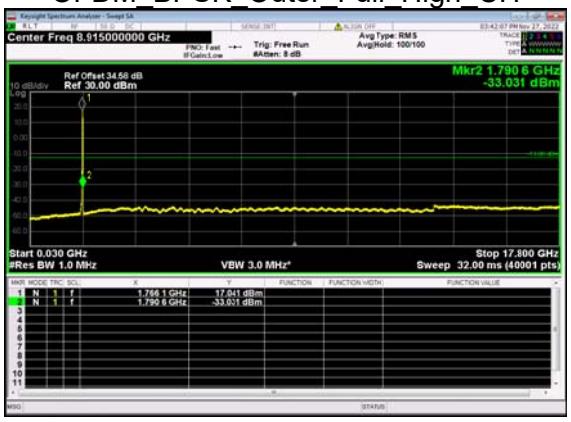
N66(15M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_High_CH



N66(15M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_High_CH



N66(15M)_DFT-s-OFDM_BPSK_Outer_Full_High_CH



N66(15M)_DFT-s-OFDM_QPSK_Outer_Full_High_CH