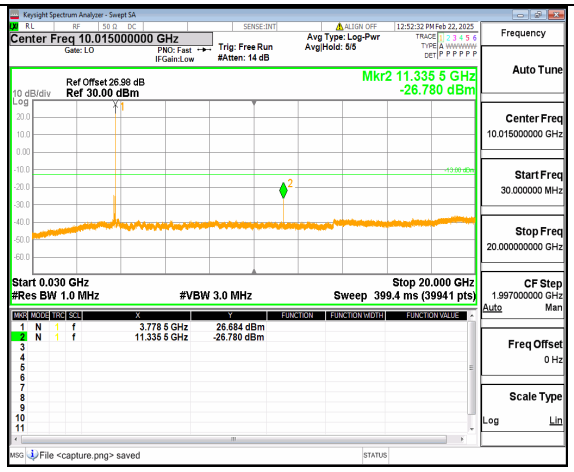
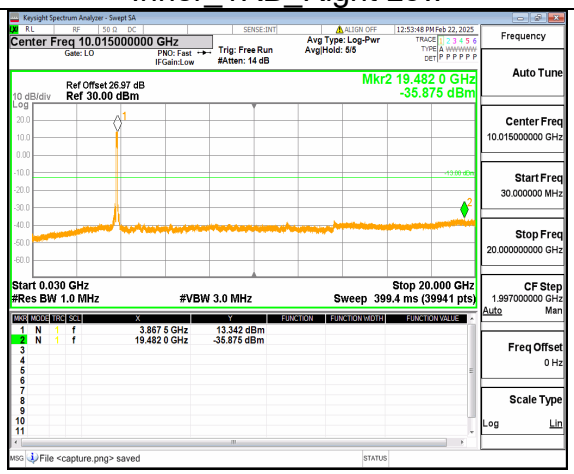
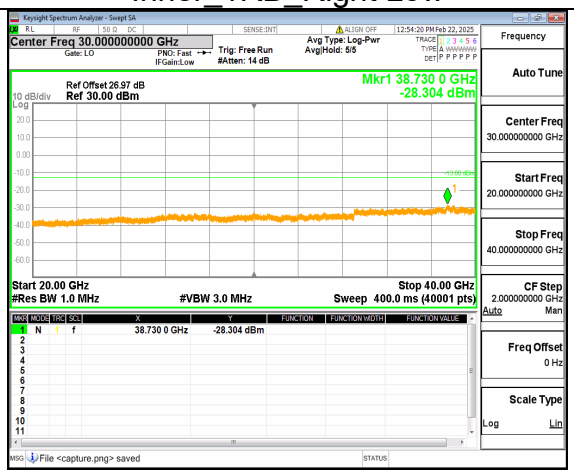


12A_n77(3700-3980MHz) (30MHz-20GHz) 80M DFT-s-OFDM QPSK Inner_1RB_Right Low

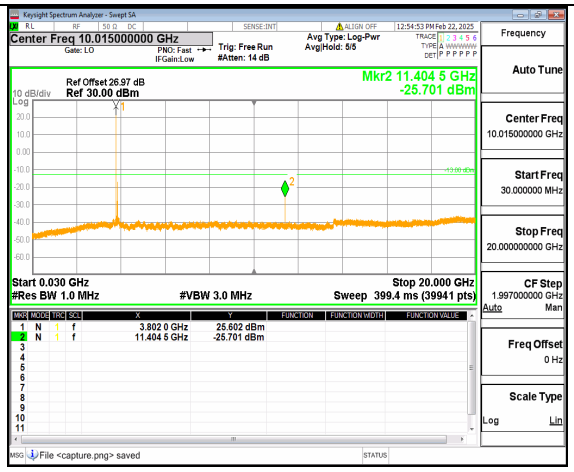
12A_n77(3700-3980MHz) (20GHz-40GHz) 80M DFT-s-OFDM QPSK Inner_1RB_Right Low



12A_n77(3700-3980MHz) (30MHz-20GHz) 80M DFT-s-OFDM QPSK Outer_Full Mid

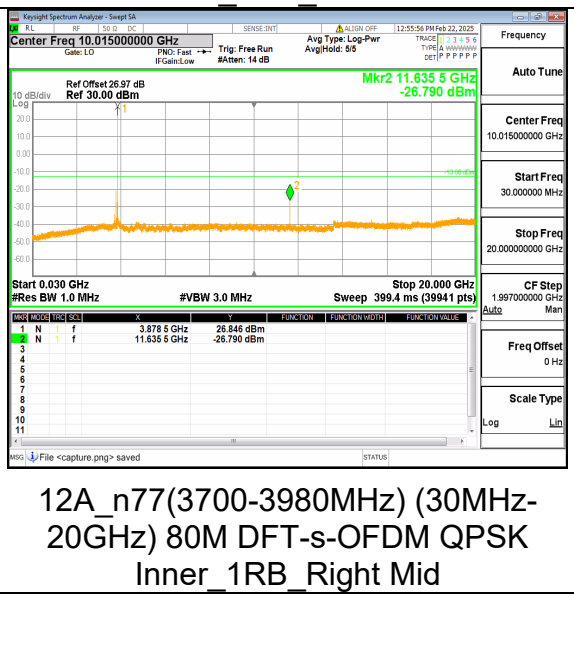


12A_n77(3700-3980MHz) (20GHz-40GHz) 80M DFT-s-OFDM QPSK Outer_Full Mid

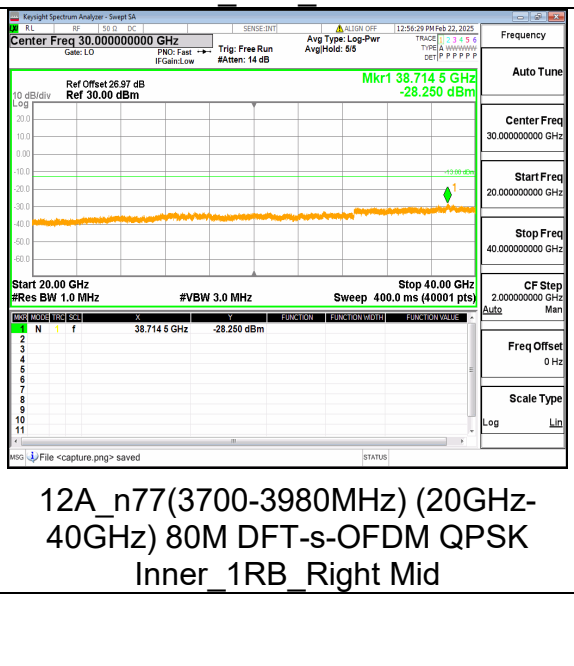


12A_n77(3700-3980MHz) (30MHz-20GHz) 80M DFT-s-OFDM QPSK Inner_1RB_Left Mid

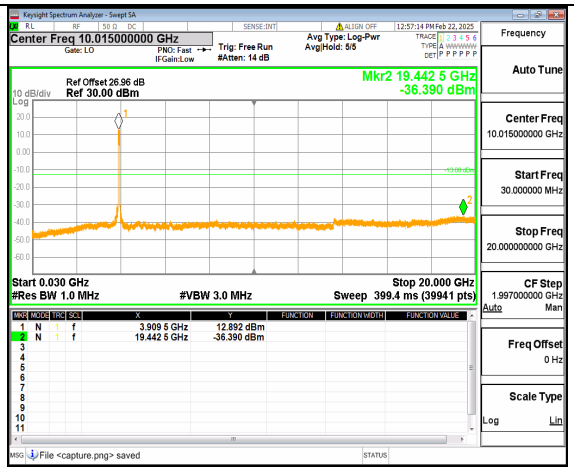
12A_n77(3700-3980MHz) (20GHz-40GHz) 80M DFT-s-OFDM QPSK Inner_1RB_Left Mid



12A_n77(3700-3980MHz) (30MHz-20GHz) 80M DFT-s-OFDM QPSK Inner_1RB_Right Mid

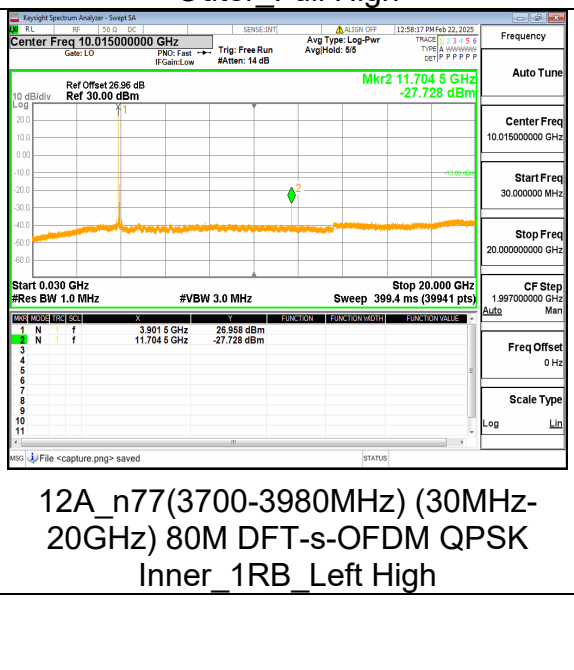


12A_n77(3700-3980MHz) (20GHz-40GHz) 80M DFT-s-OFDM QPSK Inner_1RB_Right Mid

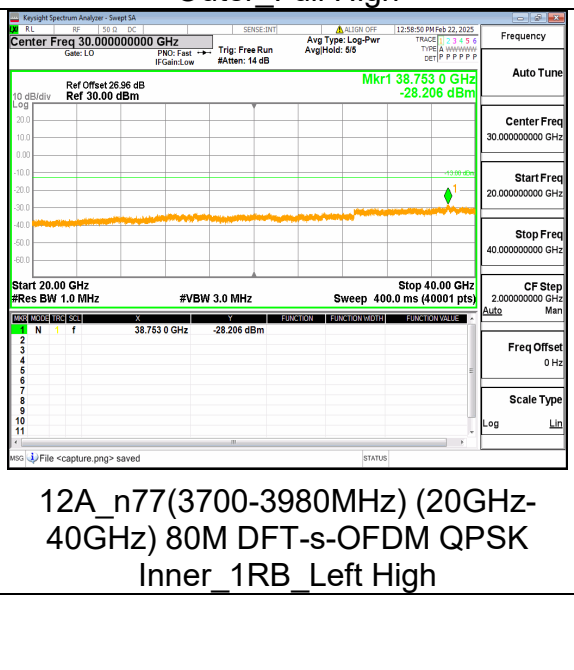


12A_n77(3700-3980MHz) (30MHz-20GHz) 80M DFT-s-OFDM QPSK Outer_Full High

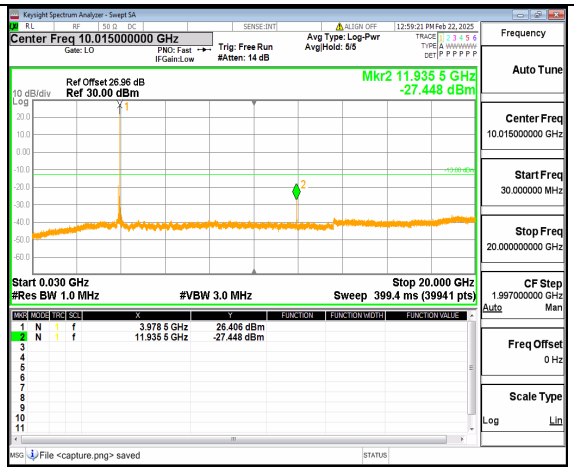
12A_n77(3700-3980MHz) (20GHz-40GHz) 80M DFT-s-OFDM QPSK Outer_Full High



12A_n77(3700-3980MHz) (30MHz-20GHz) 80M DFT-s-OFDM QPSK Inner_1RB_Left High

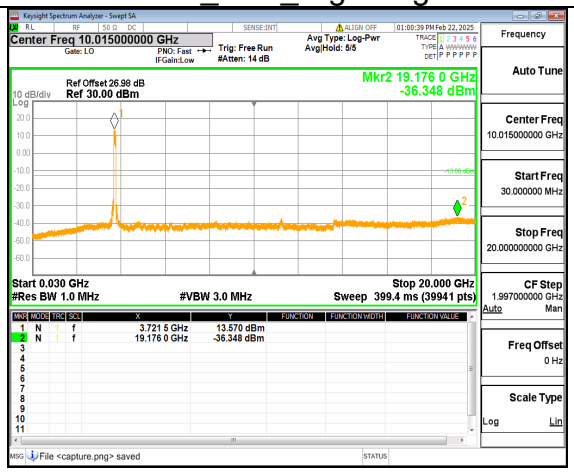


12A_n77(3700-3980MHz) (20GHz-40GHz) 80M DFT-s-OFDM QPSK Inner_1RB_Left High

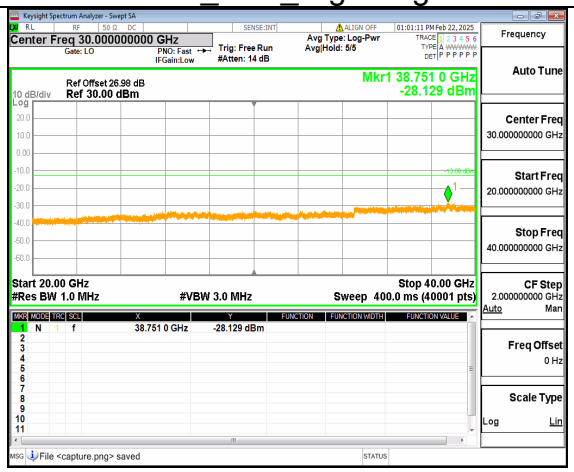


12A_n77(3700-3980MHz) (30MHz-20GHz) 80M DFT-s-OFDM QPSK Inner_1RB_Right High

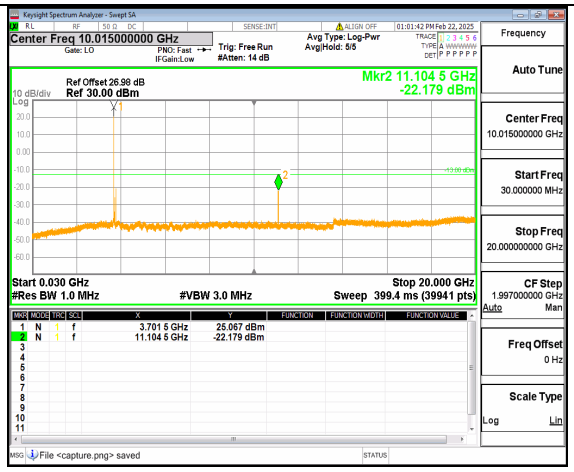
12A_n77(3700-3980MHz) (20GHz-40GHz) 80M DFT-s-OFDM QPSK Inner_1RB_Right High



12A_n77(3700-3980MHz) (30MHz-20GHz) 90M DFT-s-OFDM QPSK Outer_Full Low

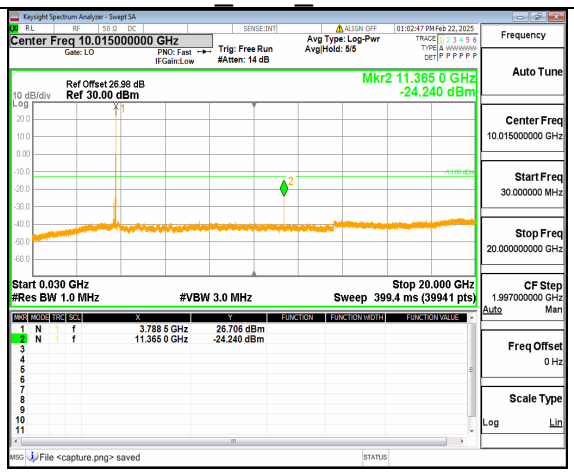


12A_n77(3700-3980MHz) (20GHz-40GHz) 90M DFT-s-OFDM QPSK Outer_Full Low

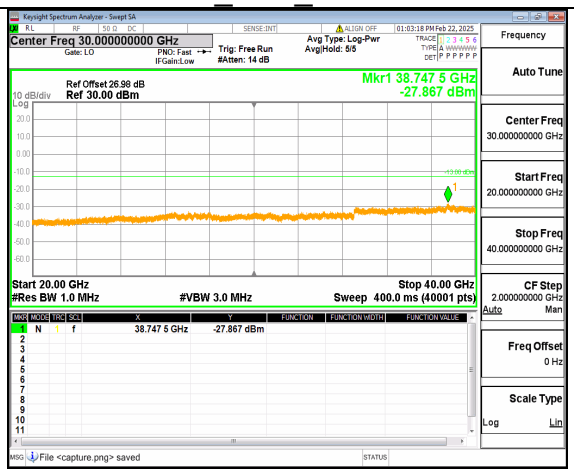


12A_n77(3700-3980MHz) (30MHz-20GHz) 90M DFT-s-OFDM QPSK Inner_1RB_Left Low

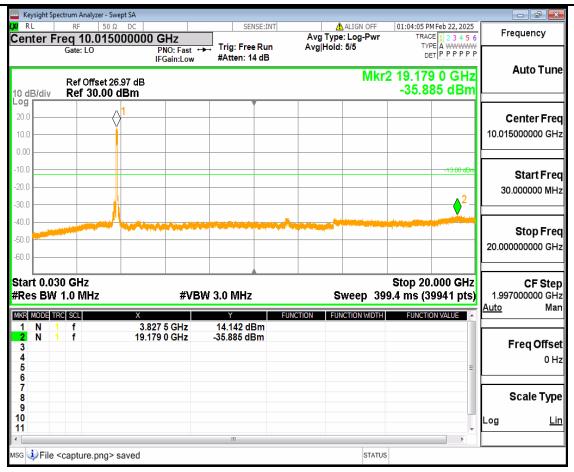
12A_n77(3700-3980MHz) (20GHz-40GHz) 90M DFT-s-OFDM QPSK Inner_1RB_Left Low



12A_n77(3700-3980MHz) (30MHz-20GHz) 90M DFT-s-OFDM QPSK Inner_1RB_Right Low

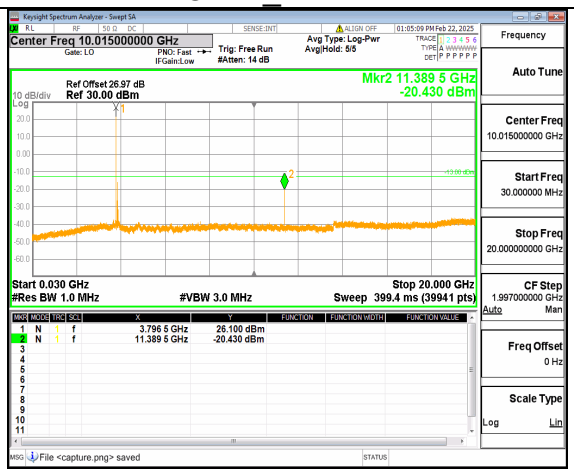


12A_n77(3700-3980MHz) (20GHz-40GHz) 90M DFT-s-OFDM QPSK Inner_1RB_Right Low

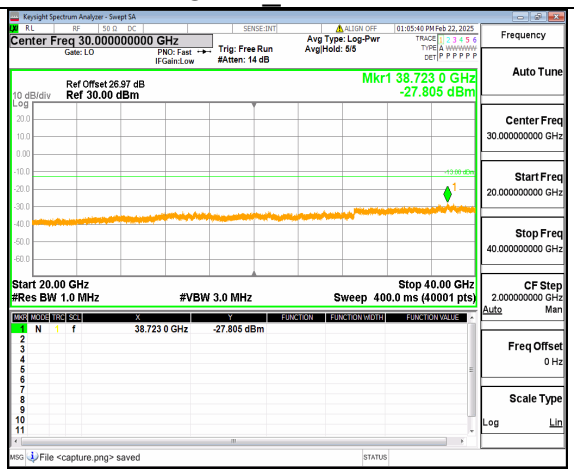


12A_n77(3700-3980MHz) (30MHz-20GHz) 90M DFT-s-OFDM QPSK Outer_Full Mid

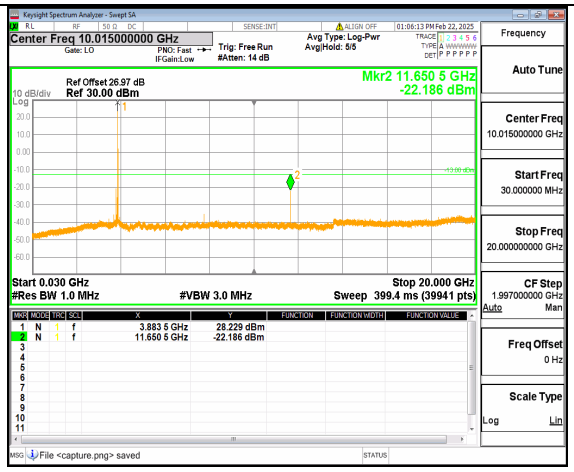
12A_n77(3700-3980MHz) (20GHz-40GHz) 90M DFT-s-OFDM QPSK Outer_Full Mid



12A_n77(3700-3980MHz) (30MHz-20GHz) 90M DFT-s-OFDM QPSK Inner_1RB_Left Mid

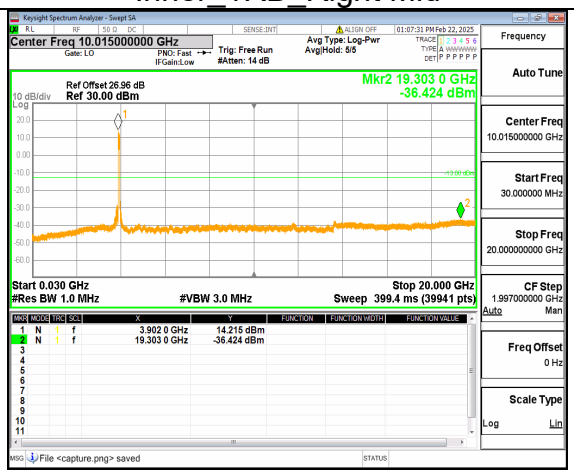


12A_n77(3700-3980MHz) (20GHz-40GHz) 90M DFT-s-OFDM QPSK Inner_1RB_Left Mid

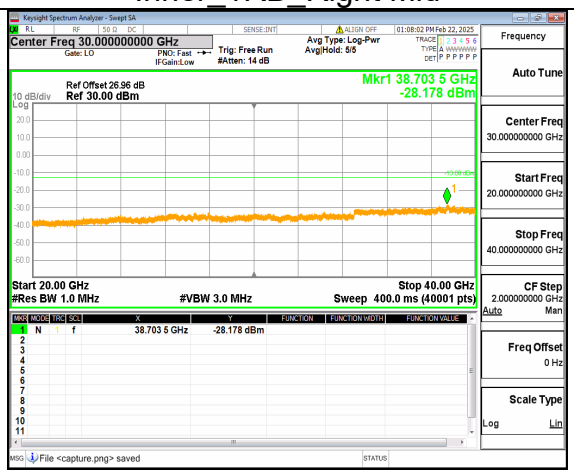


12A_n77(3700-3980MHz) (30MHz-20GHz) 90M DFT-s-OFDM QPSK Inner_1RB_Right Mid

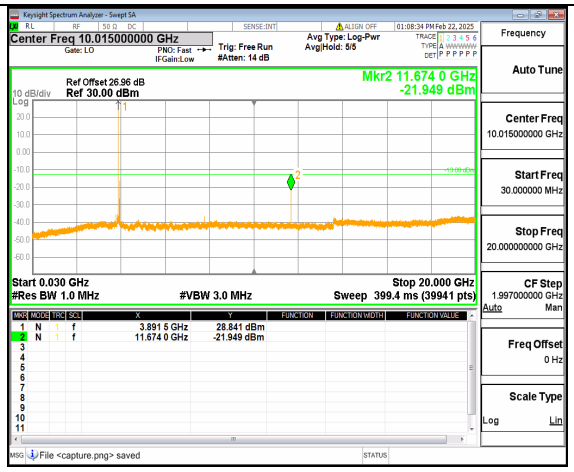
12A_n77(3700-3980MHz) (20GHz-40GHz) 90M DFT-s-OFDM QPSK Inner_1RB_Right Mid



12A_n77(3700-3980MHz) (30MHz-20GHz) 90M DFT-s-OFDM QPSK Outer_Full High

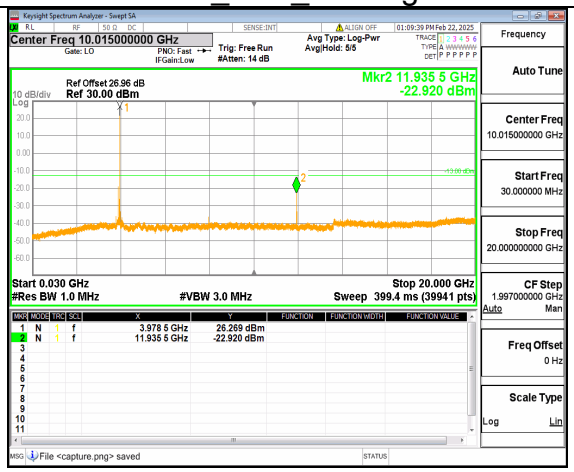


12A_n77(3700-3980MHz) (20GHz-40GHz) 90M DFT-s-OFDM QPSK Outer_Full High

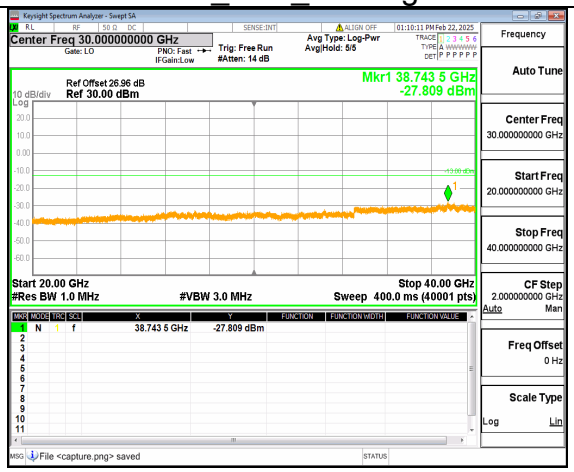


12A_n77(3700-3980MHz) (30MHz-20GHz) 90M DFT-s-OFDM QPSK Inner_1RB_Left High

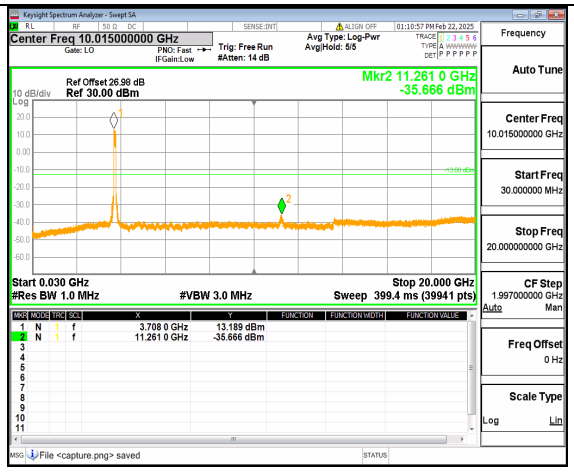
12A_n77(3700-3980MHz) (20GHz-40GHz) 90M DFT-s-OFDM QPSK Inner_1RB_Left High



12A_n77(3700-3980MHz) (30MHz-20GHz) 90M DFT-s-OFDM QPSK Inner_1RB_Right High

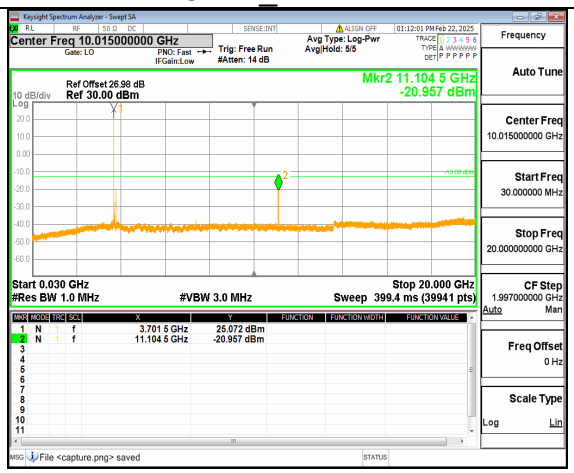


12A_n77(3700-3980MHz) (20GHz-40GHz) 90M DFT-s-OFDM QPSK Inner_1RB_Right High

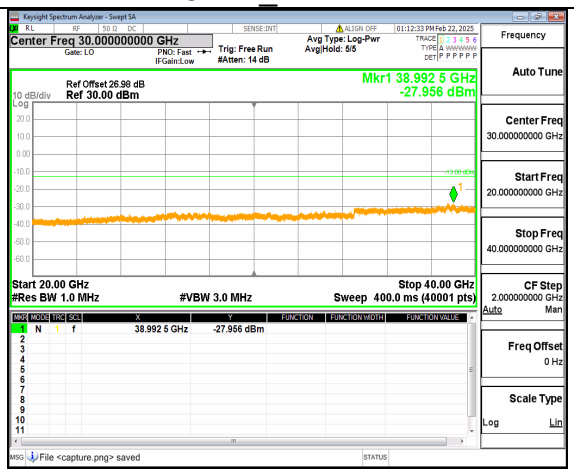


12A_n77(3700-3980MHz) (30MHz-20GHz) 100M DFT-s-OFDM QPSK Outer_Full Low

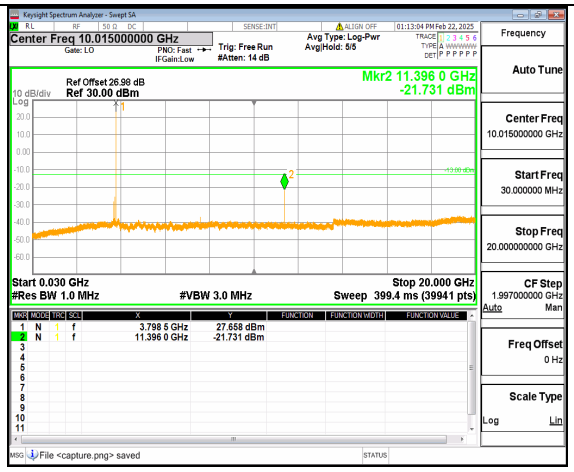
12A_n77(3700-3980MHz) (20GHz-40GHz) 100M DFT-s-OFDM QPSK Outer_Full Low



12A_n77(3700-3980MHz) (30MHz-20GHz) 100M DFT-s-OFDM QPSK Inner_1RB_Left Low

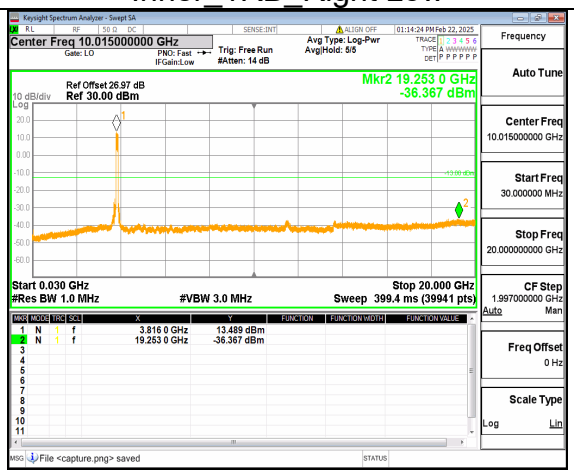


12A_n77(3700-3980MHz) (20GHz-40GHz) 100M DFT-s-OFDM QPSK Inner_1RB_Left Low

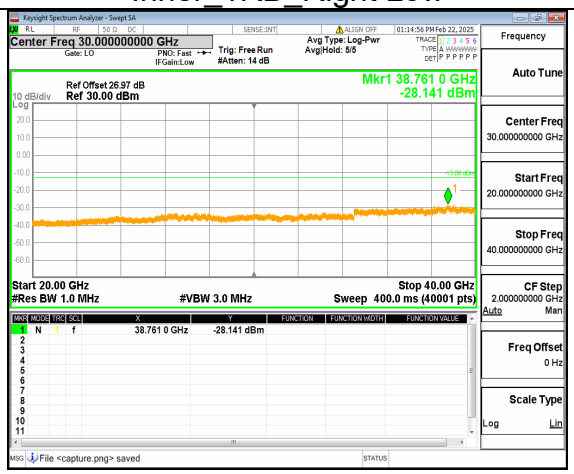


12A_n77(3700-3980MHz) (30MHz-20GHz) 100M DFT-s-OFDM QPSK Inner_1RB_Right Low

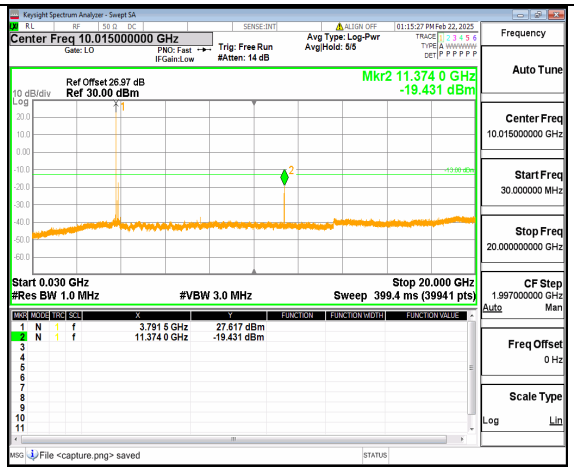
12A_n77(3700-3980MHz) (20GHz-40GHz) 100M DFT-s-OFDM QPSK Inner_1RB_Right Low



12A_n77(3700-3980MHz) (30MHz-20GHz) 100M DFT-s-OFDM QPSK Outer_Full Mid

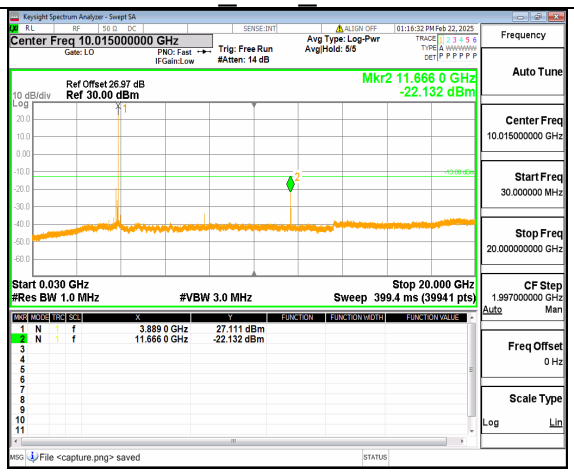


12A_n77(3700-3980MHz) (20GHz-40GHz) 100M DFT-s-OFDM QPSK Outer_Full Mid

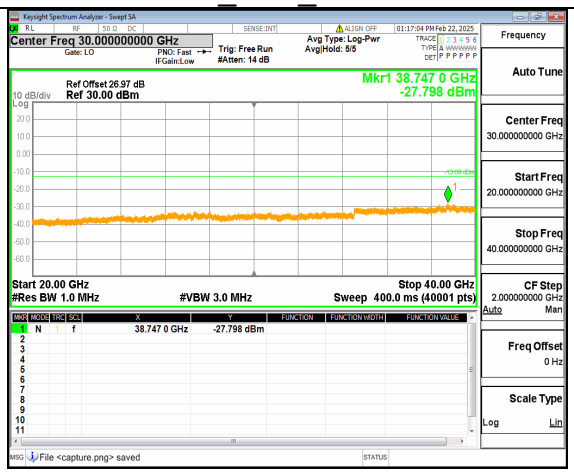


12A_n77(3700-3980MHz) (30MHz-20GHz) 100M DFT-s-OFDM QPSK Inner_1RB_Left Mid

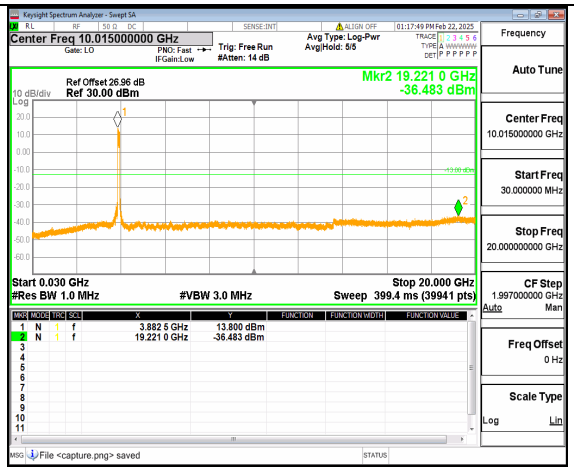
12A_n77(3700-3980MHz) (20GHz-40GHz) 100M DFT-s-OFDM QPSK Inner_1RB_Left Mid



12A_n77(3700-3980MHz) (30MHz-20GHz) 100M DFT-s-OFDM QPSK Inner_1RB_Right Mid

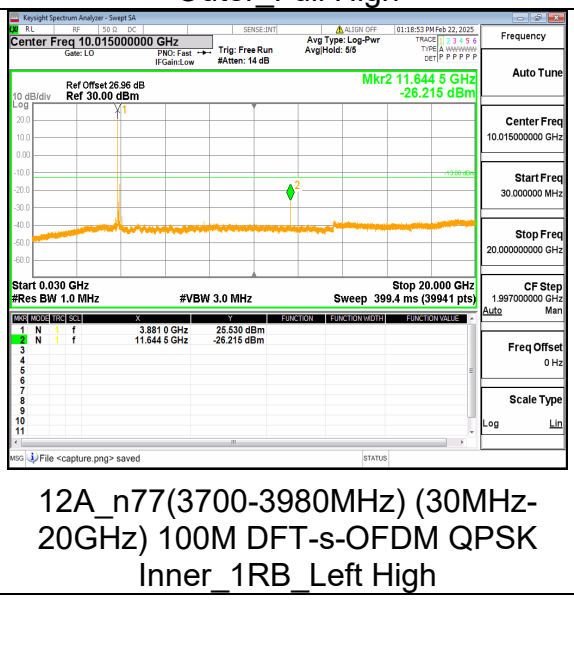


12A_n77(3700-3980MHz) (20GHz-40GHz) 100M DFT-s-OFDM QPSK Inner_1RB_Right Mid

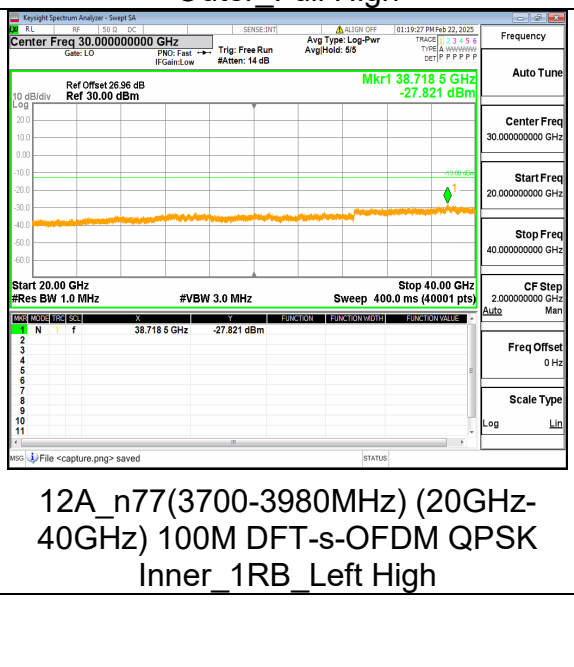


12A_n77(3700-3980MHz) (30MHz-20GHz) 100M DFT-s-OFDM QPSK Outer_Full High

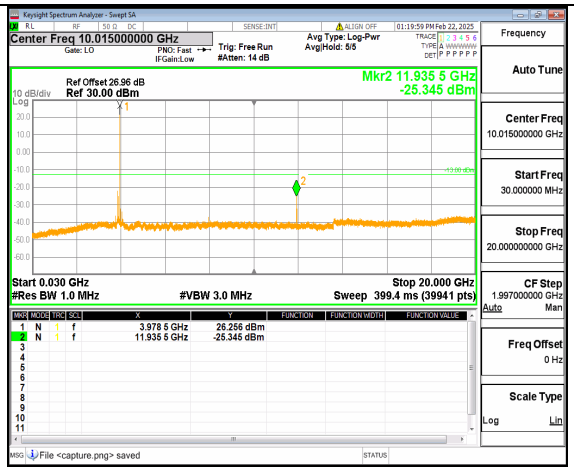
12A_n77(3700-3980MHz) (20GHz-40GHz) 100M DFT-s-OFDM QPSK Outer_Full High



12A_n77(3700-3980MHz) (30MHz-20GHz) 100M DFT-s-OFDM QPSK Inner_1RB_Left High



12A_n77(3700-3980MHz) (20GHz-40GHz) 100M DFT-s-OFDM QPSK Inner_1RB_Left High



12A_n77(3700-3980MHz) (30MHz-20GHz) 100M DFT-s-OFDM QPSK Inner_1RB_Right High

12A_n77(3700-3980MHz) (20GHz-40GHz) 100M DFT-s-OFDM QPSK Inner_1RB_Right High

2.6. Band Edge

2.6.1.Requirement

n2

According to FCC section 24.238(a), for operations in the 1850–1910MHz bands, 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) dBm a 1MHz bandwidth. However, in the 1 MHz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

n71

According to FCC section 27.53(g), for operations in the 600 MHz band and the 698-746 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least 43 + 10 log (P) dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

n41

According to FCC section 27.53(m) (4), for mobile digital stations, the attenuation factor shall be not less than 40 + 10 log (P) dB on all frequencies between the channel edge and 5 megahertz from the channel edge, 43 + 10 log (P) dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and 55 + 10 log (P) dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less that 43 + 10 log (P) dB on all frequencies between 2490.5 MHz and 2496 MHz and 55 + 10 log (P) dB at or below 2490.5 MHz Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

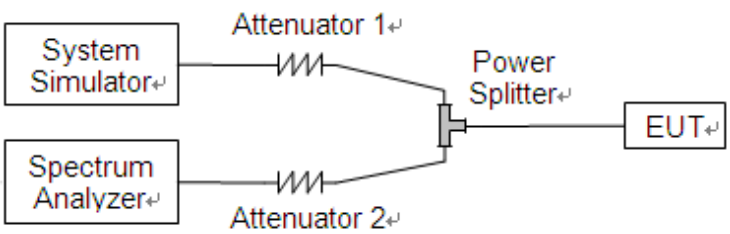
n77 (3700-3980MHz)

According to FCC section 27.53(l) (2) for, for mobile operations in the 3700-3980 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed −13 dBm/MHz. Compliance with this paragraph (l)(2) is based on the use of measurement instrumentation employing a resolution bandwidth of 1 megahertz or greater. However, in the 1-megahertz bands immediately outside and adjacent to the licensee's frequency block, the minimum resolution bandwidth for the measurement shall be either one percent of the emission bandwidth of the fundamental emission of the transmitter or 350 kHz. In the bands between 1 and 5 MHz removed from the licensee's frequency block, the minimum resolution bandwidth for the measurement shall be 500 kHz. The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

n77 (3450-3550MHz)

According to FCC section 27.53(n) (2) for,for mobile operations in the 3450-3550 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed −13 dBm/MHz. Compliance with this paragraph (n)(2) is based on the use of measurement instrumentation employing a resolution bandwidth of 1 megahertz or greater. However, in the 1 megahertz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed, but limited to a maximum of 200 kHz. In the bands between 1 and 5 MHz removed from the licensee's frequency block, the minimum resolution bandwidth for the measurement shall be 500 kHz. The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

2.6.2.Test Description



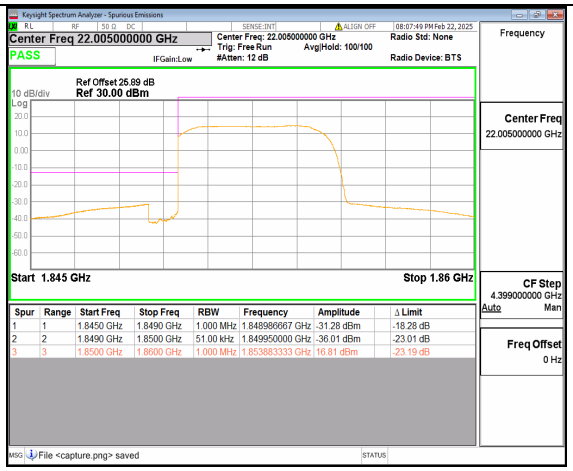
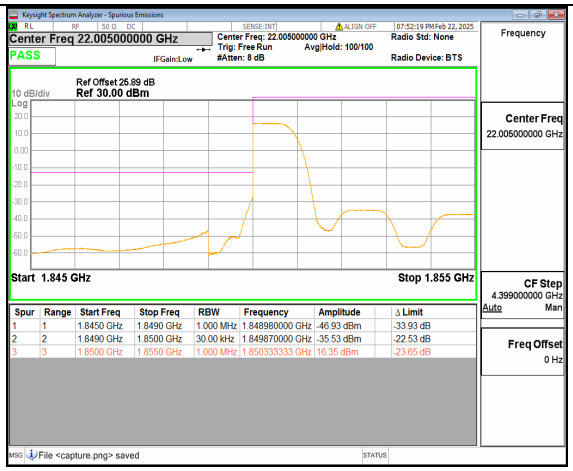
The EUTis coupled to the Spectrum Analyzer (SA) and the System Simulator (SS) with Attenuators through the Power Splitter; the RF load attached to the EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading. The EUT is commanded by the SS to operate at the maximum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

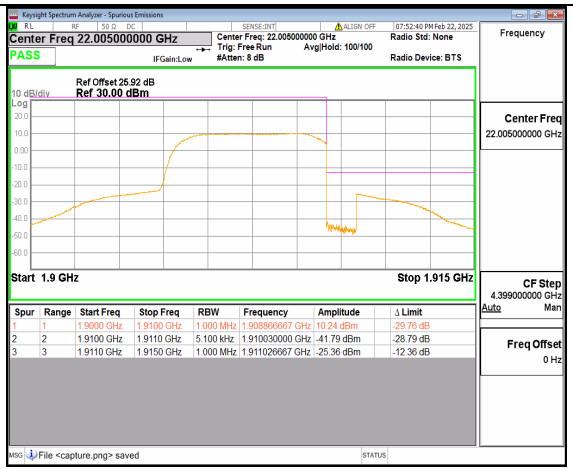
2.6.3.Test procedure

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

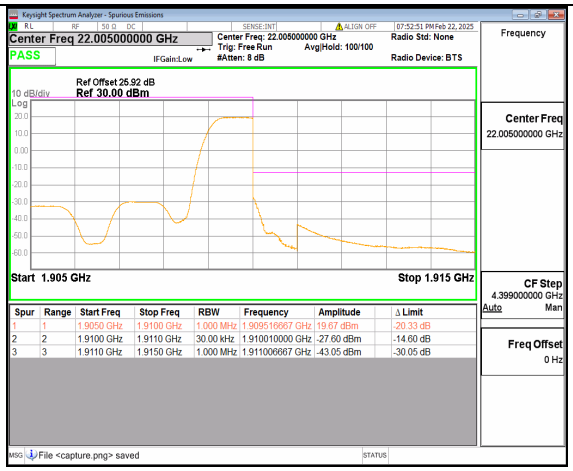
2.6.4.Test Result

The center frequency of spectrum is the band edge frequency and span is 2MHz, Record the max trace into the test report.

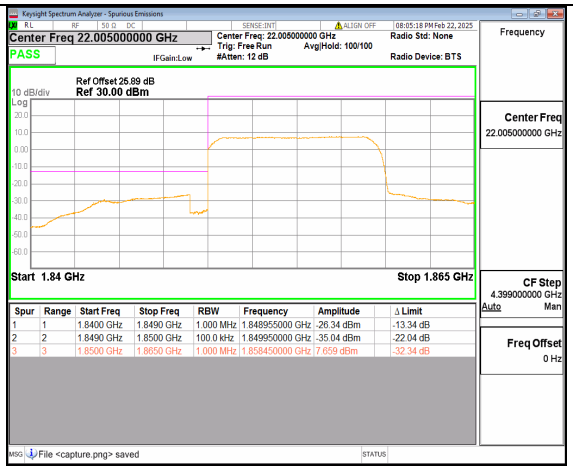
	
66A_n2 5M DFT-s-OFDM QPSK Outer_Full Low	66A_n2 5M DFT-s-OFDM QPSK Edge_1RB_Left Low



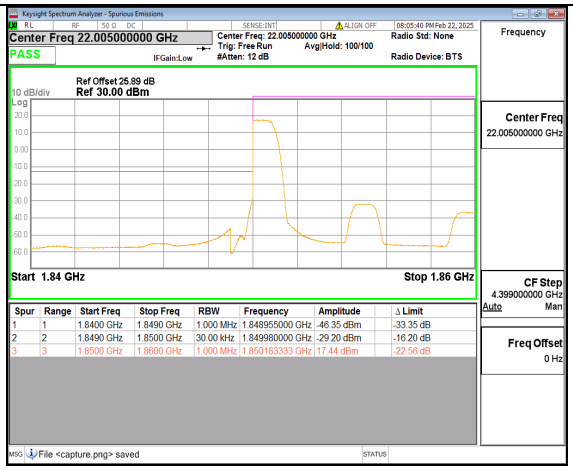
66A_n2 5M DFT-s-OFDM QPSK Outer_Full High



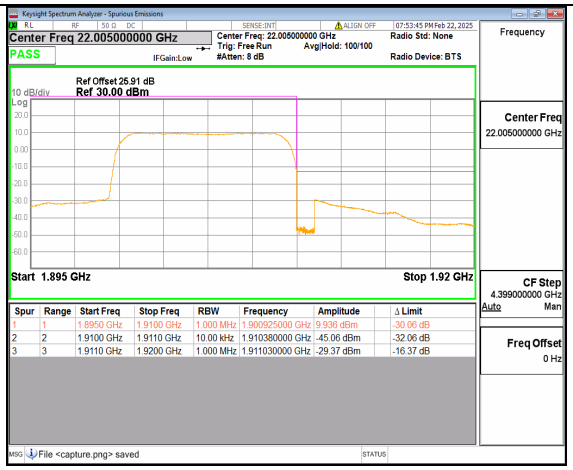
66A_n2 5M DFT-s-OFDM QPSK Edge_1RB_Right High



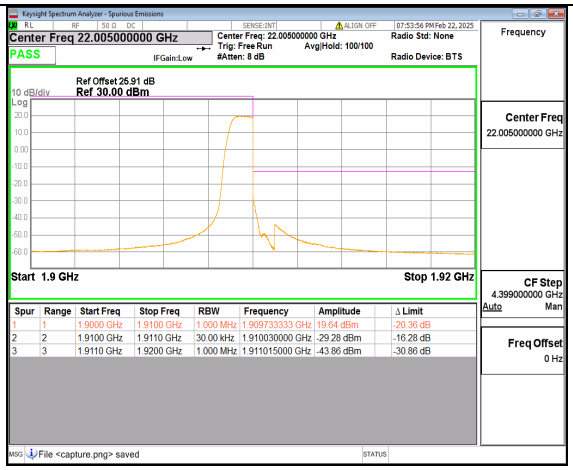
66A_n2 10M DFT-s-OFDM QPSK Outer_Full Low



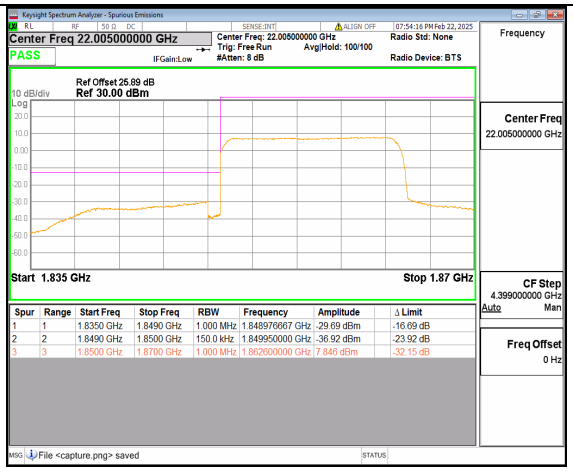
66A_n2 10M DFT-s-OFDM QPSK Edge_1RB_Left Low



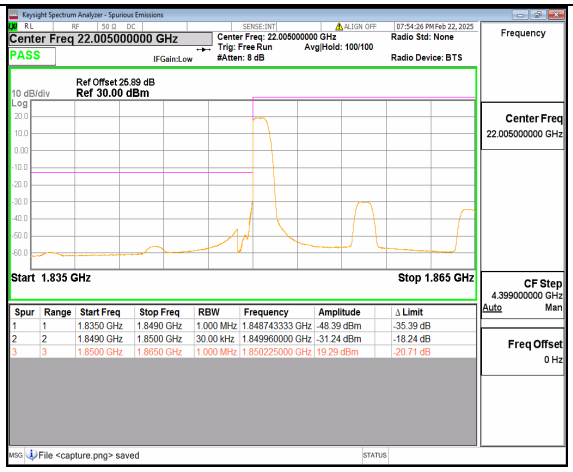
66A_n2 10M DFT-s-OFDM QPSK Outer_Full High



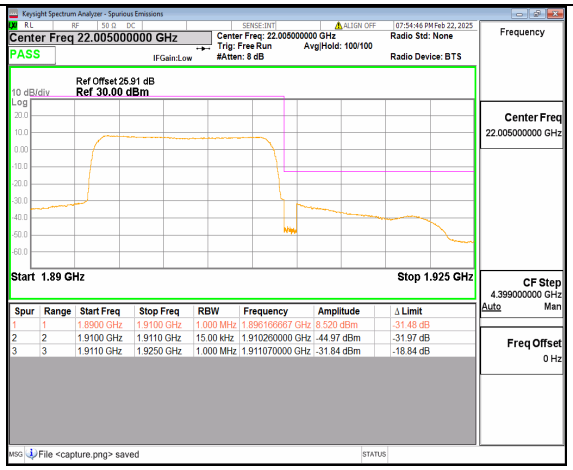
66A_n2 10M DFT-s-OFDM QPSK Edge_1RB_Right High



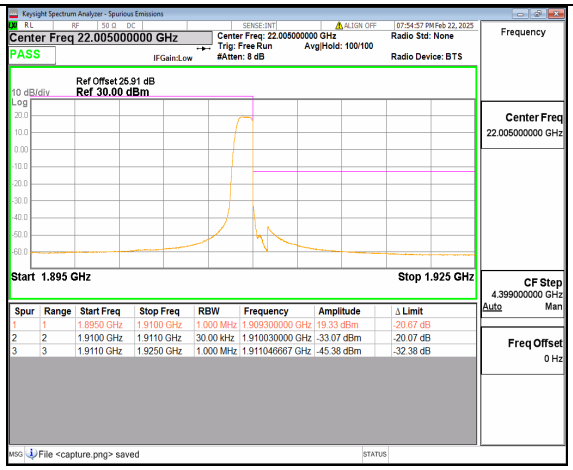
66A_n2 15M DFT-s-OFDM QPSK
Outer_Full Low



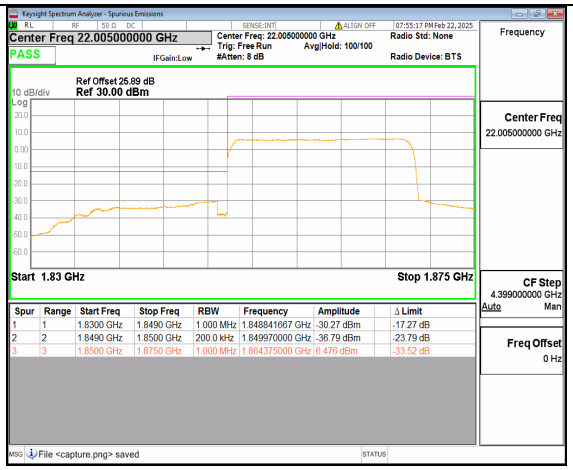
66A_n2 15M DFT-s-OFDM QPSK
Edge_1RB_Left Low



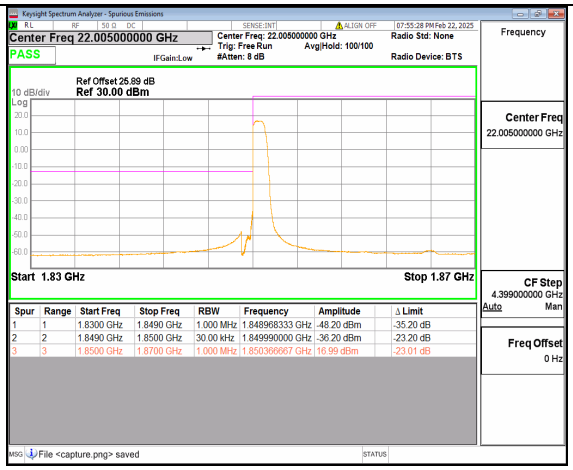
66A_n2 15M DFT-s-OFDM QPSK
Outer_Full High



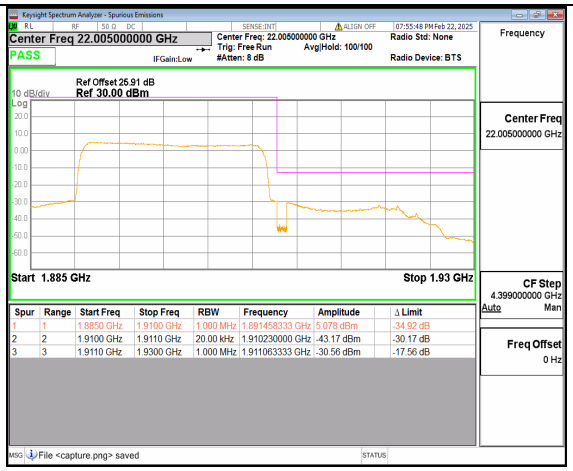
66A_n2 15M DFT-s-OFDM QPSK
Edge_1RB_Right High



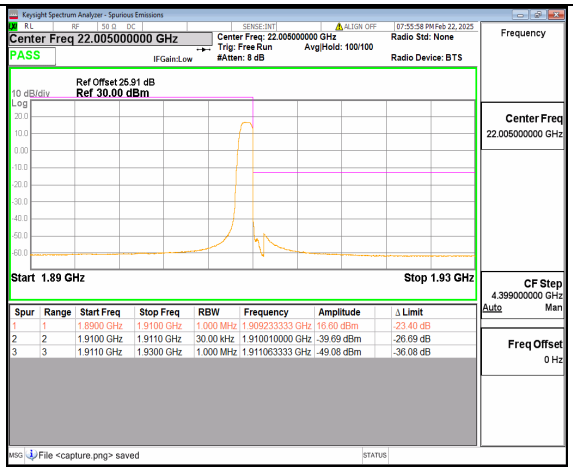
66A_n2 20M DFT-s-OFDM QPSK
Outer_Full Low



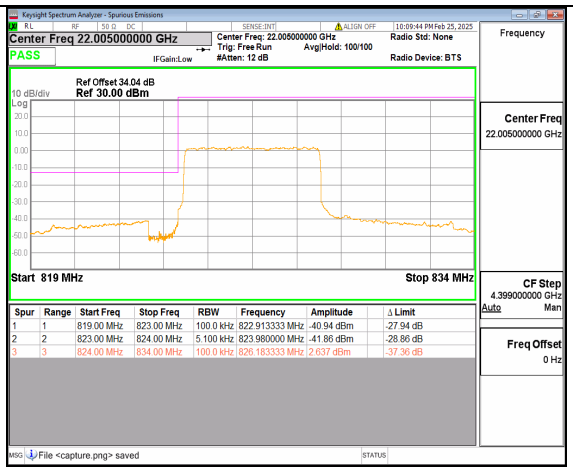
66A_n2 20M DFT-s-OFDM QPSK
Edge_1RB_Left Low



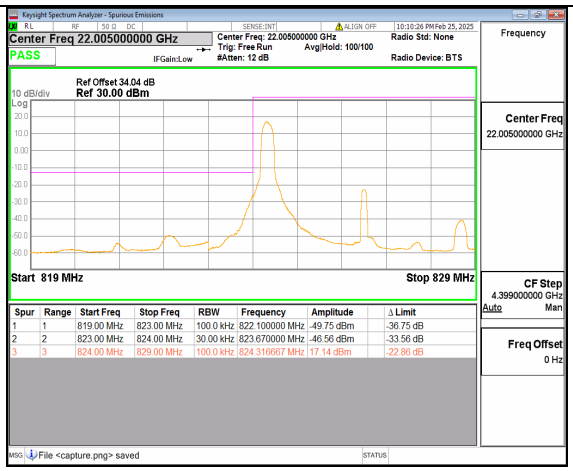
66A_n2 20M DFT-s-OFDM QPSK Outer_Full High



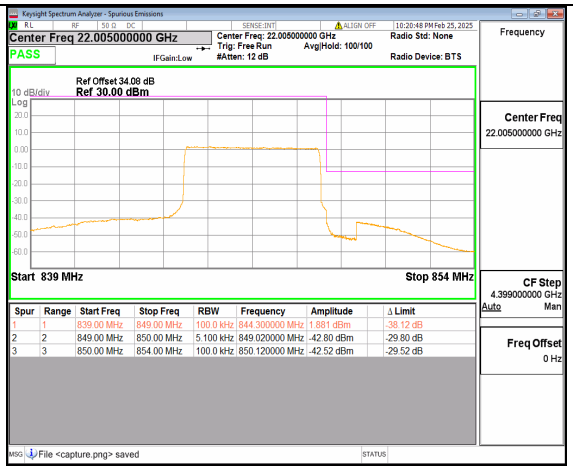
66A_n2 20M DFT-s-OFDM QPSK Edge_1RB_Right High



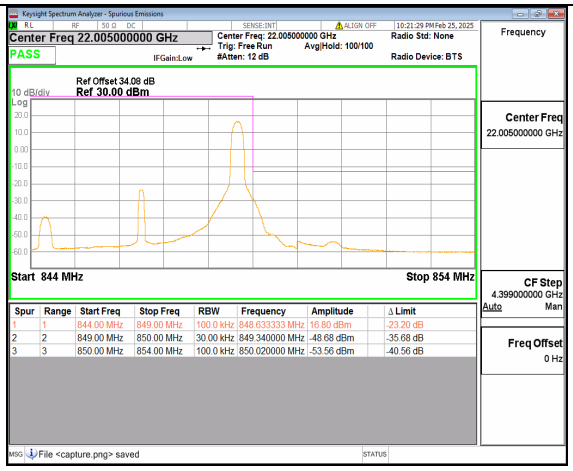
66A_n5 5M DFT-s-OFDM QPSK Outer_Full Low



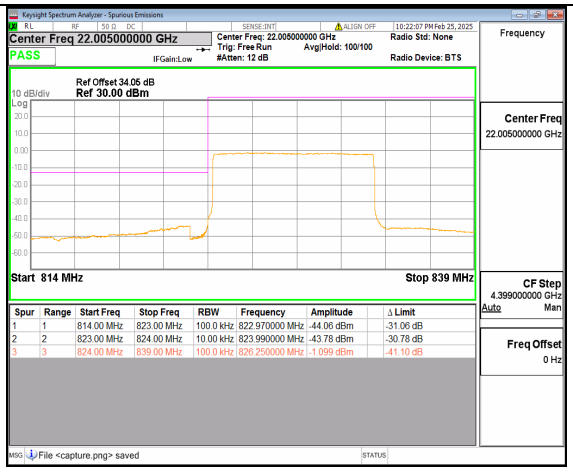
66A_n5 5M DFT-s-OFDM QPSK Edge_1RB_Left Low



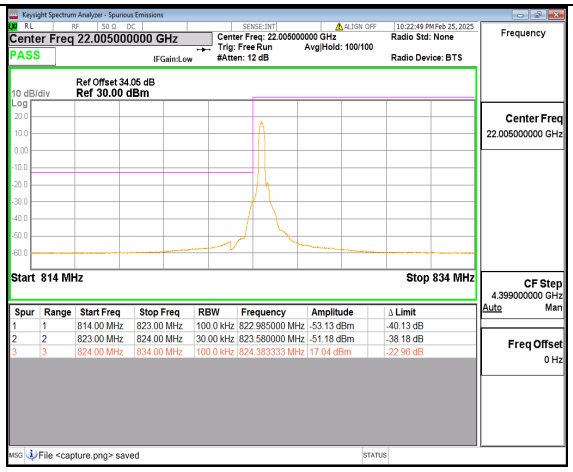
66A_n5 5M DFT-s-OFDM QPSK Outer_Full High



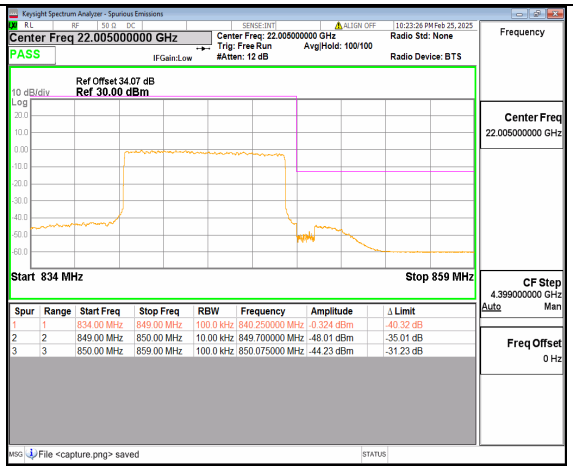
66A_n5 5M DFT-s-OFDM QPSK Edge_1RB_Right High



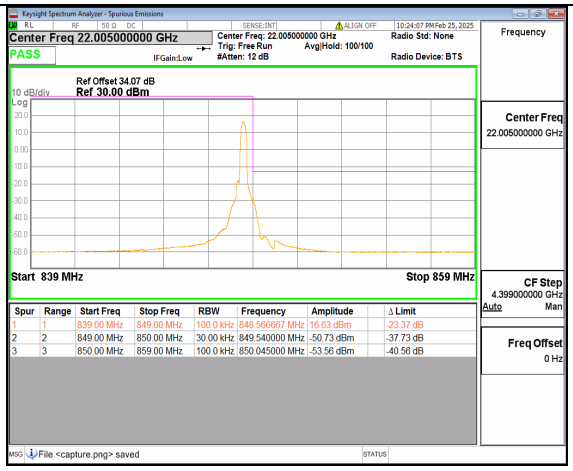
66A_n5 10M DFT-s-OFDM QPSK
Outer_Full Low



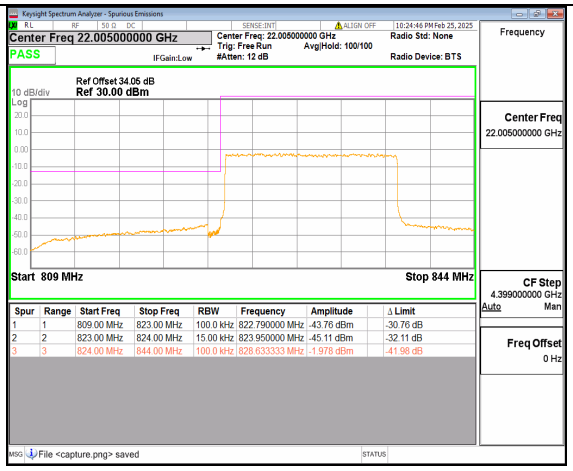
66A_n5 10M DFT-s-OFDM QPSK
Edge_1RB_Left Low



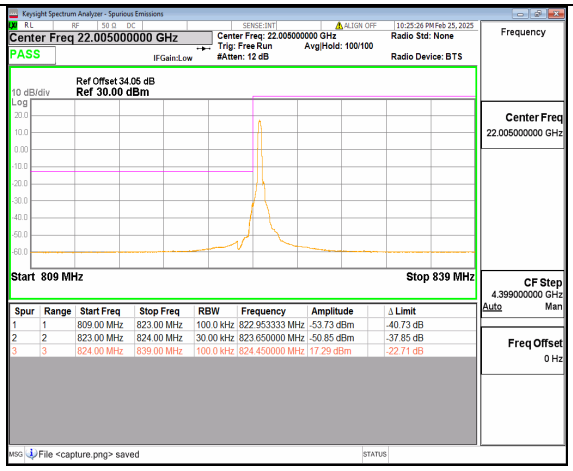
66A_n5 10M DFT-s-OFDM QPSK
Outer_Full High



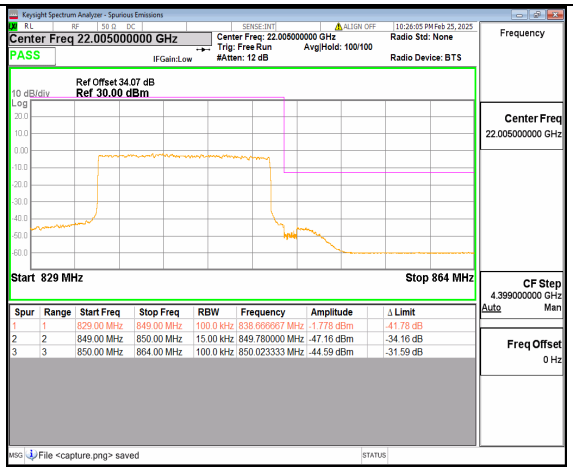
66A_n5 10M DFT-s-OFDM QPSK
Edge_1RB_Right High



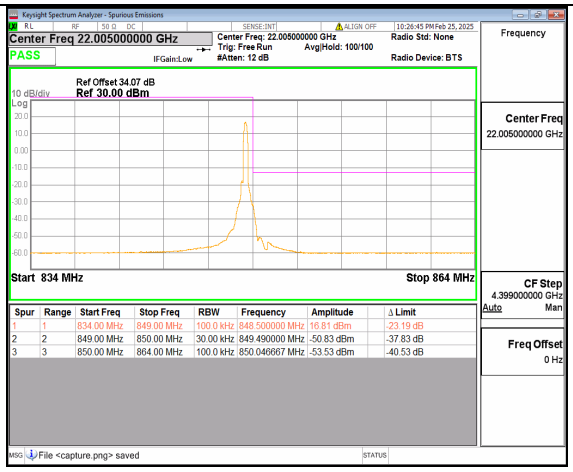
66A_n5 15M DFT-s-OFDM QPSK
Outer_Full Low



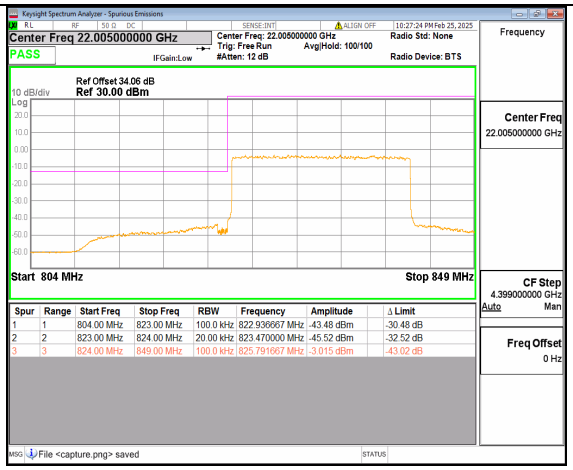
66A_n5 15M DFT-s-OFDM QPSK
Edge_1RB_Left Low



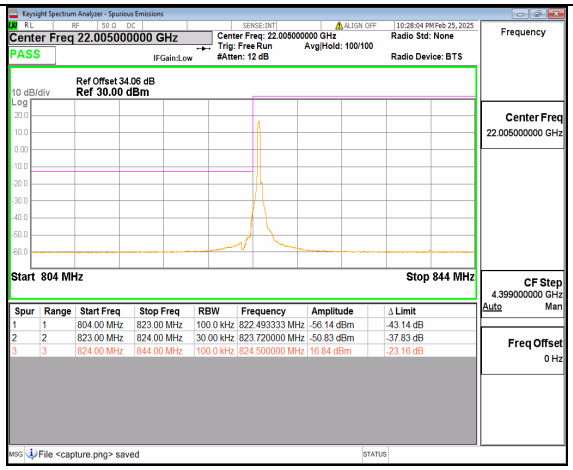
66A_n5 15M DFT-s-OFDM QPSK
Outer_Full High



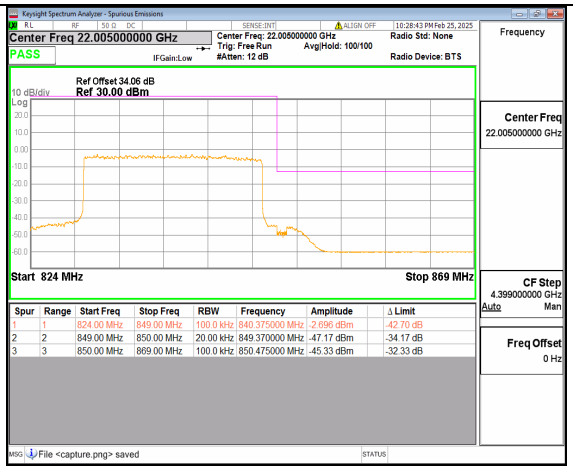
66A_n5 15M DFT-s-OFDM QPSK
Edge_1RB_Right High



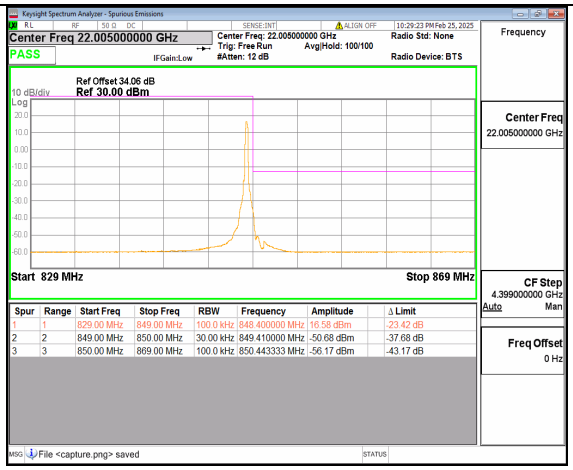
66A_n5 20M DFT-s-OFDM QPSK
Outer_Full Low



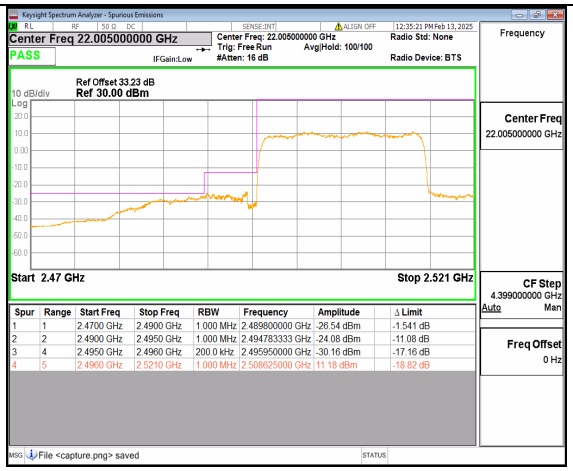
66A_n5 20M DFT-s-OFDM QPSK
Edge_1RB_Left Low



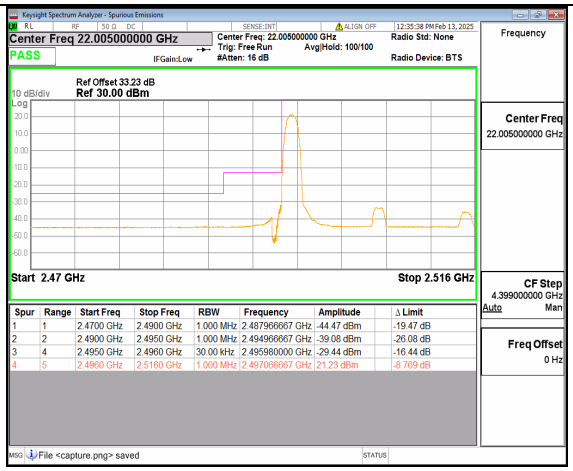
66A_n5 20M DFT-s-OFDM QPSK
Outer_Full High



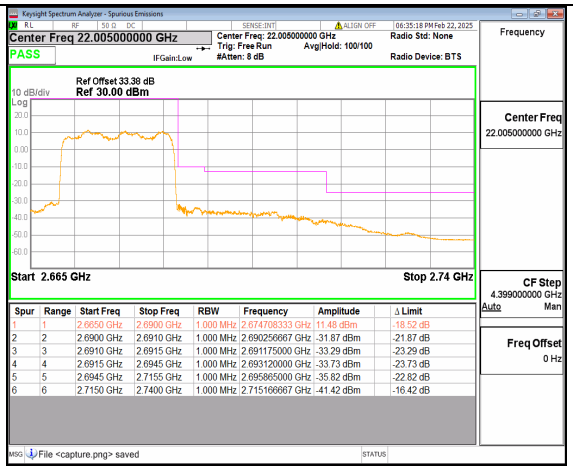
66A_n5 20M DFT-s-OFDM QPSK
Edge_1RB_Right High



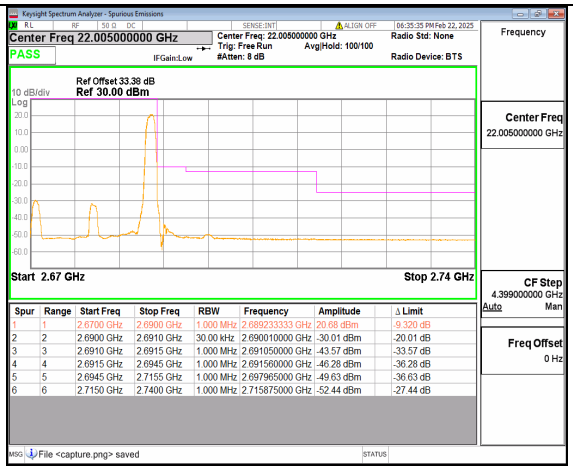
66A_n41 20M DFT-s-OFDM QPSK
Outer_Full Low



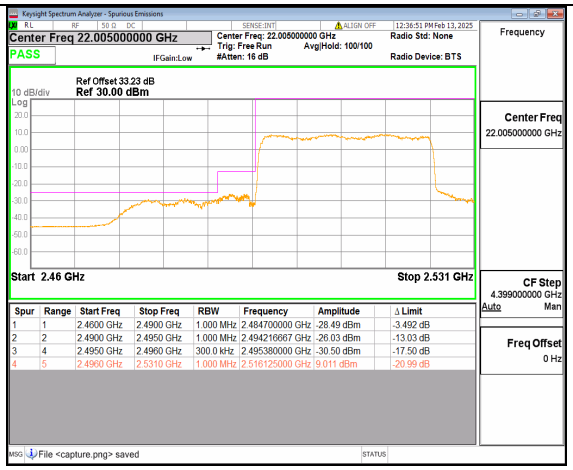
66A_n41 20M DFT-s-OFDM QPSK
Edge_1RB_Left Low



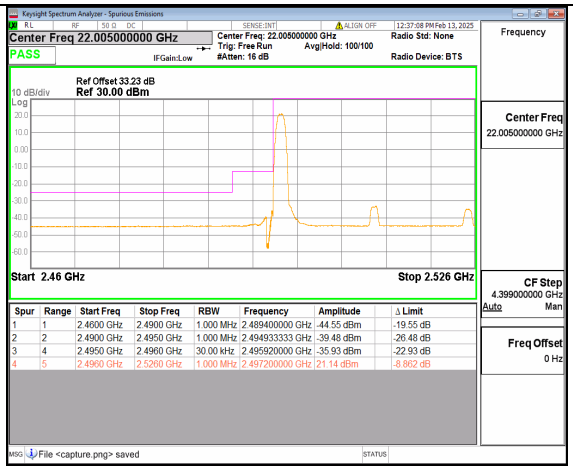
66A_n41 20M DFT-s-OFDM QPSK
Outer_Full High



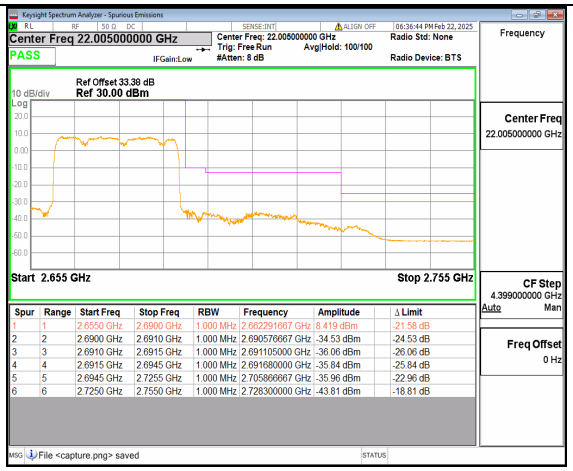
66A_n41 20M DFT-s-OFDM QPSK
Edge_1RB_Right High



66A_n41 30M DFT-s-OFDM QPSK
Outer_Full Low

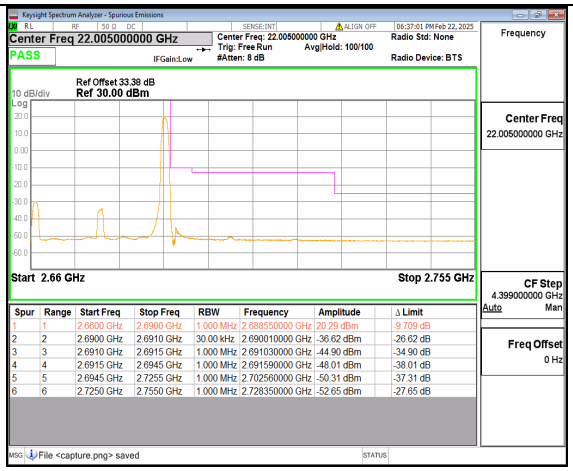


66A_n41 30M DFT-s-OFDM QPSK
Edge_1RB_Left Low



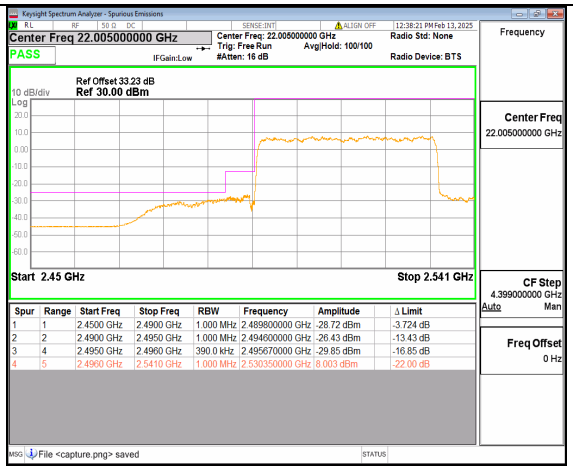
Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	Δ Limit
1	1	2.6550 GHz	2.6900 GHz	1.000 MHz	2.662291667 GHz	8.419 dBm	-21.58 dB
2	2	2.6900 GHz	2.6910 GHz	1.000 MHz	2.690576667 GHz	-34.53 dBm	-24.53 dB
3	3	2.6910 GHz	2.6915 GHz	1.000 MHz	2.691105000 GHz	-36.06 dBm	-26.06 dB
4	4	2.6915 GHz	2.6945 GHz	1.000 MHz	2.691680000 GHz	-35.84 dBm	-25.84 dB
5	5	2.6945 GHz	2.7255 GHz	1.000 MHz	2.705866667 GHz	-35.96 dBm	-22.96 dB
6	6	2.7250 GHz	2.7550 GHz	1.000 MHz	2.728300000 GHz	-43.81 dBm	-18.81 dB

66A_n41 30M DFT-s-OFDM QPSK
Outer_Full High



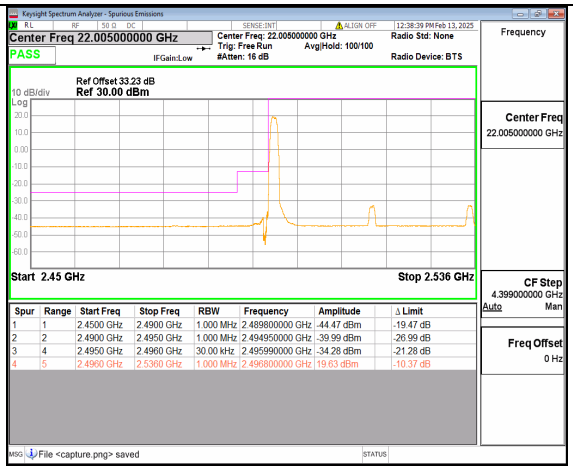
Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	Δ Limit
1	1	2.6600 GHz	2.6900 GHz	1.000 MHz	2.688550000 GHz	20.29 dBm	-9.709 dB
2	2	2.6900 GHz	2.6910 GHz	30.00 kHz	2.690010000 GHz	-36.62 dBm	-26.62 dB
3	3	2.6910 GHz	2.6915 GHz	1.000 MHz	2.691030000 GHz	-44.90 dBm	-34.90 dB
4	4	2.6915 GHz	2.6945 GHz	1.000 MHz	2.691590000 GHz	-48.01 dBm	-38.01 dB
5	5	2.6945 GHz	2.7255 GHz	1.000 MHz	2.702560000 GHz	-50.31 dBm	-37.31 dB
6	6	2.7250 GHz	2.7550 GHz	1.000 MHz	2.728350000 GHz	-52.65 dBm	-27.65 dB

66A_n41 30M DFT-s-OFDM QPSK
Edge_1RB_Right High



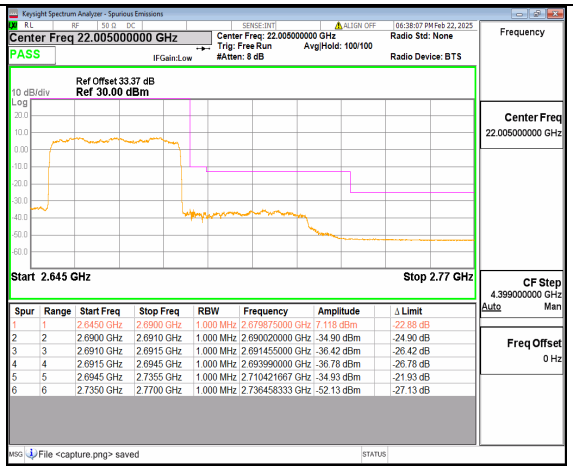
Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	Δ Limit
1	1	2.4500 GHz	2.4900 GHz	1.000 MHz	2.489800000 GHz	-28.72 dBm	-3.724 dB
2	2	2.4900 GHz	2.4950 GHz	1.000 MHz	2.494600000 GHz	-26.43 dBm	-13.43 dB
3	4	2.4950 GHz	2.4960 GHz	390.0 kHz	2.495670000 GHz	-29.85 dBm	-16.85 dB
4	5	2.4960 GHz	2.5410 GHz	1.000 MHz	2.530350000 GHz	8.003 dBm	-22.00 dB

66A_n41 40M DFT-s-OFDM QPSK
Outer_Full Low



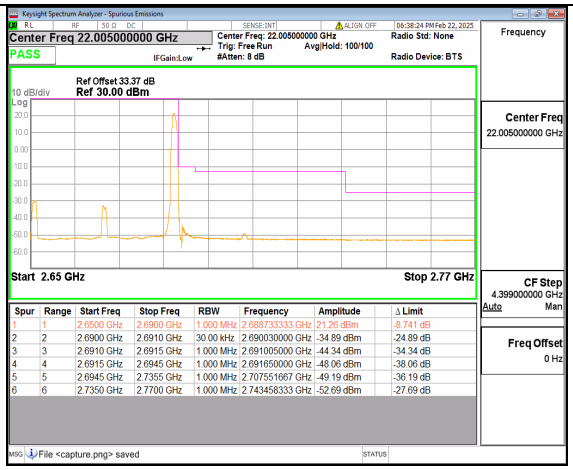
Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	Δ Limit
1	1	2.4500 GHz	2.4900 GHz	1.000 MHz	2.489800000 GHz	-44.47 dBm	-19.47 dB
2	2	2.4900 GHz	2.4950 GHz	1.000 MHz	2.494950000 GHz	-39.99 dBm	-26.99 dB
3	4	2.4950 GHz	2.4960 GHz	30.00 kHz	2.495990000 GHz	-34.28 dBm	-21.28 dB
4	5	2.4960 GHz	2.5360 GHz	1.000 MHz	2.496800000 GHz	19.63 dBm	-10.37 dB

66A_n41 40M DFT-s-OFDM QPSK
Edge_1RB_Left Low



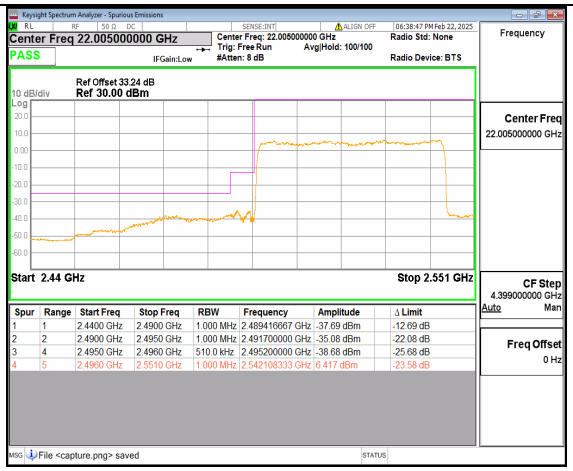
Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	Δ Limit
1	1	2.6450 GHz	2.6900 GHz	1.000 MHz	2.679875000 GHz	7.118 dBm	-22.88 dB
2	2	2.6900 GHz	2.6910 GHz	1.000 MHz	2.690020000 GHz	-34.90 dBm	-24.90 dB
3	3	2.6910 GHz	2.6915 GHz	1.000 MHz	2.691455000 GHz	-36.42 dBm	-26.42 dB
4	4	2.6915 GHz	2.6945 GHz	1.000 MHz	2.693990000 GHz	-36.78 dBm	-26.78 dB
5	5	2.6945 GHz	2.7355 GHz	1.000 MHz	2.710421667 GHz	-34.93 dBm	-21.93 dB
6	6	2.7350 GHz	2.7700 GHz	1.000 MHz	2.736458333 GHz	-52.13 dBm	-27.13 dB

66A_n41 40M DFT-s-OFDM QPSK
Outer_Full High

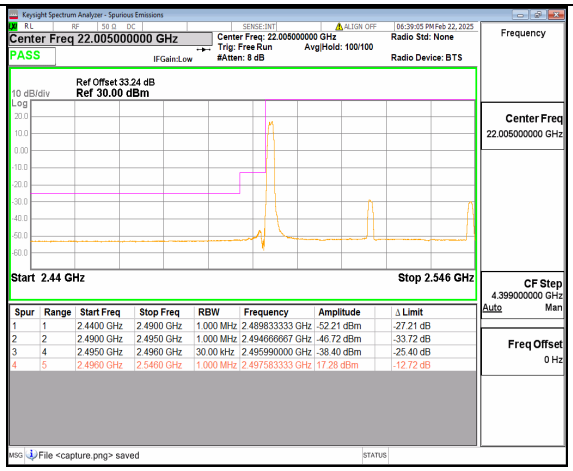


Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	Δ Limit
1	1	2.6500 GHz	2.6900 GHz	1.000 MHz	2.688733333 GHz	21.26 dBm	-8.741 dB
2	2	2.6900 GHz	2.6910 GHz	30.00 kHz	2.690030000 GHz	-34.89 dBm	-24.89 dB
3	3	2.6910 GHz	2.6915 GHz	1.000 MHz	2.691005000 GHz	-44.34 dBm	-34.34 dB
4	4	2.6915 GHz	2.6945 GHz	1.000 MHz	2.691850000 GHz	-48.06 dBm	-38.06 dB
5	5	2.6945 GHz	2.7355 GHz	1.000 MHz	2.707551667 GHz	-49.19 dBm	-36.19 dB
6	6	2.7350 GHz	2.7700 GHz	1.000 MHz	2.743458333 GHz	-52.69 dBm	-27.69 dB

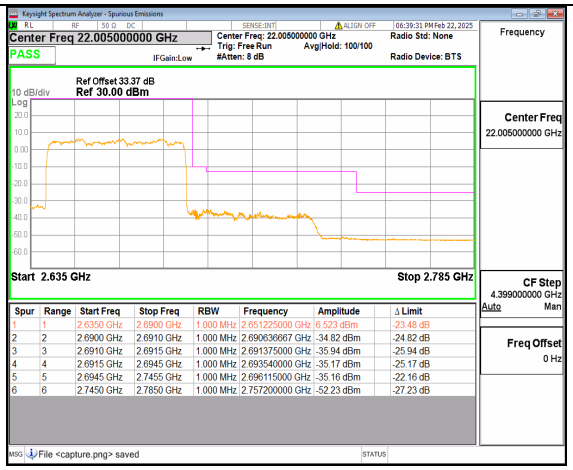
66A_n41 40M DFT-s-OFDM QPSK
Edge_1RB_Right High



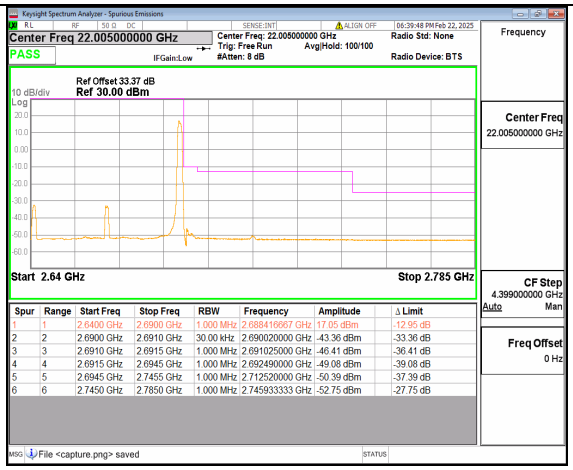
66A_n41 50M DFT-s-OFDM QPSK
Outer_Full Low



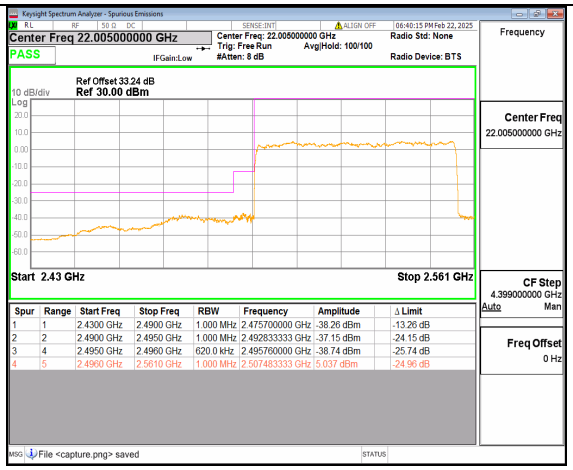
66A_n41 50M DFT-s-OFDM QPSK
Edge_1RB_Left Low



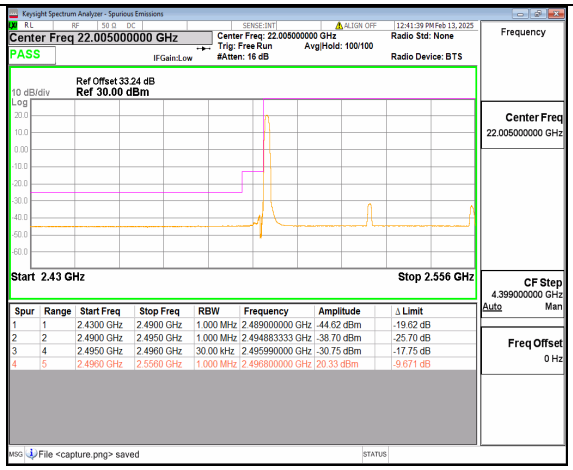
66A_n41 50M DFT-s-OFDM QPSK
Outer_Full High



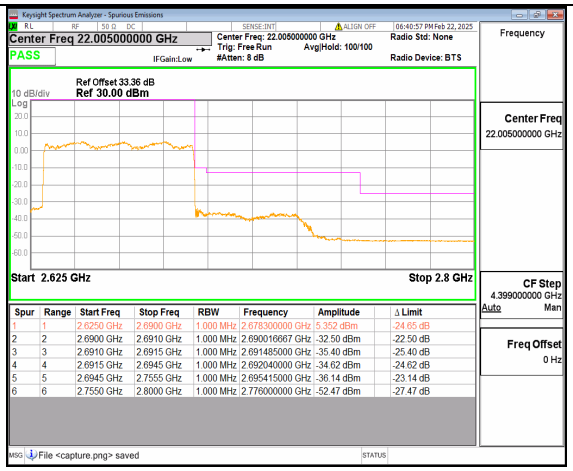
66A_n41 50M DFT-s-OFDM QPSK
Edge_1RB_Right High



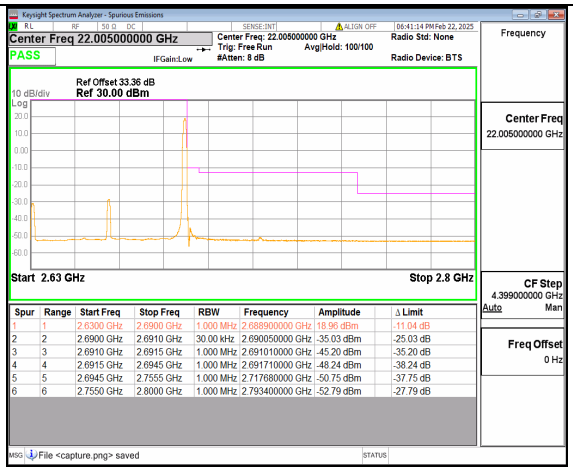
66A_n41 60M DFT-s-OFDM QPSK
Outer_Full Low



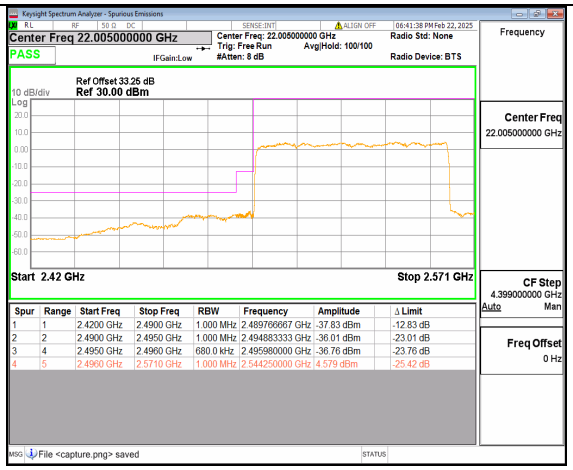
66A_n41 60M DFT-s-OFDM QPSK
Edge_1RB_Left Low



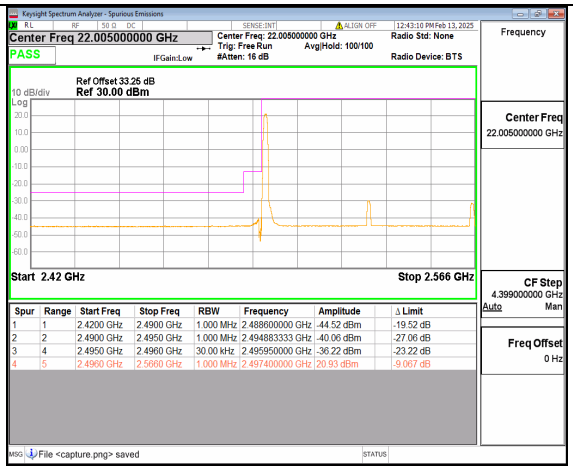
66A_n41 60M DFT-s-OFDM QPSK
Outer_Full High



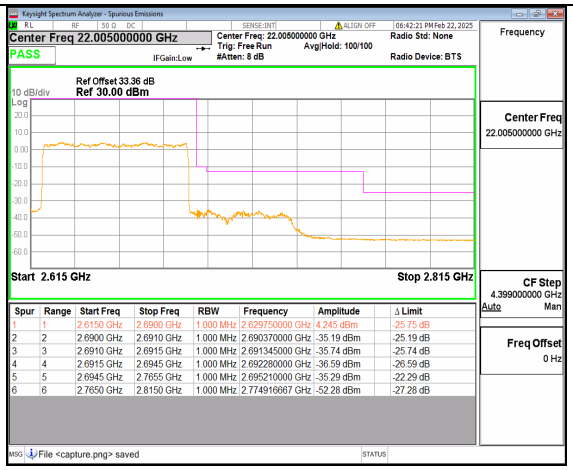
66A_n41 60M DFT-s-OFDM QPSK
Edge_1RB_Right High



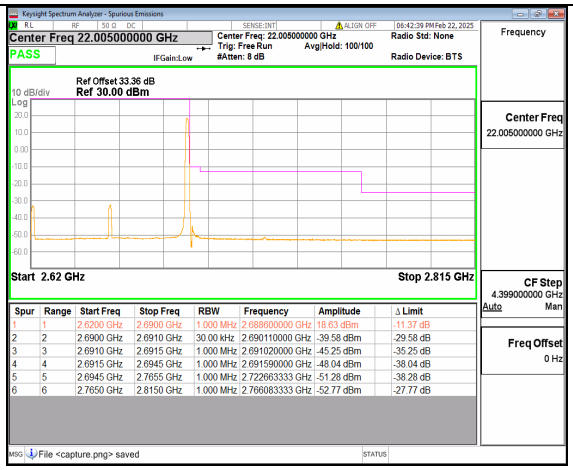
66A_n41 70M DFT-s-OFDM QPSK
Outer_Full Low



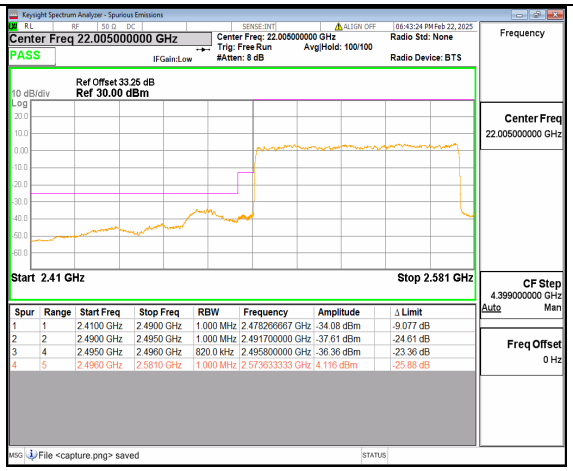
66A_n41 70M DFT-s-OFDM QPSK
Edge_1RB_Left Low



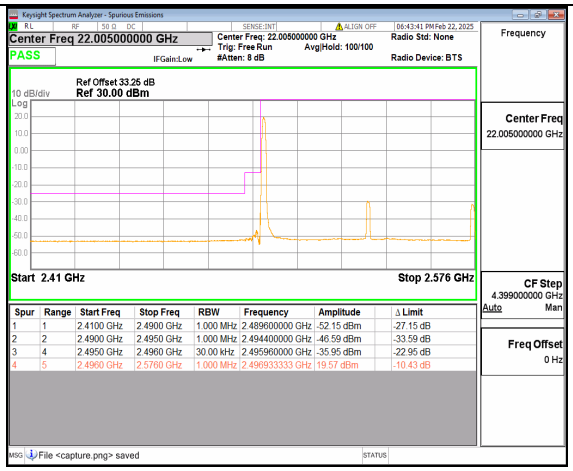
66A_n41 70M DFT-s-OFDM QPSK
Outer_Full High



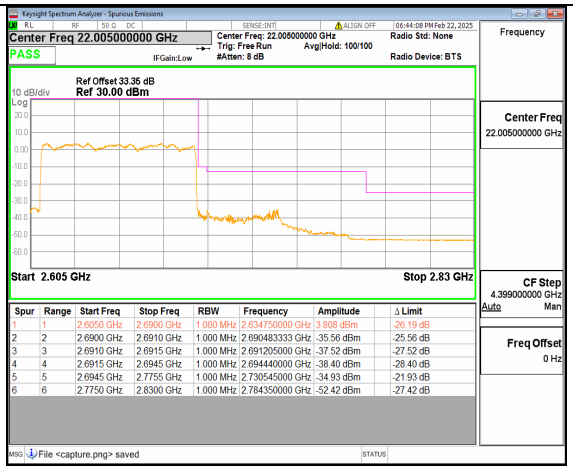
66A_n41 70M DFT-s-OFDM QPSK
Edge_1RB_Right High



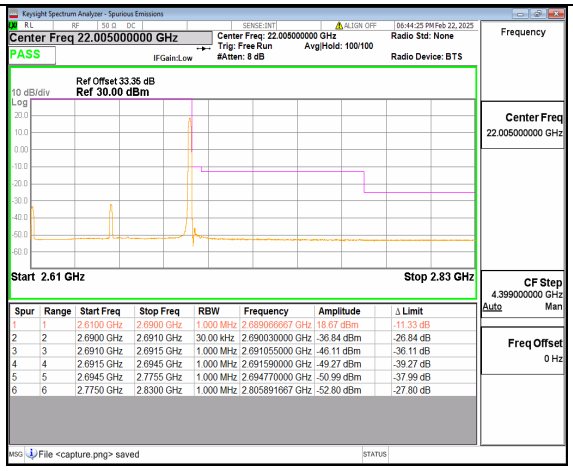
66A_n41 80M DFT-s-OFDM QPSK
Outer_Full Low



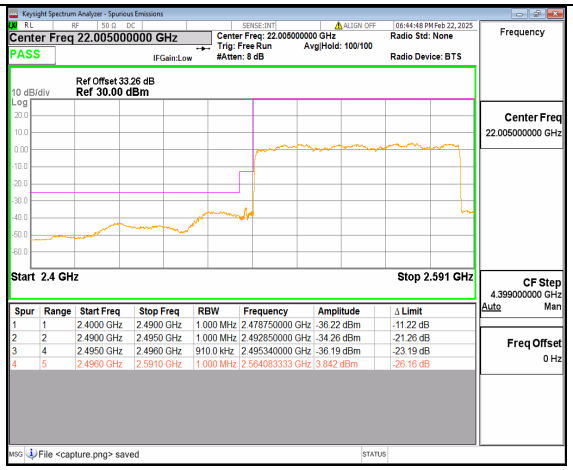
66A_n41 80M DFT-s-OFDM QPSK
Edge_1RB_Left Low



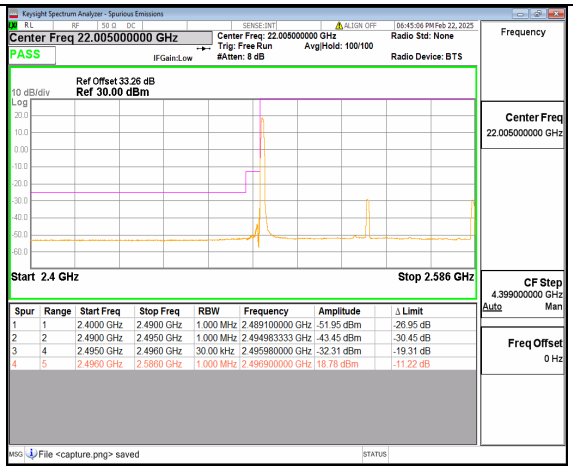
66A_n41 80M DFT-s-OFDM QPSK
Outer_Full High



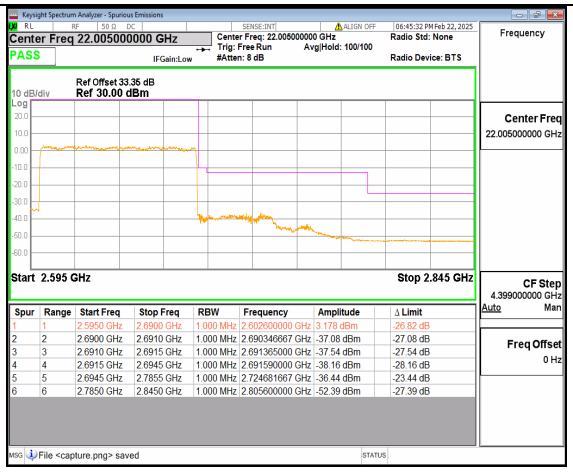
66A_n41 80M DFT-s-OFDM QPSK
Edge_1RB_Right High



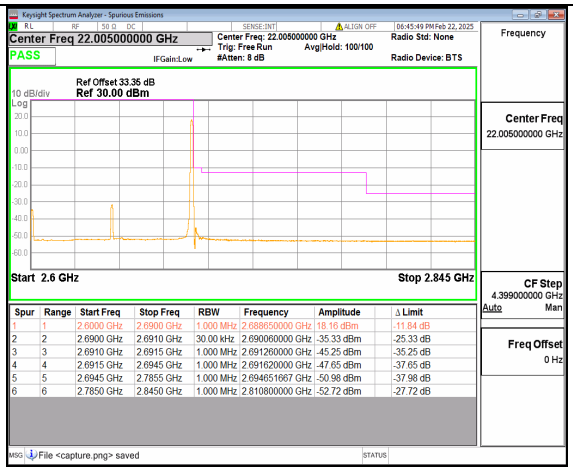
66A_n41 90M DFT-s-OFDM QPSK
Outer_Full Low



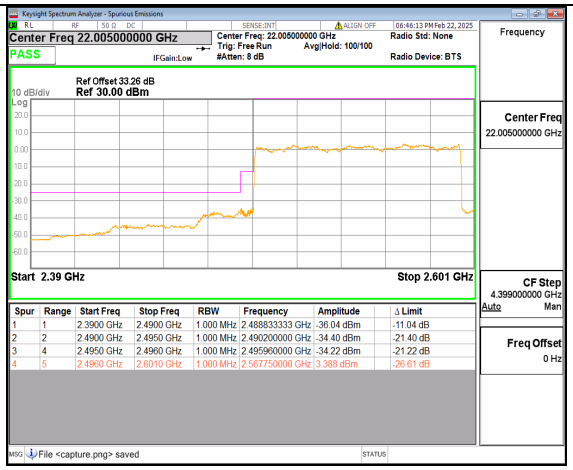
66A_n41 90M DFT-s-OFDM QPSK
Edge_1RB_Left Low



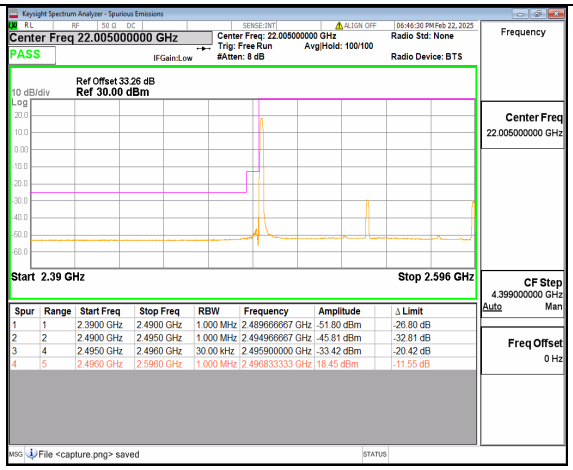
66A_n41 90M DFT-s-OFDM QPSK
Outer_Full High



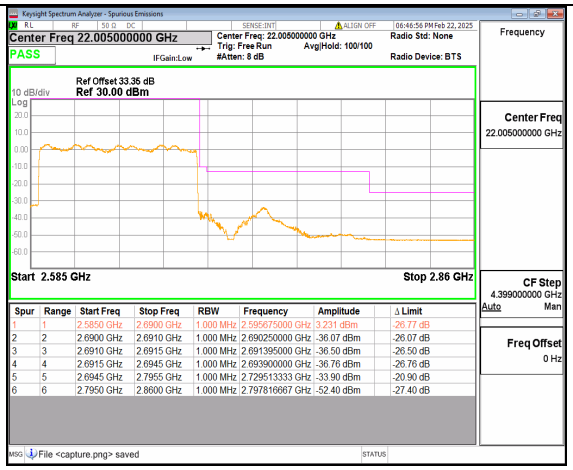
66A_n41 90M DFT-s-OFDM QPSK
Edge_1RB_Right High



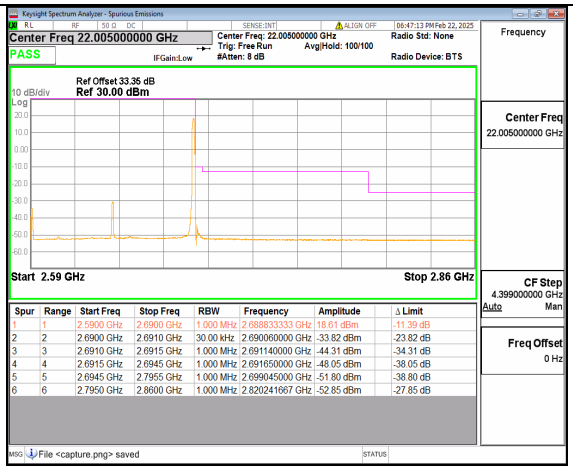
66A_n41 100M DFT-s-OFDM QPSK
Outer_Full Low



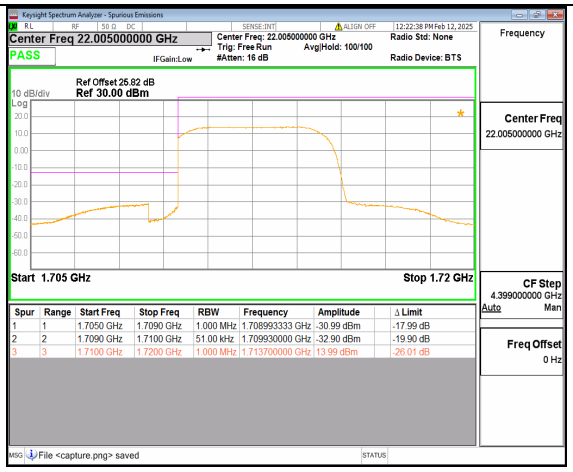
66A_n41 100M DFT-s-OFDM QPSK
Edge_1RB_Left Low



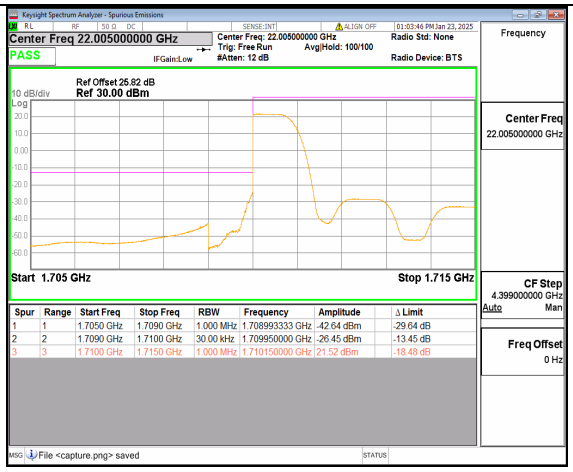
66A_n41 100M DFT-s-OFDM QPSK
Outer_Full High



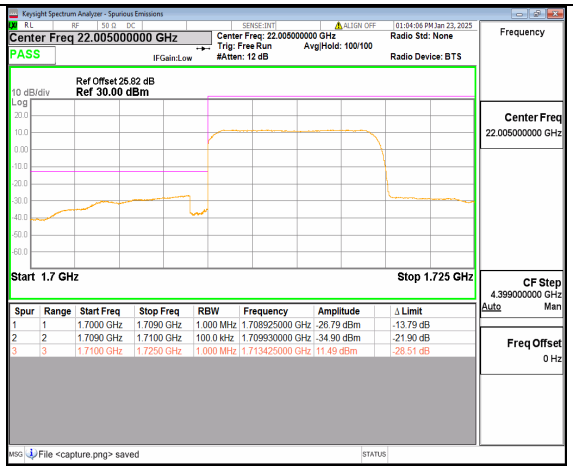
66A_n41 100M DFT-s-OFDM QPSK
Edge_1RB_Right High



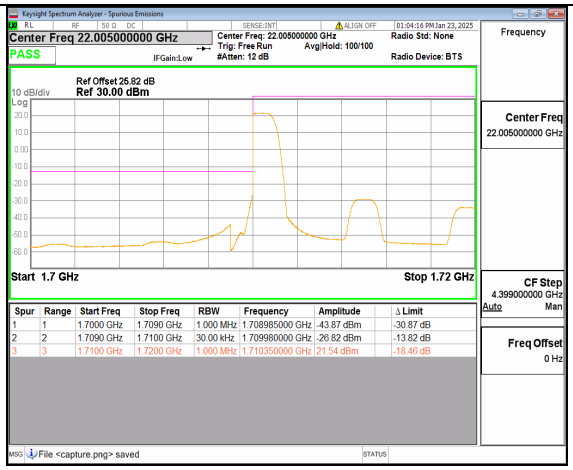
12A_n66 5M DFT-s-OFDM QPSK
Outer_Full Low



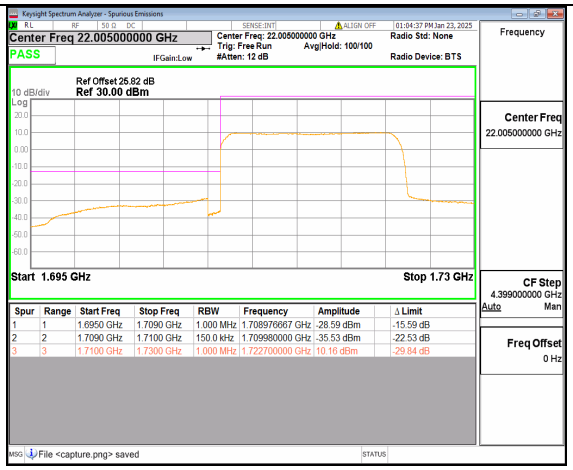
12A_n66 5M DFT-s-OFDM QPSK
Edge_1RB_Left Low



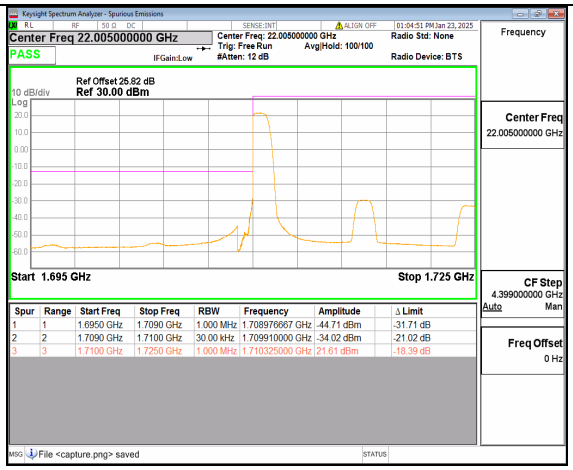
12A_n66 10M DFT-s-OFDM QPSK
Outer_Full Low



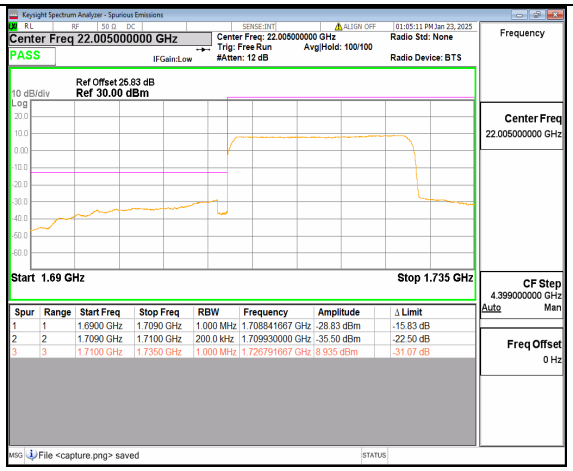
12A_n66 10M DFT-s-OFDM QPSK
Edge_1RB_Left Low



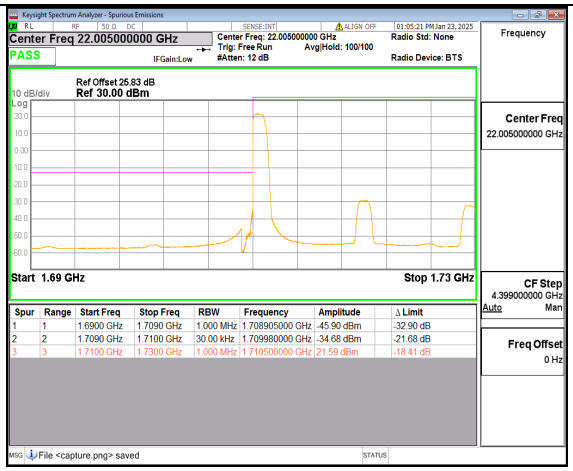
12A_n66 15M DFT-s-OFDM QPSK
Outer_Full Low



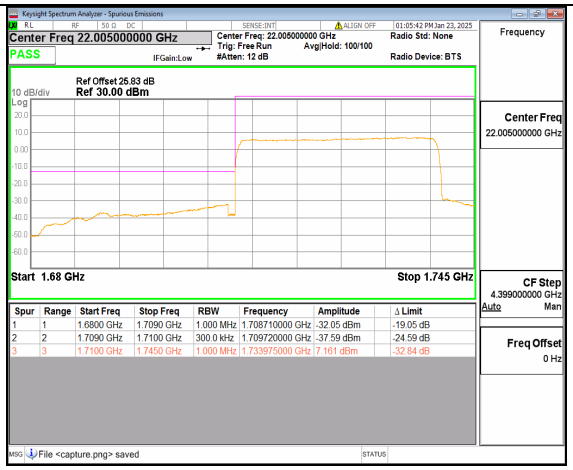
12A_n66 15M DFT-s-OFDM QPSK
Edge_1RB_Left Low



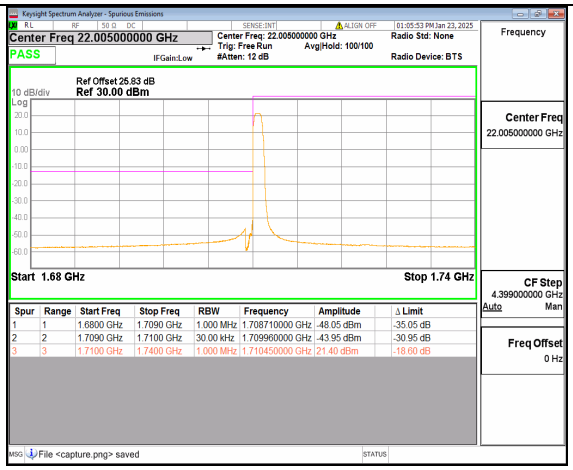
12A_n66 20M DFT-s-OFDM QPSK Outer_Full Low



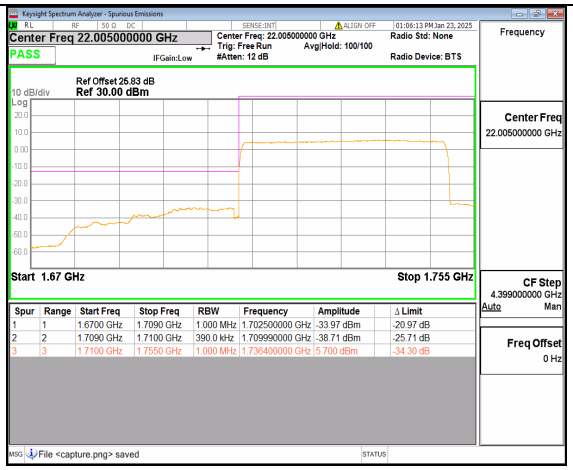
12A_n66 20M DFT-s-OFDM QPSK Edge_1RB_Left Low



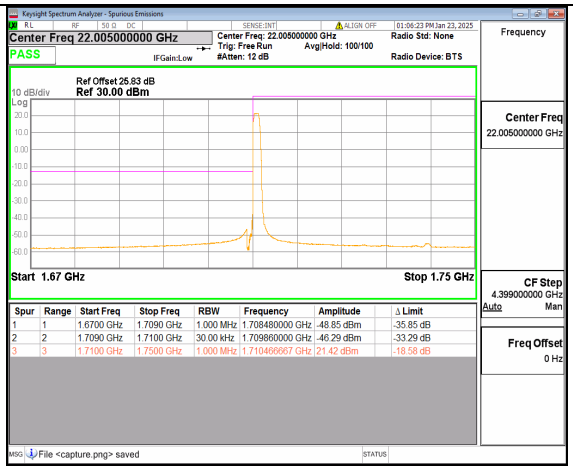
12A_n66 30M DFT-s-OFDM QPSK Outer_Full Low



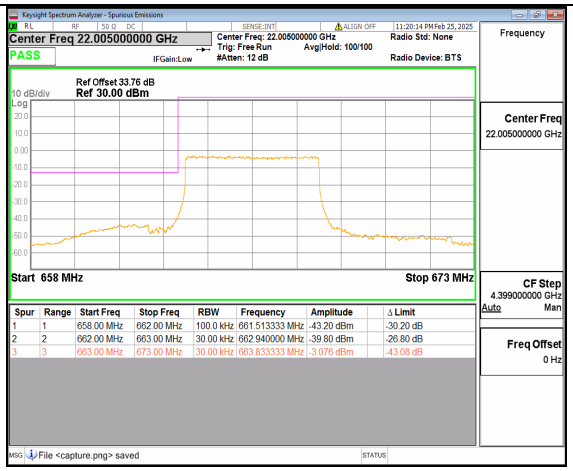
12A_n66 30M DFT-s-OFDM QPSK Edge_1RB_Left Low



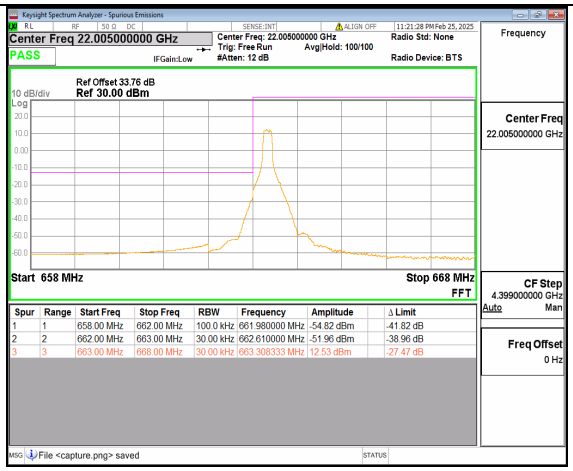
12A_n66 40M DFT-s-OFDM QPSK Outer_Full Low



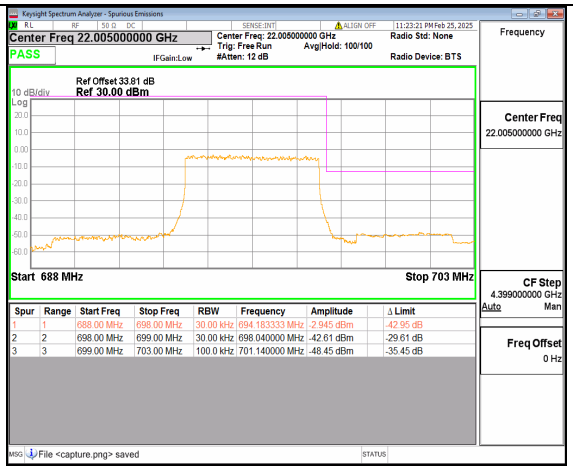
12A_n66 40M DFT-s-OFDM QPSK Edge_1RB_Left Low



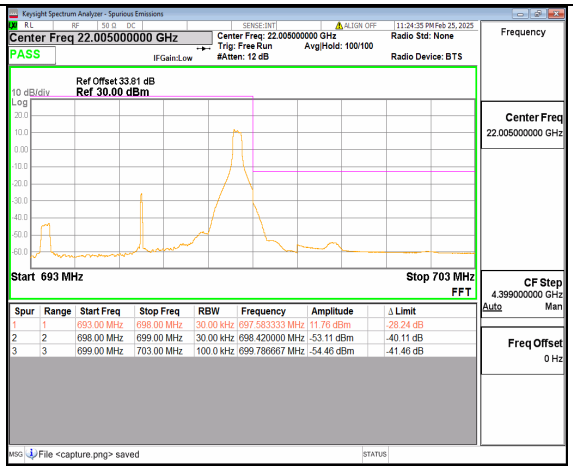
2A_n71 5M DFT-s-OFDM QPSK Outer_Full Low



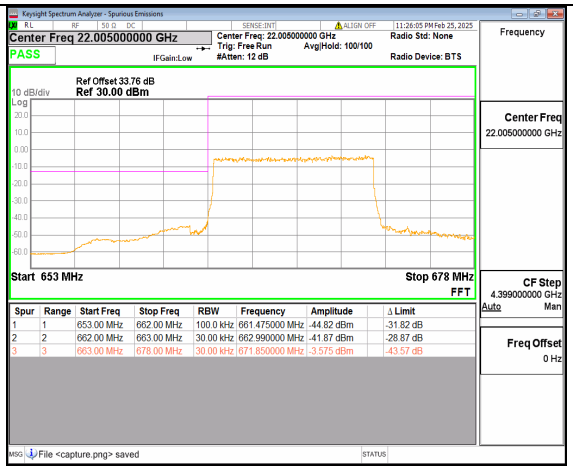
2A_n71 5M DFT-s-OFDM QPSK Edge_1RB_Left Low



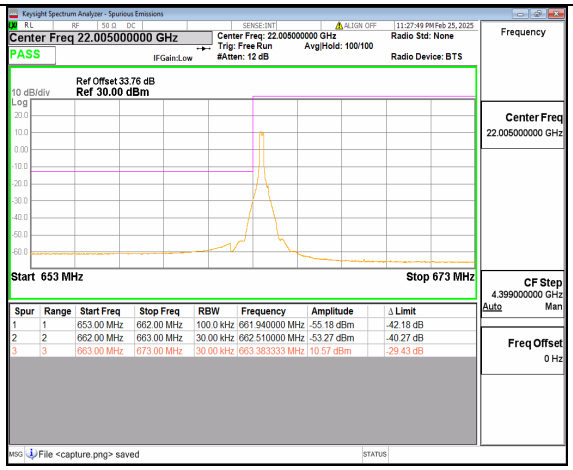
2A_n71 5M DFT-s-OFDM QPSK Outer_Full High



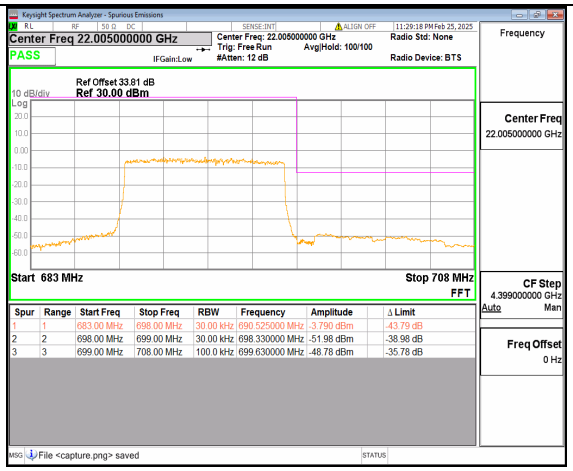
2A_n71 5M DFT-s-OFDM QPSK Edge_1RB_Right High



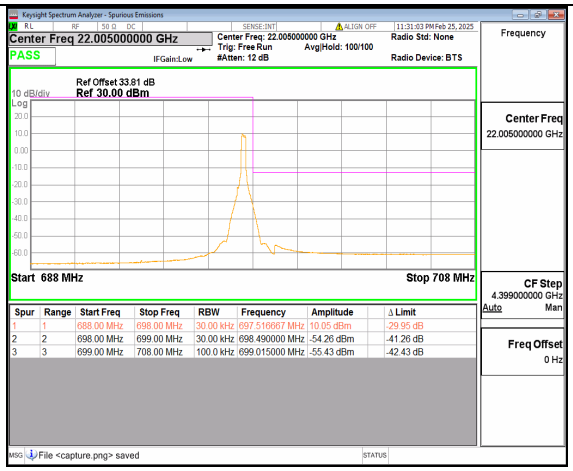
2A_n71 10M DFT-s-OFDM QPSK Outer_Full Low



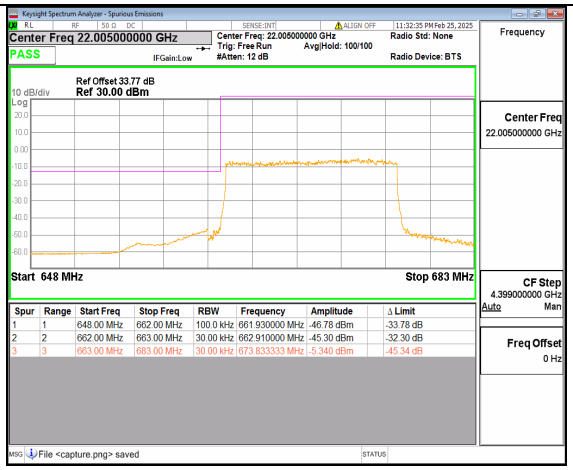
2A_n71 10M DFT-s-OFDM QPSK Edge_1RB_Left Low



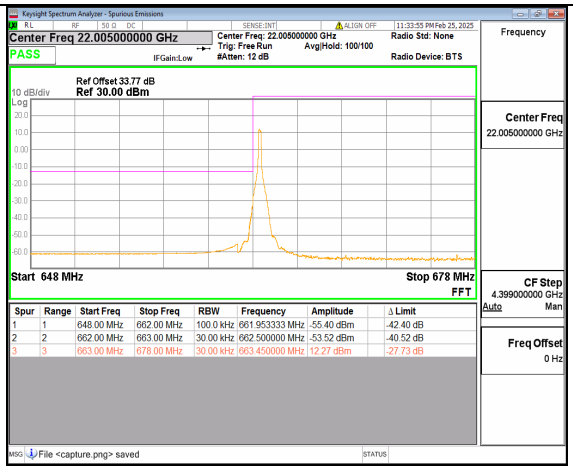
2A_n71 10M DFT-s-OFDM QPSK Outer_Full High



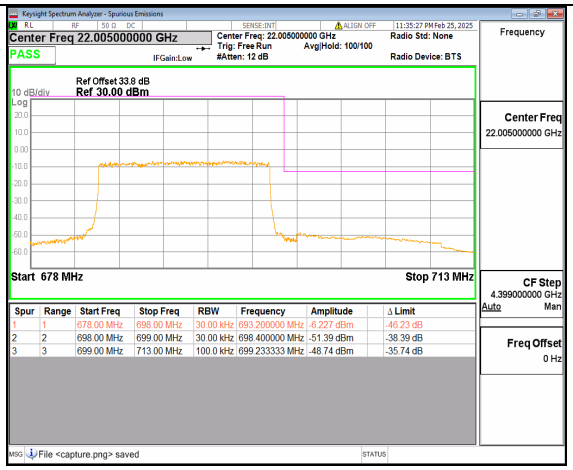
2A_n71 10M DFT-s-OFDM QPSK Edge_1RB_Right High



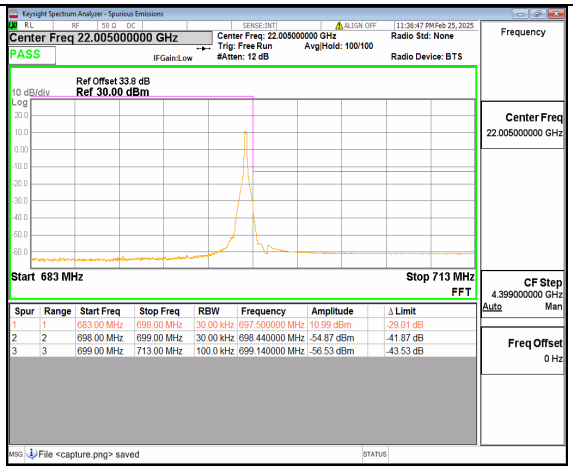
2A_n71 15M DFT-s-OFDM QPSK Outer_Full Low



2A_n71 15M DFT-s-OFDM QPSK Edge_1RB_Left Low



2A_n71 15M DFT-s-OFDM QPSK Outer_Full High



2A_n71 15M DFT-s-OFDM QPSK Edge_1RB_Right High