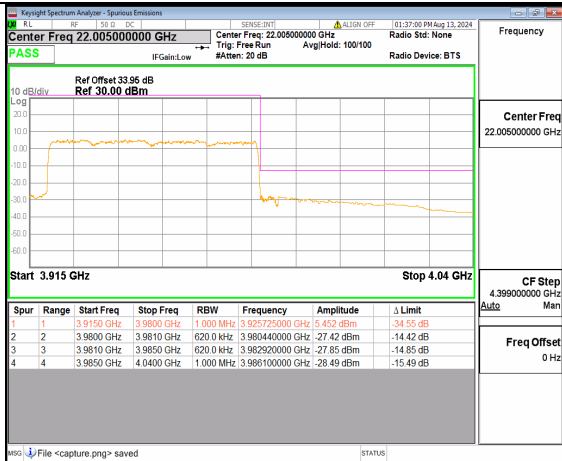
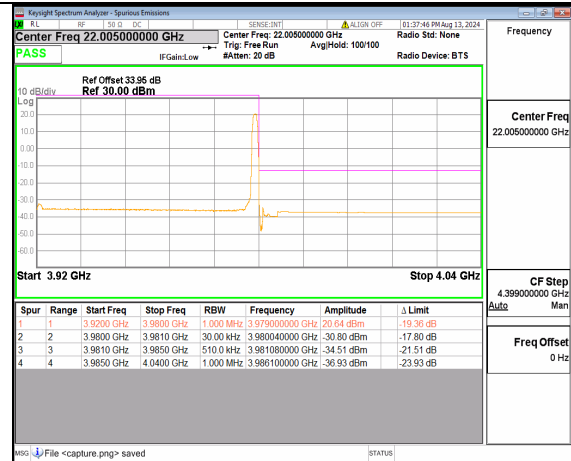
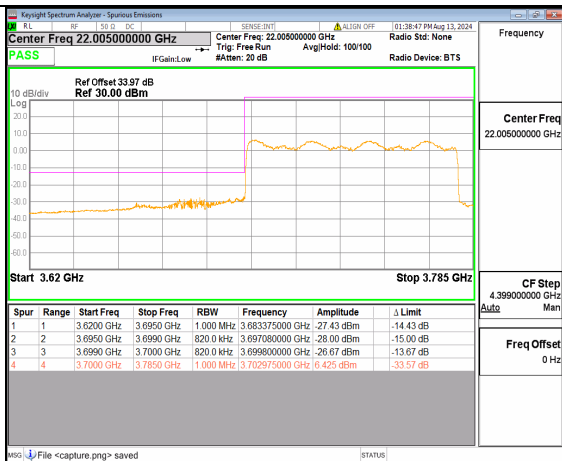
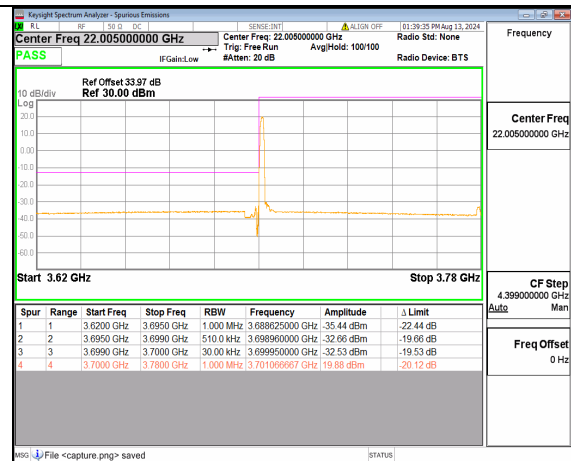
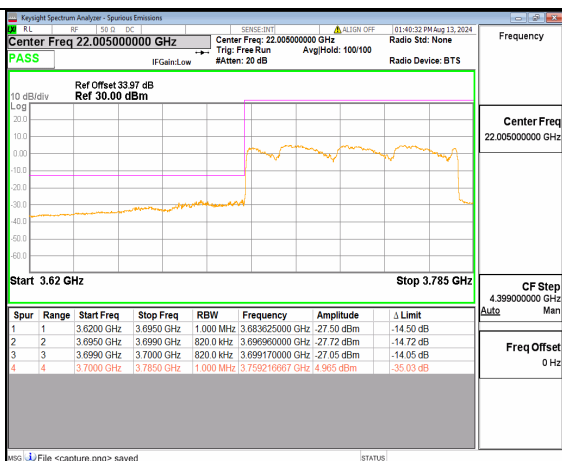
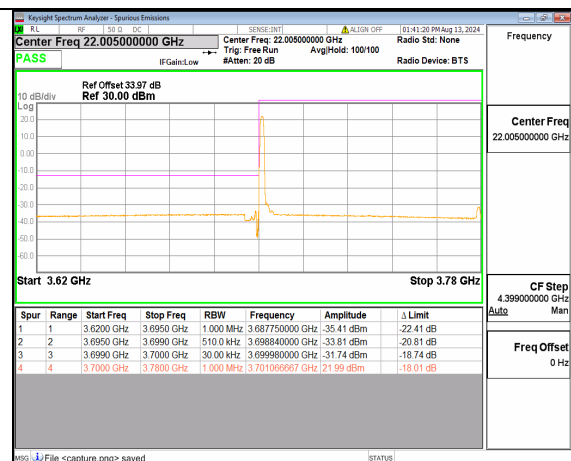
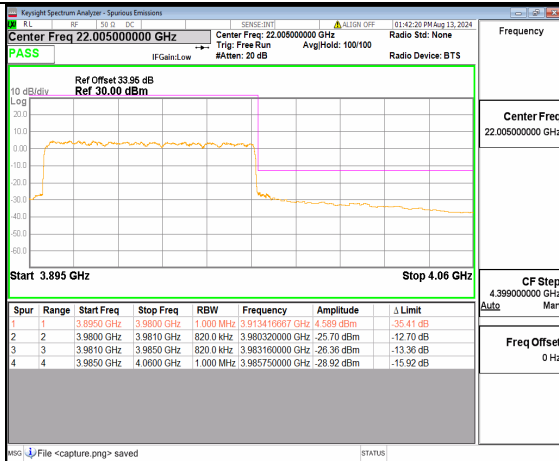
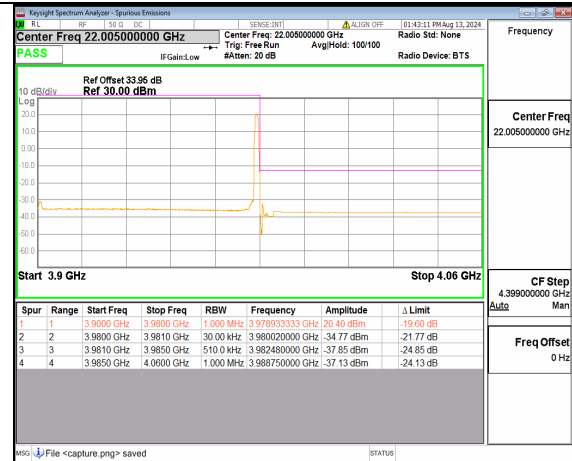
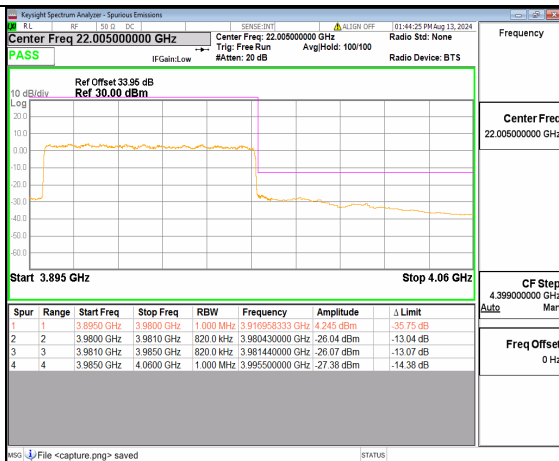
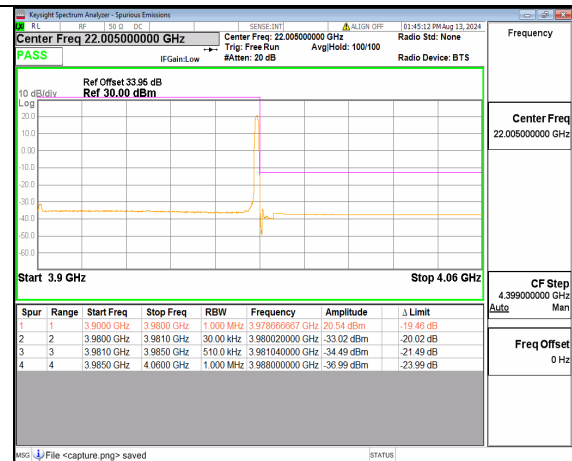
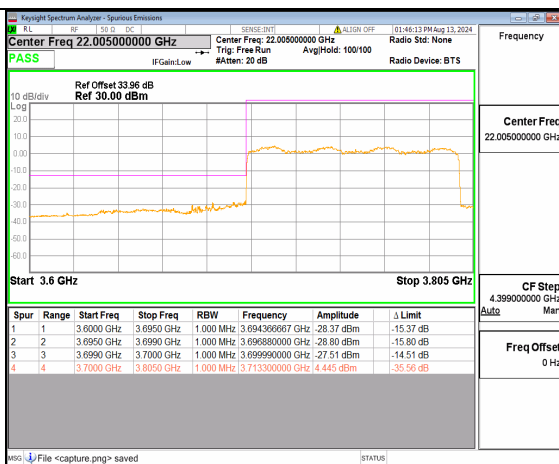
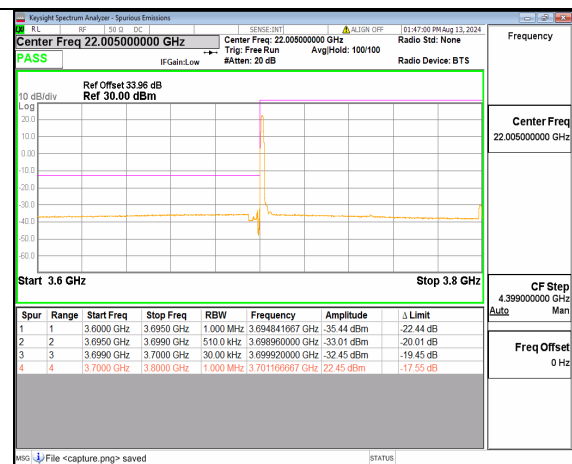
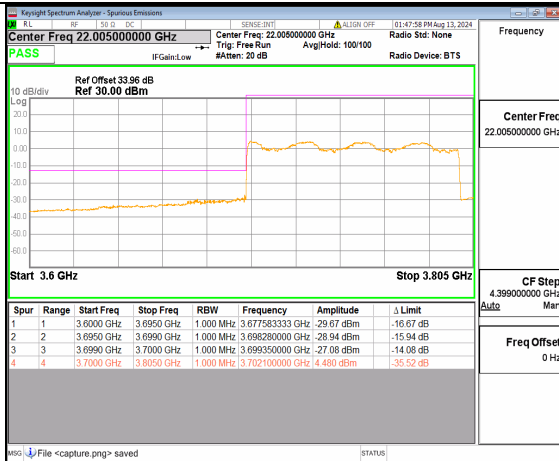
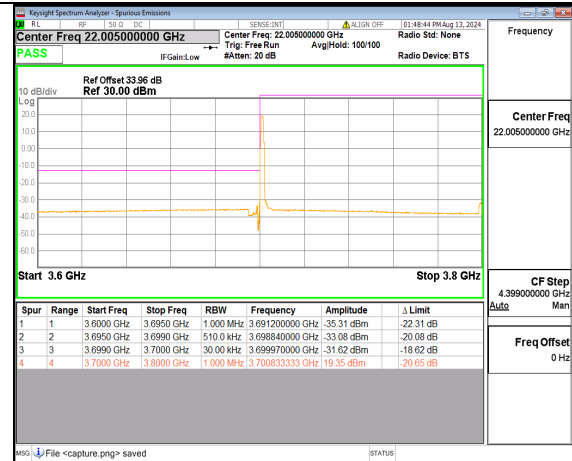
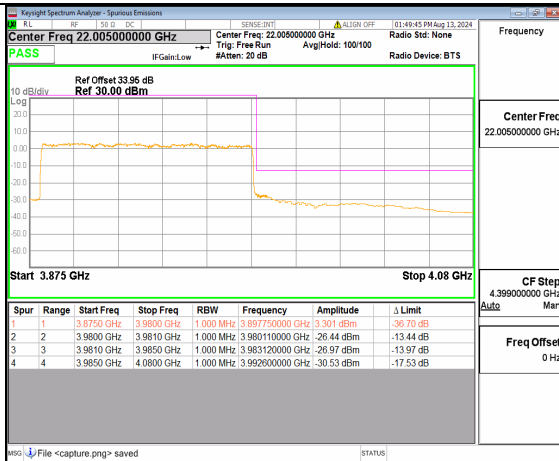
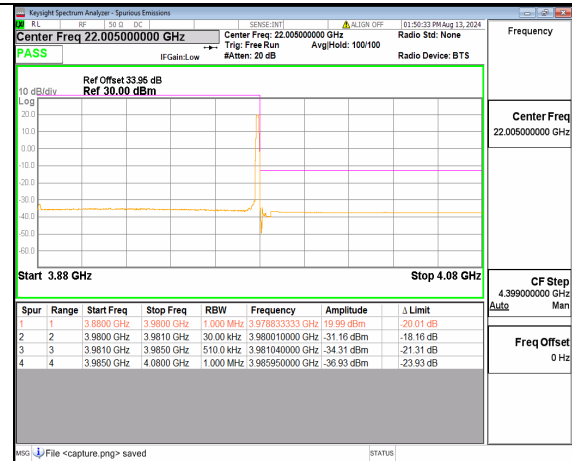
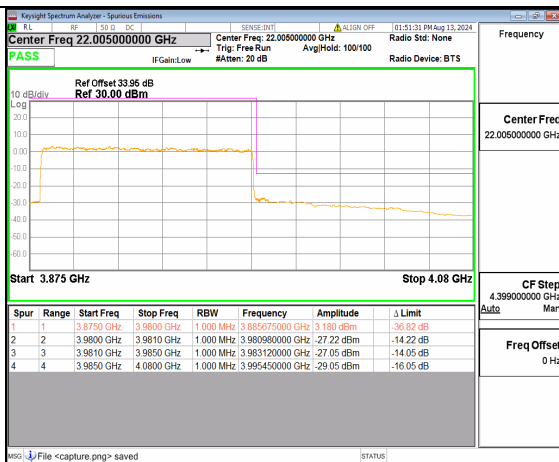
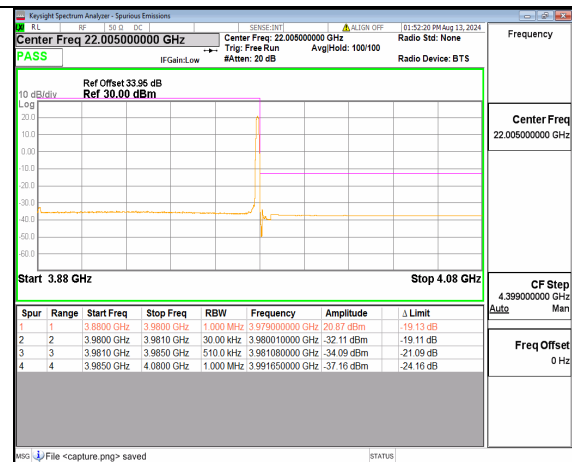
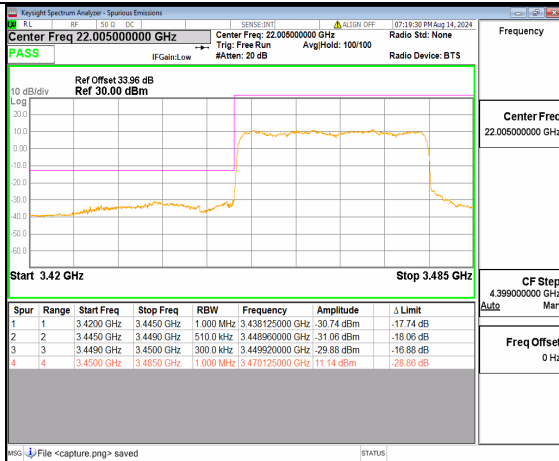


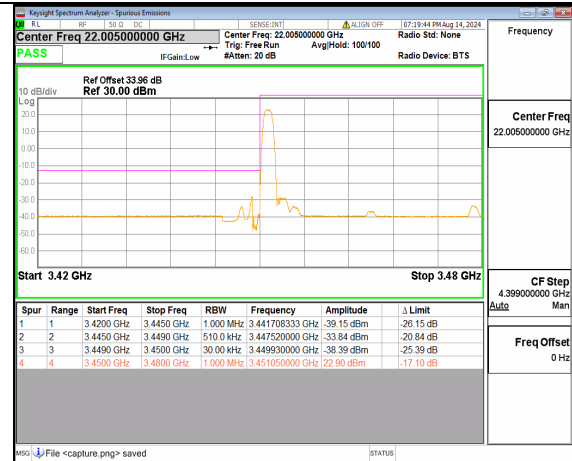
n77(3700-3980MHz) 60M DFT-s-OFDM QPSK
Outer_Full Highn77(3700-3980MHz) 60M DFT-s-OFDM QPSK
Edge_1RB_Right Highn77(3700-3980MHz) 80M DFT-s-OFDM BPSK
Outer_Full Lown77(3700-3980MHz) 80M DFT-s-OFDM BPSK
Edge_1RB_Left Lown77(3700-3980MHz) 80M DFT-s-OFDM QPSK
Outer_Full Lown77(3700-3980MHz) 80M DFT-s-OFDM QPSK
Edge_1RB_Left Low

n77(3700-3980MHz) 80M DFT-s-OFDM BPSK
Outer_Full Highn77(3700-3980MHz) 80M DFT-s-OFDM BPSK
Edge_1RB_Right Highn77(3700-3980MHz) 80M DFT-s-OFDM QPSK
Outer_Full Highn77(3700-3980MHz) 80M DFT-s-OFDM QPSK
Edge_1RB_Right Highn77(3700-3980MHz) 100M DFT-s-OFDM
BPSK Outer_Full Lown77(3700-3980MHz) 100M DFT-s-OFDM
BPSK Edge_1RB_Left Low

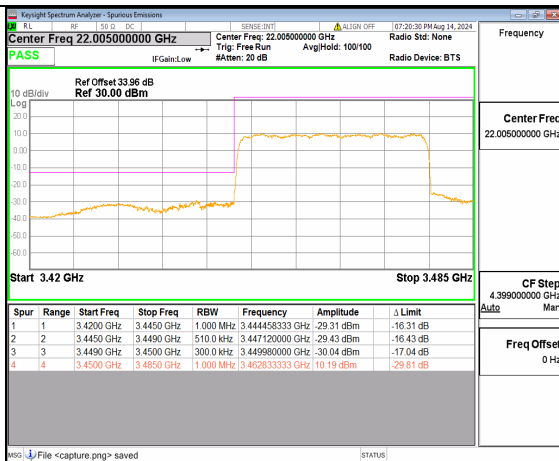
n77(3700-3980MHz) 100M DFT-s-OFDM
QPSK Outer_Full Lown77(3700-3980MHz) 100M DFT-s-OFDM
QPSK Edge_1RB_Left Lown77(3700-3980MHz) 100M DFT-s-OFDM
BPSK Outer_Full Highn77(3700-3980MHz) 100M DFT-s-OFDM
BPSK Edge_1RB_Right Highn77(3700-3980MHz) 100M DFT-s-OFDM
QPSK Outer_Full Highn77(3700-3980MHz) 100M DFT-s-OFDM
QPSK Edge_1RB_Right High



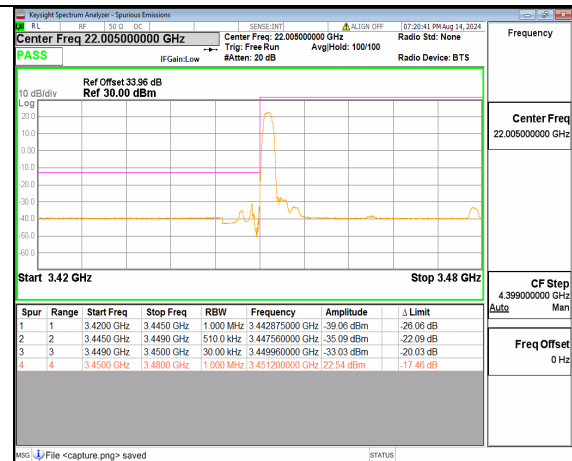
n78(3450-3550MHz) 30M DFT-s-OFDM BPSK
Outer_Full Low



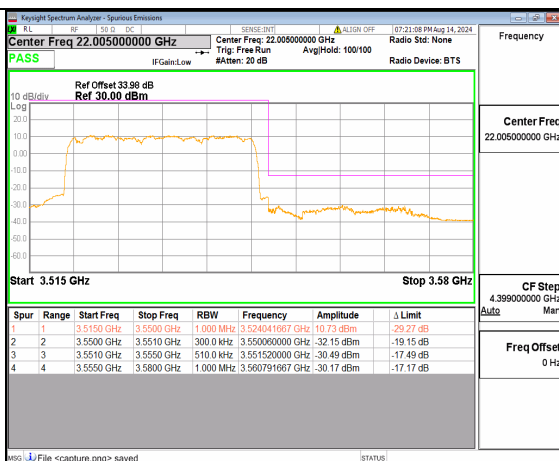
n78(3450-3550MHz) 30M DFT-s-OFDM BPSK
Edge_1RB_Left Low



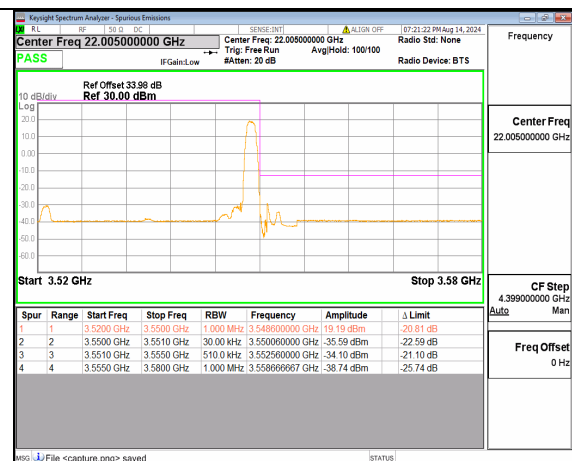
n78(3450-3550MHz) 30M DFT-s-OFDM QPSK
Outer_Full Low



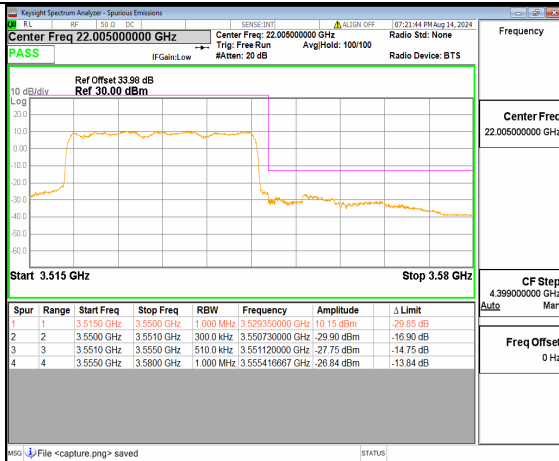
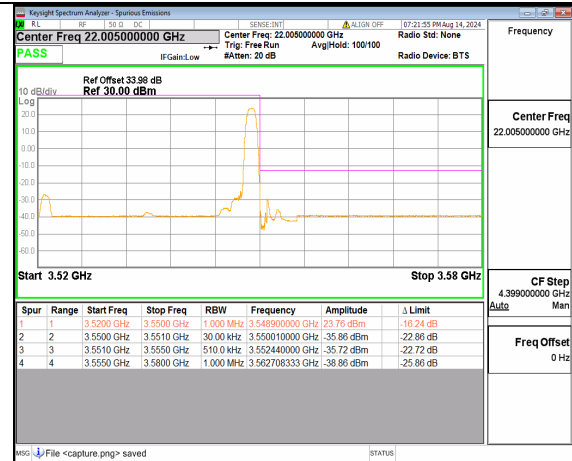
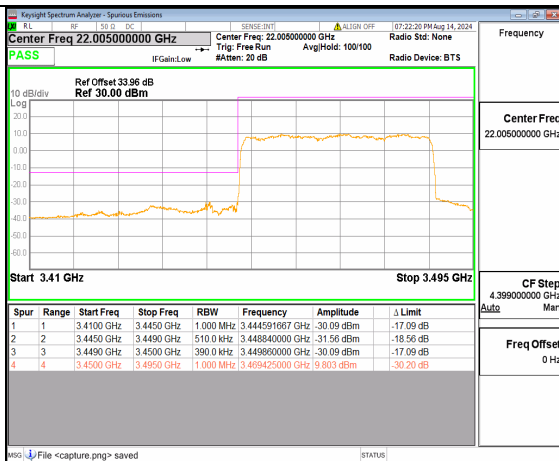
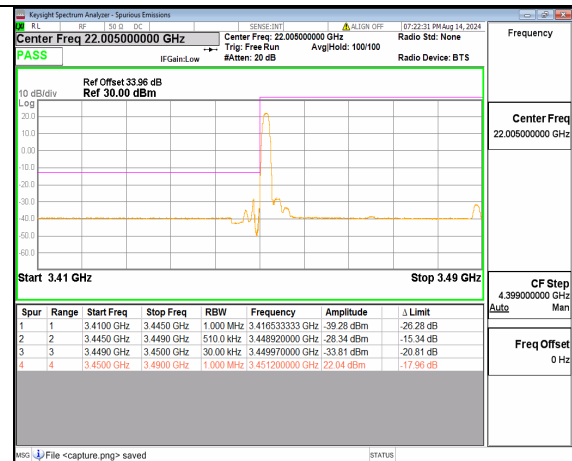
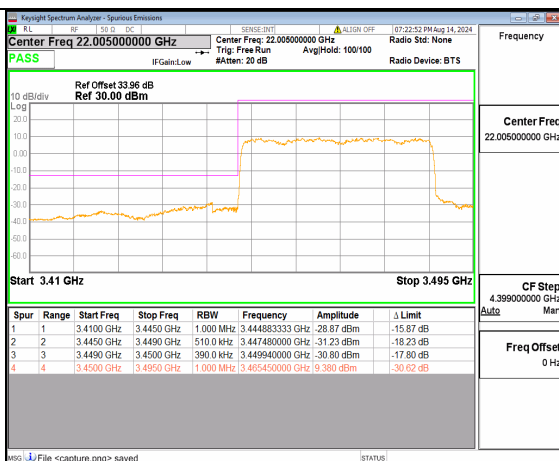
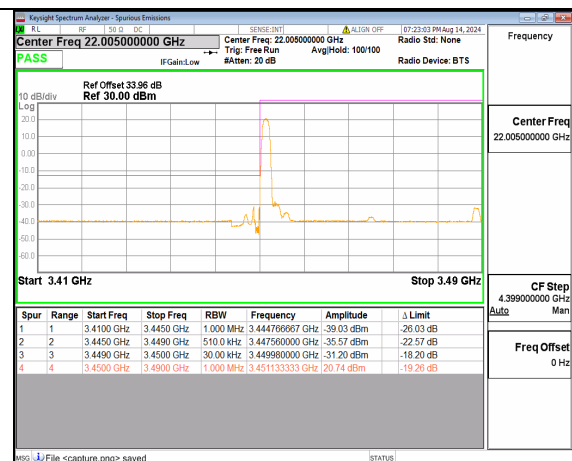
n78(3450-3550MHz) 30M DFT-s-OFDM QPSK
Edge_1RB_Left Low

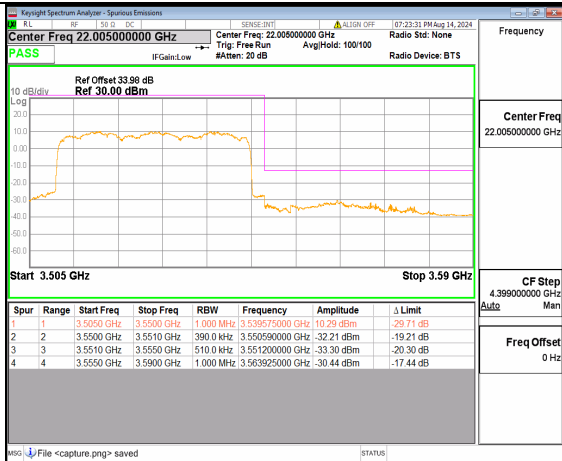
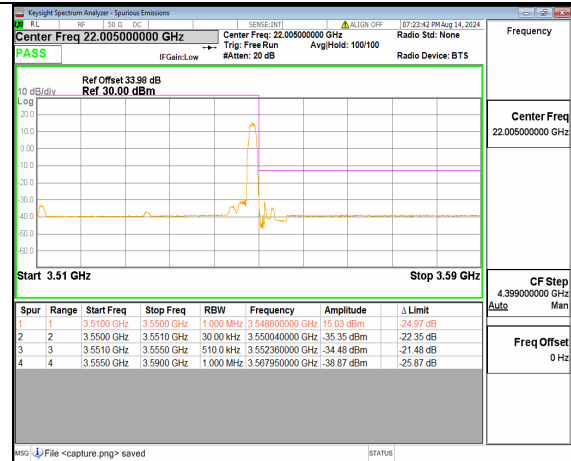
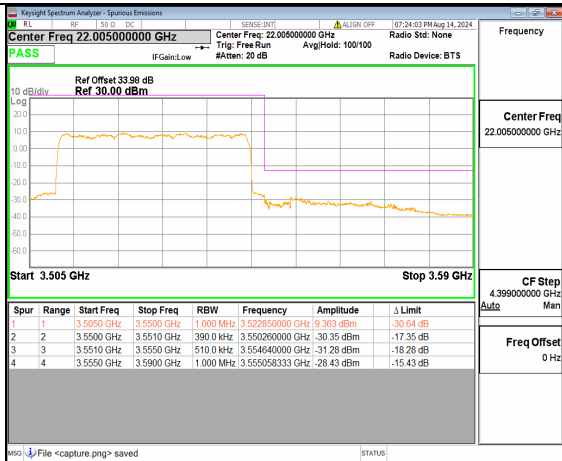
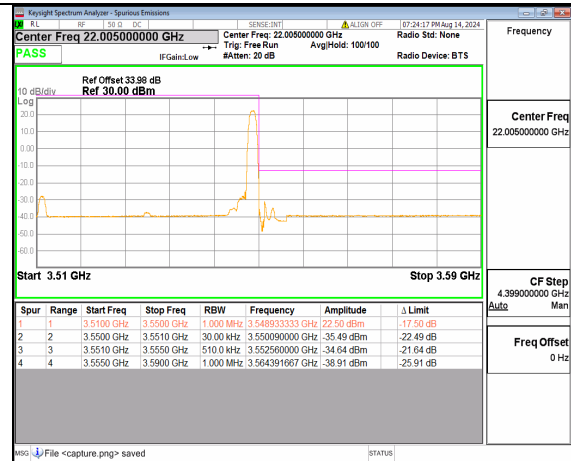
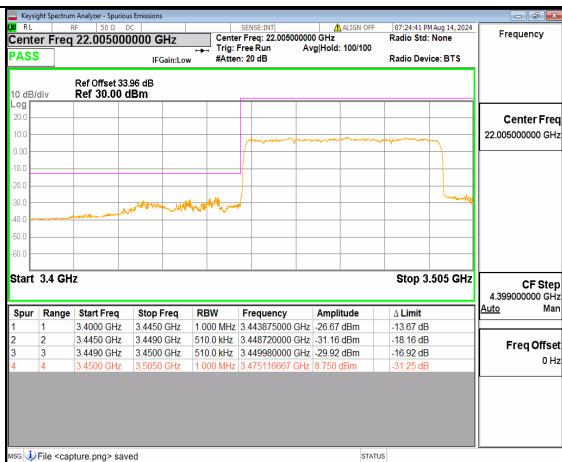
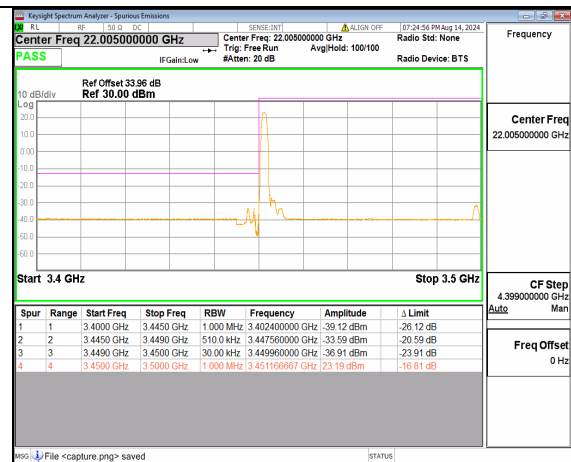


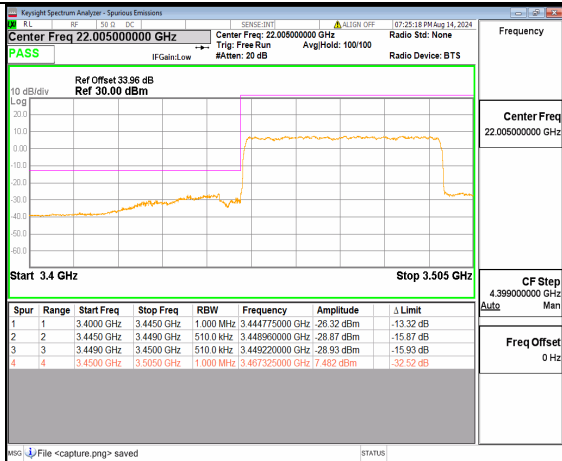
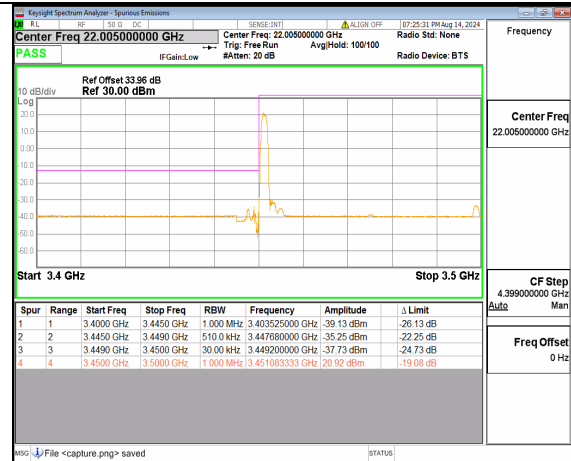
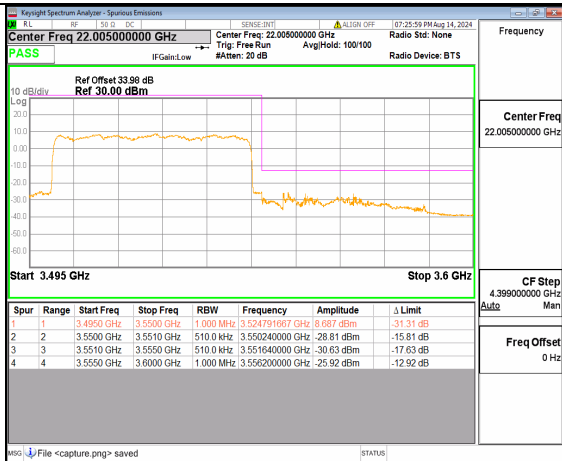
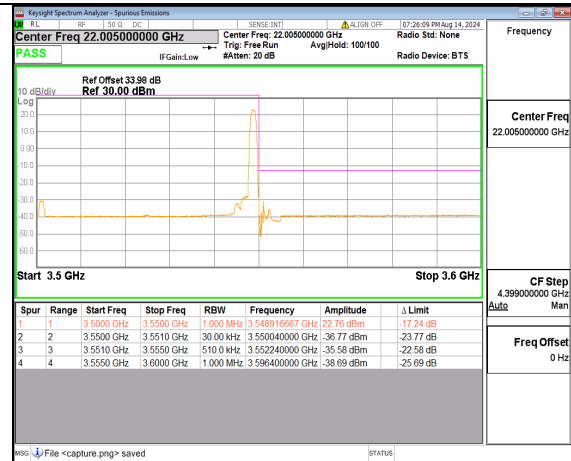
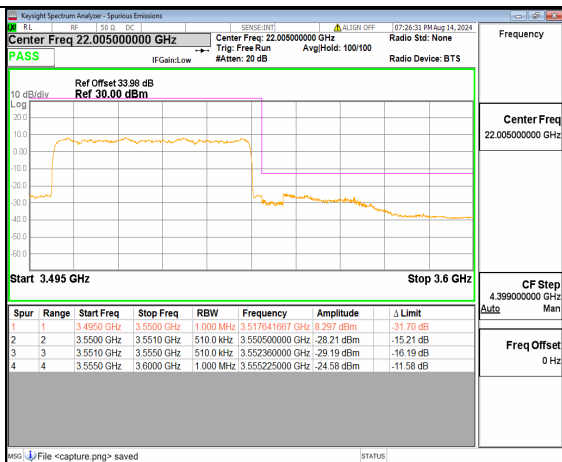
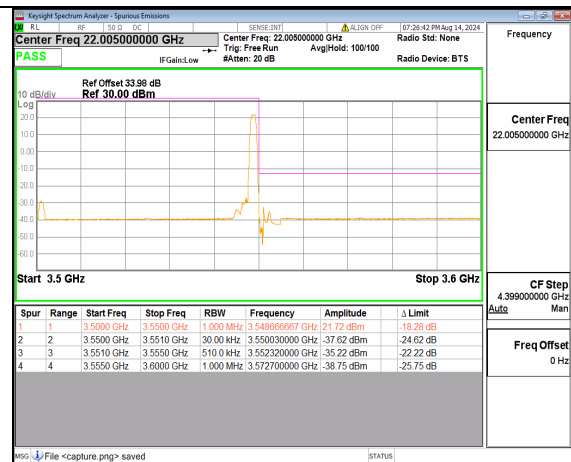
n78(3450-3550MHz) 30M DFT-s-OFDM BPSK
Outer_Full High

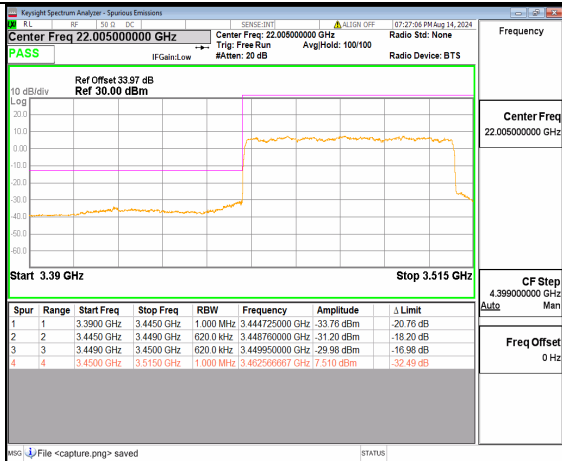
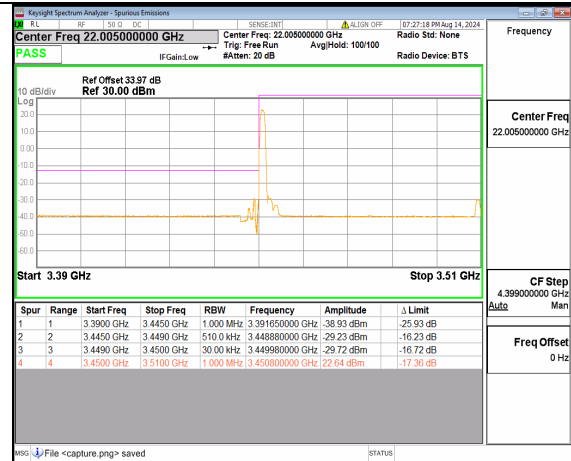
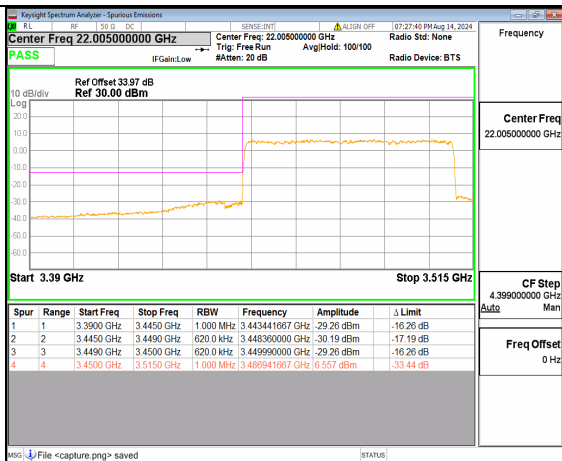
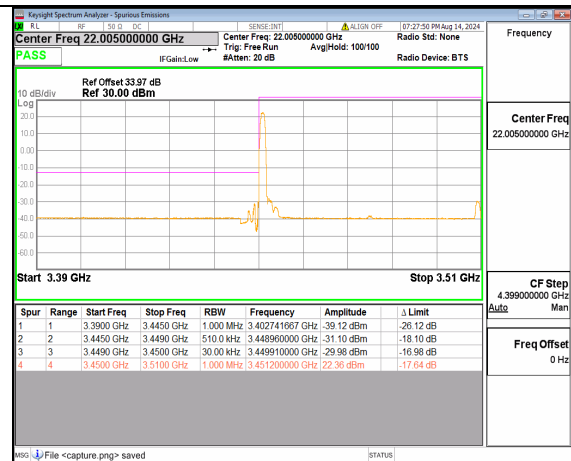
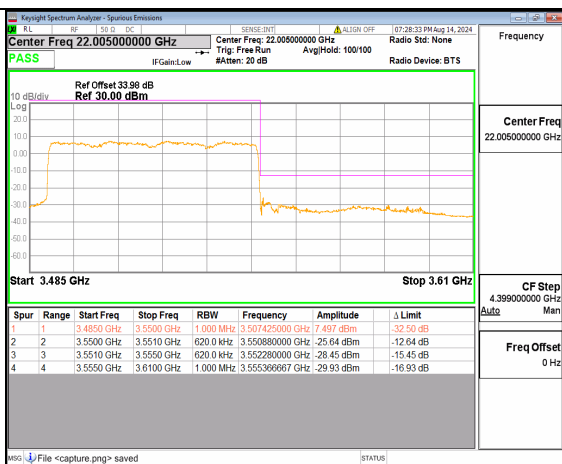
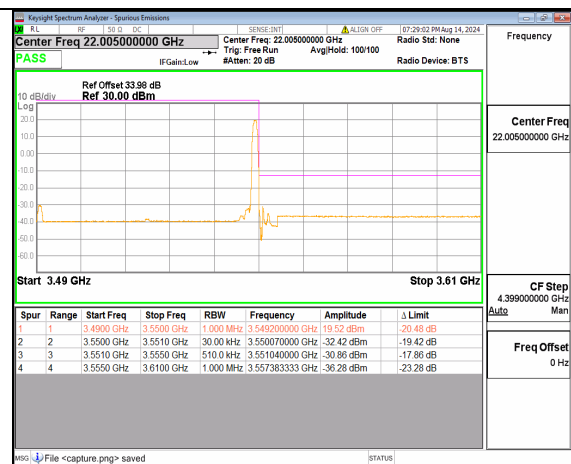


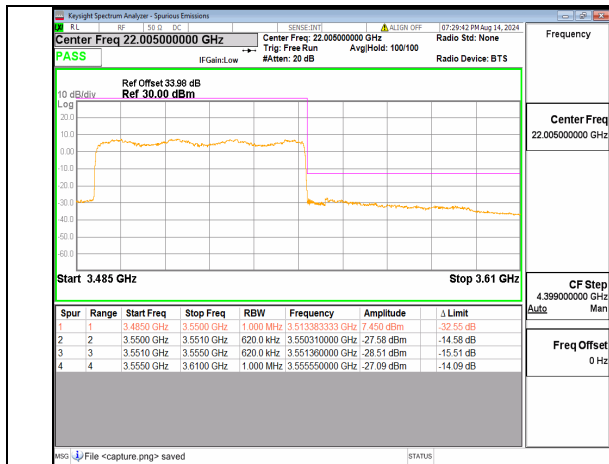
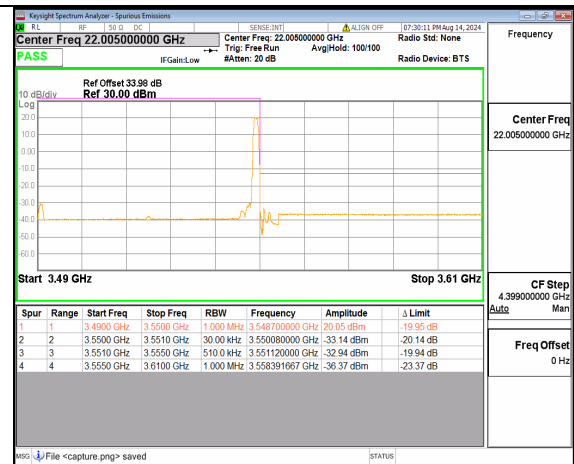
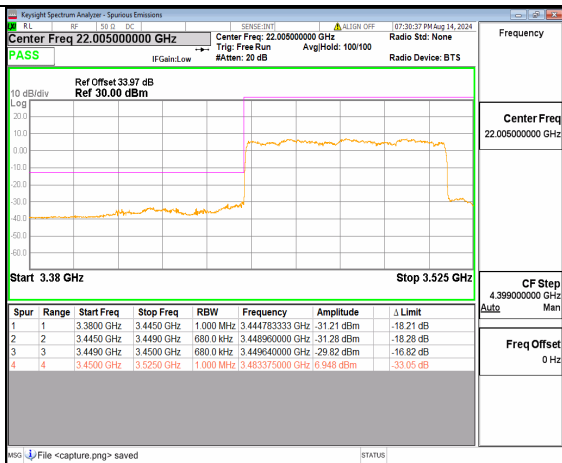
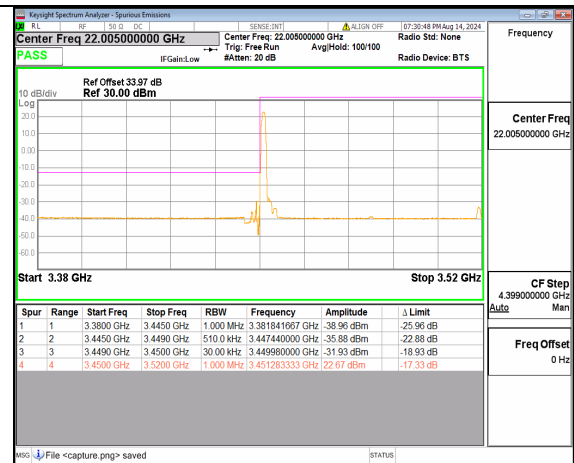
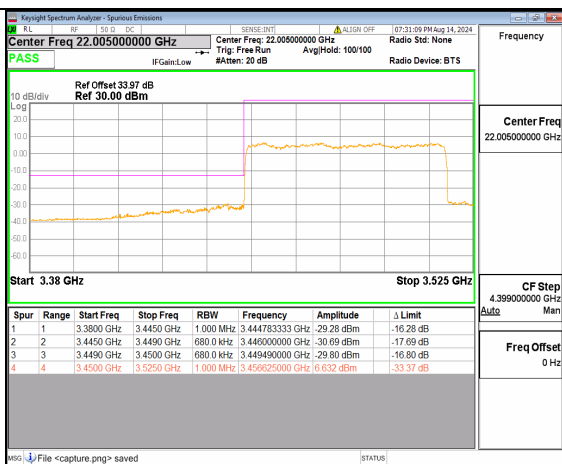
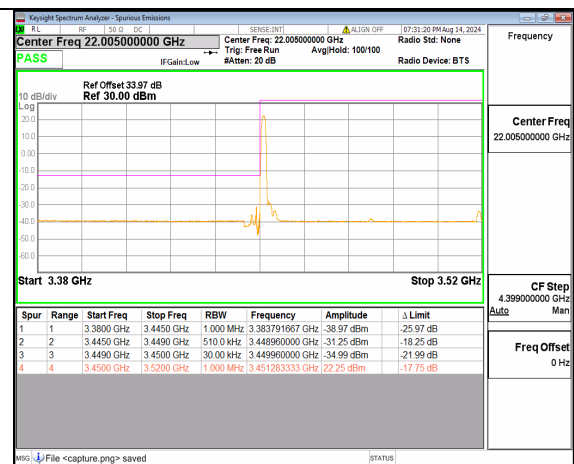
n78(3450-3550MHz) 30M DFT-s-OFDM BPSK
Edge_1RB_Right High

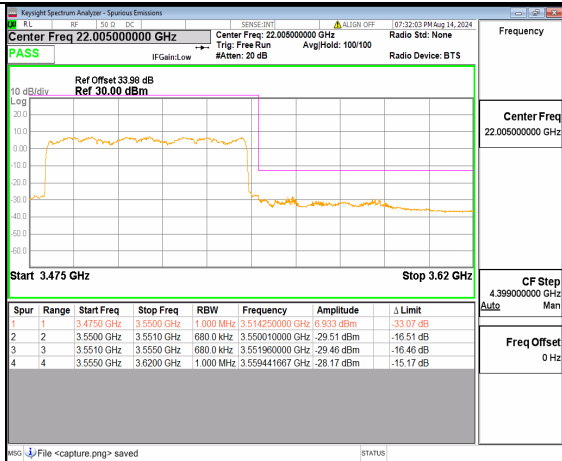
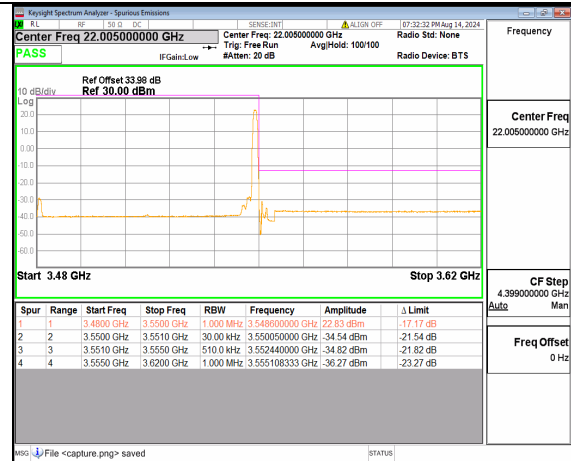
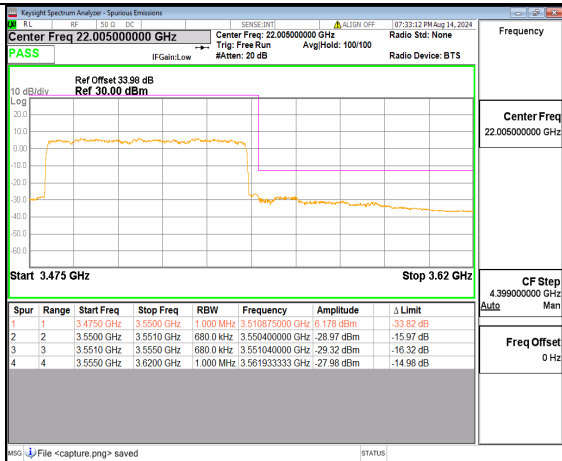
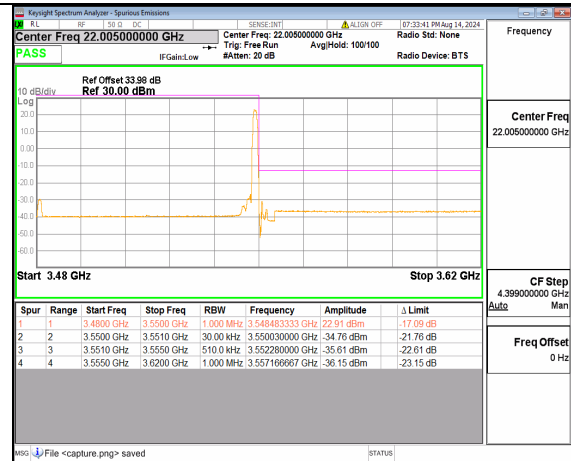
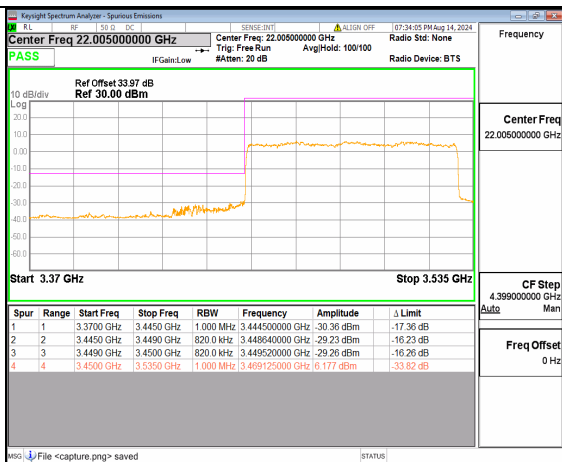
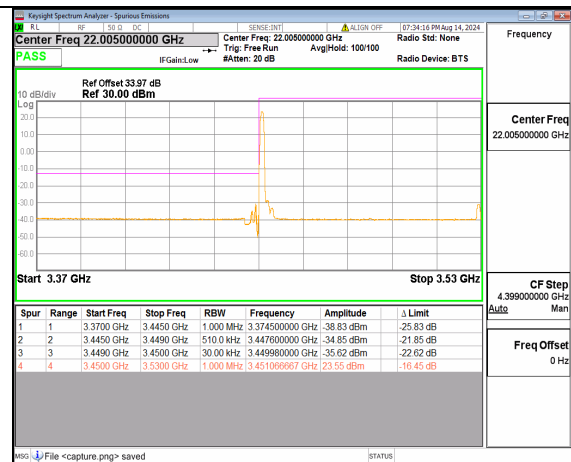
n78(3450-3550MHz) 30M DFT-s-OFDM QPSK
Outer_Full Highn78(3450-3550MHz) 30M DFT-s-OFDM QPSK
Edge_1RB_Right Highn78(3450-3550MHz) 40M DFT-s-OFDM BPSK
Outer_Full Lown78(3450-3550MHz) 40M DFT-s-OFDM BPSK
Edge_1RB_Left Lown78(3450-3550MHz) 40M DFT-s-OFDM QPSK
Outer_Full Lown78(3450-3550MHz) 40M DFT-s-OFDM QPSK
Edge_1RB_Left Low

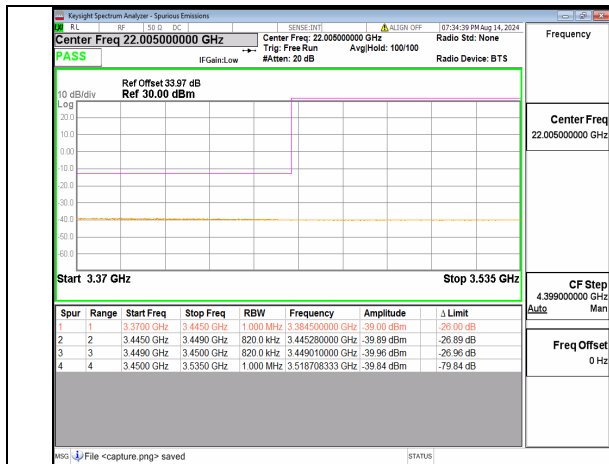
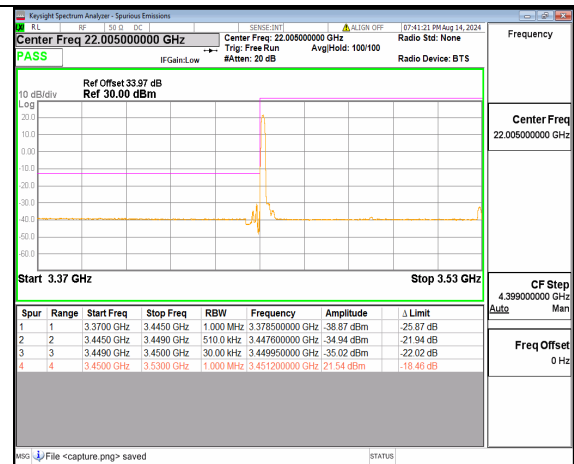
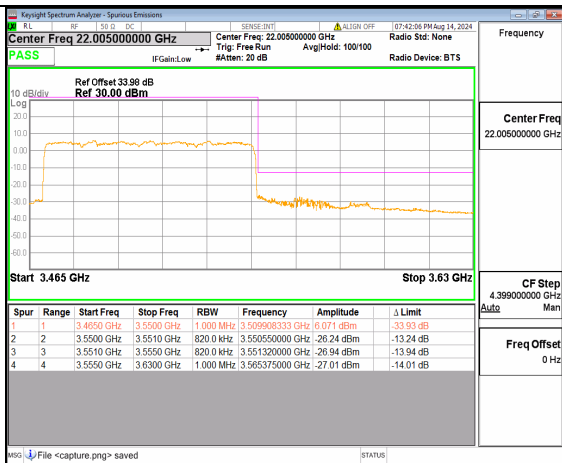
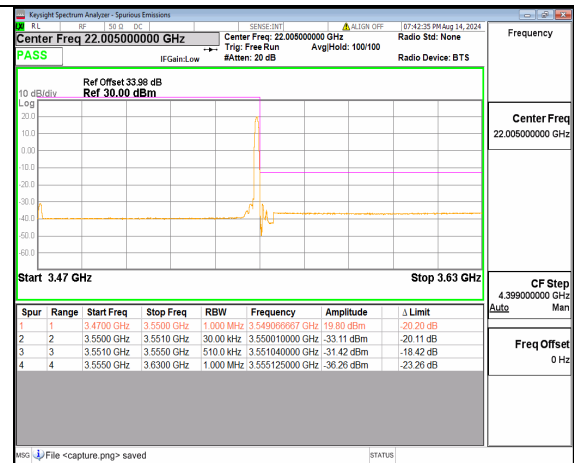
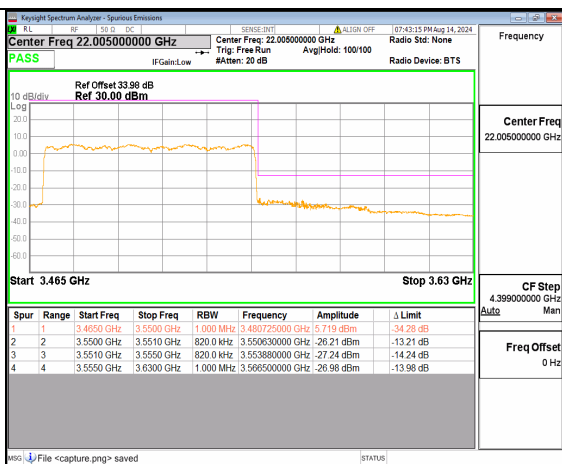
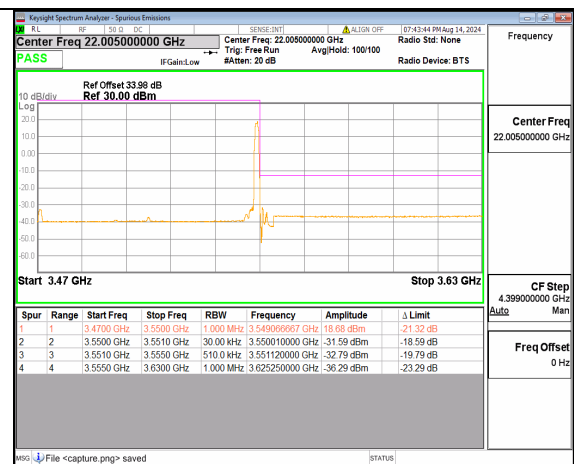
n78(3450-3550MHz) 40M DFT-s-OFDM BPSK
Outer_Full Highn78(3450-3550MHz) 40M DFT-s-OFDM BPSK
Edge_1RB_Right Highn78(3450-3550MHz) 40M DFT-s-OFDM QPSK
Outer_Full Highn78(3450-3550MHz) 40M DFT-s-OFDM QPSK
Edge_1RB_Right Highn78(3450-3550MHz) 50M DFT-s-OFDM BPSK
Outer_Full Lown78(3450-3550MHz) 50M DFT-s-OFDM BPSK
Edge_1RB_Left Low

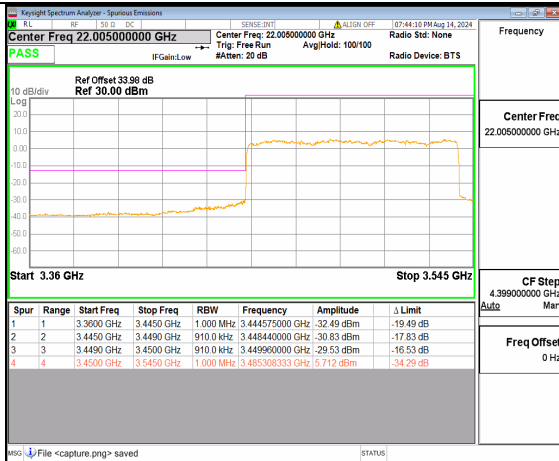
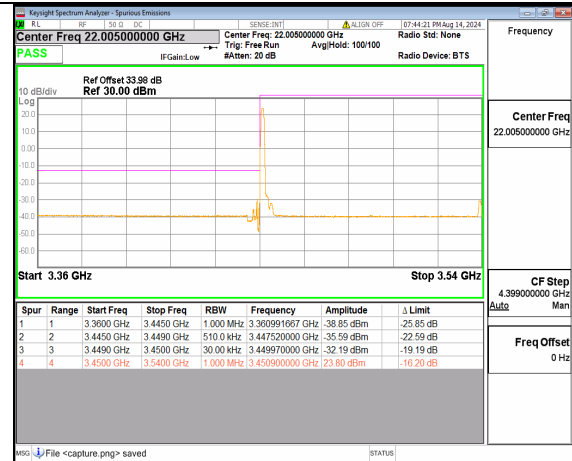
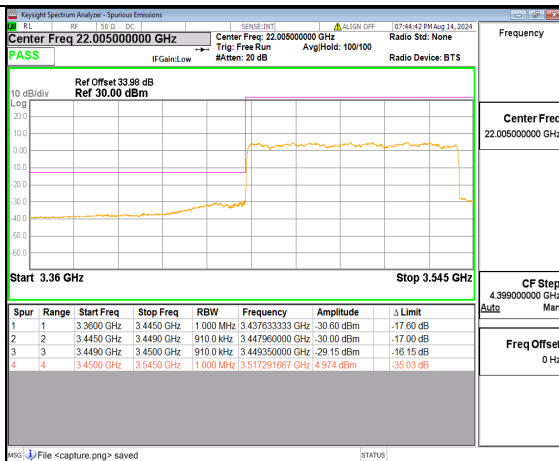
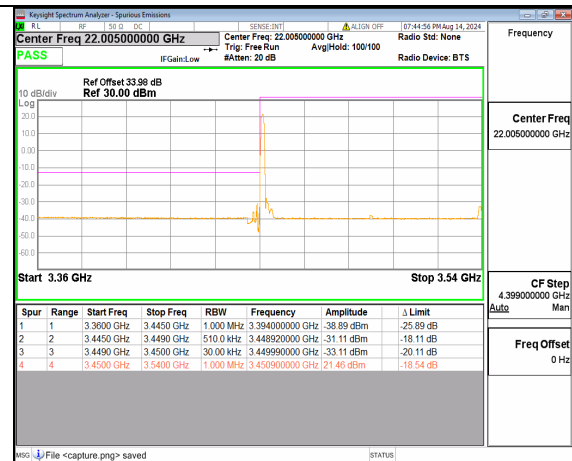
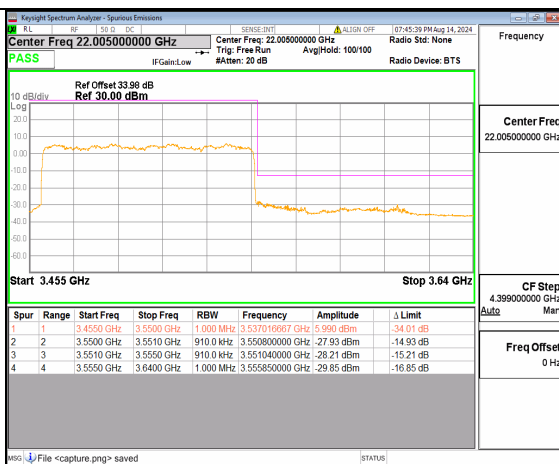
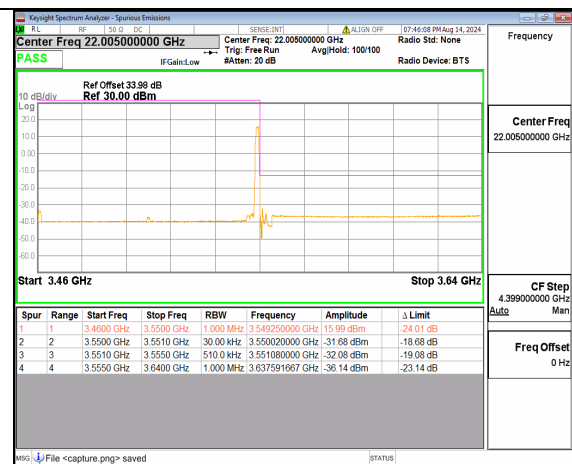
n78(3450-3550MHz) 50M DFT-s-OFDM QPSK
Outer_Full Lown78(3450-3550MHz) 50M DFT-s-OFDM QPSK
Edge_1RB_Left Lown78(3450-3550MHz) 50M DFT-s-OFDM BPSK
Outer_Full Highn78(3450-3550MHz) 50M DFT-s-OFDM BPSK
Edge_1RB_Right Highn78(3450-3550MHz) 50M DFT-s-OFDM QPSK
Outer_Full Highn78(3450-3550MHz) 50M DFT-s-OFDM QPSK
Edge_1RB_Right High

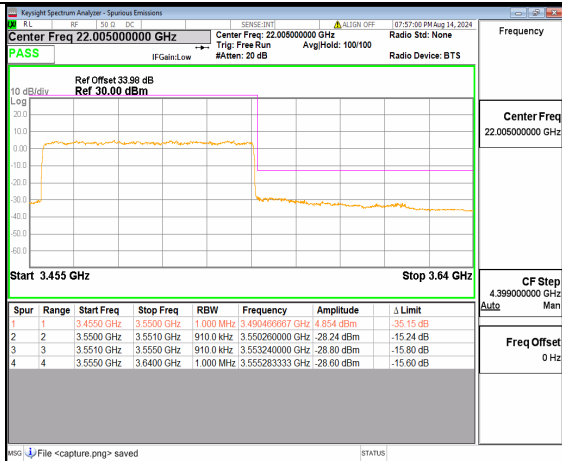
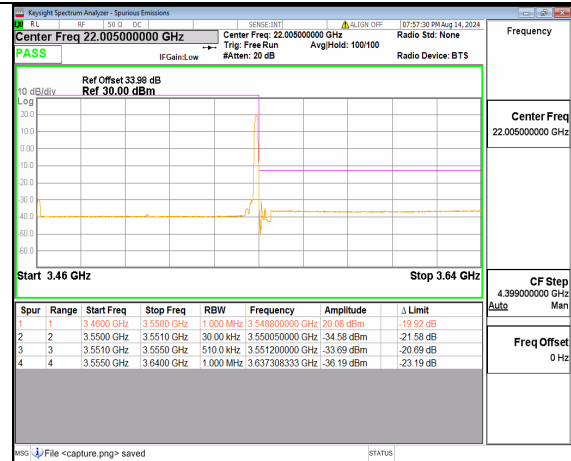
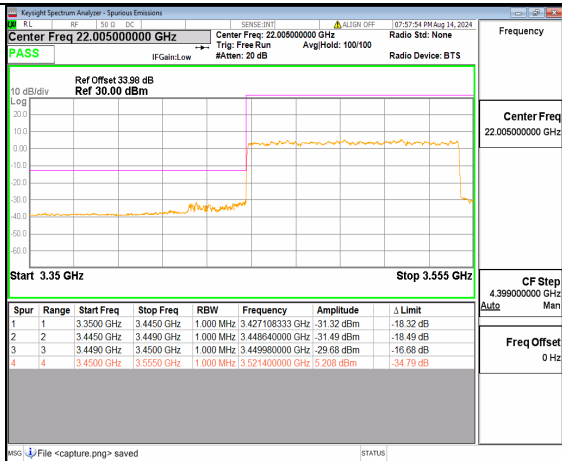
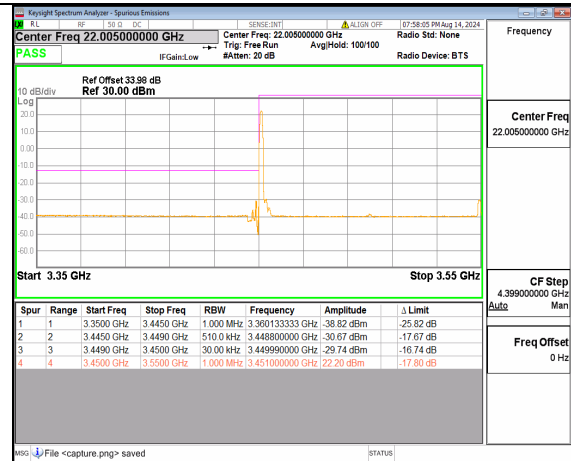
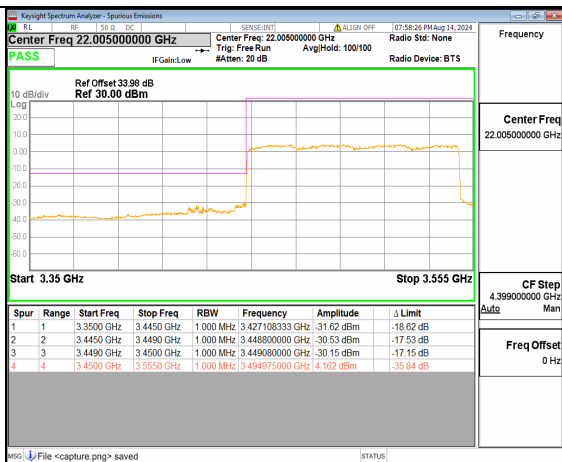
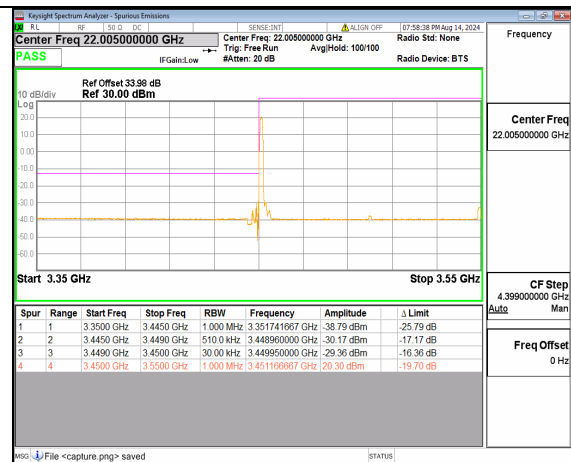
n78(3450-3550MHz) 60M DFT-s-OFDM BPSK
Outer_Full Lown78(3450-3550MHz) 60M DFT-s-OFDM BPSK
Edge_1RB_Left Lown78(3450-3550MHz) 60M DFT-s-OFDM QPSK
Outer_Full Lown78(3450-3550MHz) 60M DFT-s-OFDM QPSK
Edge_1RB_Left Lown78(3450-3550MHz) 60M DFT-s-OFDM BPSK
Outer_Full Highn78(3450-3550MHz) 60M DFT-s-OFDM BPSK
Edge_1RB_Right High

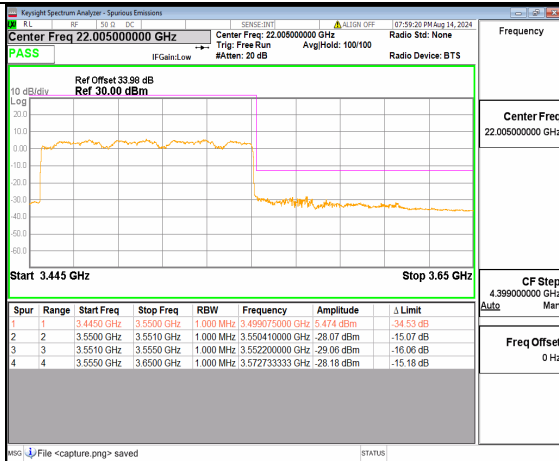
n78(3450-3550MHz) 60M DFT-s-OFDM QPSK
Outer_Full Highn78(3450-3550MHz) 60M DFT-s-OFDM QPSK
Edge_1RB_Right Highn78(3450-3550MHz) 70M DFT-s-OFDM BPSK
Outer_Full Lown78(3450-3550MHz) 70M DFT-s-OFDM BPSK
Edge_1RB_Left Lown78(3450-3550MHz) 70M DFT-s-OFDM QPSK
Outer_Full Lown78(3450-3550MHz) 70M DFT-s-OFDM QPSK
Edge_1RB_Left Low

n78(3450-3550MHz) 70M DFT-s-OFDM BPSK
Outer_Full Highn78(3450-3550MHz) 70M DFT-s-OFDM BPSK
Edge_1RB_Right Highn78(3450-3550MHz) 70M DFT-s-OFDM QPSK
Outer_Full Highn78(3450-3550MHz) 70M DFT-s-OFDM QPSK
Edge_1RB_Right Highn78(3450-3550MHz) 80M DFT-s-OFDM BPSK
Outer_Full Lown78(3450-3550MHz) 80M DFT-s-OFDM BPSK
Edge_1RB_Left Low

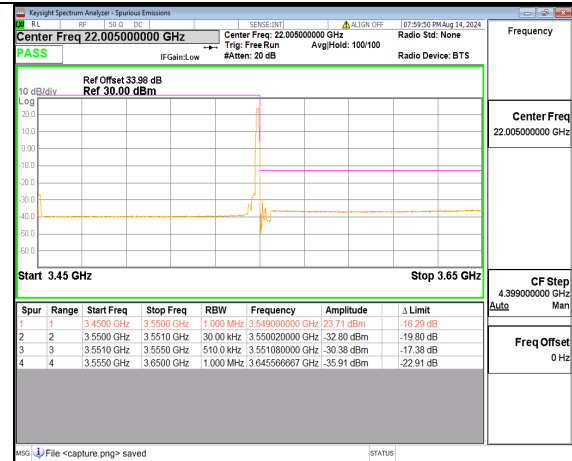
n78(3450-3550MHz) 80M DFT-s-OFDM QPSK
Outer_Full Lown78(3450-3550MHz) 80M DFT-s-OFDM QPSK
Edge_1RB_Left Lown78(3450-3550MHz) 80M DFT-s-OFDM BPSK
Outer_Full Highn78(3450-3550MHz) 80M DFT-s-OFDM BPSK
Edge_1RB_Right Highn78(3450-3550MHz) 80M DFT-s-OFDM QPSK
Outer_Full Highn78(3450-3550MHz) 80M DFT-s-OFDM QPSK
Edge_1RB_Right High

n78(3450-3550MHz) 90M DFT-s-OFDM BPSK
Outer_Full Lown78(3450-3550MHz) 90M DFT-s-OFDM BPSK
Edge_1RB_Left Lown78(3450-3550MHz) 90M DFT-s-OFDM QPSK
Outer_Full Lown78(3450-3550MHz) 90M DFT-s-OFDM QPSK
Edge_1RB_Left Lown78(3450-3550MHz) 90M DFT-s-OFDM BPSK
Outer_Full Highn78(3450-3550MHz) 90M DFT-s-OFDM BPSK
Edge_1RB_Right High

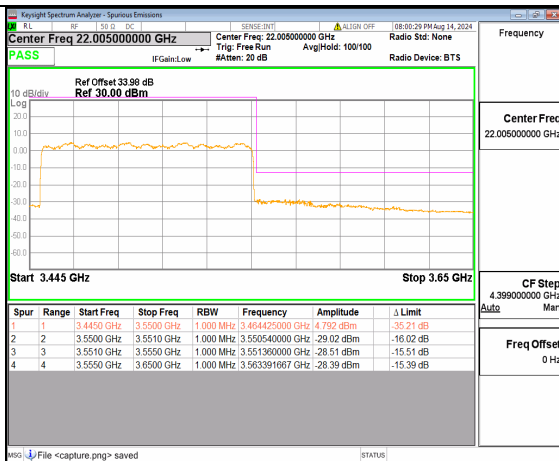
n78(3450-3550MHz) 90M DFT-s-OFDM QPSK
Outer_Full Highn78(3450-3550MHz) 90M DFT-s-OFDM QPSK
Edge_1RB_Right Highn78(3450-3550MHz) 100M DFT-s-OFDM
BPSK Outer_Full Lown78(3450-3550MHz) 100M DFT-s-OFDM
BPSK Edge_1RB_Left Lown78(3450-3550MHz) 100M DFT-s-OFDM
QPSK Outer_Full Lown78(3450-3550MHz) 100M DFT-s-OFDM
QPSK Edge_1RB_Left Low



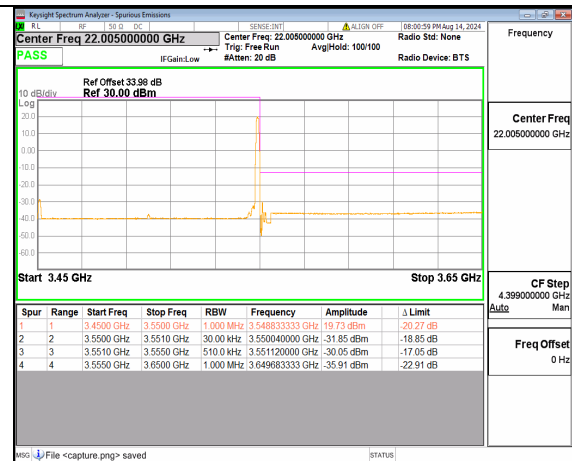
n78(3450-3550MHz) 100M DFT-s-OFDM
BPSK Outer_Full High



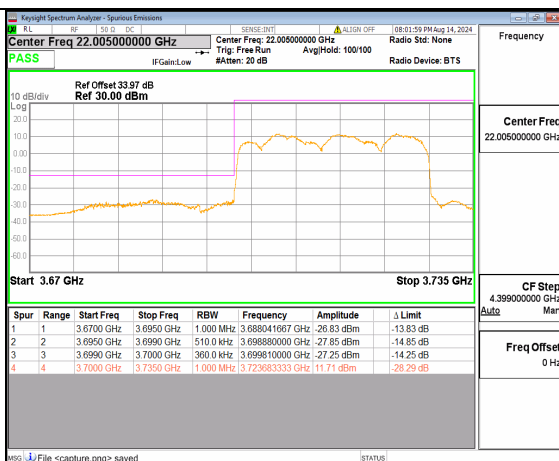
n78(3450-3550MHz) 100M DFT-s-OFDM
BPSK Edge_1RB_Right High



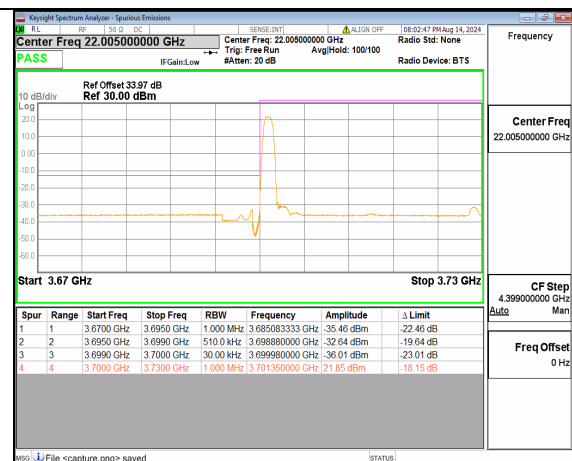
n78(3450-3550MHz) 100M DFT-s-OFDM
QPSK Outer_Full High



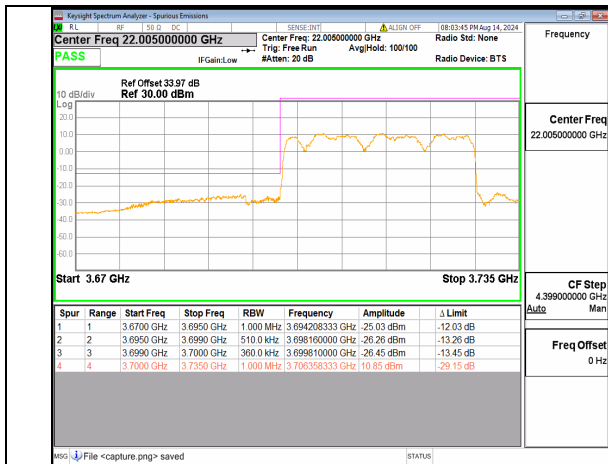
n78(3450-3550MHz) 100M DFT-s-OFDM
QPSK Edge_1RB_Right High



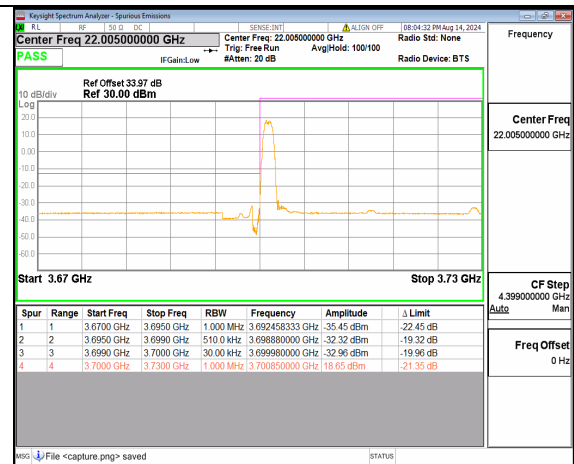
n78(3700-3800MHz) 30M DFT-s-OFDM BPSK
Outer_Full Low



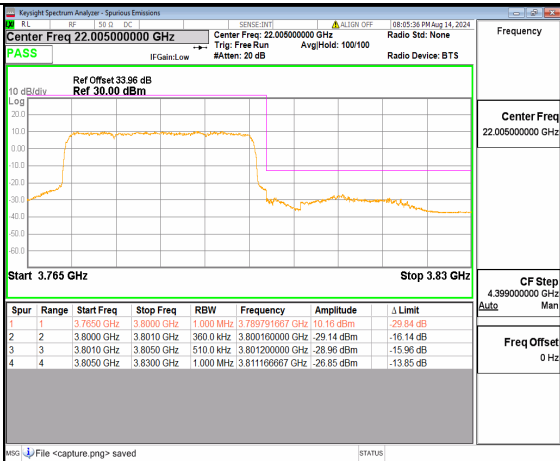
n78(3700-3800MHz) 30M DFT-s-OFDM BPSK
Edge_1RB_Left Low



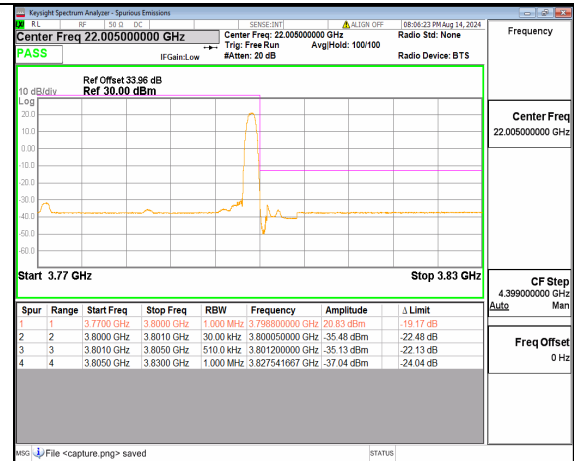
n78(3700-3800MHz) 30M DFT-s-OFDM QPSK
Outer_Full Low



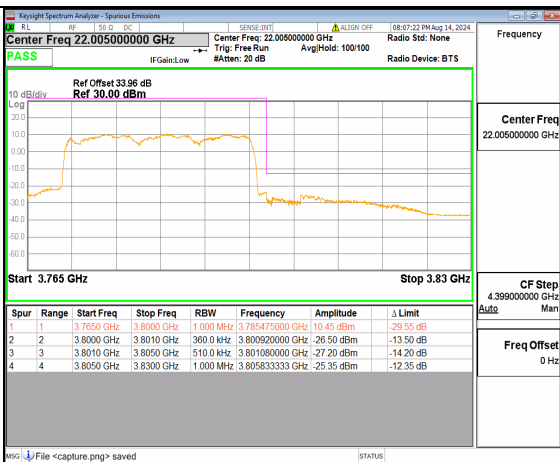
n78(3700-3800MHz) 30M DFT-s-OFDM QPSK
Edge_1RB_Left Low



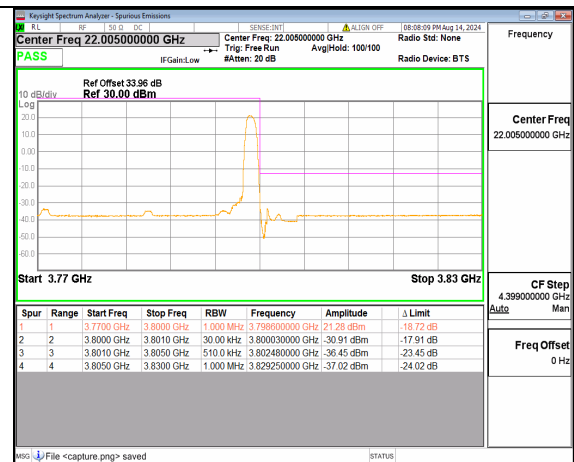
n78(3700-3800MHz) 30M DFT-s-OFDM BPSK
Outer_Full High



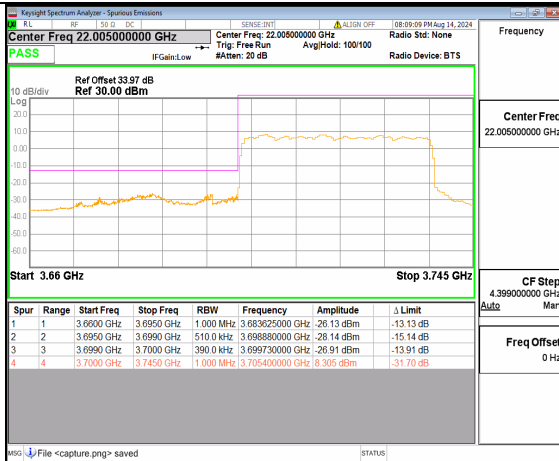
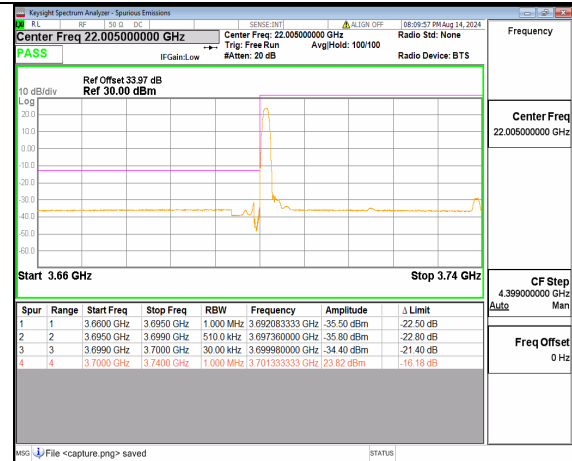
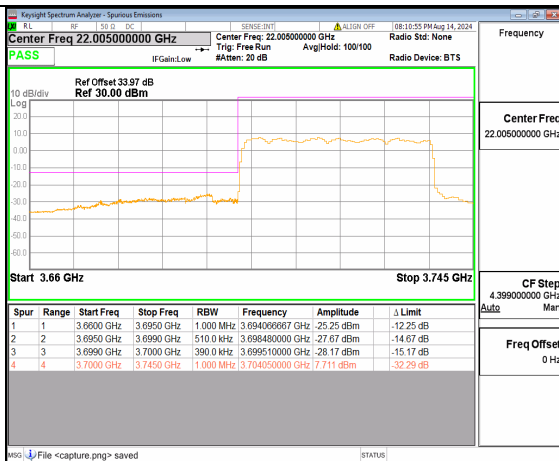
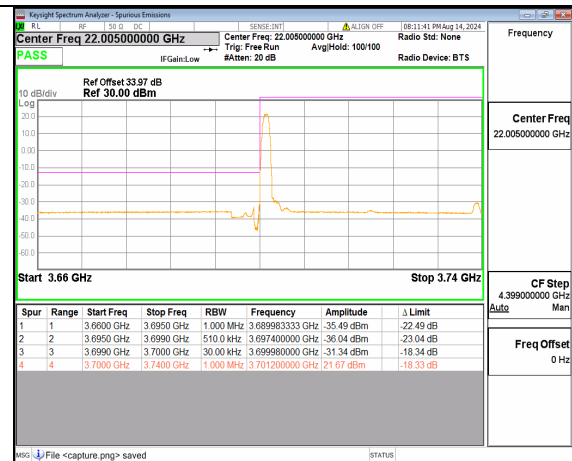
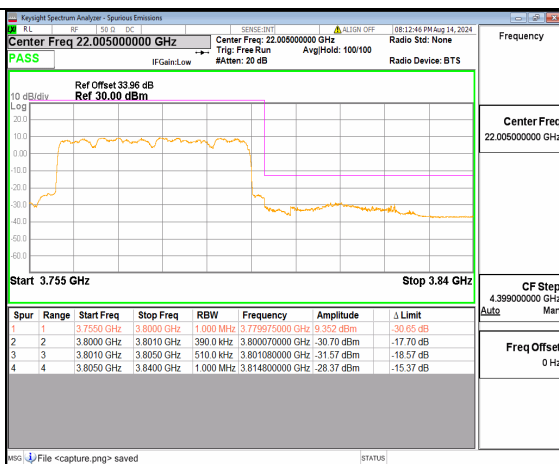
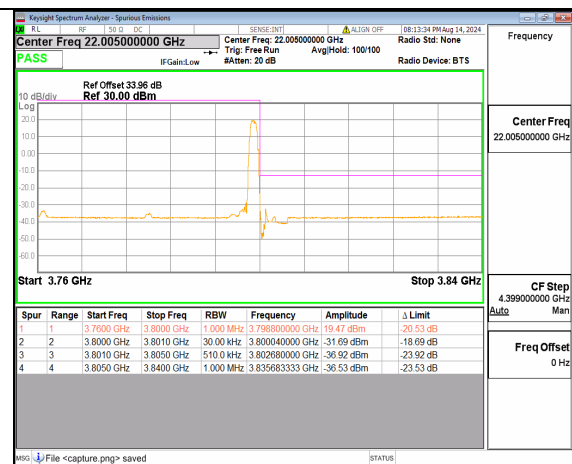
n78(3700-3800MHz) 30M DFT-s-OFDM BPSK
Edge_1RB_Right High

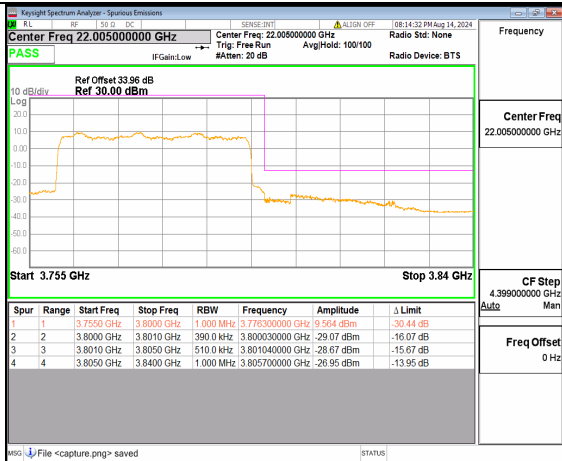
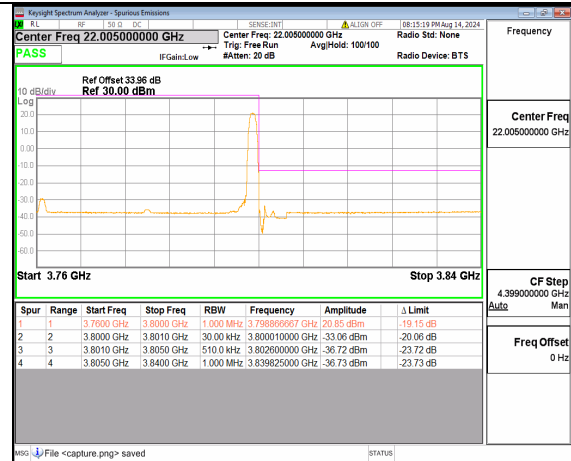
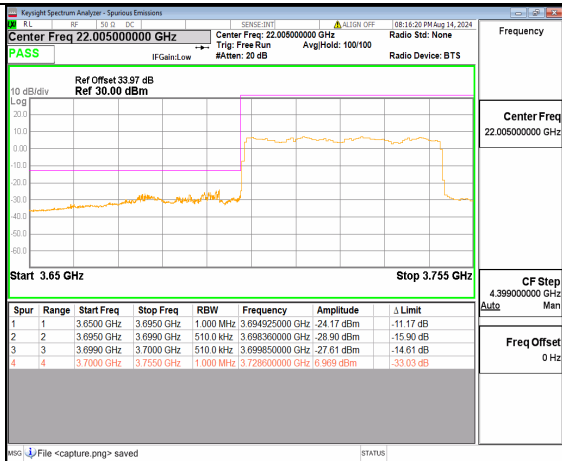
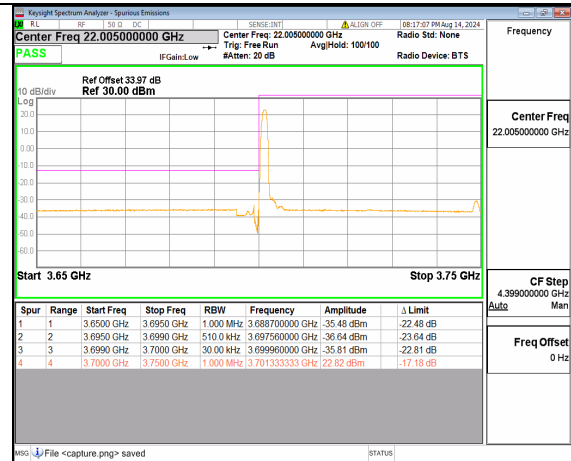
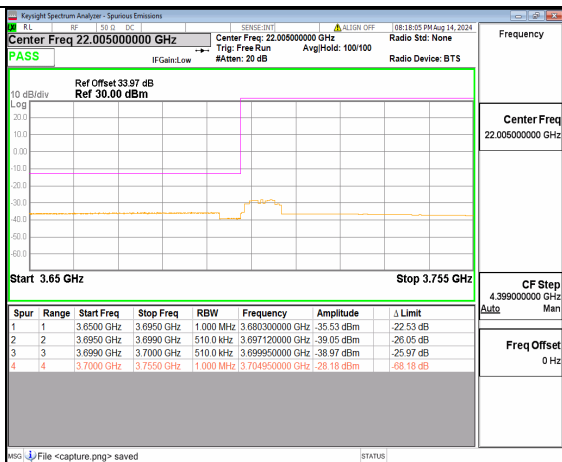
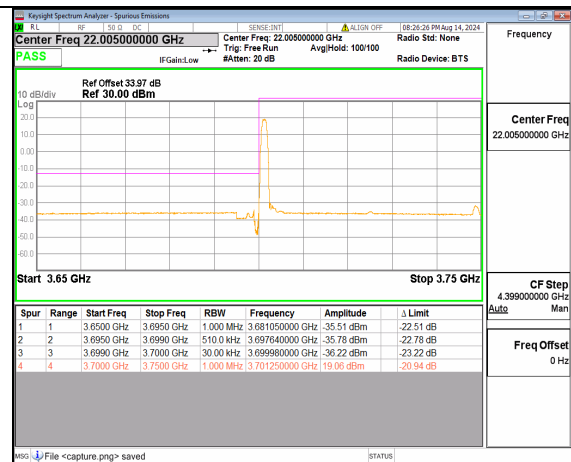


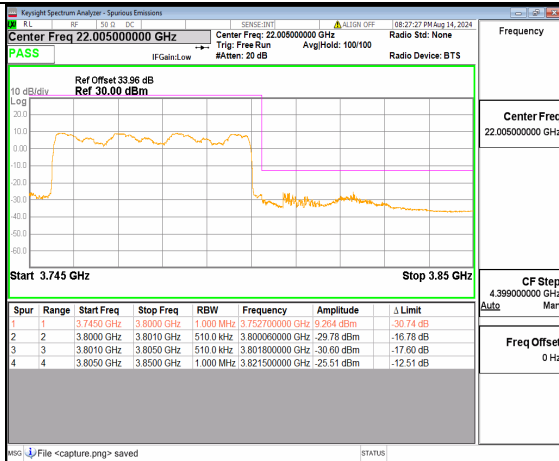
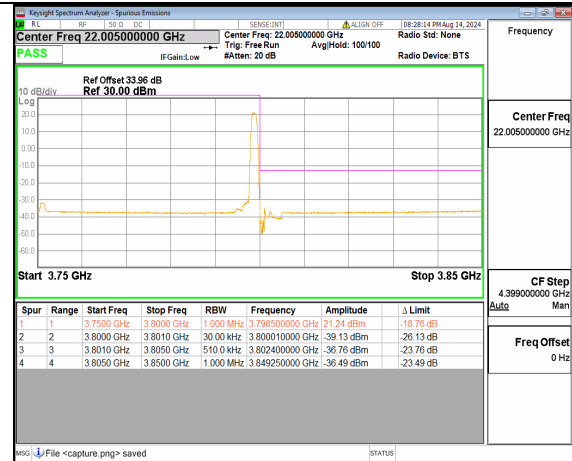
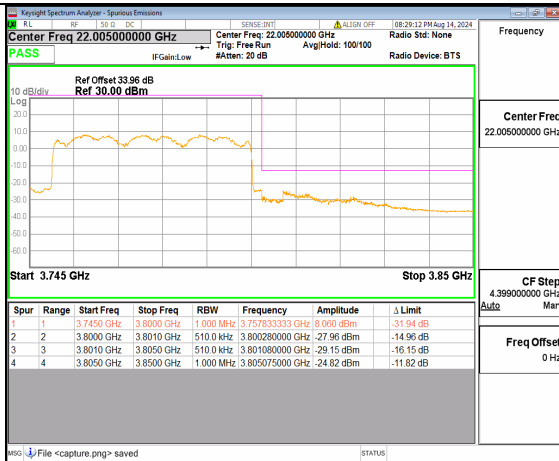
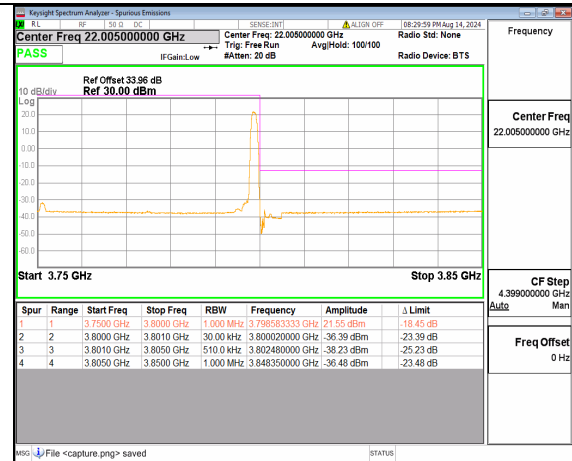
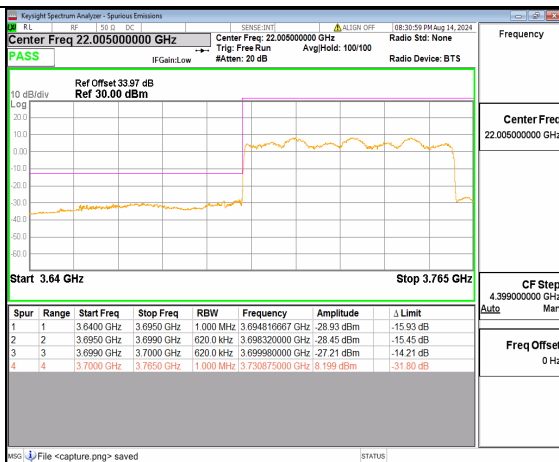
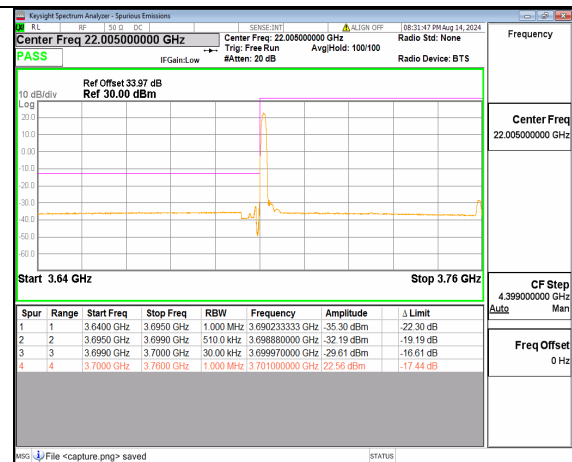
n78(3700-3800MHz) 30M DFT-s-OFDM QPSK
Outer_Full High

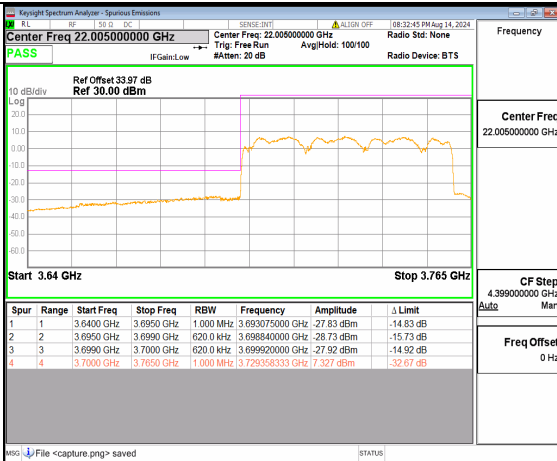


n78(3700-3800MHz) 30M DFT-s-OFDM QPSK
Edge_1RB_Right High

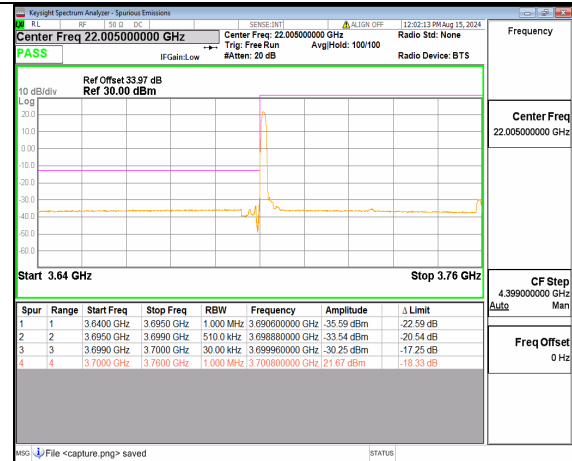
n78(3700-3800MHz) 40M DFT-s-OFDM BPSK
Outer_Full Lown78(3700-3800MHz) 40M DFT-s-OFDM BPSK
Edge_1RB_Left Lown78(3700-3800MHz) 40M DFT-s-OFDM QPSK
Outer_Full Lown78(3700-3800MHz) 40M DFT-s-OFDM QPSK
Edge_1RB_Left Lown78(3700-3800MHz) 40M DFT-s-OFDM BPSK
Outer_Full Highn78(3700-3800MHz) 40M DFT-s-OFDM BPSK
Edge_1RB_Right High

n78(3700-3800MHz) 40M DFT-s-OFDM QPSK
Outer_Full Highn78(3700-3800MHz) 40M DFT-s-OFDM QPSK
Edge_1RB_Right Highn78(3700-3800MHz) 50M DFT-s-OFDM BPSK
Outer_Full Lown78(3700-3800MHz) 50M DFT-s-OFDM BPSK
Edge_1RB_Left Lown78(3700-3800MHz) 50M DFT-s-OFDM QPSK
Outer_Full Lown78(3700-3800MHz) 50M DFT-s-OFDM QPSK
Edge_1RB_Left Low

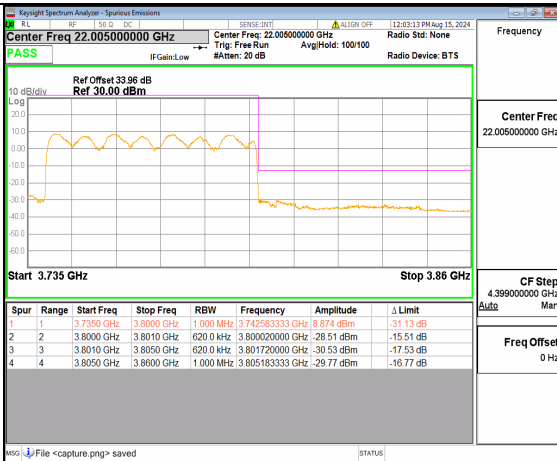
n78(3700-3800MHz) 50M DFT-s-OFDM BPSK
Outer_Full Highn78(3700-3800MHz) 50M DFT-s-OFDM BPSK
Edge_1RB_Right Highn78(3700-3800MHz) 50M DFT-s-OFDM QPSK
Outer_Full Highn78(3700-3800MHz) 50M DFT-s-OFDM QPSK
Edge_1RB_Right Highn78(3700-3800MHz) 60M DFT-s-OFDM BPSK
Outer_Full Lown78(3700-3800MHz) 60M DFT-s-OFDM BPSK
Edge_1RB_Left Low



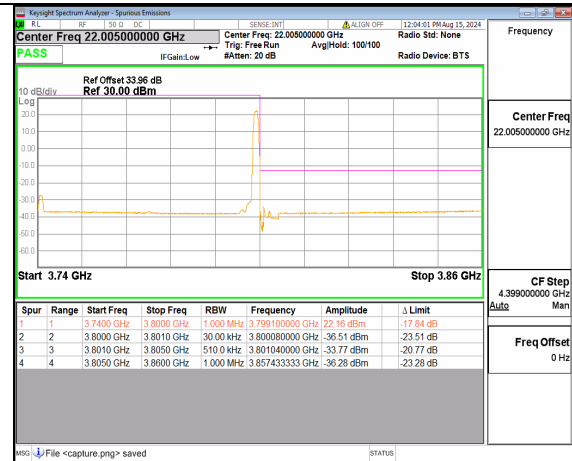
n78(3700-3800MHz) 60M DFT-s-OFDM QPSK
Outer_Full Low



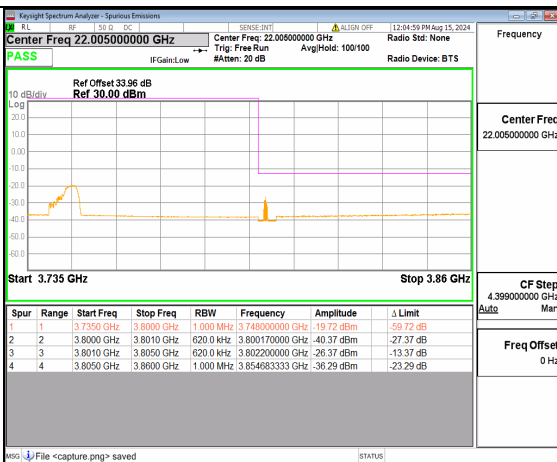
n78(3700-3800MHz) 60M DFT-s-OFDM QPSK
Edge_1RB_Left Low



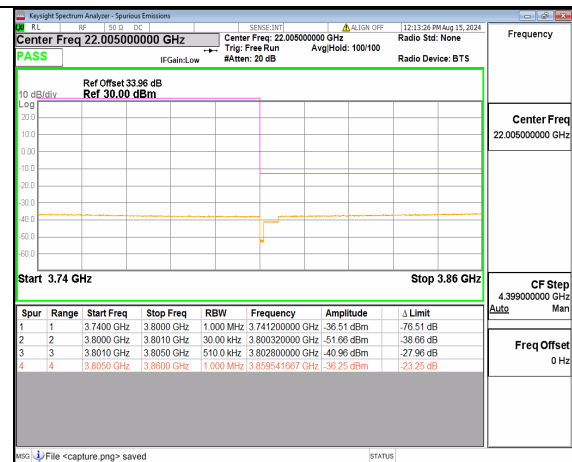
n78(3700-3800MHz) 60M DFT-s-OFDM BPSK
Outer_Full High



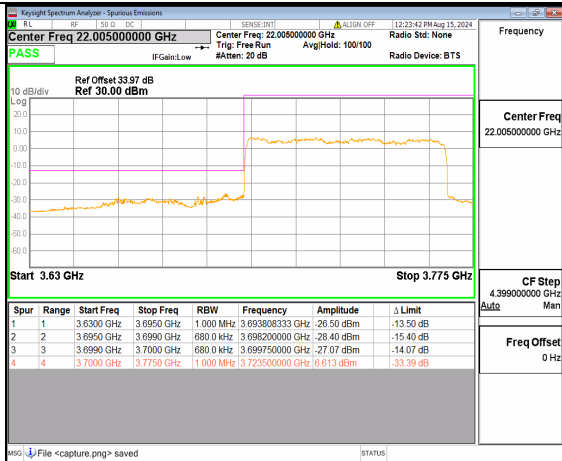
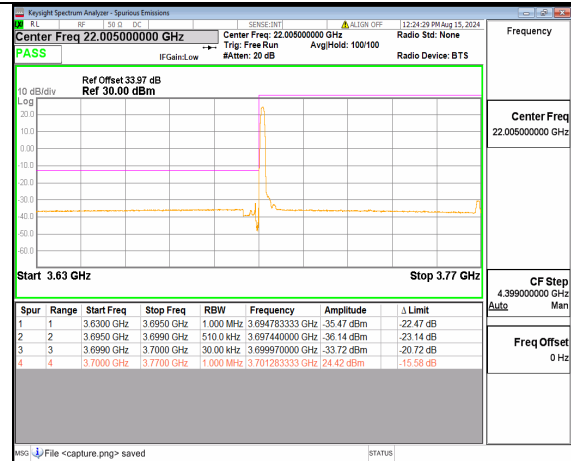
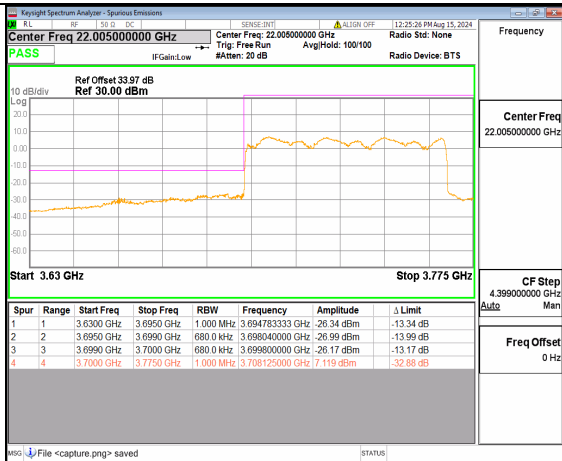
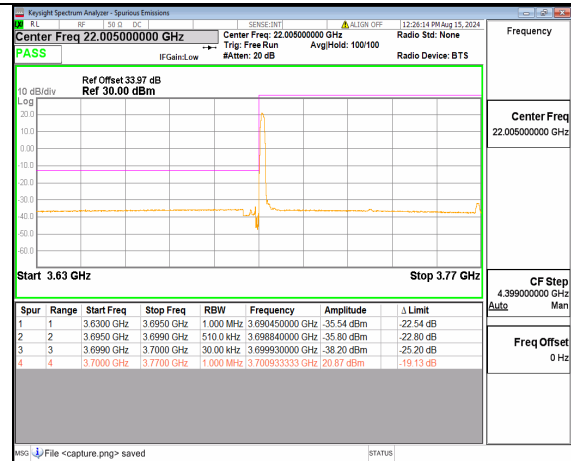
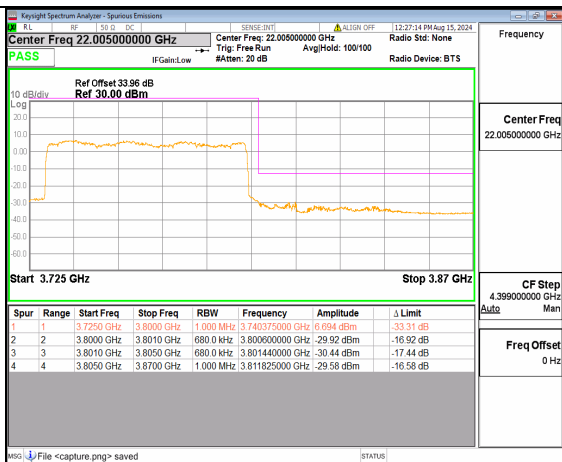
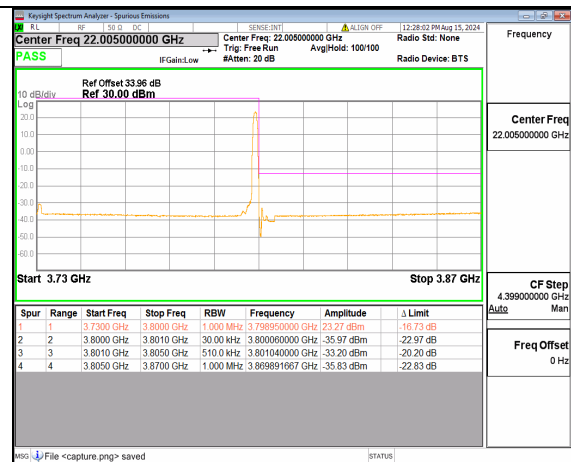
n78(3700-3800MHz) 60M DFT-s-OFDM BPSK
Edge_1RB_Right High

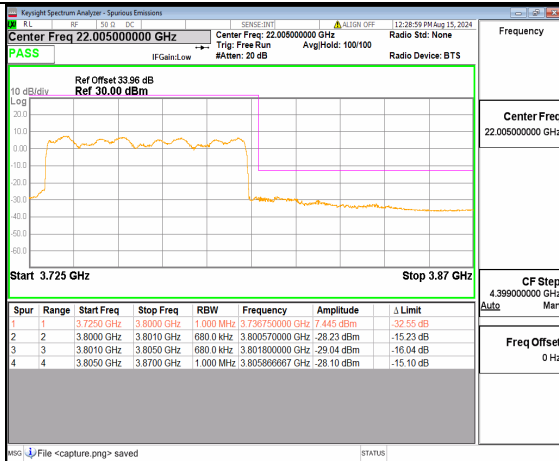
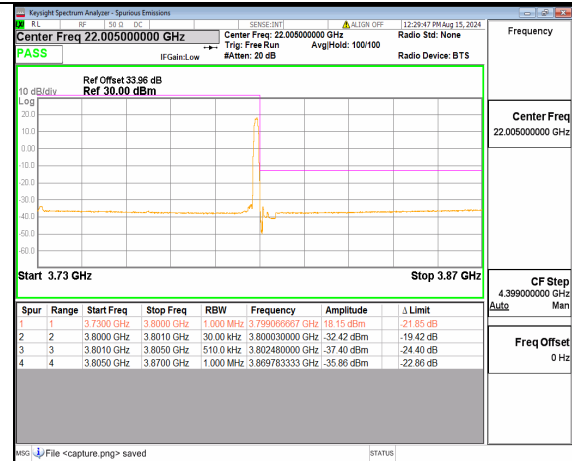
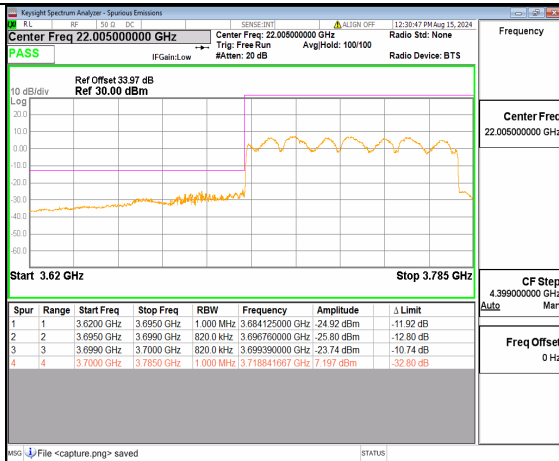
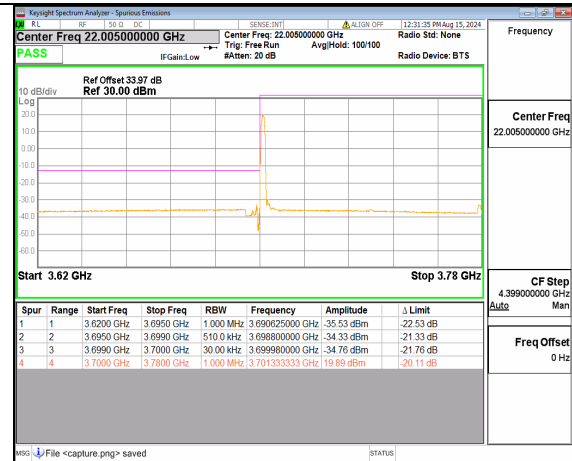
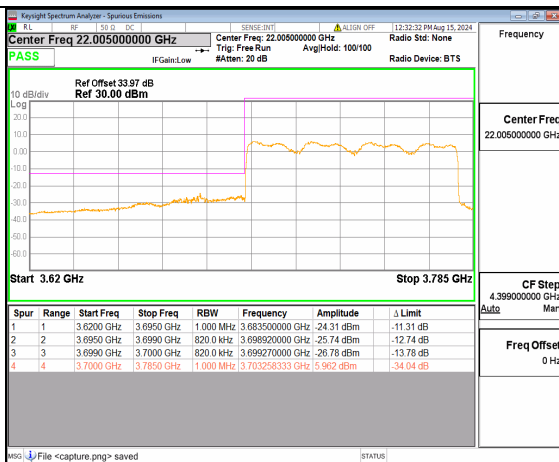
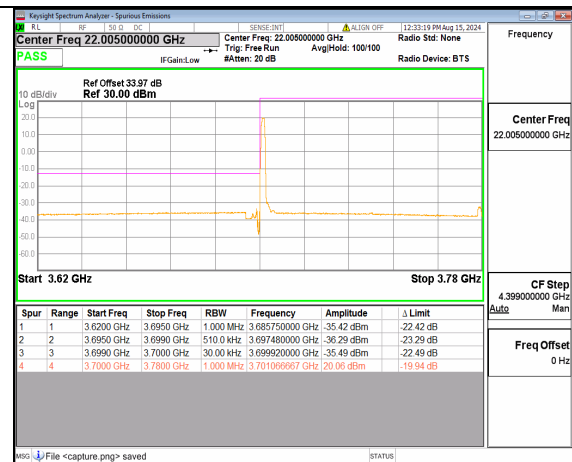


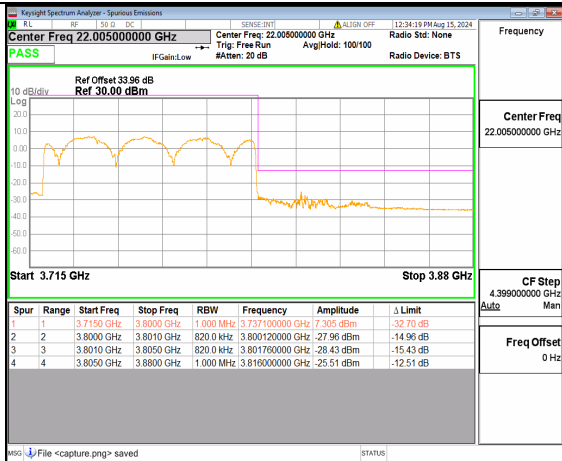
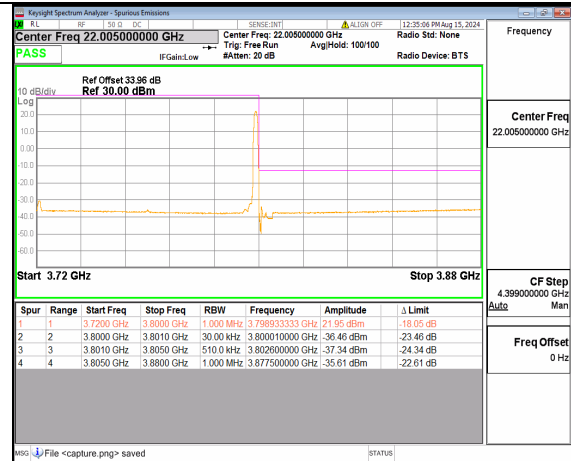
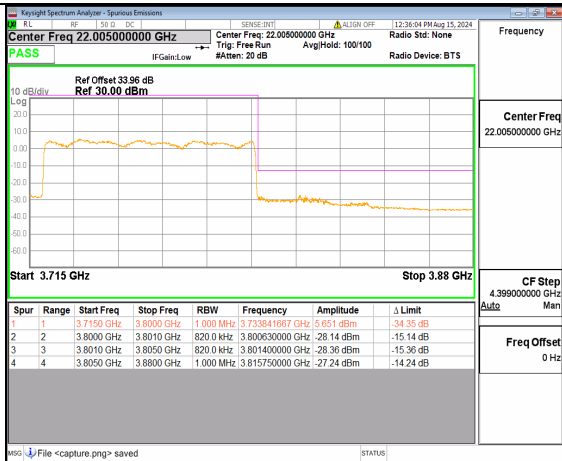
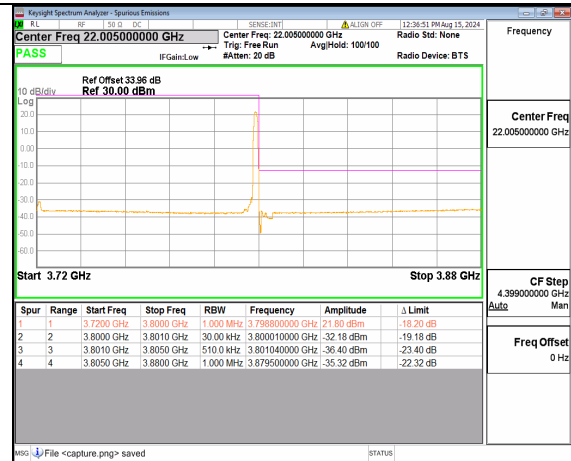
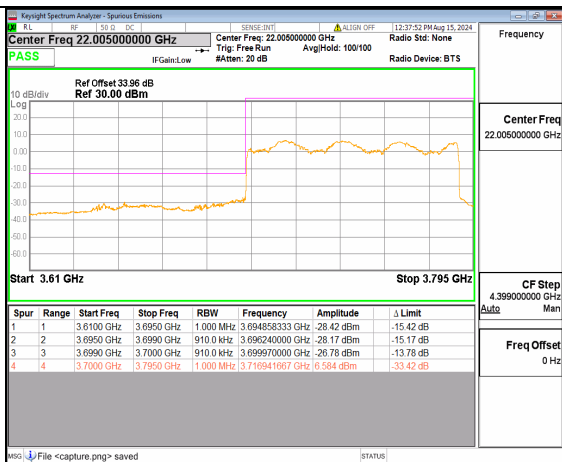
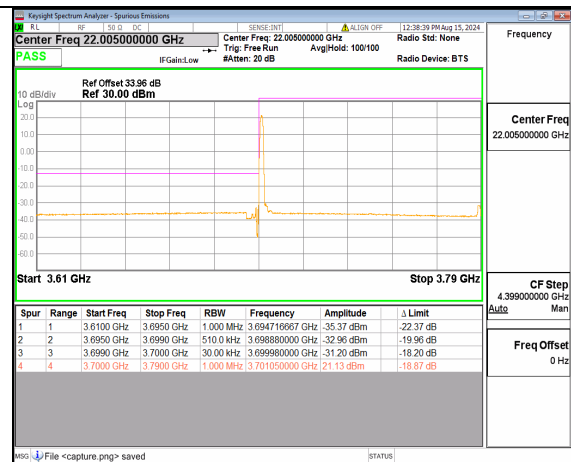
n78(3700-3800MHz) 60M DFT-s-OFDM QPSK
Outer_Full High

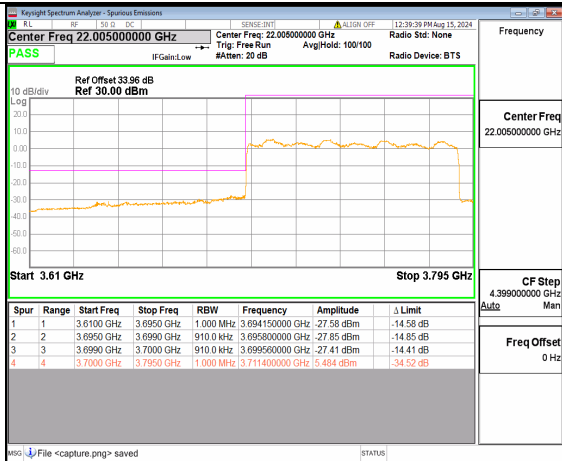
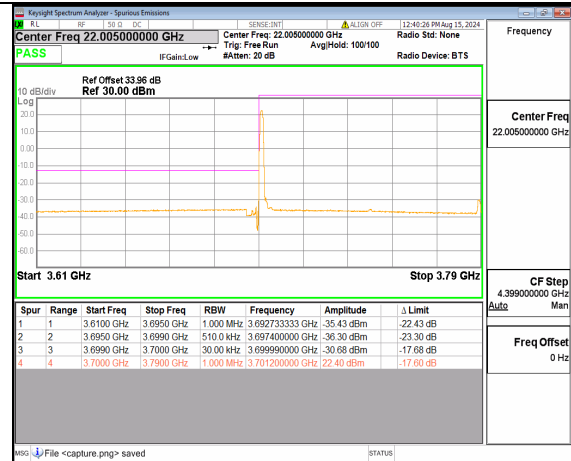
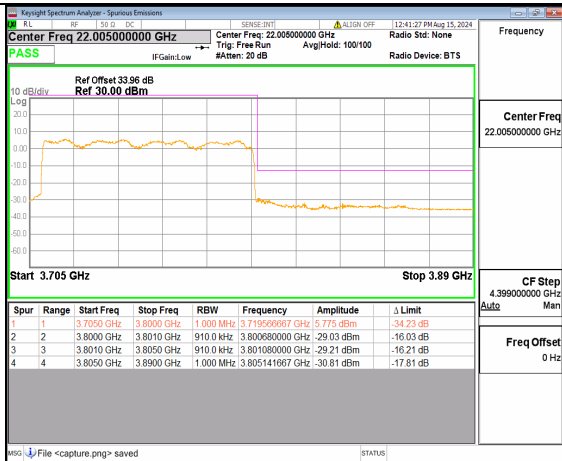
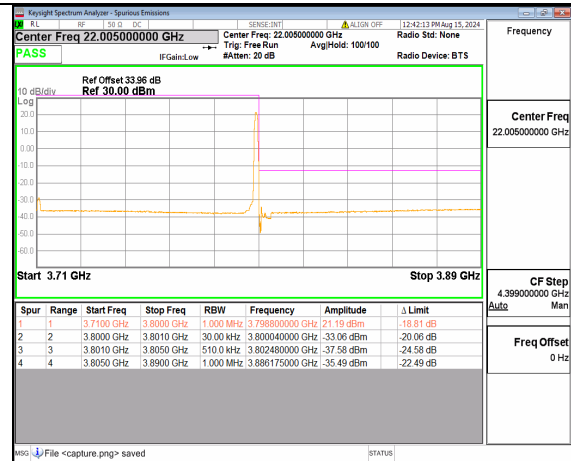
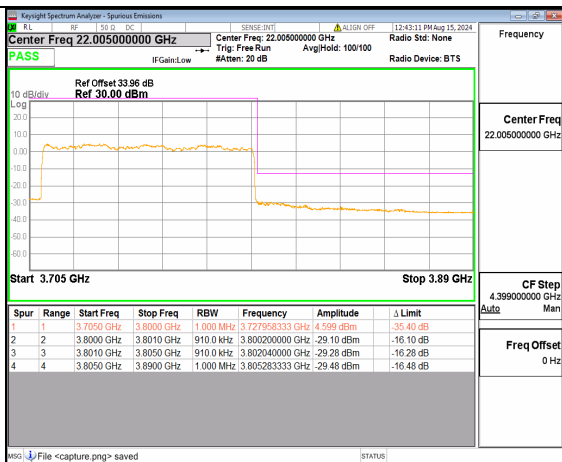
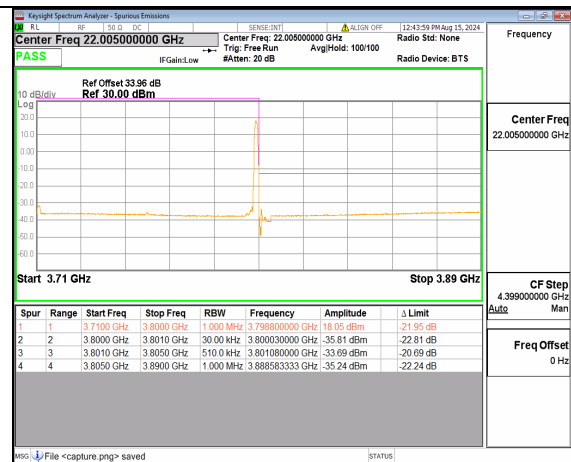


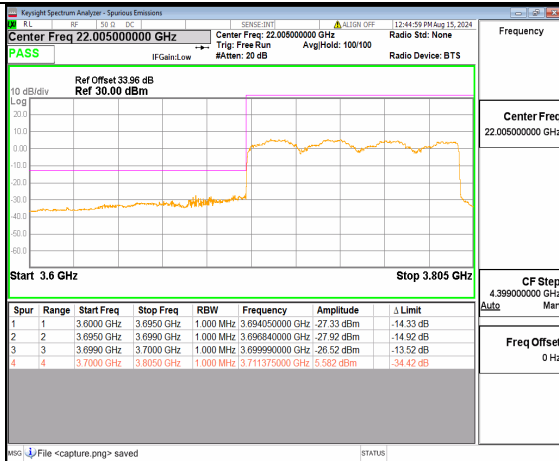
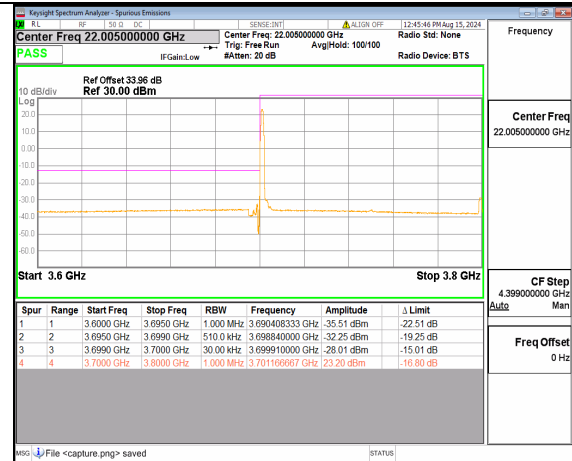
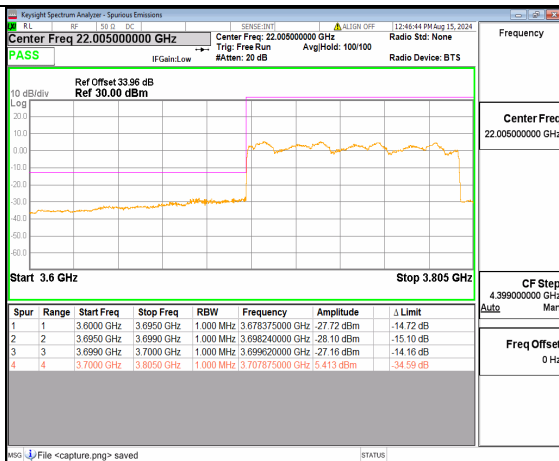
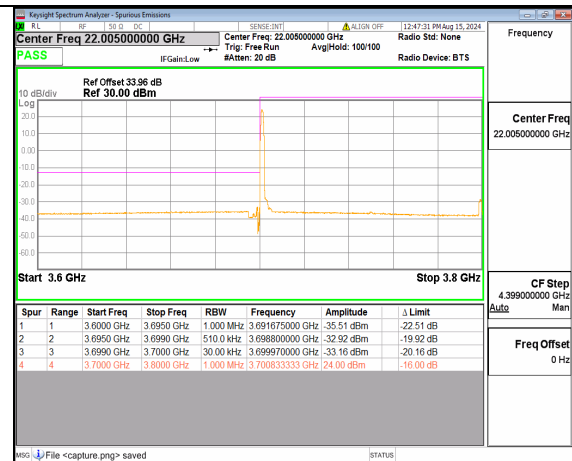
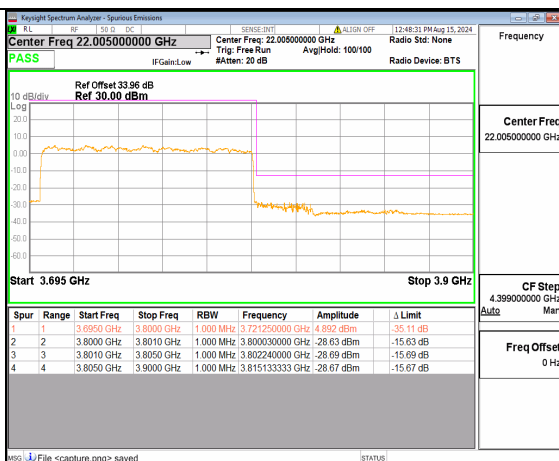
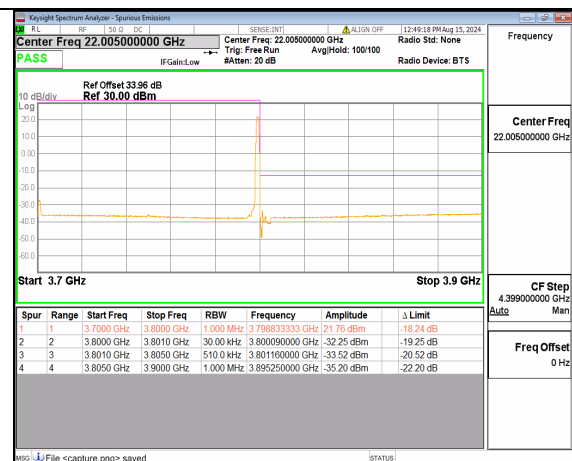
n78(3700-3800MHz) 60M DFT-s-OFDM QPSK
Edge_1RB_Right High

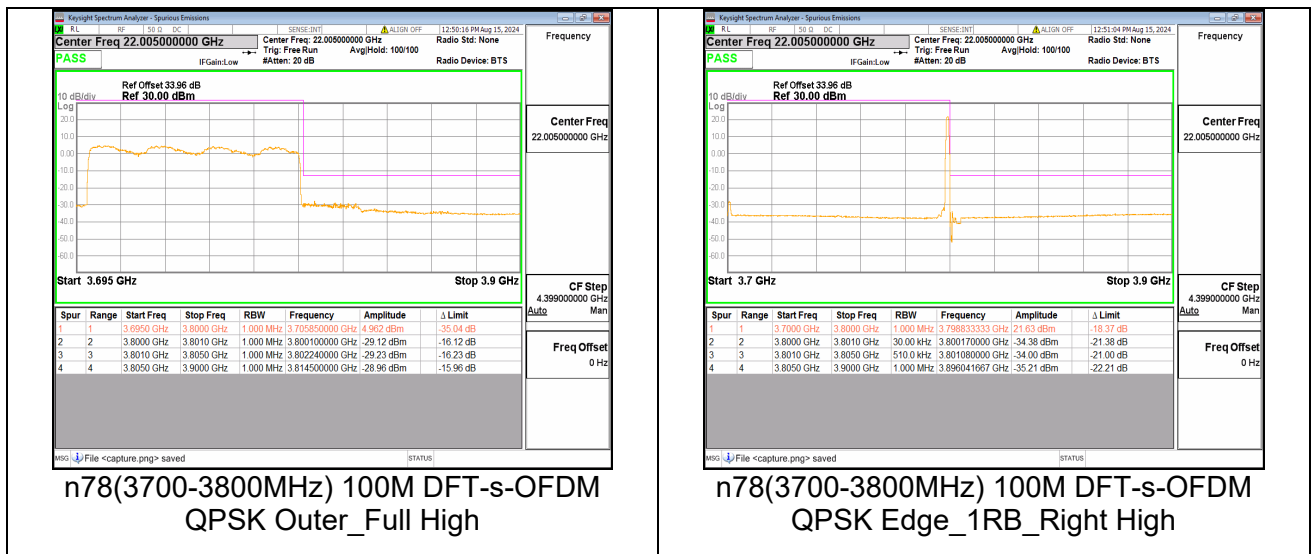
n78(3700-3800MHz) 70M DFT-s-OFDM BPSK
Outer_Full Lown78(3700-3800MHz) 70M DFT-s-OFDM BPSK
Edge_1RB_Left Lown78(3700-3800MHz) 70M DFT-s-OFDM QPSK
Outer_Full Lown78(3700-3800MHz) 70M DFT-s-OFDM QPSK
Edge_1RB_Left Lown78(3700-3800MHz) 70M DFT-s-OFDM BPSK
Outer_Full Highn78(3700-3800MHz) 70M DFT-s-OFDM BPSK
Edge_1RB_Right High

n78(3700-3800MHz) 70M DFT-s-OFDM QPSK
Outer_Full Highn78(3700-3800MHz) 70M DFT-s-OFDM QPSK
Edge_1RB_Right Highn78(3700-3800MHz) 80M DFT-s-OFDM BPSK
Outer_Full Lown78(3700-3800MHz) 80M DFT-s-OFDM BPSK
Edge_1RB_Left Lown78(3700-3800MHz) 80M DFT-s-OFDM QPSK
Outer_Full Lown78(3700-3800MHz) 80M DFT-s-OFDM QPSK
Edge_1RB_Left Low

n78(3700-3800MHz) 80M DFT-s-OFDM BPSK
Outer_Full Highn78(3700-3800MHz) 80M DFT-s-OFDM BPSK
Edge_1RB_Right Highn78(3700-3800MHz) 80M DFT-s-OFDM QPSK
Outer_Full Highn78(3700-3800MHz) 80M DFT-s-OFDM QPSK
Edge_1RB_Right Highn78(3700-3800MHz) 90M DFT-s-OFDM BPSK
Outer_Full Lown78(3700-3800MHz) 90M DFT-s-OFDM BPSK
Edge_1RB_Left Low

n78(3700-3800MHz) 90M DFT-s-OFDM QPSK
Outer_Full Lown78(3700-3800MHz) 90M DFT-s-OFDM QPSK
Edge_1RB_Left Lown78(3700-3800MHz) 90M DFT-s-OFDM BPSK
Outer_Full Highn78(3700-3800MHz) 90M DFT-s-OFDM BPSK
Edge_1RB_Right Highn78(3700-3800MHz) 90M DFT-s-OFDM QPSK
Outer_Full Highn78(3700-3800MHz) 90M DFT-s-OFDM QPSK
Edge_1RB_Right High

n78(3700-3800MHz) 100M DFT-s-OFDM
BPSK Outer_Full Lown78(3700-3800MHz) 100M DFT-s-OFDM
BPSK Edge_1RB_Left Lown78(3700-3800MHz) 100M DFT-s-OFDM
QPSK Outer_Full Lown78(3700-3800MHz) 100M DFT-s-OFDM
QPSK Edge_1RB_Left Lown78(3700-3800MHz) 100M DFT-s-OFDM
BPSK Outer_Full Highn78(3700-3800MHz) 100M DFT-s-OFDM
BPSK Edge_1RB_Right High





2.7. Radiated Spurious Emissions

2.7.1. Requirement

According to FCC section 24.238(a) for n2, 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.

Additional to FCC section 22.917(a) for n5, 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.

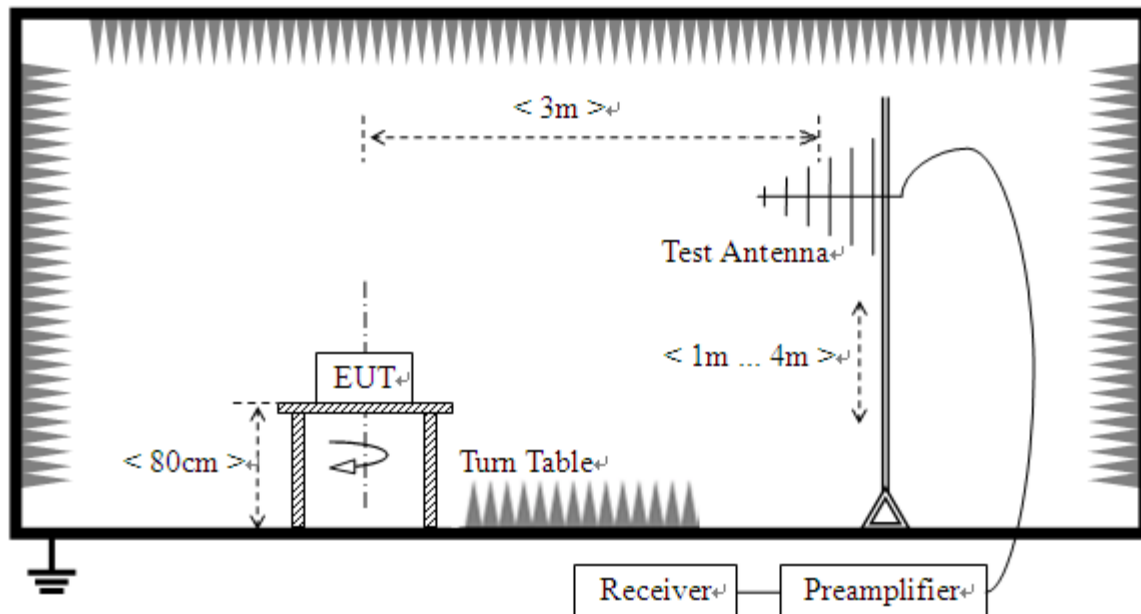
According to FCC section 27.53(h) for n66, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least $43 + 10 \log_{10}(P)$ dB.

According to FCC section 96.41(e) for n48, the conducted power of emissions below 3530 MHz or above 3720 MHz shall not exceed -40dBm/MHz.

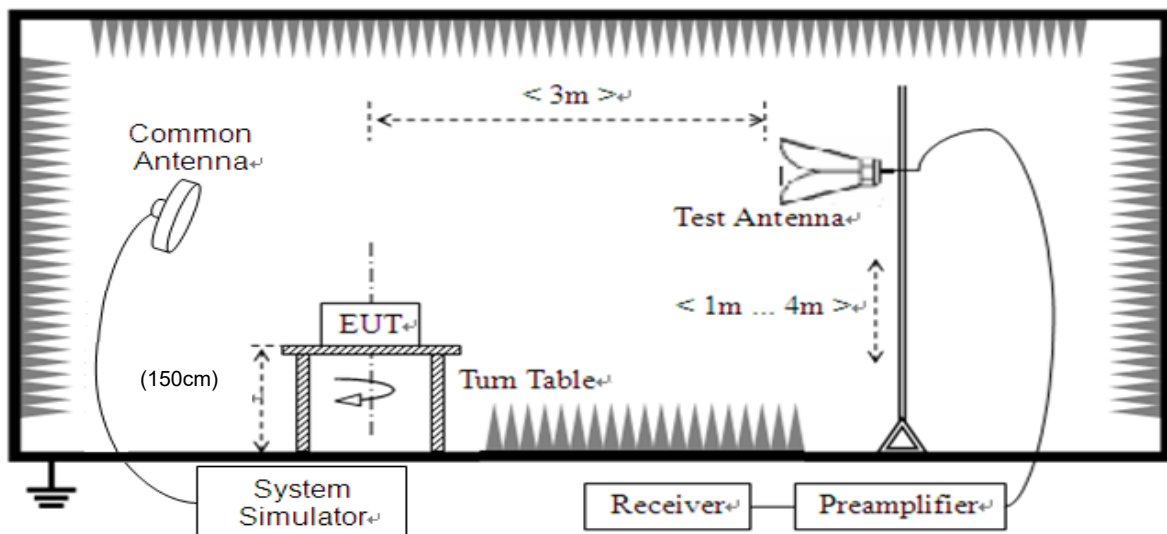
According to FCC section 27.53(l)(2) for n77, for mobile operations in the 3700-3980 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed -13 dBm/MHz.

According to FCC section 27.53(n)(2) for n77, 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.

2.7.2. Test Description



(For the test frequency from 30MHz to 1GHz)



(For the test frequency above 1GHz)

The EUT is located in a 3m Full-Anechoic Chamber, the cable loss, air loss and so on of the site as factors are pre-calibrated using the "Substitution" method, and calculated to correct the reading.

A call is established between the EUT and the SS via a Common Antenna. The EUT is commanded by the SS to operate at the maximum and minimum output power, and only the test result of the maximum output power was recorded.



In the frequency range above 30MHz, Bi-Log Test Antenna (30MHz to 1GHz) and Horn Test Antenna (above 1GHz) are used. Test Antenna is 3m away from the EUT. Test Antenna height is varied from 1m to 4m above the ground and the Turn Table is actuated to turn from 0° to 360° to determine the maximum value of the radiated power. The emission levels at both horizontal and vertical polarizations should be tested. The Filters consists of Notch Filters and High Pass Filter.

Note: When doing measurements above 1GHz, the EUT has been within the 3dB cone width of the horn antenna during horizontal antenna.

2.7.3. Test procedure

KDB 971168 D01v03 Section 5.8 and ANSI/TIA-603-E-2016.

2.7.4. Test Result

The measurement frequency range is from 30MHz to the 10th harmonic of the fundamental frequency. Test Antenna height is varied from 1m to 4m above the ground, and the Turn Table is actuated to turn from 0° to 360°, both horizontal and vertical polarizations of the Test Antenna are used to find the maximum radiated power. Mid channels on all channel bandwidth verified. Only the worst RB size/offset presented.

The substitution corrections are obtained as described below:

$$A_{\text{SUBST}} = P_{\text{SUBST_TX}} - P_{\text{SUBST_RX}} - L_{\text{SUBST_CABLES}} + G_{\text{SUBST_TX_ANT}}$$

$$A_{\text{TOT}} = L_{\text{CABLES}} + A_{\text{SUBST}}$$

Where A_{SUBST} is the final substitution correction including receive antenna gain.

$P_{\text{SUBST_TX}}$ is signal generator level,

$P_{\text{SUBST_RX}}$ is receiver level,

$L_{\text{SUBST_CABLES}}$ is cable losses including TX cable,

$G_{\text{SUBST_TX_ANT}}$ is substitution antenna gain.

A_{TOT} is total correction factor including cable loss and substitution correction

During the test, the data of A_{TOT} was added in the Test Spectrum Analyze, so Spectrum Analyze



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reading is the final values which contain the data of A_{TOT} .

Note1: The power of the EUT transmitting frequency should be ignored.

Note2: All Spurious Emission tests were performed in X, Y, Z axis direction. And only the worst axis test condition was recorded in this test report.

Note3: All bandwidth and modulation were considered and evaluated respectively by performing full test for each band; only the worst cases (Max Bandwidth and QPSK mode) were recorded in this test report.

