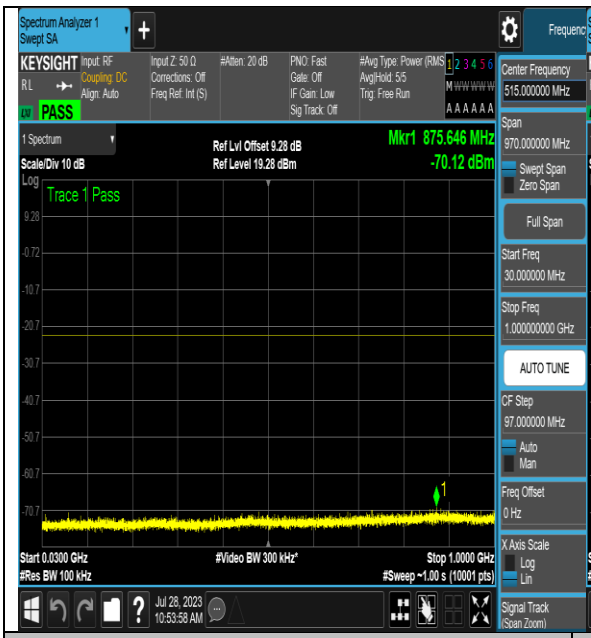
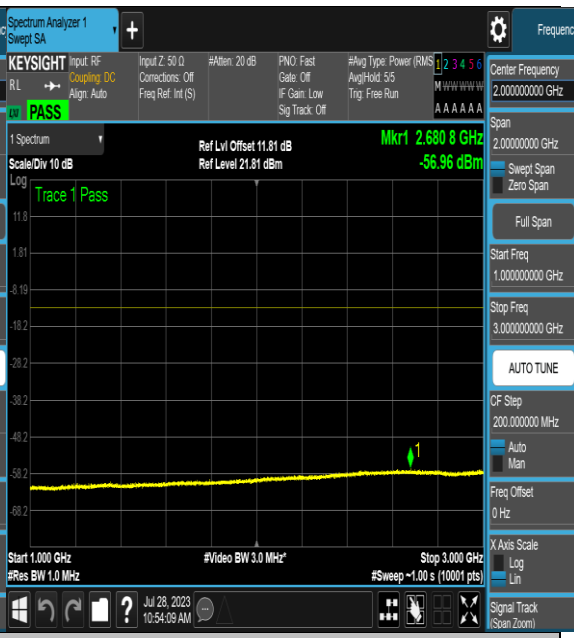
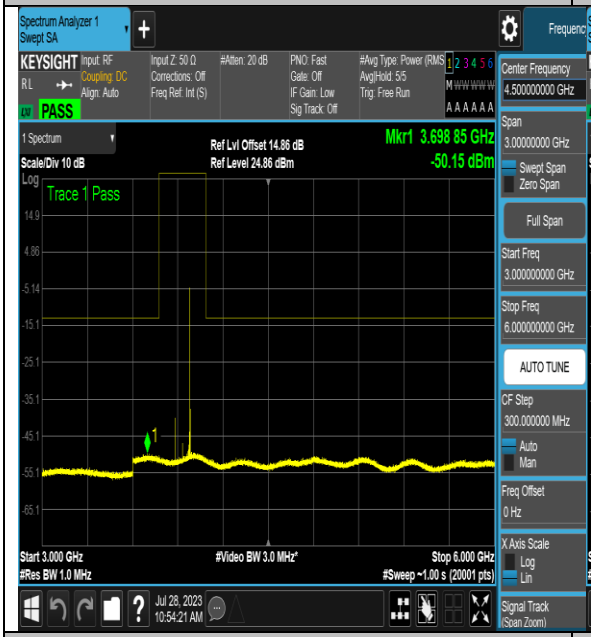



NTNV_N77-3700-3980_PC2_30_100_H_TID5_NS_01_30_1000_#1




NTNV_N77-3700-3980_PC2_30_100_H_TID5_NS_01_1000_3000_#1

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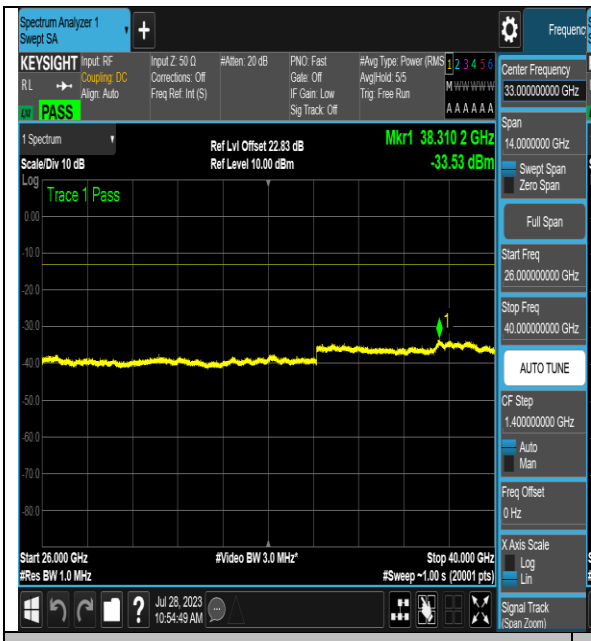


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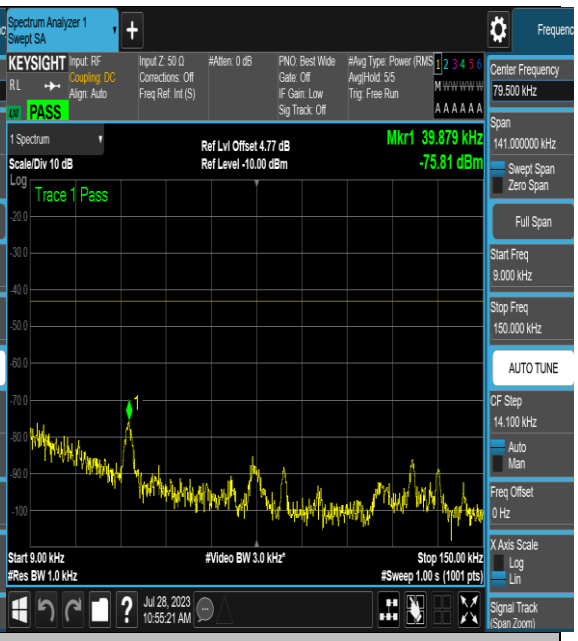


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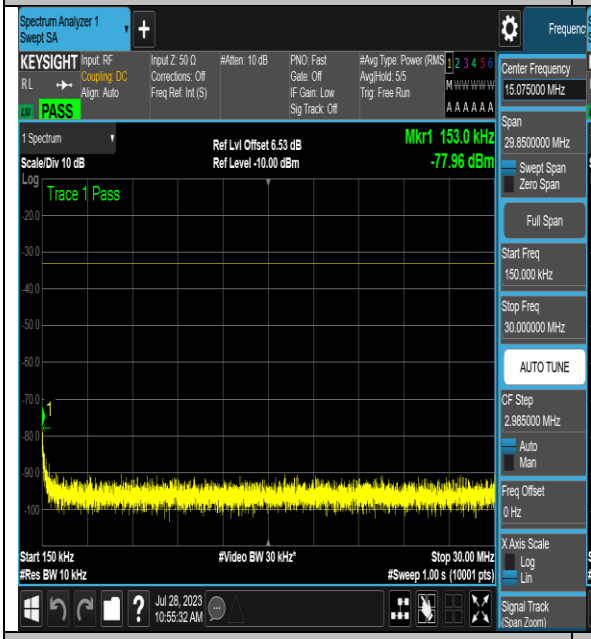
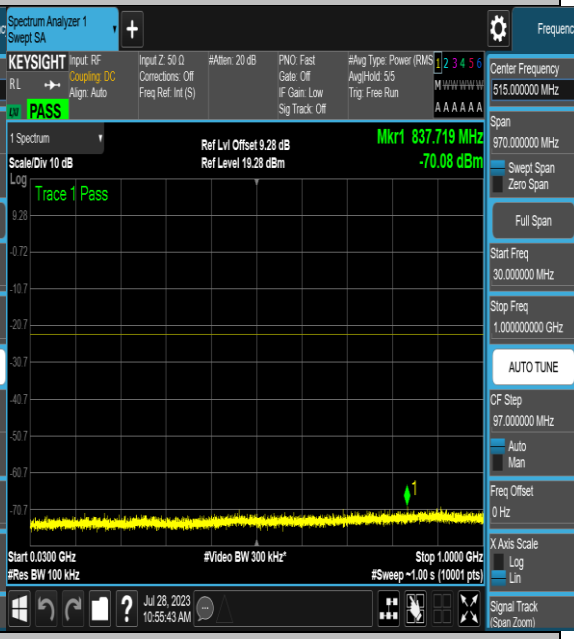



NTNV_N77-3700-3980_PC2_30_100_H_TID18_NS_01_0.15_30_#1

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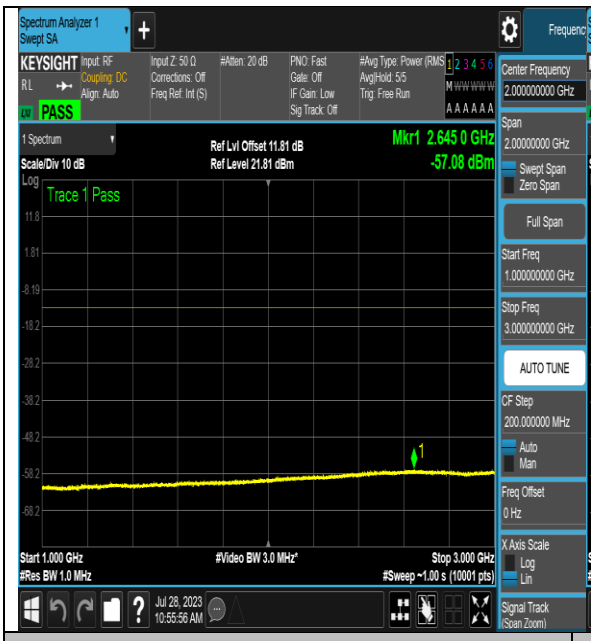
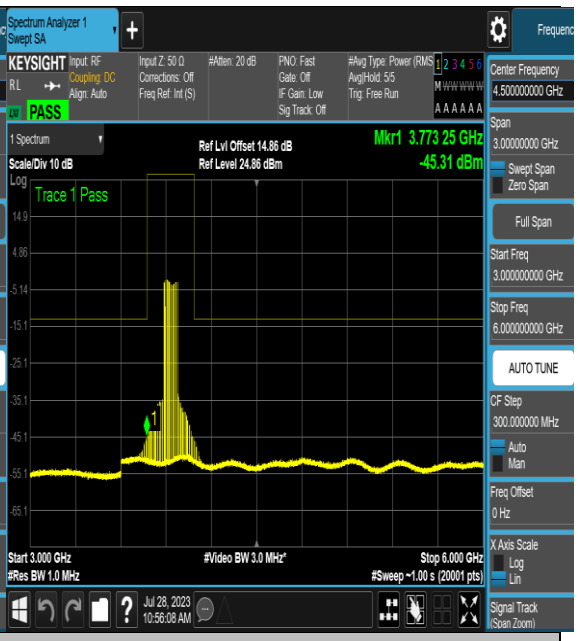



NTNV_N77-3700-3980_PC2_30_100_H_TID18_N S_01_1000_3000_#1

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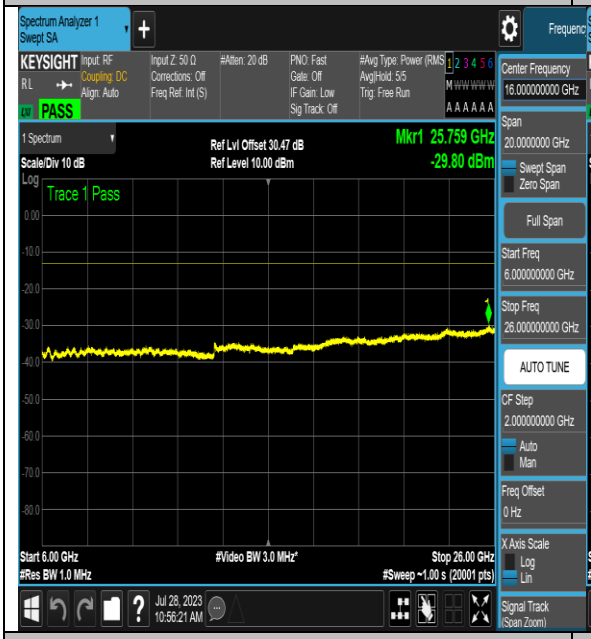


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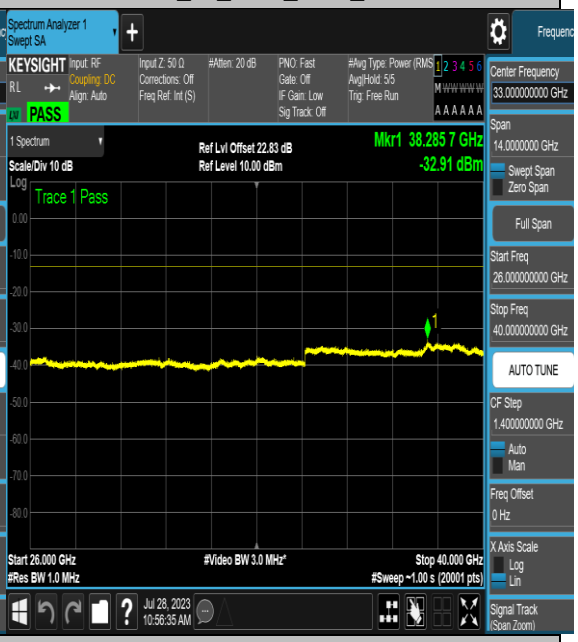


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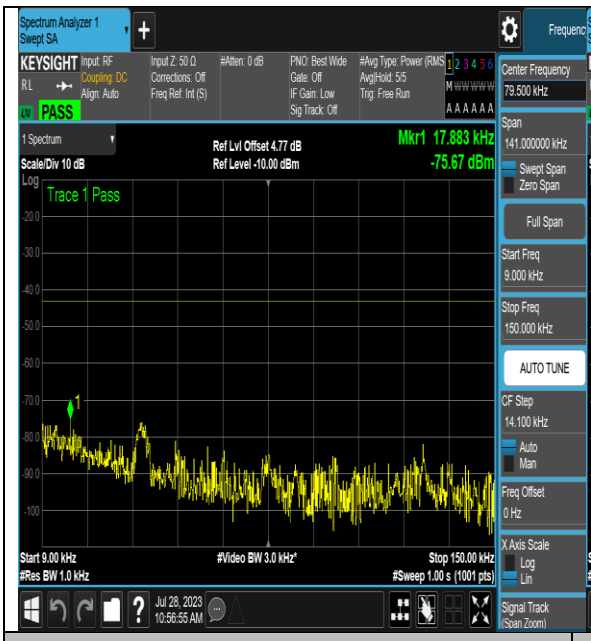


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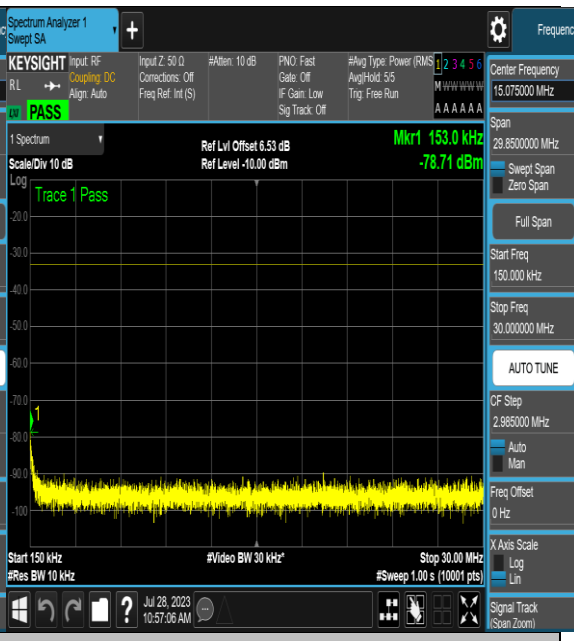
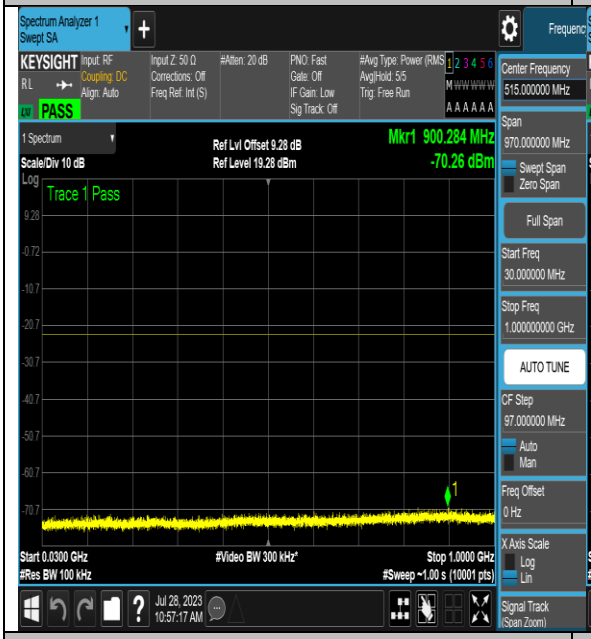



NTNV_N77-3700-3980_PC2_30_100_H_TID16_NS_01_0.15_30_#1

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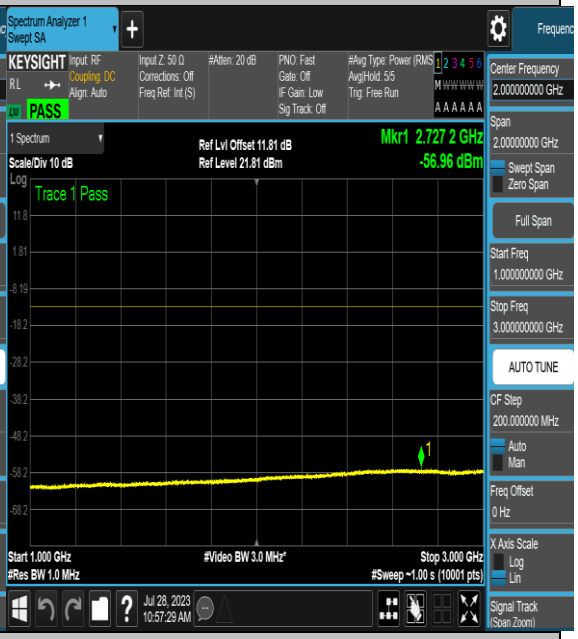


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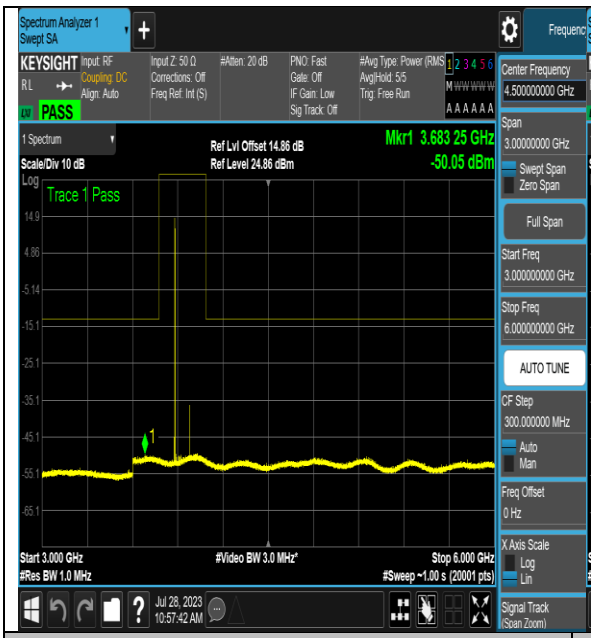
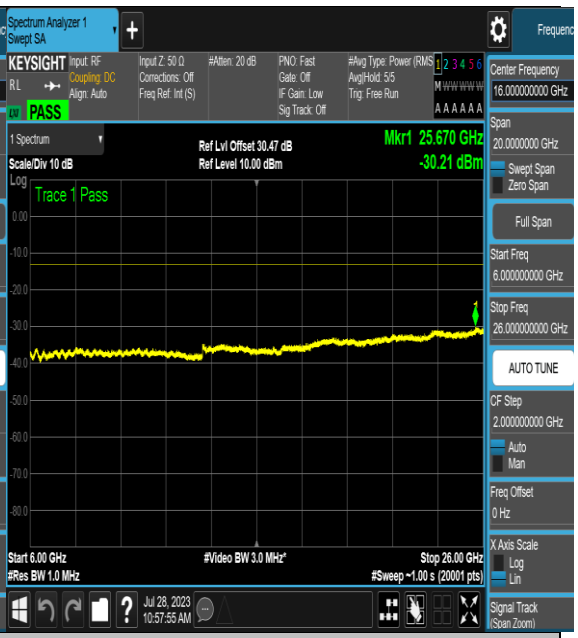
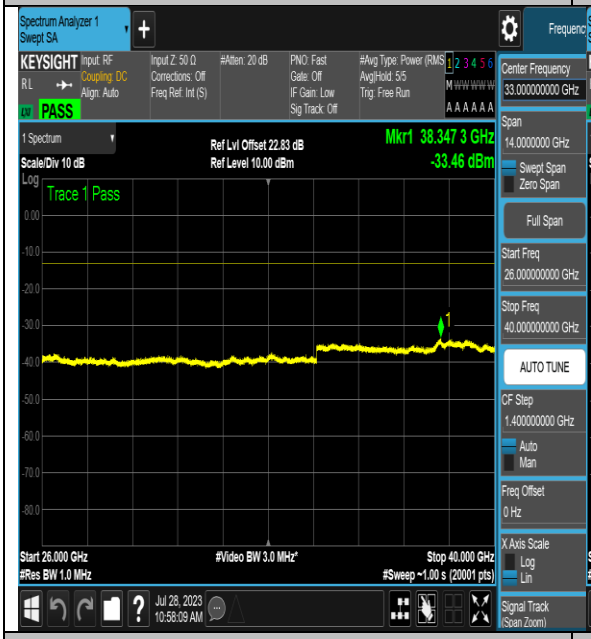


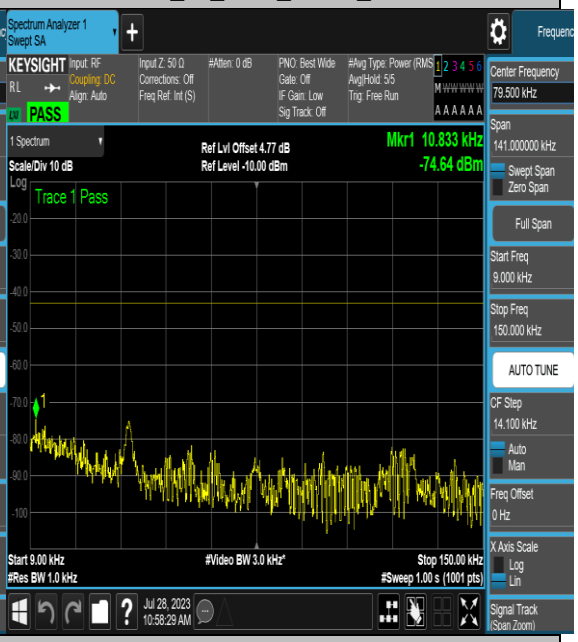

NTNV_N77-3700-3980_PC2_30_100_H_TID16_NS_01_3000_6000_#1



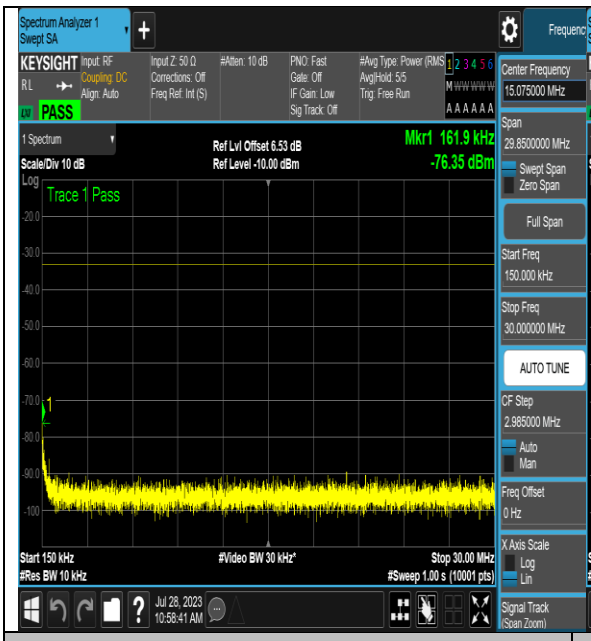

NTNV_N77-3700-3980_PC2_30_100_H_TID16_NS_01_6000_26000_#1




NTNV_N77-3700-3980_PC2_30_100_H_TID16_NS_01_26000_40000_#1




NTNV_N77-3700-3980_PC2_30_100_H_TID17_NS_01_0.009_0.15_#1

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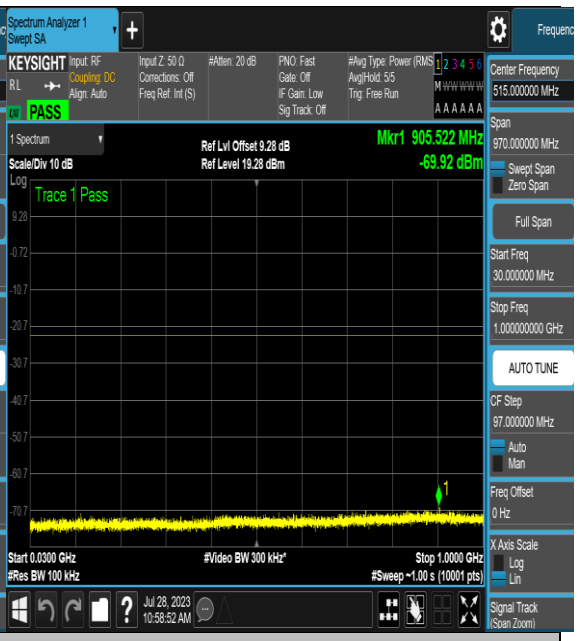
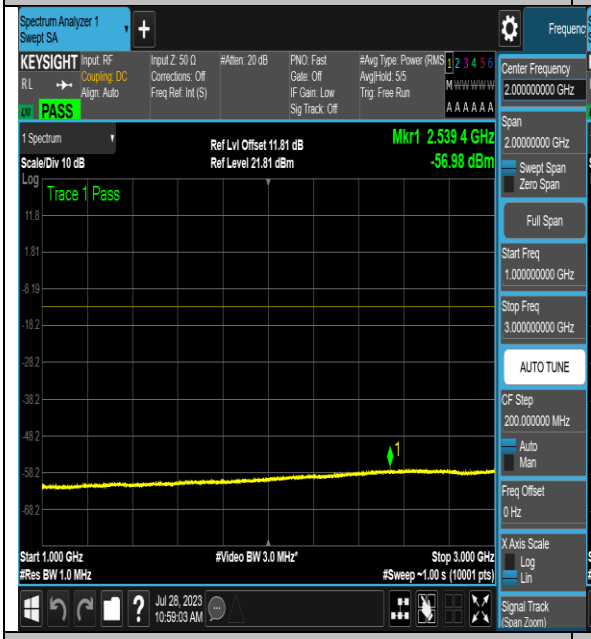



NTNV_N77-3700-3980_PC2_30_100_H_TID17_N S_01_30_1000_#1

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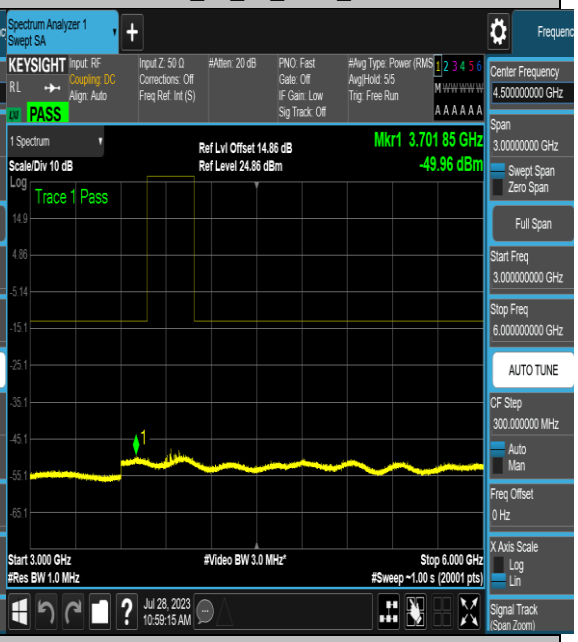
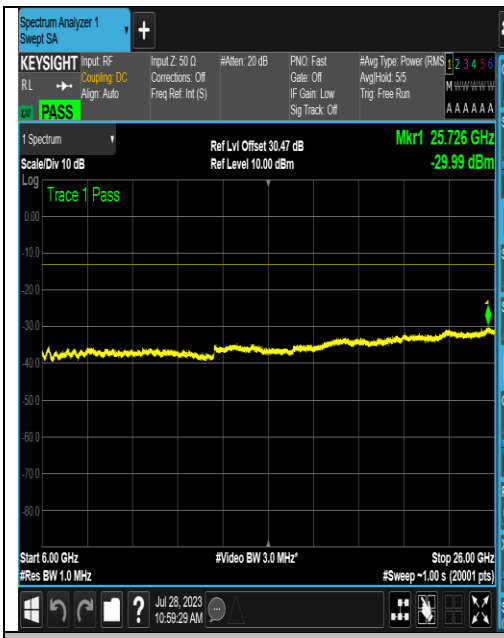



NTNV_N77-3700-3980_PC2_30_100_H_TID17_N S_01_3000_6000_#1




NTNV_N77-3700-3980_PC2_30_100_H_TID17_NS_01_6000_26000_#1

NTNV_N77-3700-3980_PC2_30_100_H_TID17_NS_01_26000_40000_#1

# Appendix F: Frequency Stability for SA

## Test Result

### Frequency Error VS. Voltage

| Voltage | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Band | SCS | Bandwidth | Modulation | Channel | RB Config | Voltage | Temperature | Deviation(Hz) | Deviation (ppm) | Verdict |
| N77-3700-3980 | 30 | 100 | DFT-QPSK | L | Outer_Full | VL | NT | -3.64 | 0.00 | PASS |
| N77-3700-3980 | 30 | 100 | DFT-QPSK | L | Outer_Full | VN | NT | -0.82 | 0.00 | PASS |
| N77-3700-3980 | 30 | 100 | DFT-QPSK | L | Outer_Full | VH | NT | -5.57 | 0.00 | PASS |
| N77-3700-3980 | 30 | 100 | CP-QPSK | L | Outer_Full | VL | NT | -2.77 | 0.00 | PASS |
| N77-3700-3980 | 30 | 100 | CP-QPSK | L | Outer_Full | VN | NT | -8.93 | 0.00 | PASS |
| N77-3700-3980 | 30 | 100 | CP-QPSK | L | Outer_Full | VH | NT | -0.26 | 0.00 | PASS |
| N77-3700-3980 | 30 | 100 | DFT-QPSK | M | Outer_Full | VL | NT | -3.47 | 0.00 | PASS |
| N77-3700-3980 | 30 | 100 | DFT-QPSK | M | Outer_Full | VN | NT | 9.79 | 0.00 | PASS |
| N77-3700-3980 | 30 | 100 | DFT-QPSK | M | Outer_Full | VH | NT | -12.16 | 0.00 | PASS |
| N77-3700-3980 | 30 | 100 | CP-QPSK | M | Outer_Full | VL | NT | 3.24 | 0.00 | PASS |
| N77-3700-3980 | 30 | 100 | CP-QPSK | M | Outer_Full | VN | NT | 1.28 | 0.00 | PASS |
| N77-3700-3980 | 30 | 100 | CP-QPSK | M | Outer_Full | VH | NT | 9.50 | 0.00 | PASS |
| N77-3700-3980 | 30 | 100 | DFT-QPSK | H | Outer_Full | VL | NT | -14.60 | 0.00 | PASS |
| N77-3700-3980 | 30 | 100 | DFT-QPSK | H | Outer_Full | VN | NT | 6.60 | 0.00 | PASS |
| N77-3700-3980 | 30 | 100 | DFT-QPSK | H | Outer_Full | VH | NT | -6.53 | 0.00 | PASS |
| N77-3700-3980 | 30 | 100 | CP-QPSK | H | Outer_Full | VL | NT | -7.13 | 0.00 | PASS |
| N77-370 | 30 | 100 | CP-QPSK | H | Outer_Full | VN | NT | -7.64 | 0.00 | PASS |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 0-3980 | | | | | | | | | | |
| N77-370 0-3980 | 30 | 100 | CP-QPSK | H | Outer_Full | VH | NT | -19.33 | 0.00 | PASS |

**Frequency Error VS. Temperature**

| Voltage | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Band | SCS | Bandwidth | Modulation | Channel | RB Config | Voltage | Temperature | Deviation(Hz) | Deviation (ppm) | Verdict |
| N77-370 0-3980 | 30 | 100 | DFT-QPSK | L | Outer_Full | NV | -30 | -0.835533 | -0.000223 | PASS |
| N77-370 0-3980 | 30 | 100 | DFT-QPSK | L | Outer_Full | NV | -20 | 0.785099 | 0.000209 | PASS |
| N77-370 0-3980 | 30 | 100 | DFT-QPSK | L | Outer_Full | NV | -10 | 3.275596 | 0.000873 | PASS |
| N77-370 0-3980 | 30 | 100 | DFT-QPSK | L | Outer_Full | NV | 0 | 5.265640 | 0.001404 | PASS |
| N77-370 0-3980 | 30 | 100 | DFT-QPSK | L | Outer_Full | NV | 10 | 3.697765 | 0.000986 | PASS |
| N77-370 0-3980 | 30 | 100 | DFT-QPSK | L | Outer_Full | NV | 20 | -8.244035 | -0.002198 | PASS |
| N77-370 0-3980 | 30 | 100 | DFT-QPSK | L | Outer_Full | NV | 30 | -0.538257 | -0.000144 | PASS |
| N77-370 0-3980 | 30 | 100 | DFT-QPSK | L | Outer_Full | NV | 40 | -2.078636 | -0.000554 | PASS |
| N77-370 0-3980 | 30 | 100 | DFT-QPSK | L | Outer_Full | NV | 50 | -0.158939 | -0.000042 | PASS |
| N77-370 0-3980 | 30 | 100 | CP-QPSK | L | Outer_Full | NV | -30 | 2.289112 | 0.000610 | PASS |
| N77-370 0-3980 | 30 | 100 | CP-QPSK | L | Outer_Full | NV | -20 | -2.530471 | -0.000675 | PASS |
| N77-370 0-3980 | 30 | 100 | CP-QPSK | L | Outer_Full | NV | -10 | -7.573061 | -0.002019 | PASS |
| N77-370 0-3980 | 30 | 100 | CP-QPSK | L | Outer_Full | NV | 0 | 3.746589 | 0.000999 | PASS |
| N77-370 0-3980 | 30 | 100 | CP-QPSK | L | Outer_Full | NV | 10 | 2.301677 | 0.000614 | PASS |
| N77-370 0-3980 | 30 | 100 | CP-QPSK | L | Outer_Full | NV | 20 | 3.415848 | 0.000911 | PASS |
| N77-370 0-3980 | 30 | 100 | CP-QPSK | L | Outer_Full | NV | 30 | 10.410516 | 0.002776 | PASS |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| N77-3700-3980 | 30 | 100 | CP-QPSK | L | Outer_Full | NV | 40 | -5.599664 | -0.001493 | PASS |
| N77-3700-3980 | 30 | 100 | CP-QPSK | L | Outer_Full | NV | 50 | -10.693220 | -0.002852 | PASS |
| N77-3700-3980 | 30 | 100 | DFT-QPSK | M | Outer_Full | NV | -30 | -2.776767 | -0.000723 | PASS |
| N77-3700-3980 | 30 | 100 | DFT-QPSK | M | Outer_Full | NV | -20 | -11.370601 | -0.002961 | PASS |
| N77-3700-3980 | 30 | 100 | DFT-QPSK | M | Outer_Full | NV | -10 | 0.590045 | 0.000154 | PASS |
| N77-3700-3980 | 30 | 100 | DFT-QPSK | M | Outer_Full | NV | 0 | 5.074972 | 0.001322 | PASS |
| N77-3700-3980 | 30 | 100 | DFT-QPSK | M | Outer_Full | NV | 10 | -4.304843 | -0.001121 | PASS |
| N77-3700-3980 | 30 | 100 | DFT-QPSK | M | Outer_Full | NV | 20 | -2.285830 | -0.000595 | PASS |
| N77-3700-3980 | 30 | 100 | DFT-QPSK | M | Outer_Full | NV | 30 | 4.259842 | 0.001109 | PASS |
| N77-3700-3980 | 30 | 100 | DFT-QPSK | M | Outer_Full | NV | 40 | 2.775508 | 0.000723 | PASS |
| N77-3700-3980 | 30 | 100 | DFT-QPSK | M | Outer_Full | NV | 50 | 7.748718 | 0.002018 | PASS |
| N77-3700-3980 | 30 | 100 | CP-QPSK | M | Outer_Full | NV | -30 | 5.964956 | 0.001553 | PASS |
| N77-3700-3980 | 30 | 100 | CP-QPSK | M | Outer_Full | NV | -20 | -4.196448 | -0.001093 | PASS |
| N77-3700-3980 | 30 | 100 | CP-QPSK | M | Outer_Full | NV | -10 | -4.115485 | -0.001072 | PASS |
| N77-3700-3980 | 30 | 100 | CP-QPSK | M | Outer_Full | NV | 0 | -5.626961 | -0.001465 | PASS |
| N77-3700-3980 | 30 | 100 | CP-QPSK | M | Outer_Full | NV | 10 | 5.263906 | 0.001371 | PASS |
| N77-3700-3980 | 30 | 100 | CP-QPSK | M | Outer_Full | NV | 20 | 11.169833 | 0.002909 | PASS |
| N77-3700-3980 | 30 | 100 | CP-QPSK | M | Outer_Full | NV | 30 | 2.791793 | 0.000727 | PASS |
| N77-3700-3980 | 30 | 100 | CP-QPSK | M | Outer_Full | NV | 40 | 14.386214 | 0.003746 | PASS |
| N77-3700-3980 | 30 | 100 | CP-QPSK | M | Outer_Full | NV | 50 | -7.046239 | -0.001835 | PASS |
| N77-3700-3980 | 30 | 100 | DFT-QPSK | H | Outer_Full | NV | -30 | -1.820527 | -0.000463 | PASS |

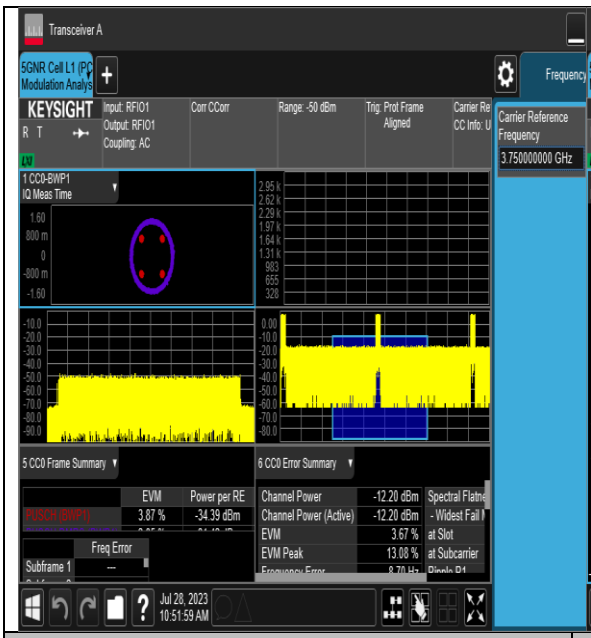
| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| N77-3700-3980 | 30 | 100 | DFT-QPSK | H | Outer_Full | NV | -20 | -24.632523 | -0.006268 | PASS |
| N77-3700-3980 | 30 | 100 | DFT-QPSK | H | Outer_Full | NV | -10 | -3.667800 | -0.000933 | PASS |
| N77-3700-3980 | 30 | 100 | DFT-QPSK | H | Outer_Full | NV | 0 | -2.797795 | -0.000712 | PASS |
| N77-3700-3980 | 30 | 100 | DFT-QPSK | H | Outer_Full | NV | 10 | -4.670930 | -0.001189 | PASS |
| N77-3700-3980 | 30 | 100 | DFT-QPSK | H | Outer_Full | NV | 20 | 4.005404 | 0.001019 | PASS |
| N77-3700-3980 | 30 | 100 | DFT-QPSK | H | Outer_Full | NV | 30 | 7.836030 | 0.001994 | PASS |
| N77-3700-3980 | 30 | 100 | DFT-QPSK | H | Outer_Full | NV | 40 | -4.754951 | -0.001210 | PASS |
| N77-3700-3980 | 30 | 100 | DFT-QPSK | H | Outer_Full | NV | 50 | -12.297827 | -0.003129 | PASS |
| N77-3700-3980 | 30 | 100 | CP-QPSK | H | Outer_Full | NV | -30 | 0.664440 | 0.000169 | PASS |
| N77-3700-3980 | 30 | 100 | CP-QPSK | H | Outer_Full | NV | -20 | -9.294487 | -0.002365 | PASS |
| N77-3700-3980 | 30 | 100 | CP-QPSK | H | Outer_Full | NV | -10 | -17.403988 | -0.004429 | PASS |
| N77-3700-3980 | 30 | 100 | CP-QPSK | H | Outer_Full | NV | 0 | -6.193289 | -0.001576 | PASS |
| N77-3700-3980 | 30 | 100 | CP-QPSK | H | Outer_Full | NV | 10 | 2.809347 | 0.000715 | PASS |
| N77-3700-3980 | 30 | 100 | CP-QPSK | H | Outer_Full | NV | 20 | -14.803687 | -0.003767 | PASS |
| N77-3700-3980 | 30 | 100 | CP-QPSK | H | Outer_Full | NV | 30 | -14.261305 | -0.003629 | PASS |
| N77-3700-3980 | 30 | 100 | CP-QPSK | H | Outer_Full | NV | 40 | -8.470902 | -0.002155 | PASS |
| N77-3700-3980 | 30 | 100 | CP-QPSK | H | Outer_Full | NV | 50 | -11.398089 | -0.002900 | PASS |

# Appendix F: Modulation characteristics for SA

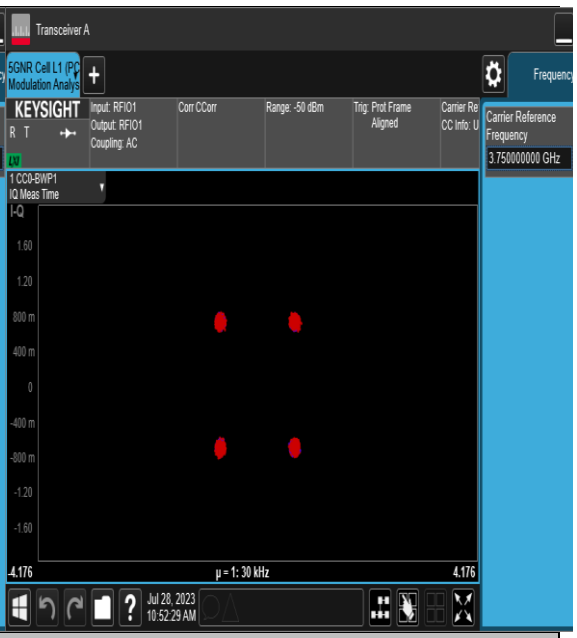
## Test Result

| Band | SCS | Bandwidth | Modulation | Channel | RB Config | Result | Verdict |
|---|---|---|---|---|---|---|---|
| N77-3700-3980 | 30 | 100 | DFT-QPSK | L | Outer_Full | see graph | PASS |
| N77-3700-3980 | 30 | 100 | CP-QPSK | L | Outer_Full | see graph | PASS |
| N77-3700-3980 | 30 | 100 | DFT-QPSK | M | Outer_Full | see graph | PASS |
| N77-3700-3980 | 30 | 100 | CP-QPSK | M | Outer_Full | see graph | PASS |
| N77-3700-3980 | 30 | 100 | DFT-QPSK | H | Outer_Full | see graph | PASS |
| N77-3700-3980 | 30 | 100 | CP-QPSK | H | Outer_Full | see graph | PASS |

## Test Graphs




NTNV,N77-3700-3980,_PC2,_30,100,L,TID2,#1

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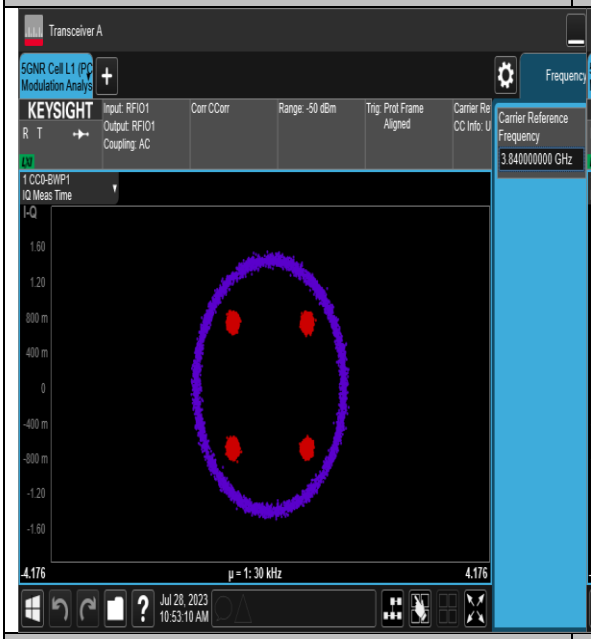
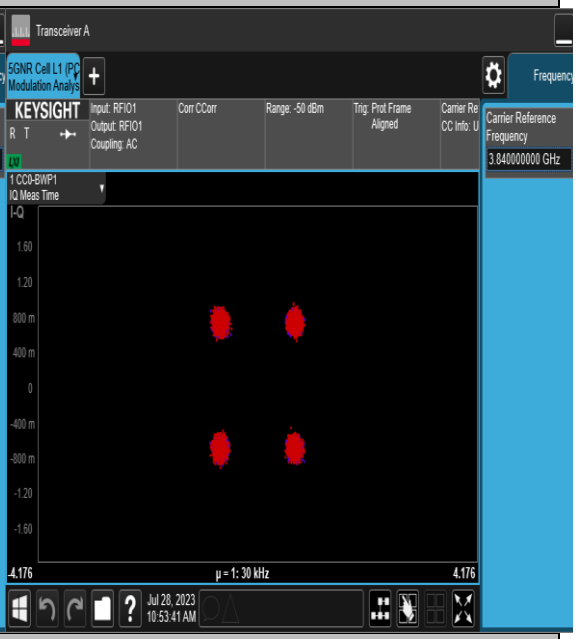
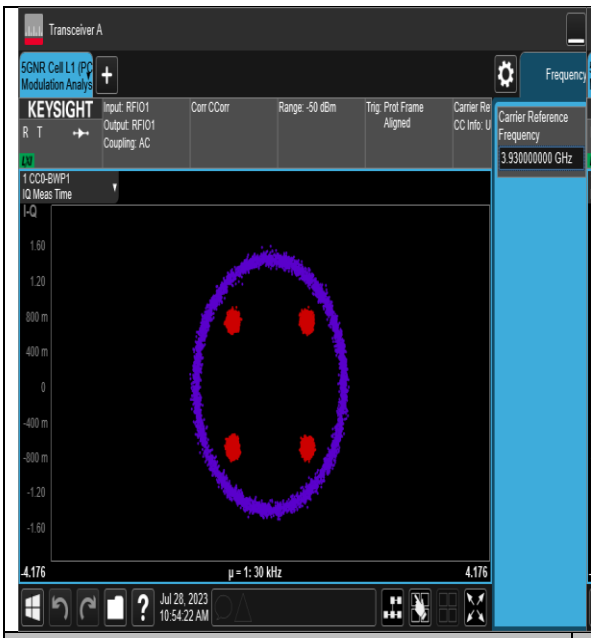


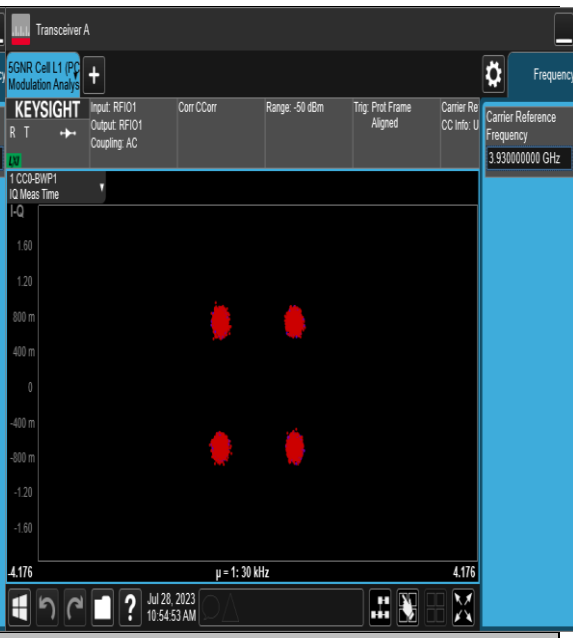

NTNV,N77-3700-3980,_PC2,_30,100,M,TID2,#1




NTNV,N77-3700-3980,_PC2,_30,100,M,TID6,#1




NTNV,N77-3700-3980,_PC2,_30,100,H,TID2,#1




NTNV,N77-3700-3980,_PC2,_30,100,H,TID6,#1