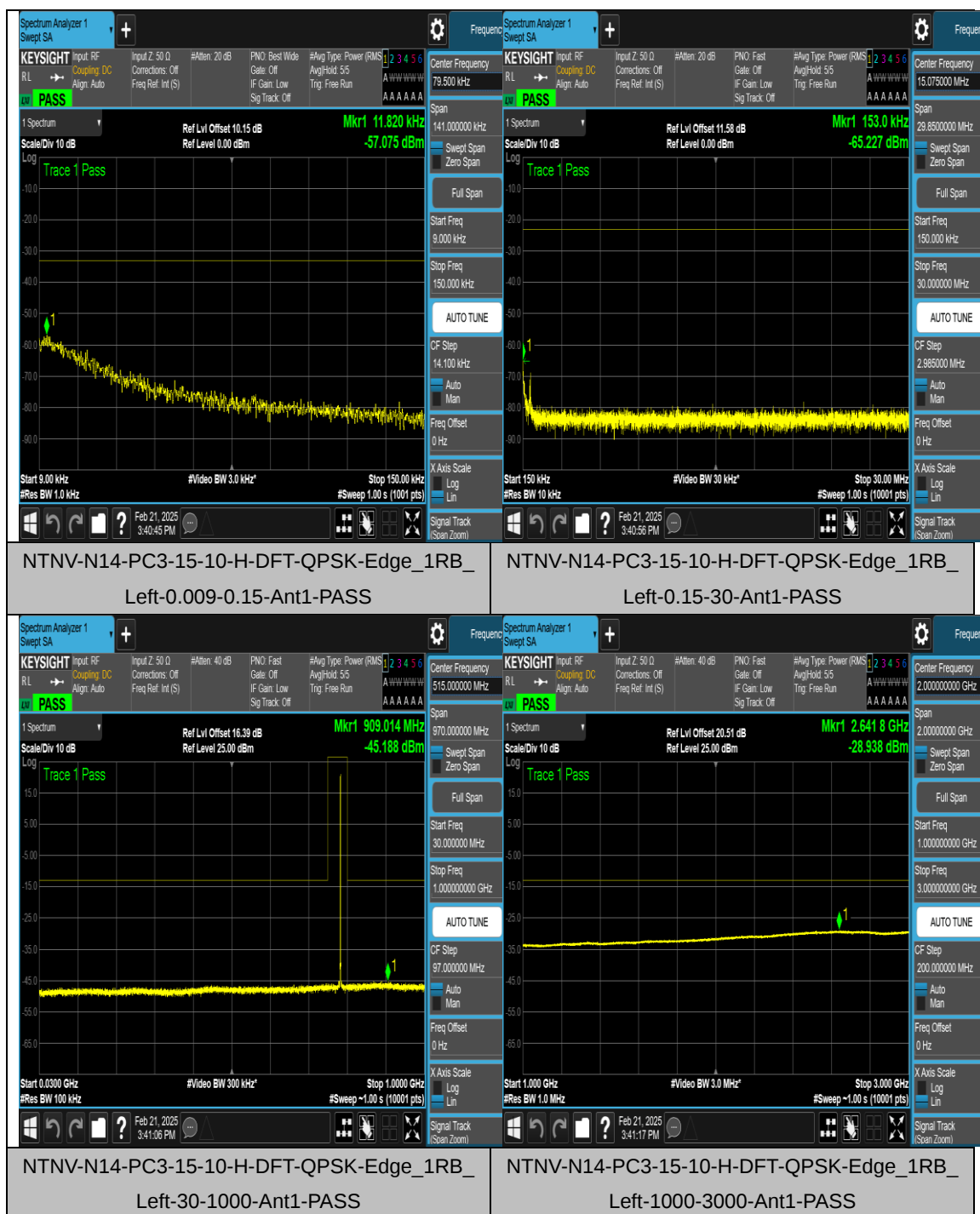












## Appendix F: Frequency Stability for SA

### Test Result

#### Frequency Error VS. Voltage

| Voltage |     |           |            |         |            |         |             |               |                 |         |
|---------|-----|-----------|------------|---------|------------|---------|-------------|---------------|-----------------|---------|
| Band    | SCS | Bandwidth | Modulation | Channel | RB Config  | Voltage | Temperature | Deviation(Hz) | Deviation (ppm) | Verdict |
| N14     | 15  | 5         | DFT-QPSK   | L       | Outer_Full | VL      | NT          | 0.230000      | 0.000291        | PASS    |
| N14     | 15  | 5         | DFT-QPSK   | L       | Outer_Full | VN      | NT          | 0.720000      | 0.000911        | PASS    |
| N14     | 15  | 5         | DFT-QPSK   | L       | Outer_Full | VH      | NT          | 0.130000      | 0.000164        | PASS    |
| N14     | 15  | 5         | DFT-16QAM  | L       | Outer_Full | VL      | NT          | -0.240000     | -0.000304       | PASS    |
| N14     | 15  | 5         | DFT-16QAM  | L       | Outer_Full | VN      | NT          | -0.570000     | -0.000721       | PASS    |
| N14     | 15  | 5         | DFT-16QAM  | L       | Outer_Full | VH      | NT          | -0.400000     | -0.000506       | PASS    |
| N14     | 15  | 5         | DFT-QPSK   | M       | Outer_Full | VL      | NT          | -0.060000     | -0.000076       | PASS    |
| N14     | 15  | 5         | DFT-QPSK   | M       | Outer_Full | VN      | NT          | 0.070000      | 0.000088        | PASS    |
| N14     | 15  | 5         | DFT-QPSK   | M       | Outer_Full | VH      | NT          | 0.380000      | 0.000479        | PASS    |
| N14     | 15  | 5         | DFT-16QAM  | M       | Outer_Full | VL      | NT          | 0.280000      | 0.000353        | PASS    |
| N14     | 15  | 5         | DFT-16QAM  | M       | Outer_Full | VN      | NT          | 0.440000      | 0.000555        | PASS    |
| N14     | 15  | 5         | DFT-16QAM  | M       | Outer_Full | VH      | NT          | 0.600000      | 0.000757        | PASS    |
| N14     | 15  | 5         | DFT-QPSK   | H       | Outer_Full | VL      | NT          | -1.220000     | -0.001534       | PASS    |
| N14     | 15  | 5         | DFT-QPSK   | H       | Outer_Full | VN      | NT          | -0.190000     | -0.000239       | PASS    |
| N14     | 15  | 5         | DFT-QPSK   | H       | Outer_Full | VH      | NT          | 0.840000      | 0.001056        | PASS    |
| N14     | 15  | 5         | DFT-16QAM  | H       | Outer_Full | VL      | NT          | 0.770000      | 0.000968        | PASS    |
| N14     | 15  | 5         | DFT-16QAM  | H       | Outer_Full | VN      | NT          | -0.370000     | -0.000465       | PASS    |
| N14     | 15  | 5         | DFT-16QAM  | H       | Outer_Full | VH      | NT          | 0.070000      | 0.000088        | PASS    |
| N14     | 15  | 10        | DFT-QPSK   | L       | Outer_Full | VL      | NT          | -1.400000     | -0.001765       | PASS    |
| N14     | 15  | 10        | DFT-QPSK   | L       | Outer_Full | VN      | NT          | -0.050000     | -0.000063       | PASS    |
| N14     | 15  | 10        | DFT-QPSK   | L       | Outer_Full | VH      | NT          | 0.010000      | 0.000013        | PASS    |
| N14     | 15  | 10        | DFT-16QAM  | L       | Outer_Full | VL      | NT          | 0.440000      | 0.000555        | PASS    |
| N14     | 15  | 10        | DFT-16QAM  | L       | Outer_Full | VN      | NT          | 0.120000      | 0.000151        | PASS    |
| N14     | 15  | 10        | DFT-16QAM  | L       | Outer_Full | VH      | NT          | -0.410000     | -0.000517       | PASS    |
| N14     | 15  | 10        | DFT-QPSK   | M       | Outer_Full | VL      | NT          | 1.390000      | 0.001753        | PASS    |
| N14     | 15  | 10        | DFT-QPSK   | M       | Outer_Full | VN      | NT          | -0.350000     | -0.000441       | PASS    |
| N14     | 15  | 10        | DFT-QPSK   | M       | Outer_Full | VH      | NT          | -0.370000     | -0.000467       | PASS    |
| N14     | 15  | 10        | DFT-16QAM  | M       | Outer_Full | VL      | NT          | -0.430000     | -0.000542       | PASS    |
| N14     | 15  | 10        | DFT-16QAM  | M       | Outer_Full | VN      | NT          | -0.370000     | -0.000467       | PASS    |
| N14     | 15  | 10        | DFT-16QAM  | M       | Outer_Full | VH      | NT          | -0.420000     | -0.000530       | PASS    |
| N14     | 15  | 10        | DFT-QPSK   | H       | Outer_Full | VL      | NT          | 0.630000      | 0.000794        | PASS    |
| N14     | 15  | 10        | DFT-QPSK   | H       | Outer_Full | VN      | NT          | -1.120000     | -0.001412       | PASS    |

|     |    |    |           |   |            |    |    |           |           |      |
|-----|----|----|-----------|---|------------|----|----|-----------|-----------|------|
| N14 | 15 | 10 | DFT-QPSK  | H | Outer_Full | VH | NT | 0.580000  | 0.000731  | PASS |
| N14 | 15 | 10 | DFT-16QAM | H | Outer_Full | VL | NT | -0.010000 | -0.000013 | PASS |
| N14 | 15 | 10 | DFT-16QAM | H | Outer_Full | VN | NT | -0.690000 | -0.000870 | PASS |
| N14 | 15 | 10 | DFT-16QAM | H | Outer_Full | VH | NT | 1.240000  | 0.001564  | PASS |

### Frequency Error VS. Temperature

| Voltage |     |           |            |         |            |         |             |               |                 |         |
|---------|-----|-----------|------------|---------|------------|---------|-------------|---------------|-----------------|---------|
| Band    | SCS | Bandwidth | Modulation | Channel | RB Config  | Voltage | Temperature | Deviation(Hz) | Deviation (ppm) | Verdict |
| N14     | 15  | 5         | DFT-QPSK   | L       | Outer_Full | NV      | -30         | -0.260000     | -0.000329       | PASS    |
| N14     | 15  | 5         | DFT-QPSK   | L       | Outer_Full | NV      | -20         | -0.050000     | -0.000063       | PASS    |
| N14     | 15  | 5         | DFT-QPSK   | L       | Outer_Full | NV      | -10         | -0.100000     | -0.000127       | PASS    |
| N14     | 15  | 5         | DFT-QPSK   | L       | Outer_Full | NV      | 0           | 1.040000      | 0.001316        | PASS    |
| N14     | 15  | 5         | DFT-QPSK   | L       | Outer_Full | NV      | 10          | 0.880000      | 0.001113        | PASS    |
| N14     | 15  | 5         | DFT-QPSK   | L       | Outer_Full | NV      | 20          | -0.030000     | -0.000038       | PASS    |
| N14     | 15  | 5         | DFT-QPSK   | L       | Outer_Full | NV      | 30          | 0.550000      | 0.000696        | PASS    |
| N14     | 15  | 5         | DFT-QPSK   | L       | Outer_Full | NV      | 40          | -1.690000     | -0.002138       | PASS    |
| N14     | 15  | 5         | DFT-QPSK   | L       | Outer_Full | NV      | 50          | -0.200000     | -0.000253       | PASS    |
| N14     | 15  | 5         | DFT-16QAM  | L       | Outer_Full | NV      | -30         | 0.150000      | 0.000190        | PASS    |
| N14     | 15  | 5         | DFT-16QAM  | L       | Outer_Full | NV      | -20         | 0.740000      | 0.000936        | PASS    |
| N14     | 15  | 5         | DFT-16QAM  | L       | Outer_Full | NV      | -10         | 0.260000      | 0.000329        | PASS    |
| N14     | 15  | 5         | DFT-16QAM  | L       | Outer_Full | NV      | 0           | -1.710000     | -0.002163       | PASS    |
| N14     | 15  | 5         | DFT-16QAM  | L       | Outer_Full | NV      | 10          | -1.890000     | -0.002391       | PASS    |
| N14     | 15  | 5         | DFT-16QAM  | L       | Outer_Full | NV      | 20          | -0.430000     | -0.000544       | PASS    |
| N14     | 15  | 5         | DFT-16QAM  | L       | Outer_Full | NV      | 30          | 0.110000      | 0.000139        | PASS    |
| N14     | 15  | 5         | DFT-16QAM  | L       | Outer_Full | NV      | 40          | -1.130000     | -0.001429       | PASS    |
| N14     | 15  | 5         | DFT-16QAM  | L       | Outer_Full | NV      | 50          | -1.030000     | -0.001303       | PASS    |
| N14     | 15  | 5         | DFT-QPSK   | M       | Outer_Full | NV      | -30         | 0.480000      | 0.000605        | PASS    |
| N14     | 15  | 5         | DFT-QPSK   | M       | Outer_Full | NV      | -20         | 0.420000      | 0.000530        | PASS    |
| N14     | 15  | 5         | DFT-QPSK   | M       | Outer_Full | NV      | -10         | 0.620000      | 0.000782        | PASS    |
| N14     | 15  | 5         | DFT-QPSK   | M       | Outer_Full | NV      | 0           | 0.410000      | 0.000517        | PASS    |
| N14     | 15  | 5         | DFT-QPSK   | M       | Outer_Full | NV      | 10          | -1.250000     | -0.001576       | PASS    |
| N14     | 15  | 5         | DFT-QPSK   | M       | Outer_Full | NV      | 20          | 0.540000      | 0.000681        | PASS    |
| N14     | 15  | 5         | DFT-QPSK   | M       | Outer_Full | NV      | 30          | 0.810000      | 0.001021        | PASS    |
| N14     | 15  | 5         | DFT-QPSK   | M       | Outer_Full | NV      | 40          | -0.150000     | -0.000189       | PASS    |
| N14     | 15  | 5         | DFT-QPSK   | M       | Outer_Full | NV      | 50          | 0.700000      | 0.000883        | PASS    |
| N14     | 15  | 5         | DFT-16QAM  | M       | Outer_Full | NV      | -30         | 0.410000      | 0.000517        | PASS    |
| N14     | 15  | 5         | DFT-16QAM  | M       | Outer_Full | NV      | -20         | -0.280000     | -0.000353       | PASS    |
| N14     | 15  | 5         | DFT-16QAM  | M       | Outer_Full | NV      | -10         | 0.230000      | 0.000290        | PASS    |

|     |    |    |           |   |            |    |     |           |           |      |
|-----|----|----|-----------|---|------------|----|-----|-----------|-----------|------|
| N14 | 15 | 5  | DFT-16QAM | M | Outer_Full | NV | 0   | -0.530000 | -0.000668 | PASS |
| N14 | 15 | 5  | DFT-16QAM | M | Outer_Full | NV | 10  | 0.580000  | 0.000731  | PASS |
| N14 | 15 | 5  | DFT-16QAM | M | Outer_Full | NV | 20  | 0.890000  | 0.001122  | PASS |
| N14 | 15 | 5  | DFT-16QAM | M | Outer_Full | NV | 30  | 0.540000  | 0.000681  | PASS |
| N14 | 15 | 5  | DFT-16QAM | M | Outer_Full | NV | 40  | 0.860000  | 0.001084  | PASS |
| N14 | 15 | 5  | DFT-16QAM | M | Outer_Full | NV | 50  | 0.370000  | 0.000467  | PASS |
| N14 | 15 | 5  | DFT-QPSK  | H | Outer_Full | NV | -30 | 0.350000  | 0.000440  | PASS |
| N14 | 15 | 5  | DFT-QPSK  | H | Outer_Full | NV | -20 | -0.910000 | -0.001144 | PASS |
| N14 | 15 | 5  | DFT-QPSK  | H | Outer_Full | NV | -10 | -0.450000 | -0.000566 | PASS |
| N14 | 15 | 5  | DFT-QPSK  | H | Outer_Full | NV | 0   | -1.150000 | -0.001446 | PASS |
| N14 | 15 | 5  | DFT-QPSK  | H | Outer_Full | NV | 10  | -0.700000 | -0.000880 | PASS |
| N14 | 15 | 5  | DFT-QPSK  | H | Outer_Full | NV | 20  | -0.300000 | -0.000377 | PASS |
| N14 | 15 | 5  | DFT-QPSK  | H | Outer_Full | NV | 30  | -1.010000 | -0.001270 | PASS |
| N14 | 15 | 5  | DFT-QPSK  | H | Outer_Full | NV | 40  | -0.920000 | -0.001157 | PASS |
| N14 | 15 | 5  | DFT-QPSK  | H | Outer_Full | NV | 50  | -0.710000 | -0.000893 | PASS |
| N14 | 15 | 5  | DFT-16QAM | H | Outer_Full | NV | -30 | 0.010000  | 0.000013  | PASS |
| N14 | 15 | 5  | DFT-16QAM | H | Outer_Full | NV | -20 | 0.240000  | 0.000302  | PASS |
| N14 | 15 | 5  | DFT-16QAM | H | Outer_Full | NV | -10 | 0.190000  | 0.000239  | PASS |
| N14 | 15 | 5  | DFT-16QAM | H | Outer_Full | NV | 0   | -0.230000 | -0.000289 | PASS |
| N14 | 15 | 5  | DFT-16QAM | H | Outer_Full | NV | 10  | 0.070000  | 0.000088  | PASS |
| N14 | 15 | 5  | DFT-16QAM | H | Outer_Full | NV | 20  | -1.260000 | -0.001584 | PASS |
| N14 | 15 | 5  | DFT-16QAM | H | Outer_Full | NV | 30  | -1.850000 | -0.002326 | PASS |
| N14 | 15 | 5  | DFT-16QAM | H | Outer_Full | NV | 40  | -0.580000 | -0.000729 | PASS |
| N14 | 15 | 5  | DFT-16QAM | H | Outer_Full | NV | 50  | -2.120000 | -0.002665 | PASS |
| N14 | 15 | 10 | DFT-QPSK  | L | Outer_Full | NV | -30 | 0.050000  | 0.000063  | PASS |
| N14 | 15 | 10 | DFT-QPSK  | L | Outer_Full | NV | -20 | 1.010000  | 0.001274  | PASS |
| N14 | 15 | 10 | DFT-QPSK  | L | Outer_Full | NV | -10 | -0.190000 | -0.000240 | PASS |
| N14 | 15 | 10 | DFT-QPSK  | L | Outer_Full | NV | 0   | 1.120000  | 0.001412  | PASS |
| N14 | 15 | 10 | DFT-QPSK  | L | Outer_Full | NV | 10  | 0.200000  | 0.000252  | PASS |
| N14 | 15 | 10 | DFT-QPSK  | L | Outer_Full | NV | 20  | 0.470000  | 0.000593  | PASS |
| N14 | 15 | 10 | DFT-QPSK  | L | Outer_Full | NV | 30  | -0.500000 | -0.000631 | PASS |
| N14 | 15 | 10 | DFT-QPSK  | L | Outer_Full | NV | 40  | 0.510000  | 0.000643  | PASS |
| N14 | 15 | 10 | DFT-QPSK  | L | Outer_Full | NV | 50  | 1.820000  | 0.002295  | PASS |
| N14 | 15 | 10 | DFT-16QAM | L | Outer_Full | NV | -30 | 0.750000  | 0.000946  | PASS |
| N14 | 15 | 10 | DFT-16QAM | L | Outer_Full | NV | -20 | 0.600000  | 0.000757  | PASS |
| N14 | 15 | 10 | DFT-16QAM | L | Outer_Full | NV | -10 | -0.830000 | -0.001047 | PASS |
| N14 | 15 | 10 | DFT-16QAM | L | Outer_Full | NV | 0   | 0.750000  | 0.000946  | PASS |
| N14 | 15 | 10 | DFT-16QAM | L | Outer_Full | NV | 10  | 0.440000  | 0.000555  | PASS |
| N14 | 15 | 10 | DFT-16QAM | L | Outer_Full | NV | 20  | 0.800000  | 0.001008  | PASS |
| N14 | 15 | 10 | DFT-16QAM | L | Outer_Full | NV | 30  | -0.990000 | -0.001248 | PASS |

|     |    |    |           |   |            |    |     |           |           |      |
|-----|----|----|-----------|---|------------|----|-----|-----------|-----------|------|
| N14 | 15 | 10 | DFT-16QAM | L | Outer_Full | NV | 40  | 1.240000  | 0.001564  | PASS |
| N14 | 15 | 10 | DFT-16QAM | L | Outer_Full | NV | 50  | 0.540000  | 0.000681  | PASS |
| N14 | 15 | 10 | DFT-QPSK  | M | Outer_Full | NV | -30 | 0.540000  | 0.000681  | PASS |
| N14 | 15 | 10 | DFT-QPSK  | M | Outer_Full | NV | -20 | -0.070000 | -0.000088 | PASS |
| N14 | 15 | 10 | DFT-QPSK  | M | Outer_Full | NV | -10 | 1.680000  | 0.002119  | PASS |
| N14 | 15 | 10 | DFT-QPSK  | M | Outer_Full | NV | 0   | 0.830000  | 0.001047  | PASS |
| N14 | 15 | 10 | DFT-QPSK  | M | Outer_Full | NV | 10  | 1.340000  | 0.001690  | PASS |
| N14 | 15 | 10 | DFT-QPSK  | M | Outer_Full | NV | 20  | -0.170000 | -0.000214 | PASS |
| N14 | 15 | 10 | DFT-QPSK  | M | Outer_Full | NV | 30  | -0.070000 | -0.000088 | PASS |
| N14 | 15 | 10 | DFT-QPSK  | M | Outer_Full | NV | 40  | 1.030000  | 0.001299  | PASS |
| N14 | 15 | 10 | DFT-QPSK  | M | Outer_Full | NV | 50  | -0.880000 | -0.001110 | PASS |
| N14 | 15 | 10 | DFT-16QAM | M | Outer_Full | NV | -30 | 0.940000  | 0.001185  | PASS |
| N14 | 15 | 10 | DFT-16QAM | M | Outer_Full | NV | -20 | -0.970000 | -0.001223 | PASS |
| N14 | 15 | 10 | DFT-16QAM | M | Outer_Full | NV | -10 | 0.510000  | 0.000643  | PASS |
| N14 | 15 | 10 | DFT-16QAM | M | Outer_Full | NV | 0   | -0.370000 | -0.000467 | PASS |
| N14 | 15 | 10 | DFT-16QAM | M | Outer_Full | NV | 10  | 0.630000  | 0.000794  | PASS |
| N14 | 15 | 10 | DFT-16QAM | M | Outer_Full | NV | 20  | 0.710000  | 0.000895  | PASS |
| N14 | 15 | 10 | DFT-16QAM | M | Outer_Full | NV | 30  | -0.440000 | -0.000555 | PASS |
| N14 | 15 | 10 | DFT-16QAM | M | Outer_Full | NV | 40  | 0.830000  | 0.001047  | PASS |
| N14 | 15 | 10 | DFT-16QAM | M | Outer_Full | NV | 50  | 0.020000  | 0.000025  | PASS |
| N14 | 15 | 10 | DFT-QPSK  | H | Outer_Full | NV | -30 | 0.650000  | 0.000820  | PASS |
| N14 | 15 | 10 | DFT-QPSK  | H | Outer_Full | NV | -20 | -0.090000 | -0.000113 | PASS |
| N14 | 15 | 10 | DFT-QPSK  | H | Outer_Full | NV | -10 | 0.800000  | 0.001008  | PASS |
| N14 | 15 | 10 | DFT-QPSK  | H | Outer_Full | NV | 0   | -0.110000 | -0.000139 | PASS |
| N14 | 15 | 10 | DFT-QPSK  | H | Outer_Full | NV | 10  | 0.070000  | 0.000088  | PASS |
| N14 | 15 | 10 | DFT-QPSK  | H | Outer_Full | NV | 20  | 0.270000  | 0.000340  | PASS |
| N14 | 15 | 10 | DFT-QPSK  | H | Outer_Full | NV | 30  | 0.250000  | 0.000315  | PASS |
| N14 | 15 | 10 | DFT-QPSK  | H | Outer_Full | NV | 40  | -0.080000 | -0.000101 | PASS |
| N14 | 15 | 10 | DFT-QPSK  | H | Outer_Full | NV | 50  | 0.500000  | 0.000631  | PASS |
| N14 | 15 | 10 | DFT-16QAM | H | Outer_Full | NV | -30 | 1.420000  | 0.001791  | PASS |
| N14 | 15 | 10 | DFT-16QAM | H | Outer_Full | NV | -20 | 0.300000  | 0.000378  | PASS |
| N14 | 15 | 10 | DFT-16QAM | H | Outer_Full | NV | -10 | 0.810000  | 0.001021  | PASS |
| N14 | 15 | 10 | DFT-16QAM | H | Outer_Full | NV | 0   | 1.220000  | 0.001538  | PASS |
| N14 | 15 | 10 | DFT-16QAM | H | Outer_Full | NV | 10  | -0.570000 | -0.000719 | PASS |
| N14 | 15 | 10 | DFT-16QAM | H | Outer_Full | NV | 20  | 1.380000  | 0.001740  | PASS |
| N14 | 15 | 10 | DFT-16QAM | H | Outer_Full | NV | 30  | 0.540000  | 0.000681  | PASS |
| N14 | 15 | 10 | DFT-16QAM | H | Outer_Full | NV | 40  | 0.770000  | 0.000971  | PASS |
| N14 | 15 | 10 | DFT-16QAM | H | Outer_Full | NV | 50  | 0.180000  | 0.000227  | PASS |