



# Appendix B.50

## NR Band n48



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**Effective (Isotropic) Radiated Power Output Data**

**Test Result**

ANT2

| Band | SCS | Bandwidth | Modulation  | Channel | RB Config       | Result<br>(dBm/10MHz) | EIRP<br>(dBm/10MHz) | Limit<br>(dBm/10MHz) | Verdict |
|------|-----|-----------|-------------|---------|-----------------|-----------------------|---------------------|----------------------|---------|
| N48  | 30  | 10        | DFT-QPSK    | L       | Inner_1RB_Left  | 21.04                 | 22.04               | 23.00                | PASS    |
| N48  | 30  | 10        | DFT-16QAM   | L       | Inner_1RB_Left  | 20.12                 | 21.12               | 23.00                | PASS    |
| N48  | 30  | 10        | DFT-QPSK    | M       | Inner_1RB_Left  | 21.28                 | 22.28               | 23.00                | PASS    |
| N48  | 30  | 10        | DFT-16QAM   | M       | Inner_1RB_Left  | 20.37                 | 21.37               | 23.00                | PASS    |
| N48  | 30  | 10        | DFT-QPSK    | H       | Inner_1RB_Left  | 21.11                 | 22.11               | 23.00                | PASS    |
| N48  | 30  | 10        | DFT-16QAM   | H       | Inner_1RB_Left  | 20.2                  | 21.2                | 23.00                | PASS    |
| N48  | 30  | 20        | DFT-QPSK    | L       | Inner_1RB_Left  | 21.35                 | 22.35               | 23.00                | PASS    |
| N48  | 30  | 20        | DFT-16QAM   | L       | Inner_1RB_Left  | 20.38                 | 21.38               | 23.00                | PASS    |
| N48  | 30  | 20        | DFT-QPSK    | M       | Inner_1RB_Left  | 21.4                  | 22.4                | 23.00                | PASS    |
| N48  | 30  | 20        | DFT-16QAM   | M       | Inner_1RB_Left  | 20.45                 | 21.45               | 23.00                | PASS    |
| N48  | 30  | 20        | DFT-QPSK    | H       | Inner_1RB_Left  | 21.28                 | 22.28               | 23.00                | PASS    |
| N48  | 30  | 20        | DFT-16QAM   | H       | Inner_1RB_Left  | 20.33                 | 21.33               | 23.00                | PASS    |
| N48  | 30  | 30        | DFT-QPSK    | L       | Inner_1RB_Left  | 21.28                 | 22.28               | 23.00                | PASS    |
| N48  | 30  | 30        | DFT-16QAM   | L       | Inner_1RB_Left  | 20.37                 | 21.37               | 23.00                | PASS    |
| N48  | 30  | 30        | DFT-QPSK    | M       | Inner_1RB_Left  | 21.61                 | 22.61               | 23.00                | PASS    |
| N48  | 30  | 30        | DFT-16QAM   | M       | Inner_1RB_Left  | 20.63                 | 21.63               | 23.00                | PASS    |
| N48  | 30  | 30        | DFT-QPSK    | H       | Inner_1RB_Left  | 21.23                 | 22.23               | 23.00                | PASS    |
| N48  | 30  | 30        | DFT-16QAM   | H       | Inner_1RB_Left  | 20.33                 | 21.33               | 23.00                | PASS    |
| N48  | 30  | 40        | DFT-PI2BPSK | L       | Inner_1RB_Left  | 21.31                 | 22.31               | 23.00                | PASS    |
| N48  | 30  | 40        | DFT-PI2BPSK | L       | Inner_1RB_Right | 21.49                 | 22.49               | 23.00                | PASS    |



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|     |    |    |             |   |                 |       |       |       |      |
|-----|----|----|-------------|---|-----------------|-------|-------|-------|------|
| N48 | 30 | 40 | DFT-PI2BPSK | L | Outer_Full      | 20.88 | 21.88 | 23.00 | PASS |
| N48 | 30 | 40 | DFT-QPSK    | L | Inner_1RB_Left  | 21.28 | 22.28 | 23.00 | PASS |
| N48 | 30 | 40 | DFT-QPSK    | L | Inner_1RB_Right | 21.39 | 22.39 | 23.00 | PASS |
| N48 | 30 | 40 | DFT-QPSK    | L | Outer_Full      | 20.27 | 21.27 | 23.00 | PASS |
| N48 | 30 | 40 | DFT-16QAM   | L | Inner_1RB_Left  | 20.2  | 21.2  | 23.00 | PASS |
| N48 | 30 | 40 | DFT-16QAM   | L | Inner_1RB_Right | 20.48 | 21.48 | 23.00 | PASS |
| N48 | 30 | 40 | DFT-16QAM   | L | Outer_Full      | 19.74 | 20.74 | 23.00 | PASS |
| N48 | 30 | 40 | DFT-64QAM   | L | Inner_1RB_Left  | 19.13 | 20.13 | 23.00 | PASS |
| N48 | 30 | 40 | DFT-64QAM   | L | Inner_1RB_Right | 19.21 | 20.21 | 23.00 | PASS |
| N48 | 30 | 40 | DFT-64QAM   | L | Outer_Full      | 18.56 | 19.56 | 23.00 | PASS |
| N48 | 30 | 40 | DFT-256QAM  | L | Inner_1RB_Left  | 16.7  | 17.7  | 23.00 | PASS |
| N48 | 30 | 40 | DFT-256QAM  | L | Inner_1RB_Right | 16.85 | 17.85 | 23.00 | PASS |
| N48 | 30 | 40 | DFT-256QAM  | L | Outer_Full      | 16.73 | 17.73 | 23.00 | PASS |
| N48 | 30 | 40 | DFT-PI2BPSK | M | Inner_1RB_Left  | 21.67 | 22.67 | 23.00 | PASS |
| N48 | 30 | 40 | DFT-PI2BPSK | M | Inner_1RB_Right | 21.36 | 22.36 | 23.00 | PASS |
| N48 | 30 | 40 | DFT-PI2BPSK | M | Outer_Full      | 20.86 | 21.86 | 23.00 | PASS |
| N48 | 30 | 40 | DFT-QPSK    | M | Inner_1RB_Left  | 21.62 | 22.62 | 23.00 | PASS |
| N48 | 30 | 40 | DFT-QPSK    | M | Inner_1RB_Right | 21.4  | 22.4  | 23.00 | PASS |
| N48 | 30 | 40 | DFT-QPSK    | M | Outer_Full      | 20.37 | 21.37 | 23.00 | PASS |
| N48 | 30 | 40 | DFT-16QAM   | M | Inner_1RB_Left  | 20.66 | 21.66 | 23.00 | PASS |
| N48 | 30 | 40 | DFT-16QAM   | M | Inner_1RB_Right | 20.43 | 21.43 | 23.00 | PASS |
| N48 | 30 | 40 | DFT-16QAM   | M | Outer_Full      | 19.31 | 20.31 | 23.00 | PASS |
| N48 | 30 | 40 | DFT-64QAM   | M | Inner_1RB_Left  | 19.1  | 20.1  | 23.00 | PASS |
| N48 | 30 | 40 | DFT-64QAM   | M | Inner_1RB_Right | 18.82 | 19.82 | 23.00 | PASS |
| N48 | 30 | 40 | DFT-64QAM   | M | Outer_Full      | 18.87 | 19.87 | 23.00 | PASS |



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|     |    |    |             |   |                 |       |       |       |      |
|-----|----|----|-------------|---|-----------------|-------|-------|-------|------|
| N48 | 30 | 40 | DFT-256QAM  | M | Inner_1RB_Left  | 17    | 18    | 23.00 | PASS |
| N48 | 30 | 40 | DFT-256QAM  | M | Inner_1RB_Right | 16.68 | 17.68 | 23.00 | PASS |
| N48 | 30 | 40 | DFT-256QAM  | M | Outer_Full      | 16.85 | 17.85 | 23.00 | PASS |
| N48 | 30 | 40 | DFT-PI2BPSK | H | Inner_1RB_Left  | 21.38 | 22.38 | 23.00 | PASS |
| N48 | 30 | 40 | DFT-PI2BPSK | H | Inner_1RB_Right | 21.4  | 22.4  | 23.00 | PASS |
| N48 | 30 | 40 | DFT-PI2BPSK | H | Outer_Full      | 20.79 | 21.79 | 23.00 | PASS |
| N48 | 30 | 40 | DFT-QPSK    | H | Inner_1RB_Left  | 21.4  | 22.4  | 23.00 | PASS |
| N48 | 30 | 40 | DFT-QPSK    | H | Inner_1RB_Right | 21.42 | 22.42 | 23.00 | PASS |
| N48 | 30 | 40 | DFT-QPSK    | H | Outer_Full      | 20.32 | 21.32 | 23.00 | PASS |
| N48 | 30 | 40 | DFT-16QAM   | H | Inner_1RB_Left  | 20.39 | 21.39 | 23.00 | PASS |
| N48 | 30 | 40 | DFT-16QAM   | H | Inner_1RB_Right | 20.42 | 21.42 | 23.00 | PASS |
| N48 | 30 | 40 | DFT-16QAM   | H | Outer_Full      | 19.31 | 20.31 | 23.00 | PASS |
| N48 | 30 | 40 | DFT-64QAM   | H | Inner_1RB_Left  | 18.89 | 19.89 | 23.00 | PASS |
| N48 | 30 | 40 | DFT-64QAM   | H | Inner_1RB_Right | 18.99 | 19.99 | 23.00 | PASS |
| N48 | 30 | 40 | DFT-64QAM   | H | Outer_Full      | 18.85 | 19.85 | 23.00 | PASS |
| N48 | 30 | 40 | DFT-256QAM  | H | Inner_1RB_Left  | 16.69 | 17.69 | 23.00 | PASS |
| N48 | 30 | 40 | DFT-256QAM  | H | Inner_1RB_Right | 16.74 | 17.74 | 23.00 | PASS |
| N48 | 30 | 40 | DFT-256QAM  | H | Outer_Full      | 16.8  | 17.8  | 23.00 | PASS |



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**Test Result for MIMO**

| Band | SCS | Bandwidth | Modulation | Channel | RB Config       | Power<br>Ant2 | Power<br>Ant0 | Total<br>Power<br>(dBm/10MHz) | EIRP<br>(dBm/10MHz) | Verdict |
|------|-----|-----------|------------|---------|-----------------|---------------|---------------|-------------------------------|---------------------|---------|
| N48  | 30  | 10        | CP-QPSK    | L       | Inner_1RB_Left  | 16.7          | 15.34         | 19.08                         | 20.08               | PASS    |
| N48  | 30  | 10        | CP-16QAM   | L       | Inner_1RB_Left  | 16.45         | 14.84         | 18.73                         | 19.73               | PASS    |
| N48  | 30  | 10        | CP-QPSK    | M       | Inner_1RB_Left  | 16.83         | 15.89         | 19.4                          | 20.4                | PASS    |
| N48  | 30  | 10        | CP-16QAM   | M       | Inner_1RB_Left  | 16.45         | 15.23         | 18.89                         | 19.89               | PASS    |
| N48  | 30  | 10        | CP-QPSK    | H       | Inner_1RB_Left  | 16.67         | 15.18         | 19                            | 20                  | PASS    |
| N48  | 30  | 10        | CP-16QAM   | H       | Inner_1RB_Left  | 16.44         | 14.74         | 18.68                         | 19.68               | PASS    |
| N48  | 30  | 20        | CP-QPSK    | L       | Inner_1RB_Left  | 16.9          | 15.51         | 19.27                         | 20.27               | PASS    |
| N48  | 30  | 20        | CP-16QAM   | L       | Inner_1RB_Left  | 16.62         | 14.99         | 18.89                         | 19.89               | PASS    |
| N48  | 30  | 20        | CP-QPSK    | M       | Inner_1RB_Left  | 17.01         | 15.67         | 19.4                          | 20.4                | PASS    |
| N48  | 30  | 20        | CP-16QAM   | M       | Inner_1RB_Left  | 16.69         | 15.17         | 19.01                         | 20.01               | PASS    |
| N48  | 30  | 20        | CP-QPSK    | H       | Inner_1RB_Left  | 16.88         | 15.81         | 19.39                         | 20.39               | PASS    |
| N48  | 30  | 20        | CP-16QAM   | H       | Inner_1RB_Left  | 16.31         | 15.29         | 18.84                         | 19.84               | PASS    |
| N48  | 30  | 30        | CP-QPSK    | L       | Inner_1RB_Left  | 16.87         | 15.58         | 19.28                         | 20.28               | PASS    |
| N48  | 30  | 30        | CP-16QAM   | L       | Inner_1RB_Left  | 16.63         | 15.11         | 18.95                         | 19.95               | PASS    |
| N48  | 30  | 30        | CP-QPSK    | M       | Inner_1RB_Left  | 17.13         | 15.55         | 19.42                         | 20.42               | PASS    |
| N48  | 30  | 30        | CP-16QAM   | M       | Inner_1RB_Left  | 16.82         | 15.05         | 19.03                         | 20.03               | PASS    |
| N48  | 30  | 30        | CP-QPSK    | H       | Inner_1RB_Left  | 16.87         | 15.95         | 19.44                         | 20.44               | PASS    |
| N48  | 30  | 30        | CP-16QAM   | H       | Inner_1RB_Left  | 16.58         | 15.46         | 19.07                         | 20.07               | PASS    |
| N48  | 30  | 40        | CP-QPSK    | L       | Inner_1RB_Left  | 16.89         | 15.5          | 19.26                         | 20.26               | PASS    |
| N48  | 30  | 40        | CP-QPSK    | L       | Inner_1RB_Right | 17.18         | 15.98         | 19.63                         | 20.63               | PASS    |



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|     |    |    |           |   |                 |       |       |       |       |      |
|-----|----|----|-----------|---|-----------------|-------|-------|-------|-------|------|
| N48 | 30 | 40 | CP-QPSK   | L | Outer_Full      | 13.99 | 12.73 | 16.42 | 17.42 | PASS |
| N48 | 30 | 40 | CP-16QAM  | L | Inner_1RB_Left  | 16.67 | 14.91 | 18.89 | 19.89 | PASS |
| N48 | 30 | 40 | CP-16QAM  | L | Inner_1RB_Right | 16.72 | 15.42 | 19.13 | 20.13 | PASS |
| N48 | 30 | 40 | CP-16QAM  | L | Outer_Full      | 14.03 | 12.75 | 16.45 | 17.45 | PASS |
| N48 | 30 | 40 | CP-64QAM  | L | Inner_1RB_Left  | 15.14 | 13.36 | 17.35 | 18.35 | PASS |
| N48 | 30 | 40 | CP-64QAM  | L | Inner_1RB_Right | 15.17 | 13.92 | 17.6  | 18.6  | PASS |
| N48 | 30 | 40 | CP-64QAM  | L | Outer_Full      | 13.01 | 11.78 | 15.45 | 16.45 | PASS |
| N48 | 30 | 40 | CP-256QAM | L | Inner_1RB_Left  | 13.21 | 11.54 | 15.47 | 16.47 | PASS |
| N48 | 30 | 40 | CP-256QAM | L | Inner_1RB_Right | 13.37 | 12.04 | 15.77 | 16.77 | PASS |
| N48 | 30 | 40 | CP-256QAM | L | Outer_Full      | 13.04 | 11.82 | 15.48 | 16.48 | PASS |
| N48 | 30 | 40 | CP-QPSK   | M | Inner_1RB_Left  | 17.23 | 15.54 | 19.48 | 20.48 | PASS |
| N48 | 30 | 40 | CP-QPSK   | M | Inner_1RB_Right | 16.99 | 15.59 | 19.36 | 20.36 | PASS |
| N48 | 30 | 40 | CP-QPSK   | M | Outer_Full      | 14    | 12.53 | 16.34 | 17.34 | PASS |
| N48 | 30 | 40 | CP-16QAM  | M | Inner_1RB_Left  | 16.81 | 14.97 | 19    | 20    | PASS |
| N48 | 30 | 40 | CP-16QAM  | M | Inner_1RB_Right | 16.39 | 14.97 | 18.75 | 19.75 | PASS |
| N48 | 30 | 40 | CP-16QAM  | M | Outer_Full      | 13.98 | 12.49 | 16.31 | 17.31 | PASS |
| N48 | 30 | 40 | CP-64QAM  | M | Inner_1RB_Left  | 15.24 | 13.45 | 17.45 | 18.45 | PASS |
| N48 | 30 | 40 | CP-64QAM  | M | Inner_1RB_Right | 14.99 | 13.5  | 17.32 | 18.32 | PASS |
| N48 | 30 | 40 | CP-64QAM  | M | Outer_Full      | 12.99 | 11.63 | 15.37 | 16.37 | PASS |
| N48 | 30 | 40 | CP-256QAM | M | Inner_1RB_Left  | 13.36 | 11.63 | 15.59 | 16.59 | PASS |
| N48 | 30 | 40 | CP-256QAM | M | Inner_1RB_Right | 13.06 | 11.52 | 15.37 | 16.37 | PASS |
| N48 | 30 | 40 | CP-256QAM | M | Outer_Full      | 13.02 | 11.68 | 15.41 | 16.41 | PASS |
| N48 | 30 | 40 | CP-QPSK   | H | Inner_1RB_Left  | 16.87 | 15.75 | 19.36 | 20.36 | PASS |
| N48 | 30 | 40 | CP-QPSK   | H | Inner_1RB_Right | 17.11 | 15.82 | 19.52 | 20.52 | PASS |



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|     |    |    |           |   |                 |       |       |       |       |      |
|-----|----|----|-----------|---|-----------------|-------|-------|-------|-------|------|
| N48 | 30 | 40 | CP-QPSK   | H | Outer_Full      | 13.93 | 12.86 | 16.44 | 17.44 | PASS |
| N48 | 30 | 40 | CP-16QAM  | H | Inner_1RB_Left  | 16.67 | 15.16 | 18.99 | 19.99 | PASS |
| N48 | 30 | 40 | CP-16QAM  | H | Inner_1RB_Right | 16.6  | 15.14 | 18.94 | 19.94 | PASS |
| N48 | 30 | 40 | CP-16QAM  | H | Outer_Full      | 13.86 | 12.81 | 16.38 | 17.38 | PASS |
| N48 | 30 | 40 | CP-64QAM  | H | Inner_1RB_Left  | 15.06 | 13.63 | 17.41 | 18.41 | PASS |
| N48 | 30 | 40 | CP-64QAM  | H | Inner_1RB_Right | 15.2  | 13.75 | 17.55 | 18.55 | PASS |
| N48 | 30 | 40 | CP-64QAM  | H | Outer_Full      | 12.89 | 11.85 | 15.41 | 16.41 | PASS |
| N48 | 30 | 40 | CP-256QAM | H | Inner_1RB_Left  | 13.11 | 11.86 | 15.54 | 16.54 | PASS |
| N48 | 30 | 40 | CP-256QAM | H | Inner_1RB_Right | 13.23 | 11.83 | 15.6  | 16.6  | PASS |
| N48 | 30 | 40 | CP-256QAM | H | Outer_Full      | 12.96 | 11.89 | 15.47 | 16.47 | PASS |



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## Peak-to-Average Ratio for SA

### Test Result

| Band | SCS | Bandwidth | Modulation | Channel | RB Config  | Result | Limit | Verdict |
|------|-----|-----------|------------|---------|------------|--------|-------|---------|
| N48  | 30  | 30        | DFT-256QAM | L       | Outer_Full | 9.52   | ≤13   | PASS    |
| N48  | 30  | 30        | CP-256QAM  | L       | Outer_Full | 9.64   | ≤13   | PASS    |
| N48  | 30  | 30        | DFT-256QAM | M       | Outer_Full | 9.80   | ≤13   | PASS    |
| N48  | 30  | 30        | CP-256QAM  | M       | Outer_Full | 9.94   | ≤13   | PASS    |
| N48  | 30  | 30        | DFT-256QAM | H       | Outer_Full | 9.26   | ≤13   | PASS    |
| N48  | 30  | 30        | CP-256QAM  | H       | Outer_Full | 9.90   | ≤13   | PASS    |



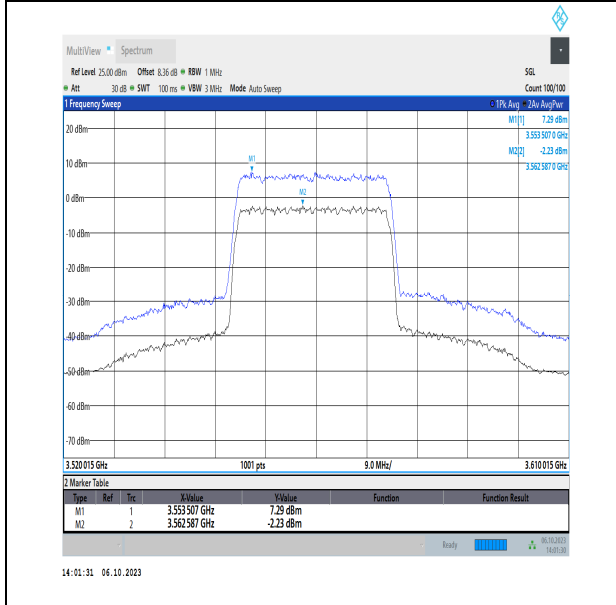
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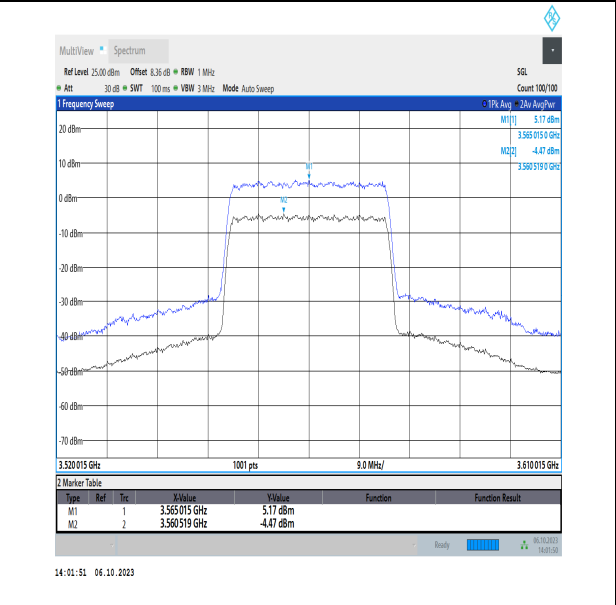




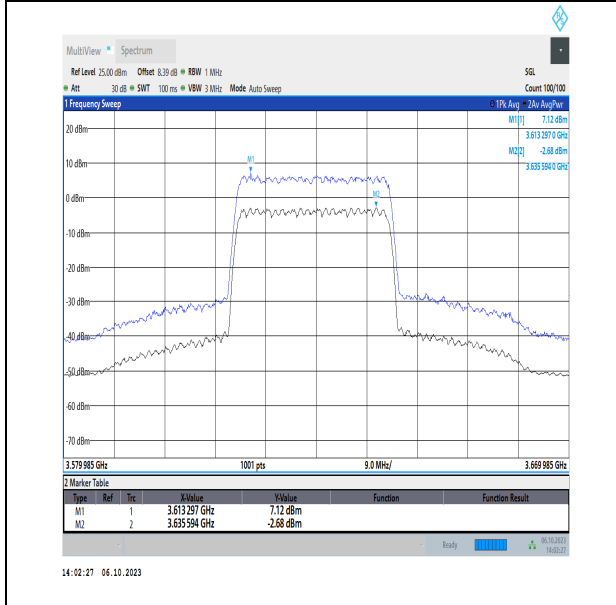
**Test Graphs**



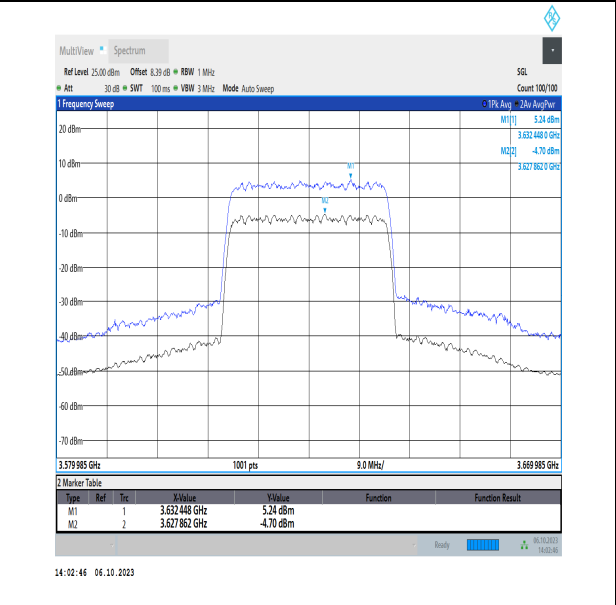
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NTVN\_N48\_PC3\_30\_30\_L\_TID2\_#1



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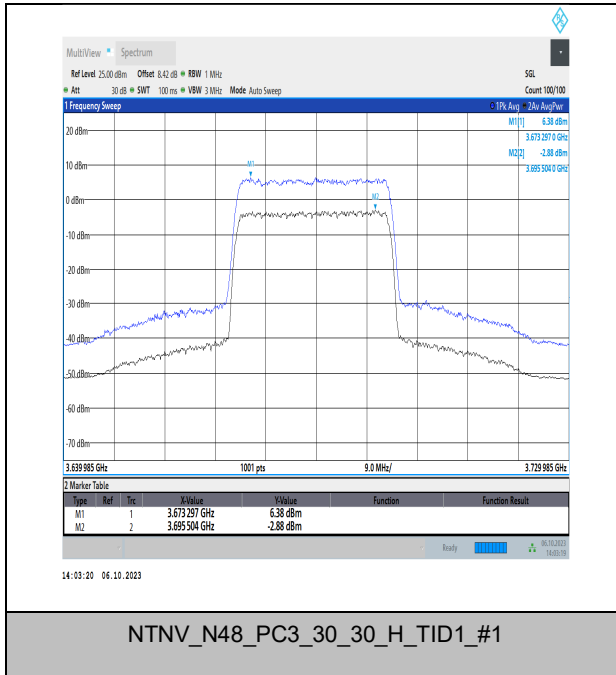
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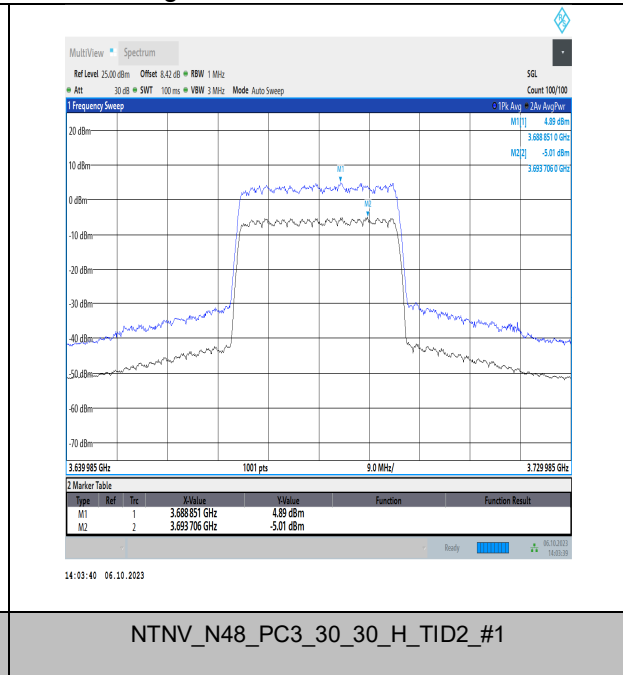
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NTVN\_N48\_PC3\_30\_30\_H\_TID1\_#1



NTVN\_N48\_PC3\_30\_30\_H\_TID2\_#1



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## 26dB Bandwidth and Occupied Bandwidth for SA

### Test Result

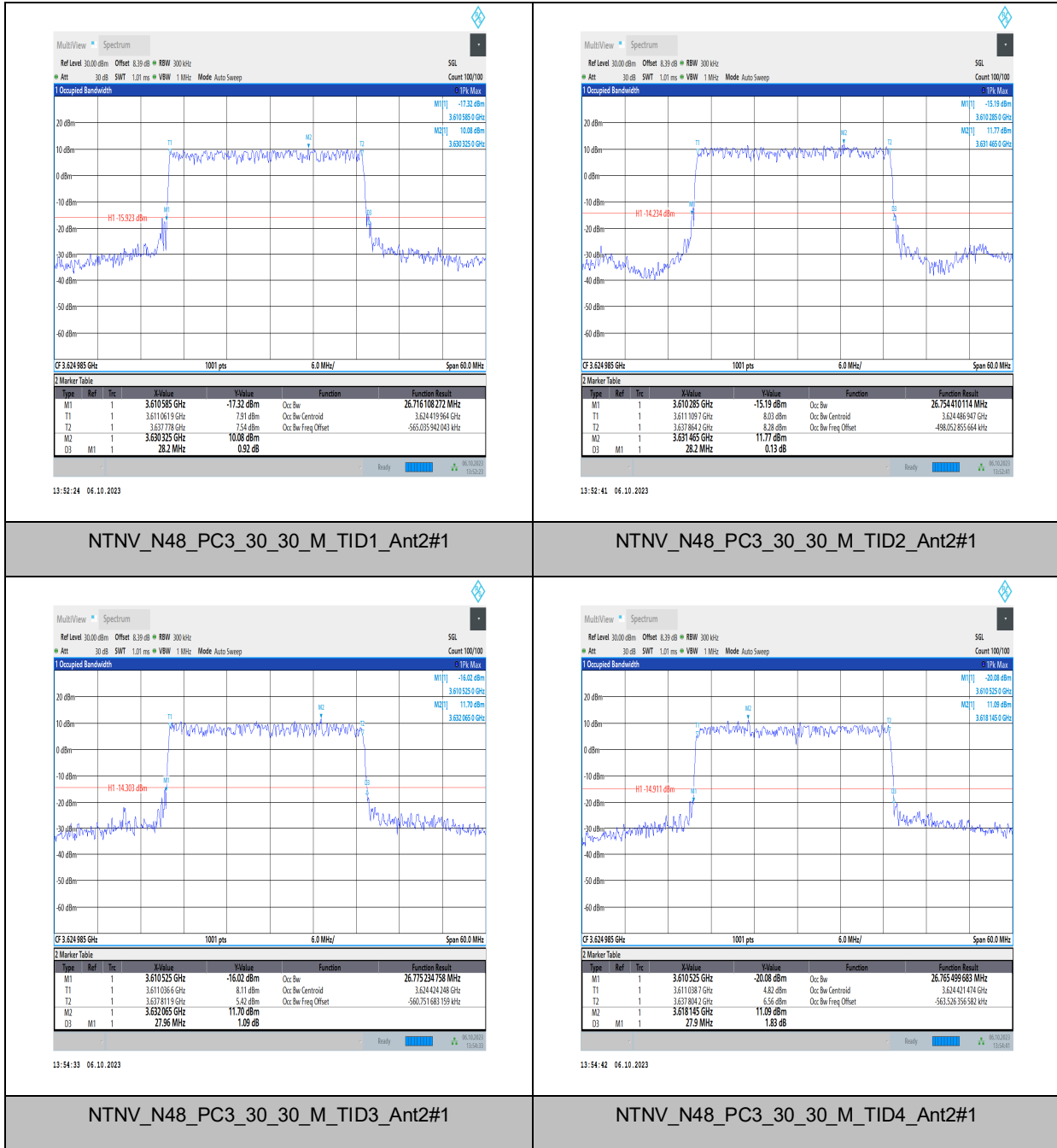
| Band | SCS | Bandwidth | Modulation  | Channel | RB Config  | Result<br>(99%) | Result<br>(26dB) | Verdict |
|------|-----|-----------|-------------|---------|------------|-----------------|------------------|---------|
| N48  | 30  | 30        | DFT-QPSK    | M       | Outer_Full | 26.716          | 28.200           | PASS    |
| N48  | 30  | 30        | DFT-PI2BPSK | M       | Outer_Full | 26.754          | 28.200           | PASS    |
| N48  | 30  | 30        | DFT-16QAM   | M       | Outer_Full | 26.775          | 27.960           | PASS    |
| N48  | 30  | 30        | DFT-64QAM   | M       | Outer_Full | 26.765          | 27.900           | PASS    |
| N48  | 30  | 30        | DFT-256QAM  | M       | Outer_Full | 26.926          | 28.020           | PASS    |
| N48  | 30  | 30        | CP-QPSK     | M       | Outer_Full | 27.864          | 29.160           | PASS    |
| N48  | 30  | 30        | CP-16QAM    | M       | Outer_Full | 27.773          | 29.400           | PASS    |
| N48  | 30  | 30        | CP-64QAM    | M       | Outer_Full | 27.75           | 29.460           | PASS    |
| N48  | 30  | 30        | CP-256QAM   | M       | Outer_Full | 27.883          | 29.340           | PASS    |



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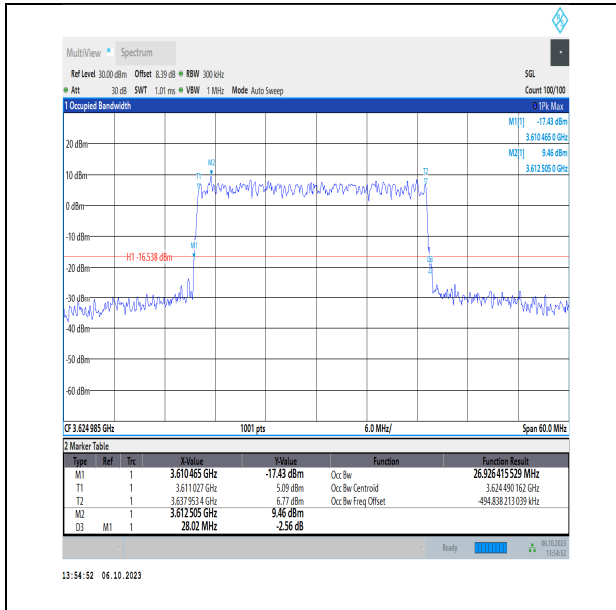
**Test Graphs**



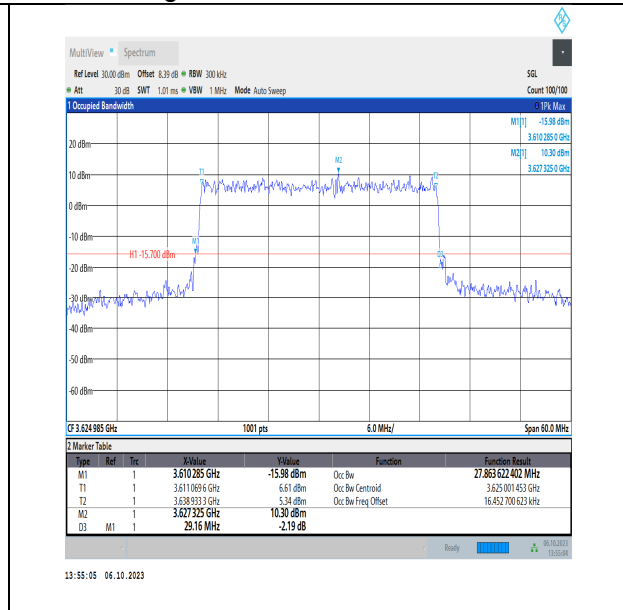
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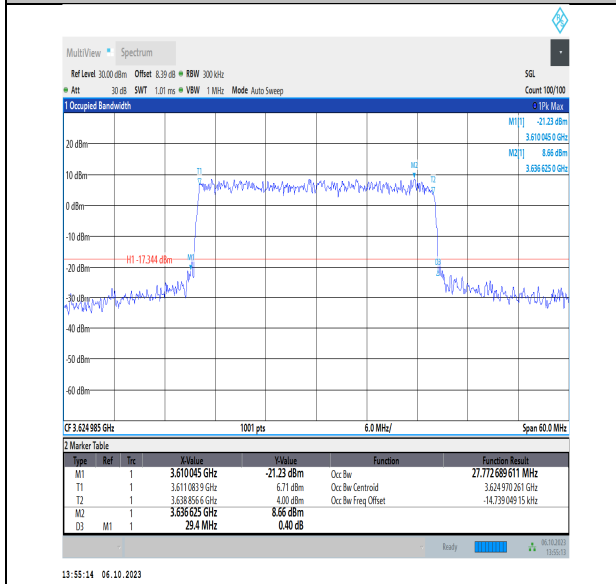
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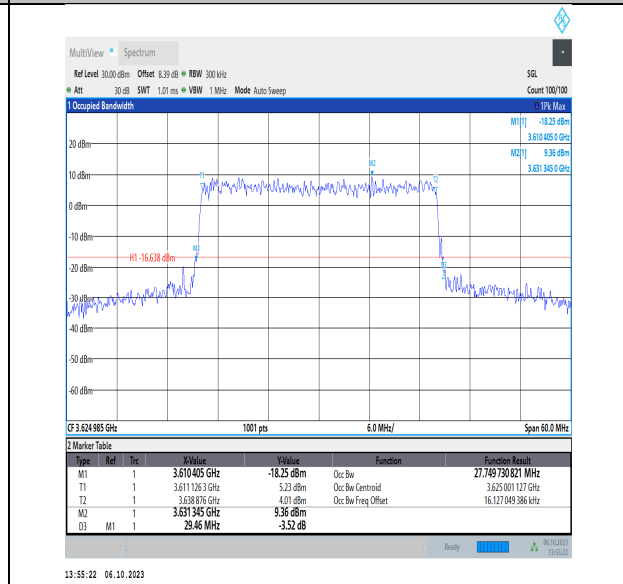
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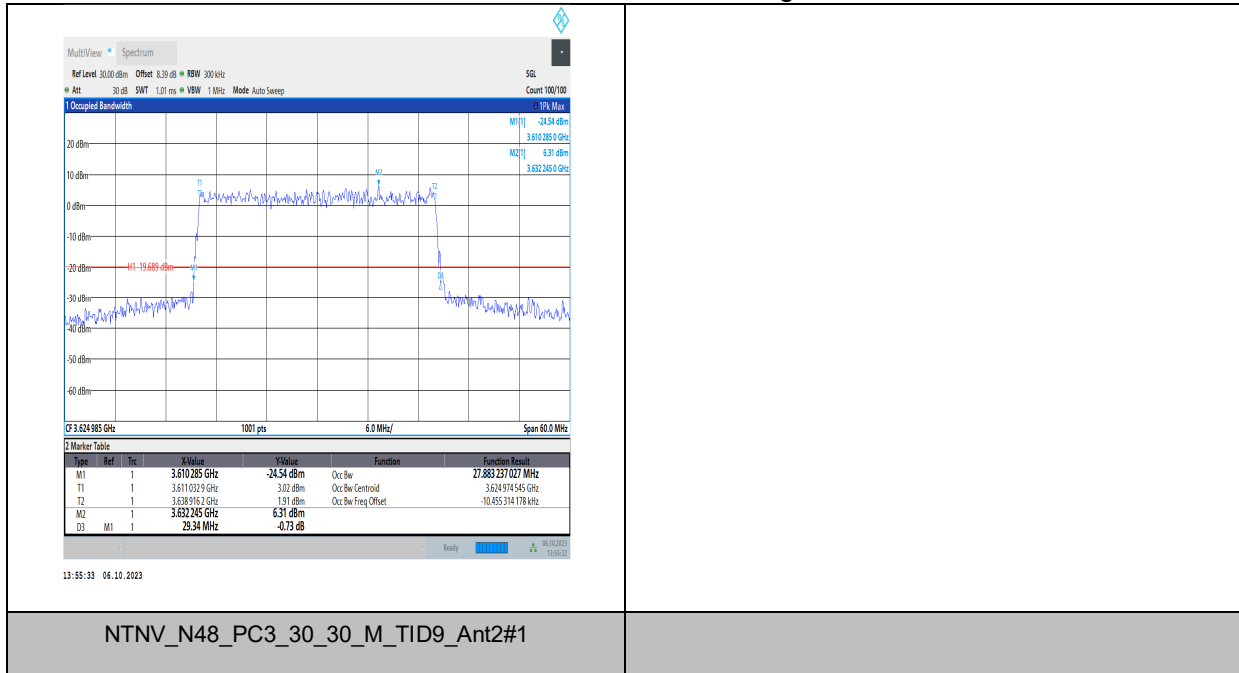
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NTNV\_N48\_PC3\_30\_30\_M\_TID9\_Ant2#1



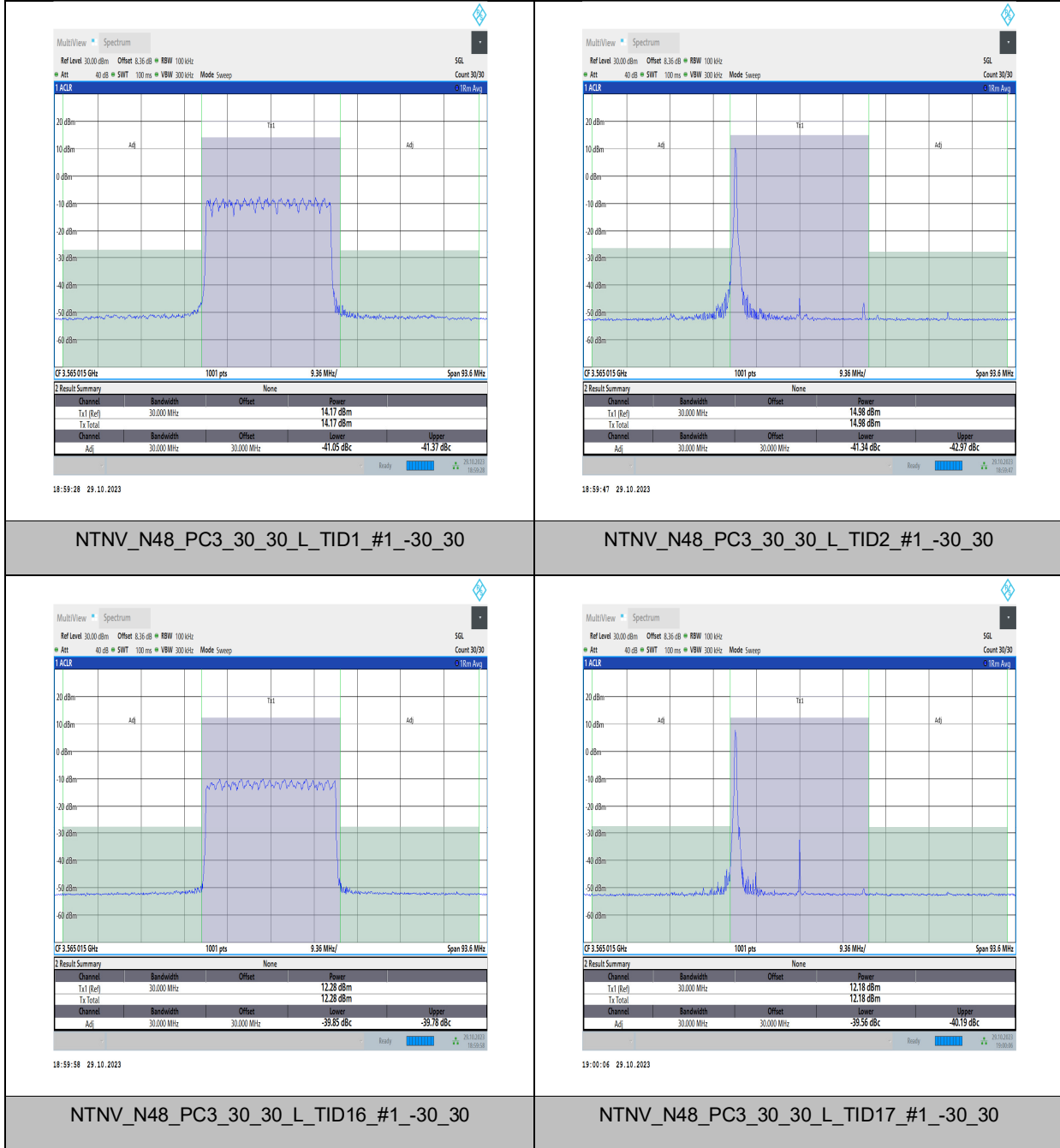
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**ACLR for SA**

**Test Graphs**



NTNV\_N48\_PC3\_30\_30\_L\_TID1\_#1\_-30\_30

NTNV\_N48\_PC3\_30\_30\_L\_TID2\_#1\_-30\_30

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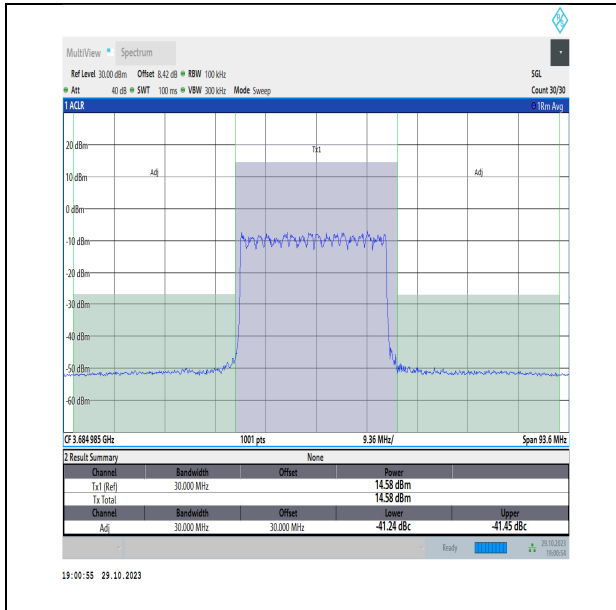
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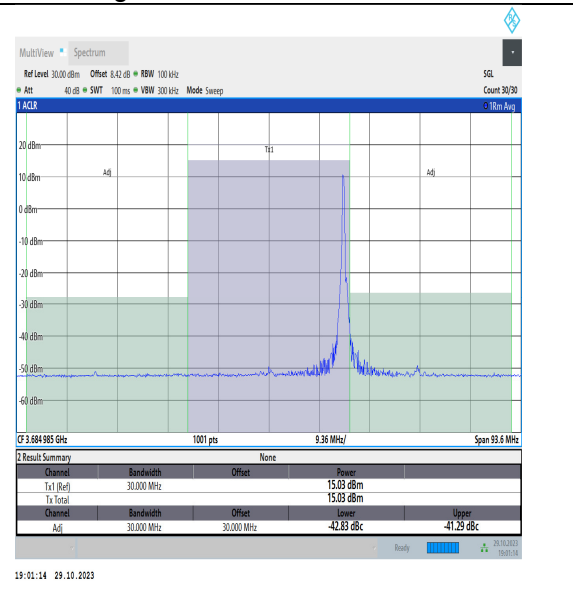
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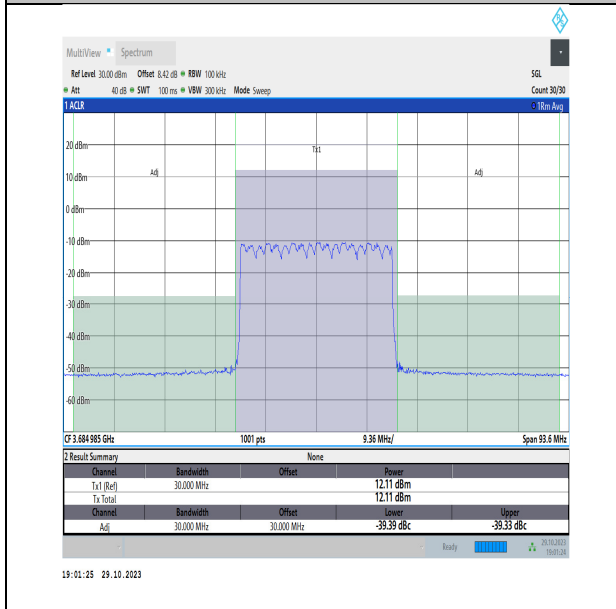
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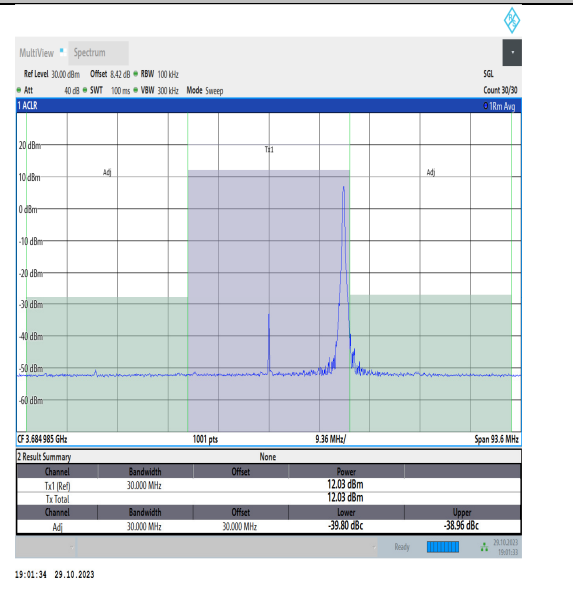
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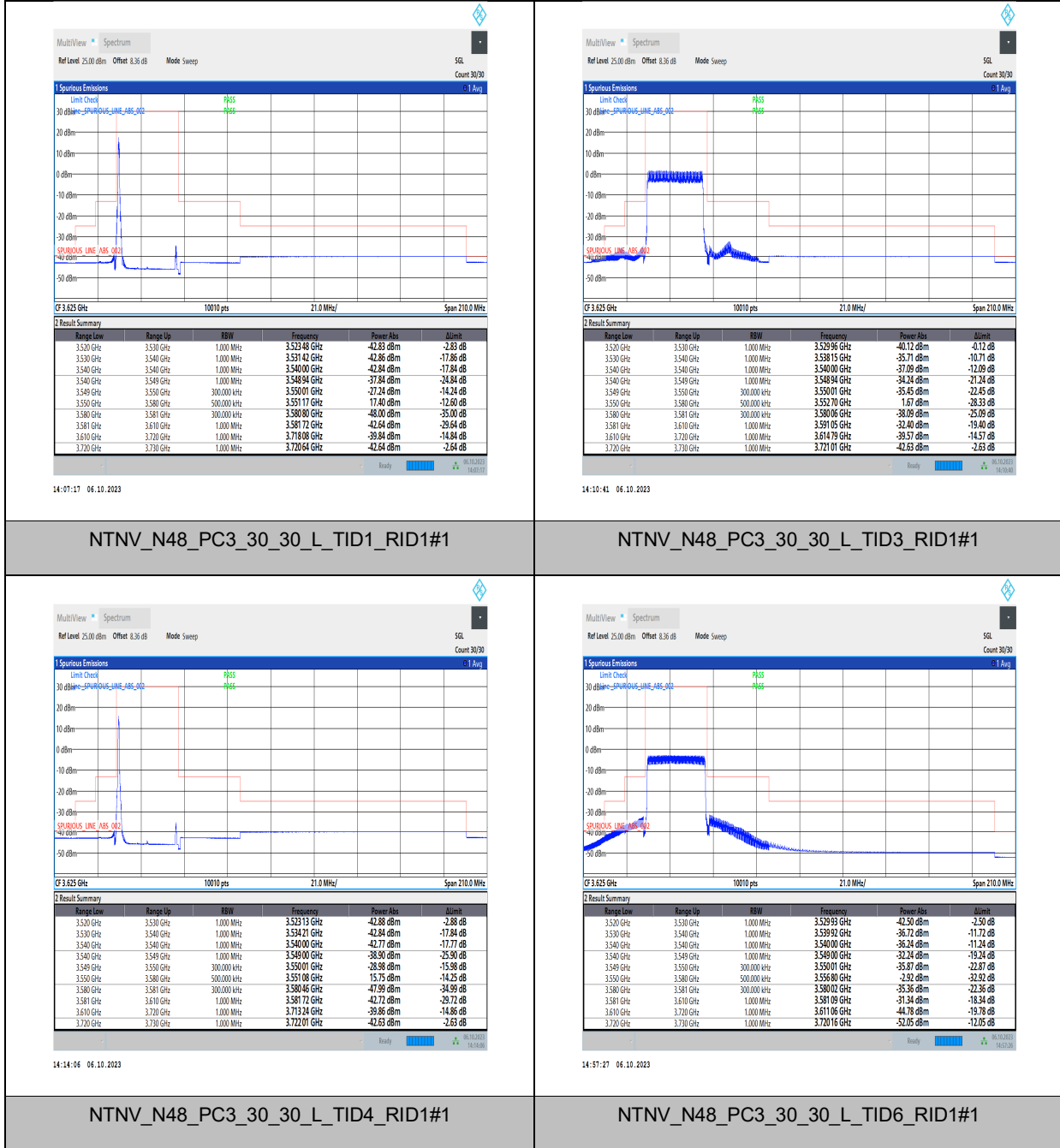
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Band Edge for SA

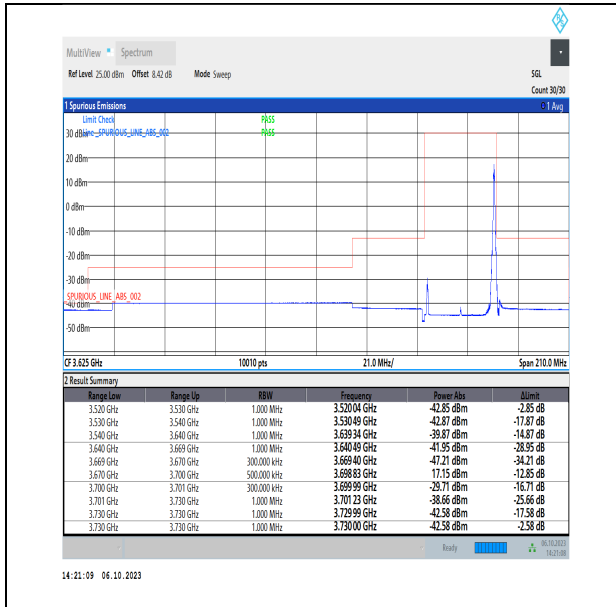
Test Graphs



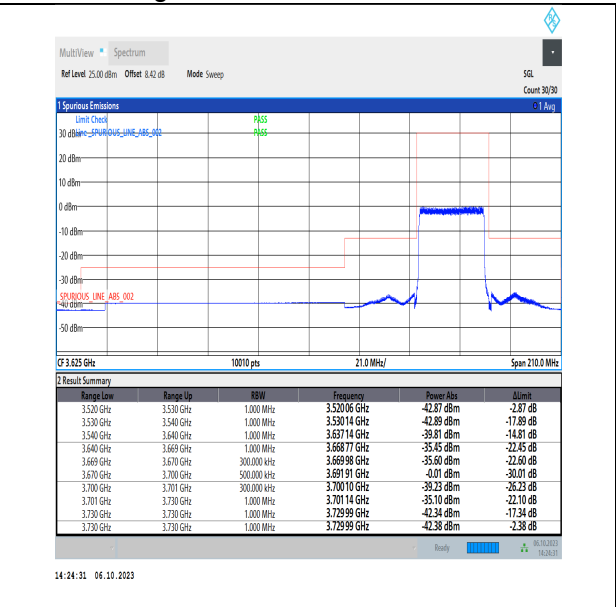
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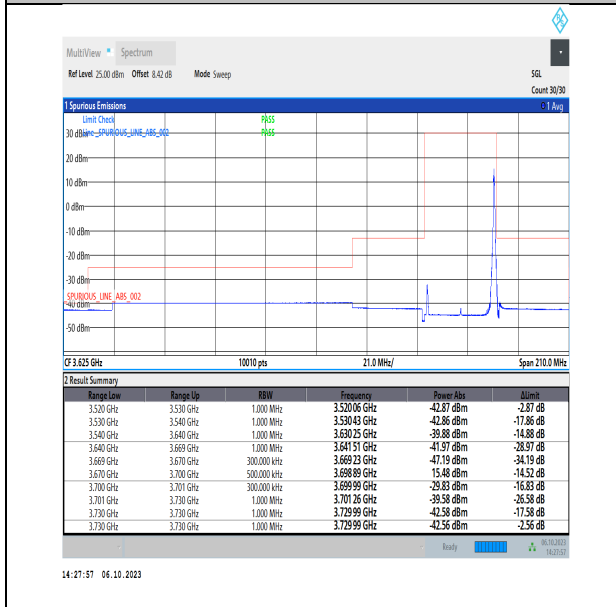
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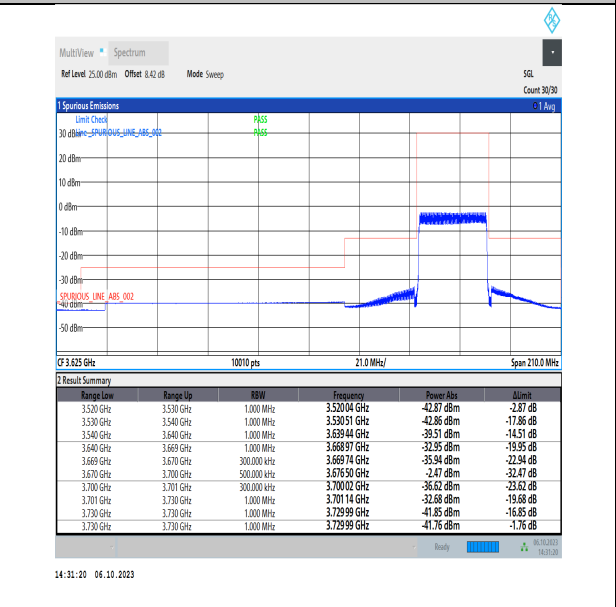
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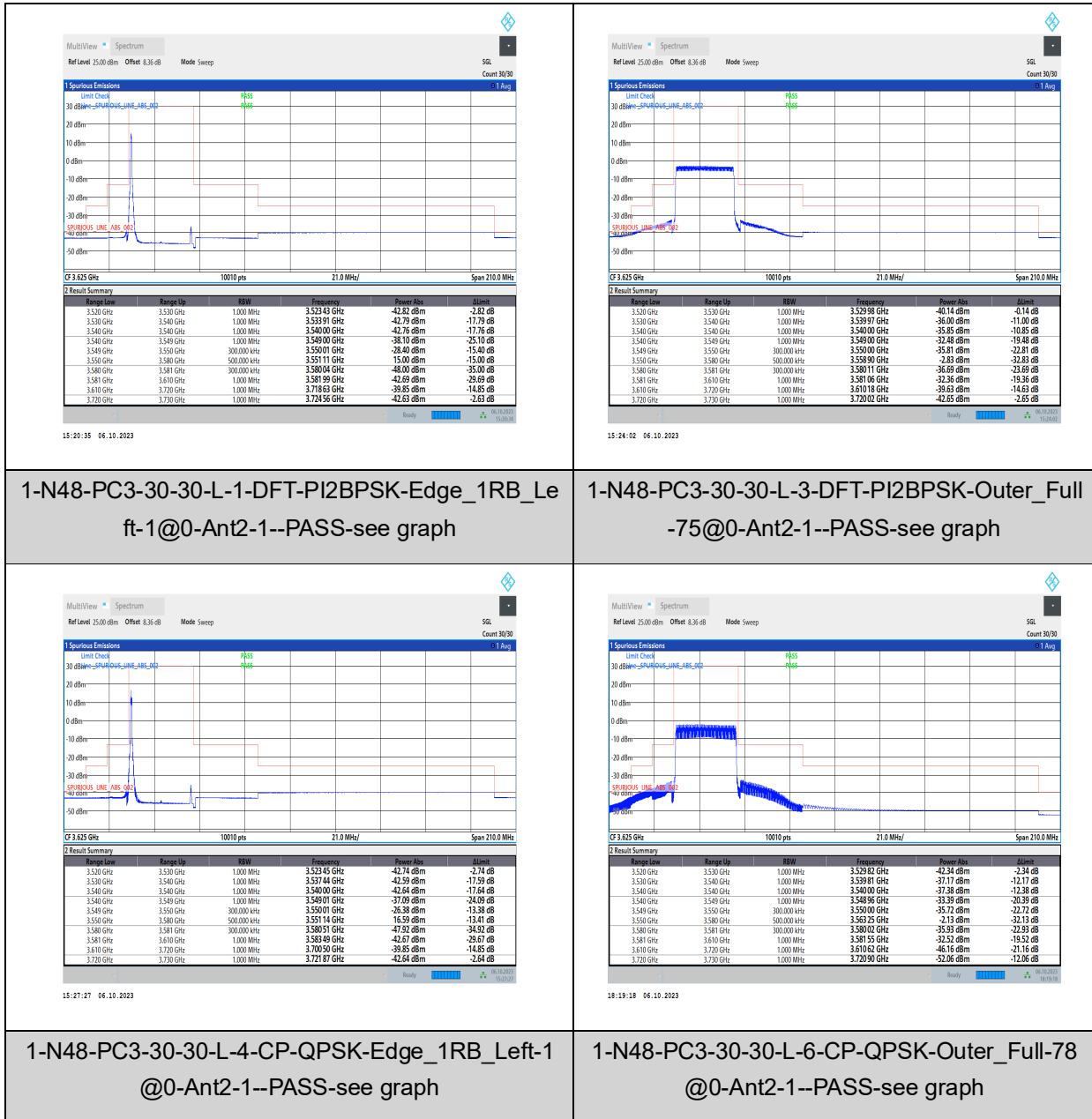
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## Band Edge for MIMO ANT2

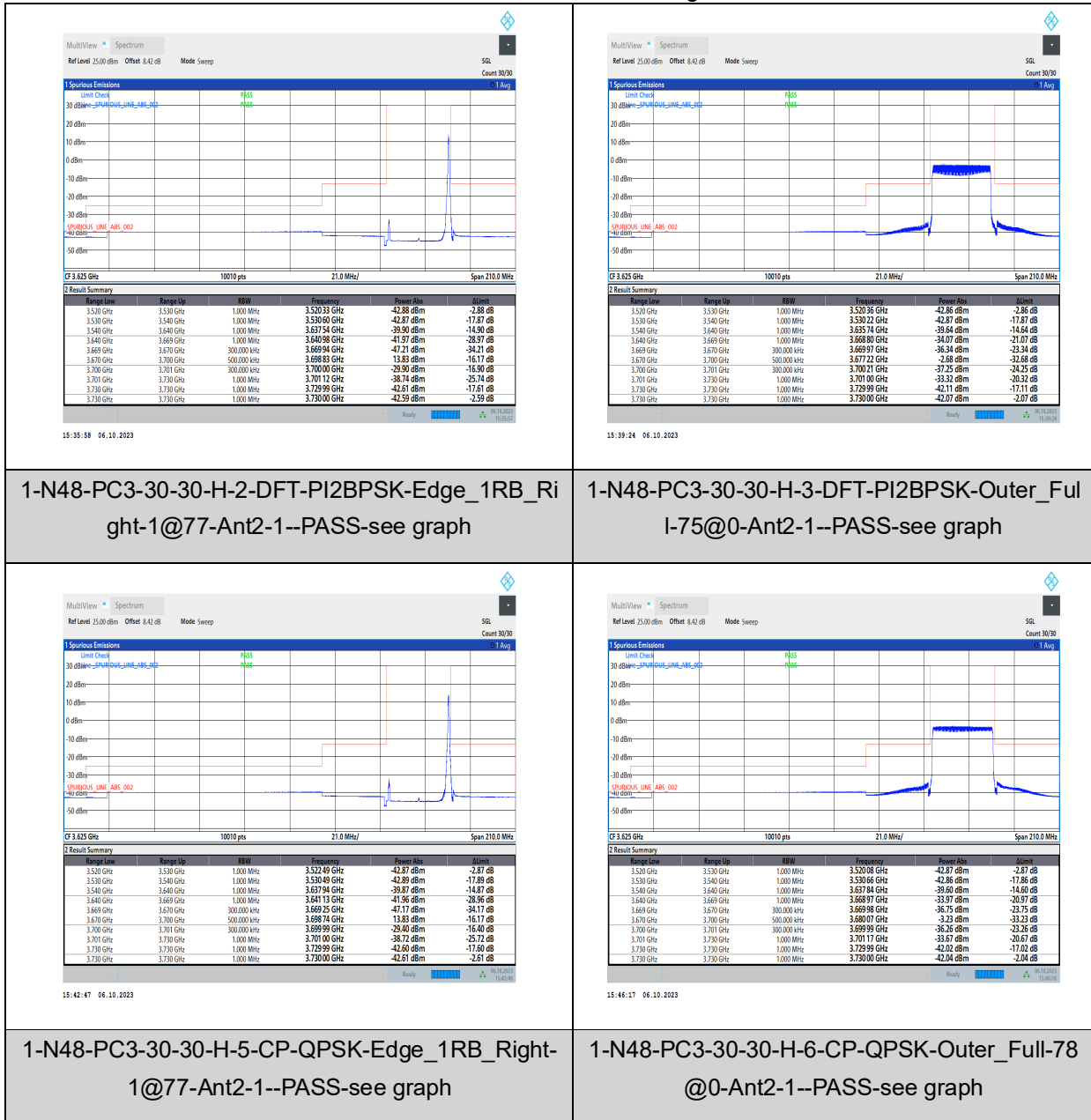
### Test Graphs



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## Conducted Spurious Emission for SA

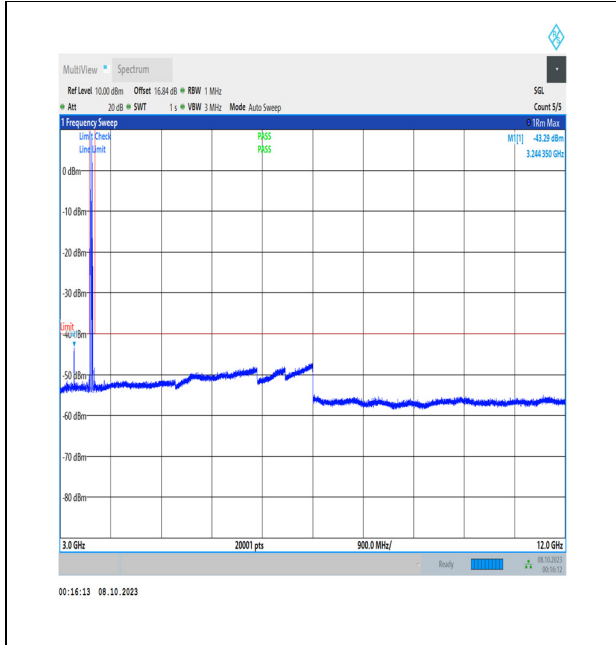
### Test Graphs



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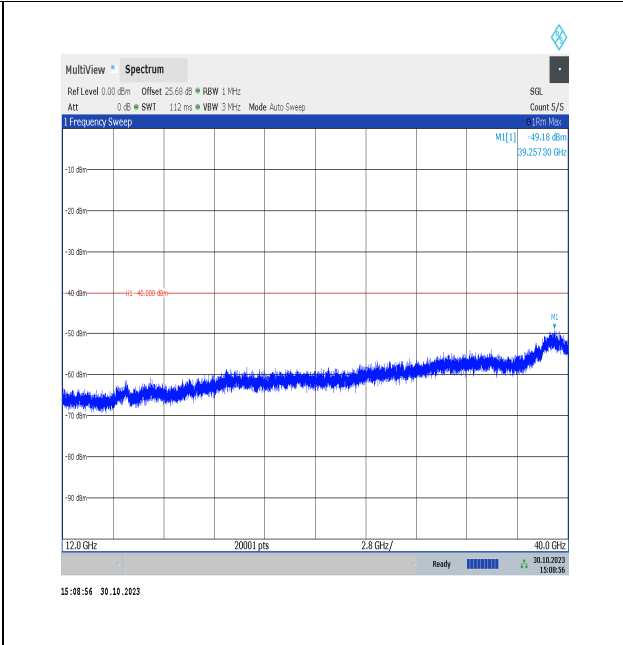
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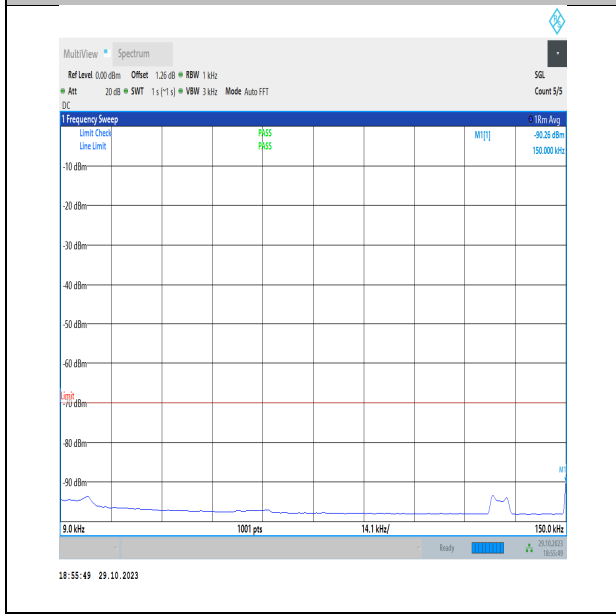
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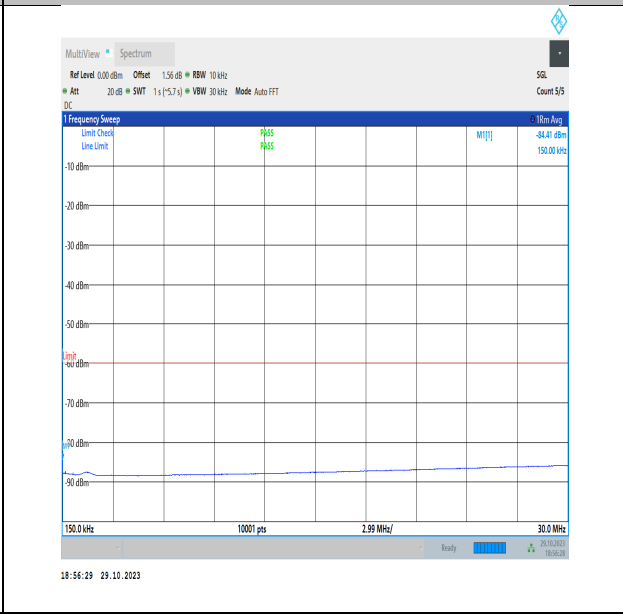
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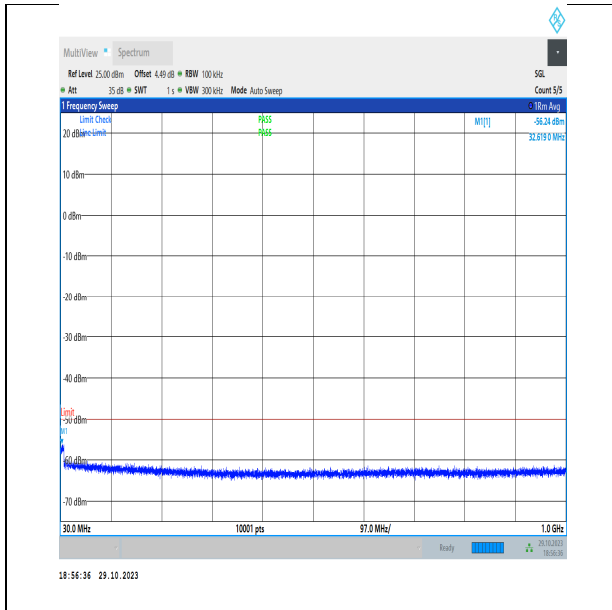
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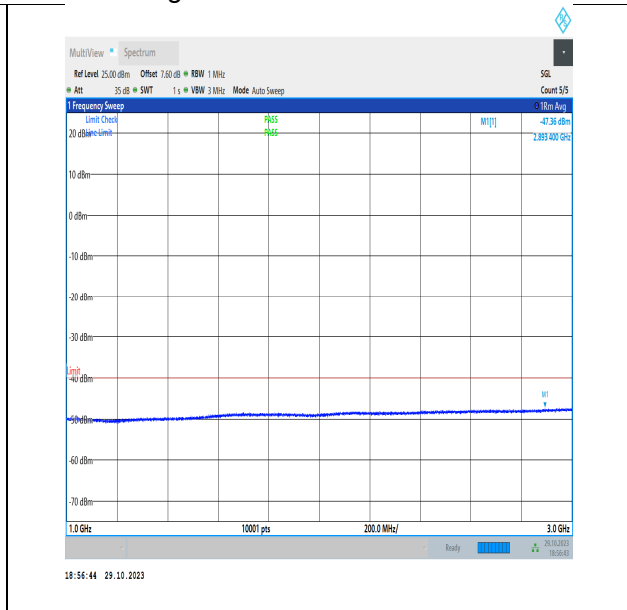
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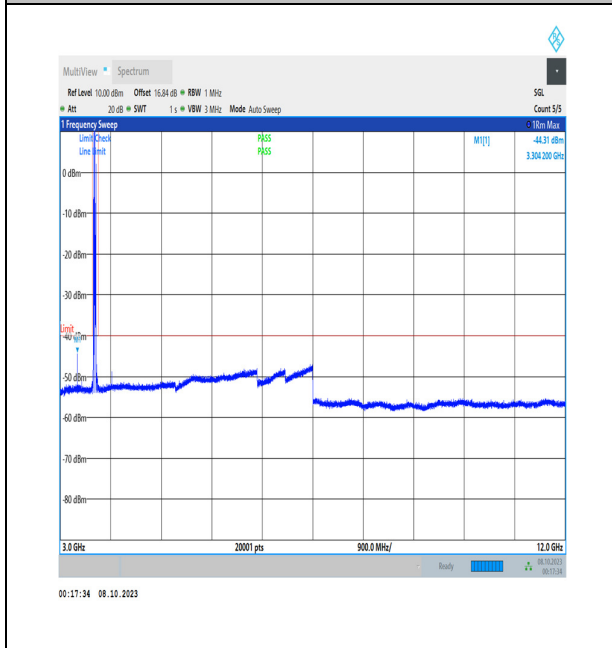
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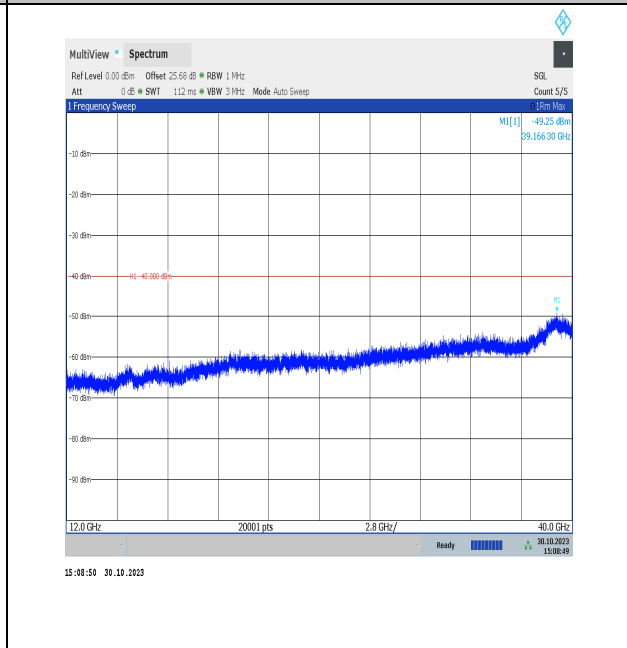
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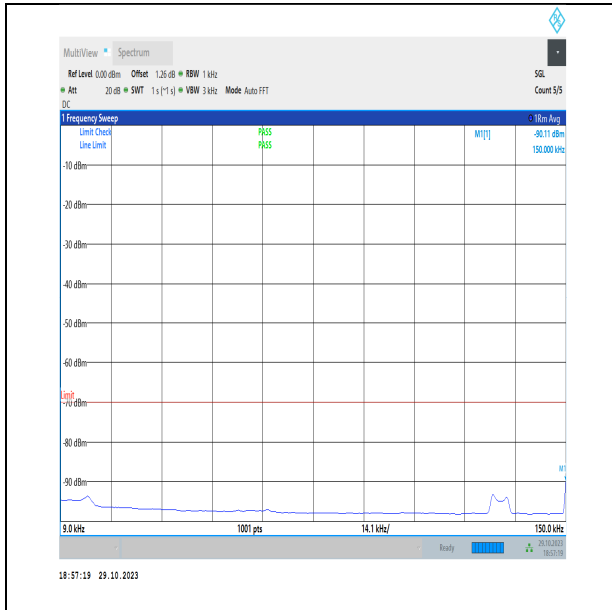
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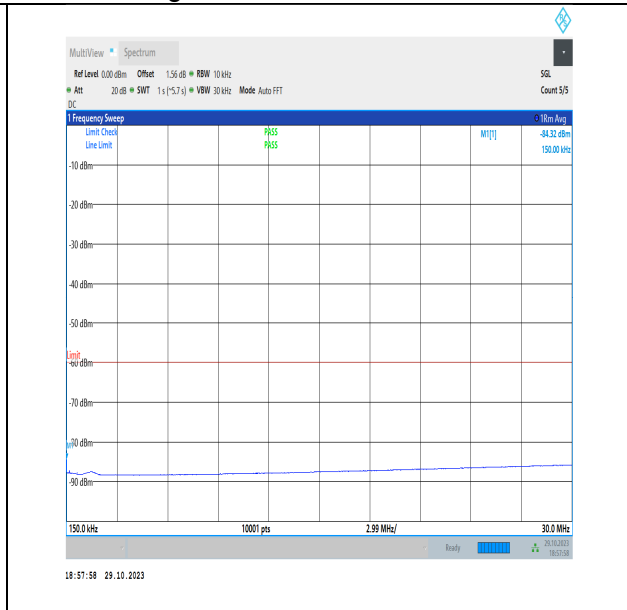
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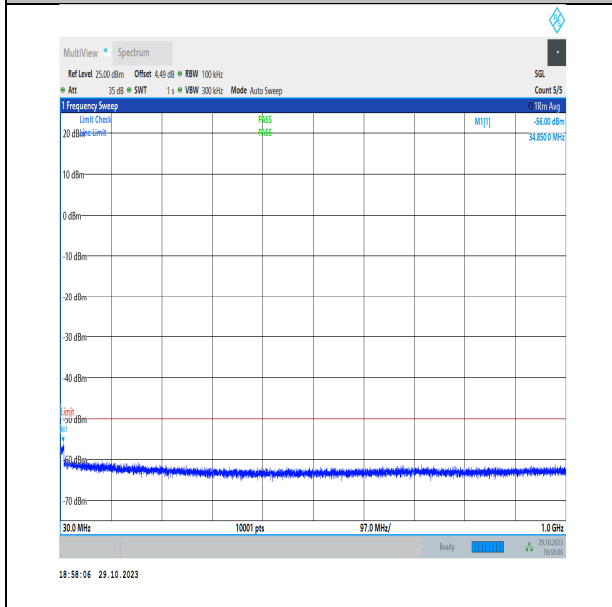
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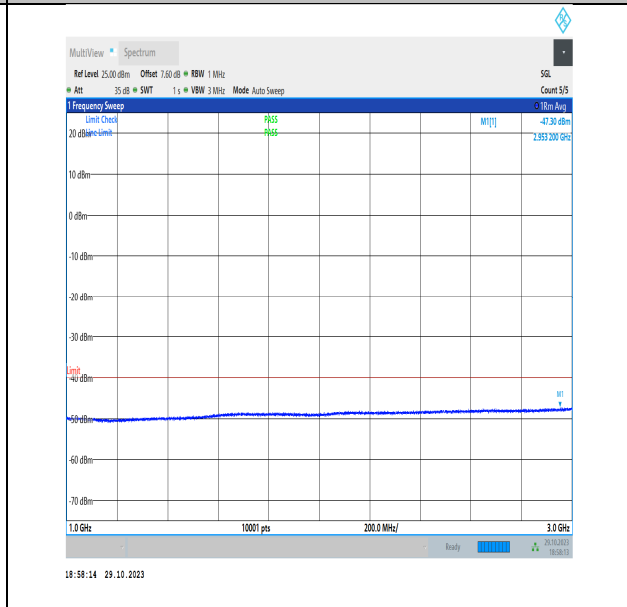
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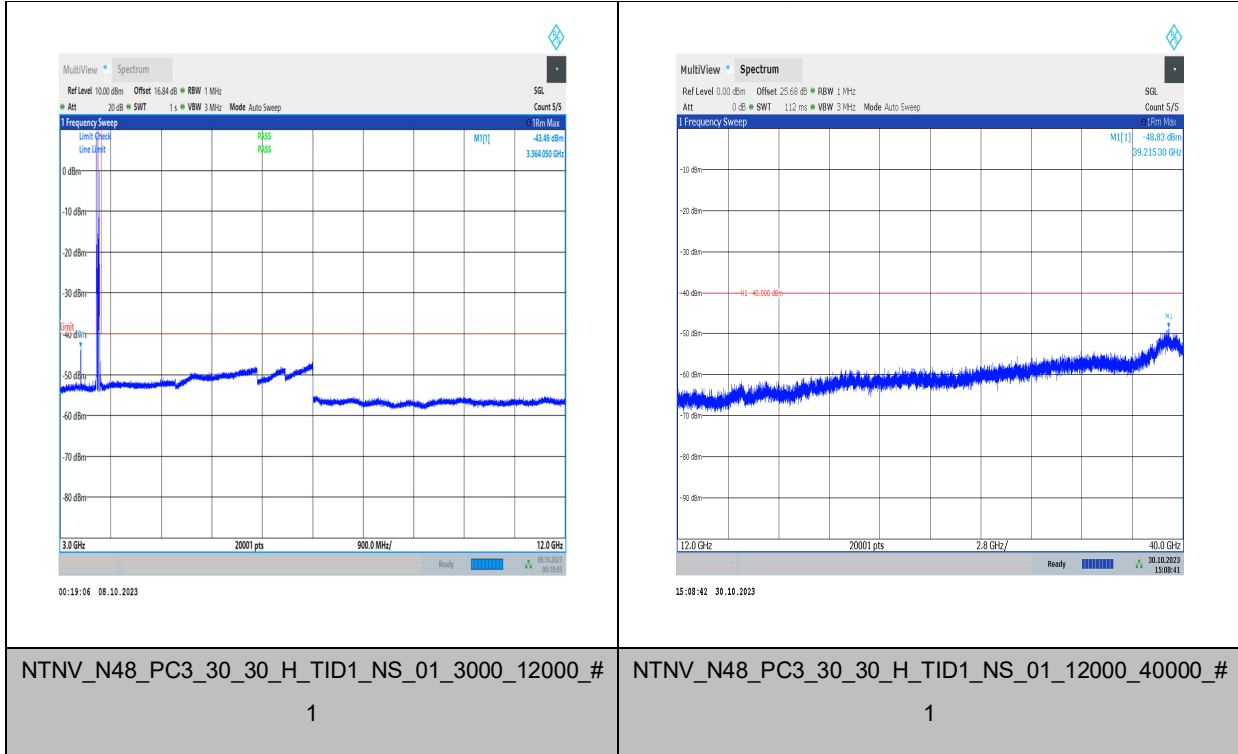


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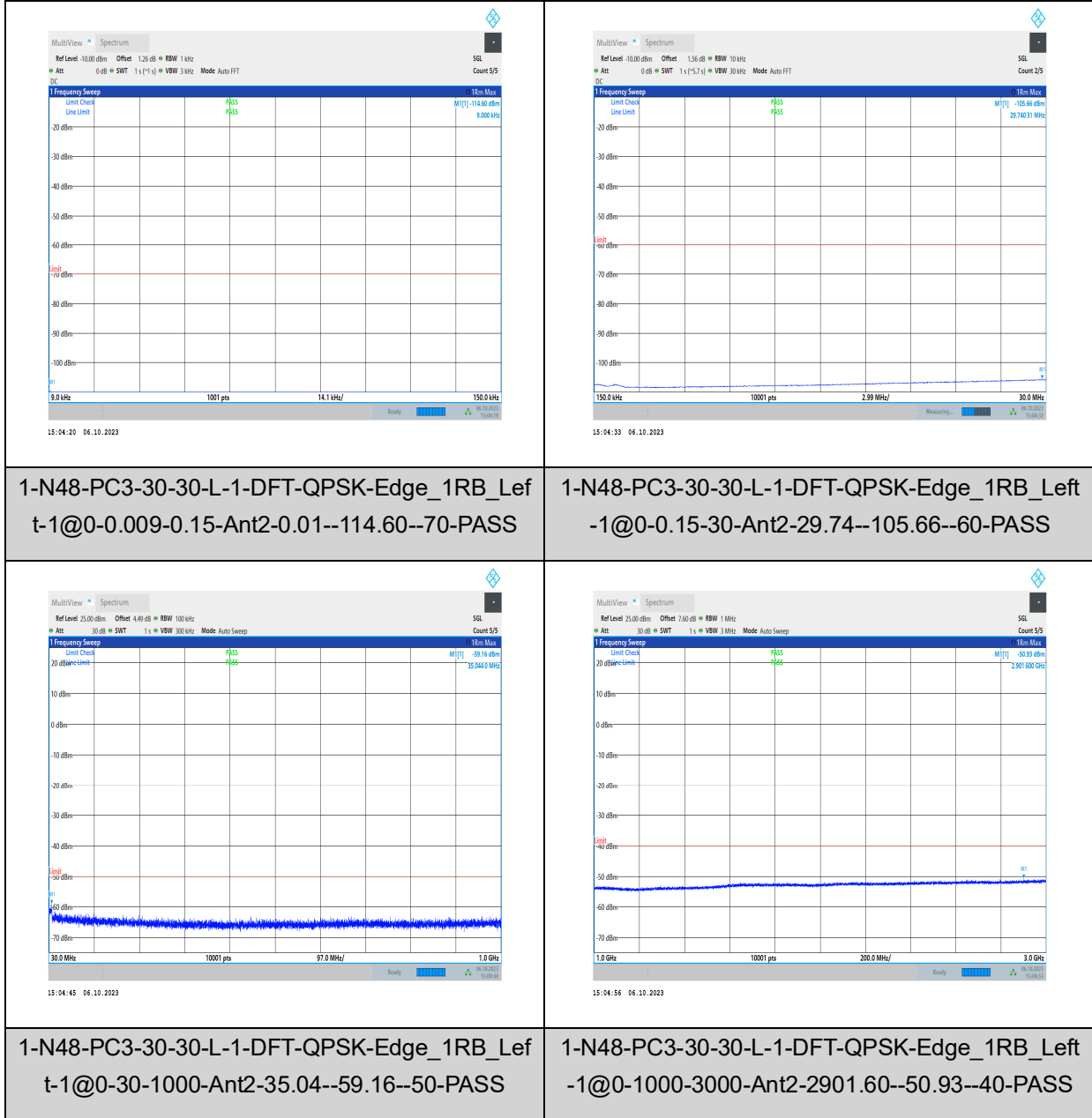
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**Conducted Spurious Emission for MIMO ANT2**

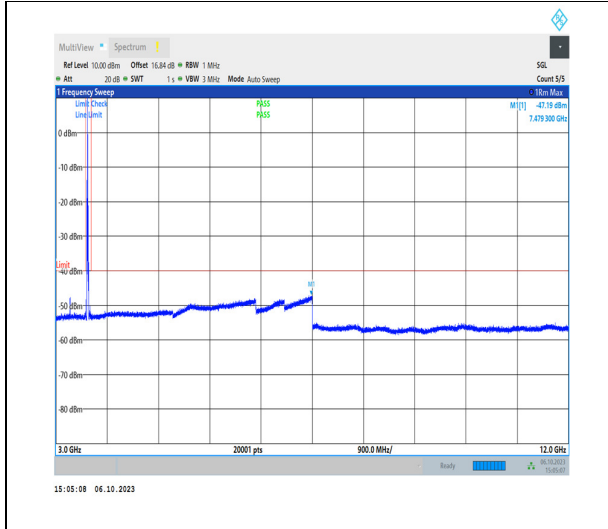
**Test Graphs**



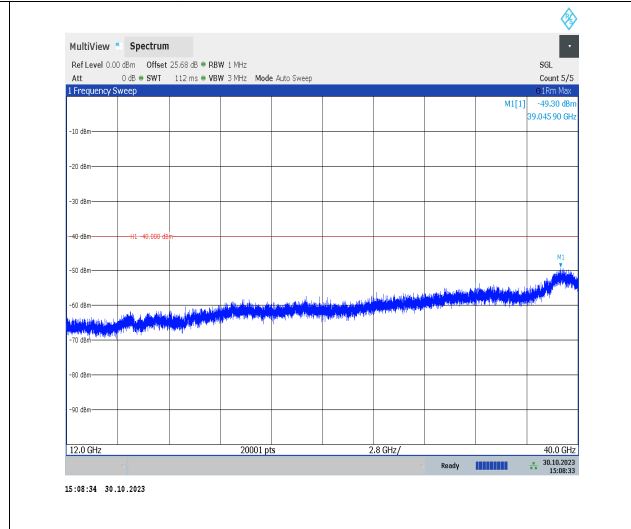
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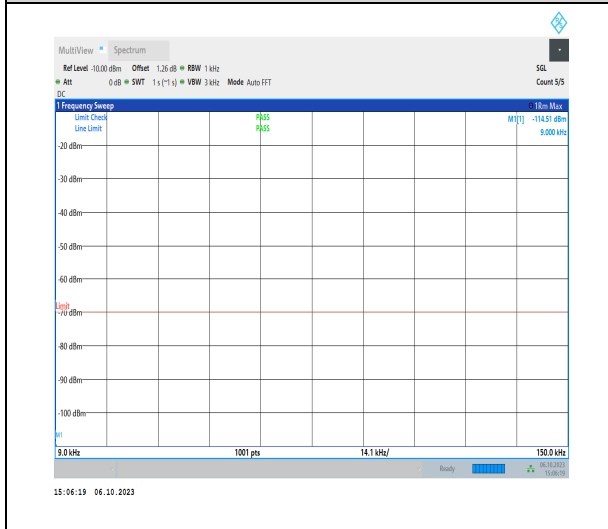
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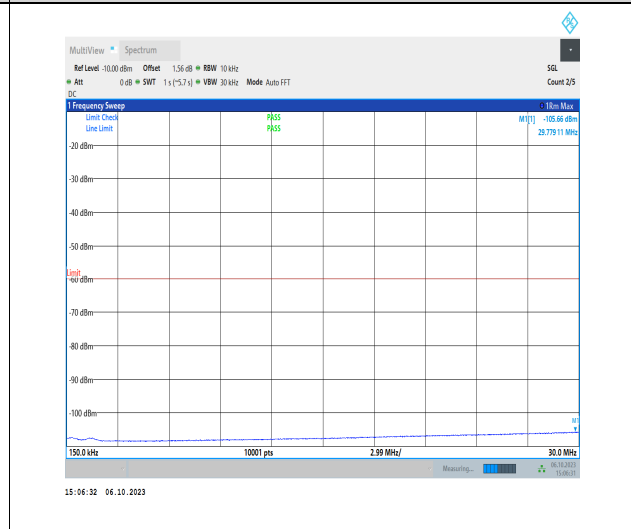
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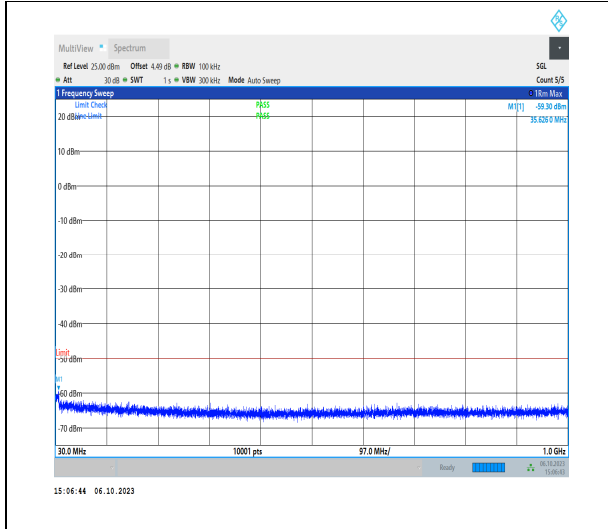
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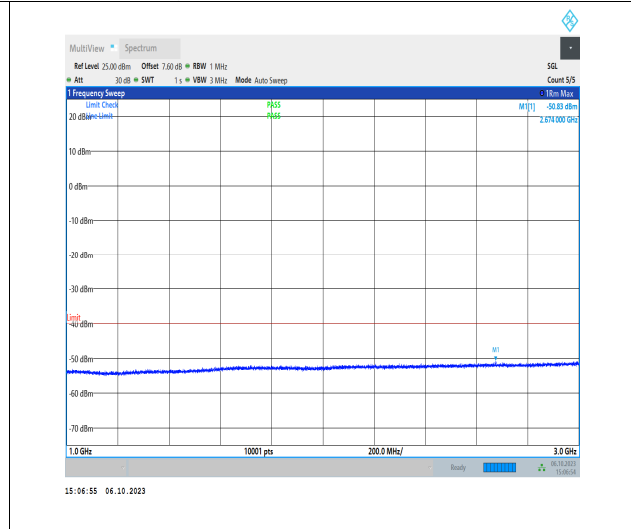
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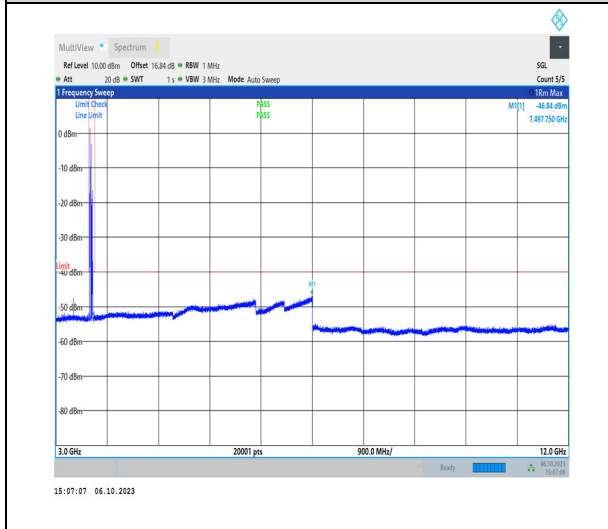
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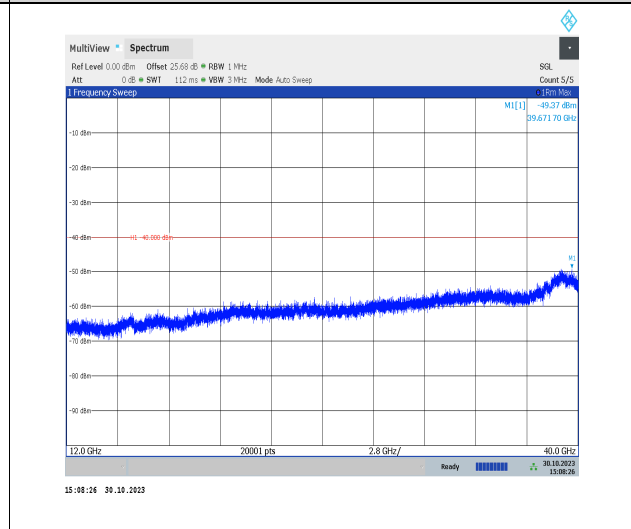
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 SS



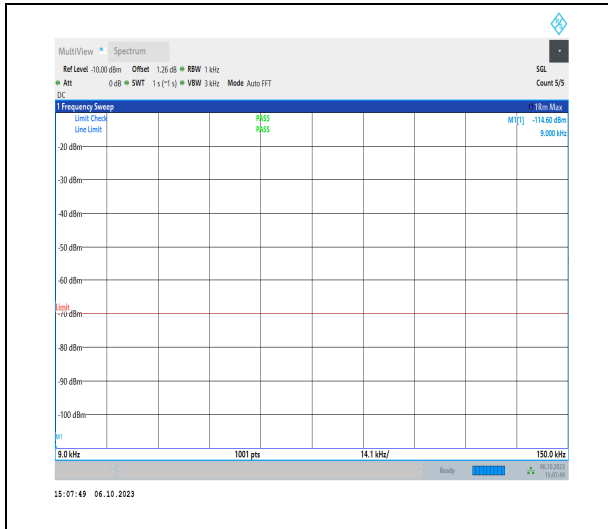
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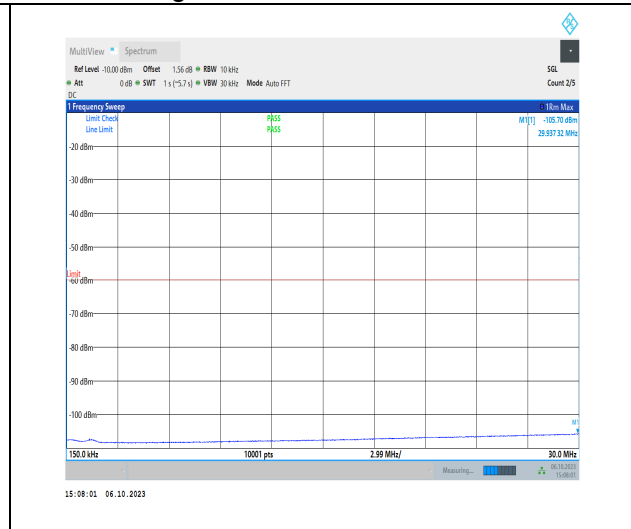
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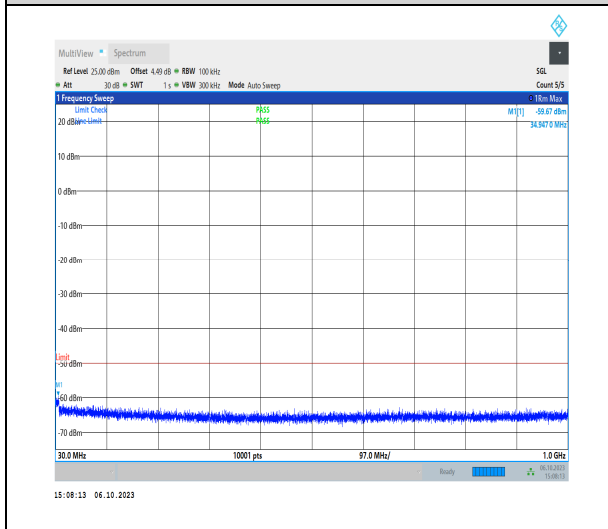
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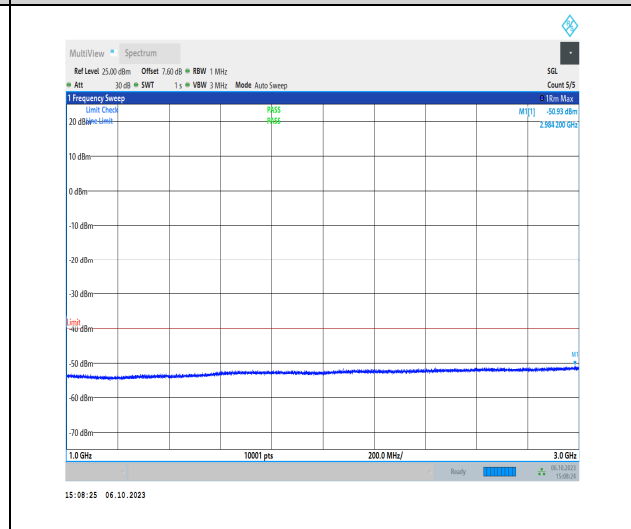
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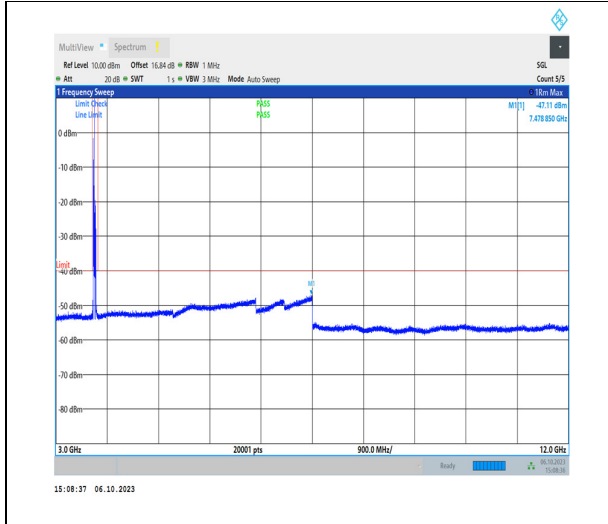
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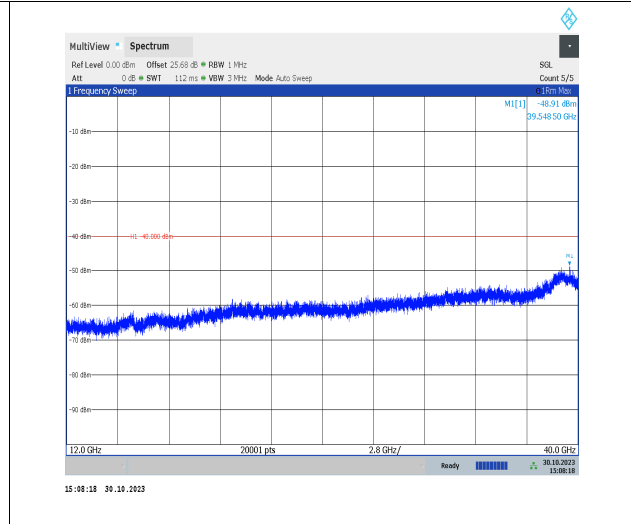
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1-N48-PC3-30-30-H-1-DFT-QPSK-Edge\_1RB\_Le  
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 SS



1-N48-PC3-30-30-H-1-DFT-QPSK-Edge\_1RB\_Left  
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 SS



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**Field Strength of Spurious Radiation**

**Test Band = NR SA Band 48\_ TM1**

**Test Channel = Low Channel**

| Final Data List |                 |                |             |          |             |             |             |            |
|-----------------|-----------------|----------------|-------------|----------|-------------|-------------|-------------|------------|
| NO.             | Frequency [MHz] | Reading [dBμV] | Factor [dB] | AF[dB/m] | Level [dBm] | Limit [dBm] | Margin [dB] | Polarity   |
| 1               | 7241.2708       | 40.75          | -43.40      | 35.88    | -62.03      | -40.00      | 22.03       | Horizontal |
| 2               | 8409.9583       | 37.55          | -41.55      | 36.60    | -62.66      | -40.00      | 22.66       | Horizontal |
| 3               | 9633.75         | 33.78          | -39.13      | 37.50    | -63.11      | -40.00      | 23.11       | Horizontal |
| 4               | 11457.4583      | 28.54          | -37.04      | 38.75    | -65.01      | -40.00      | 25.01       | Horizontal |
| 5               | 13850.8958      | 27.23          | -35.70      | 40.63    | -63.10      | -40.00      | 23.10       | Horizontal |
| 6               | 16492.0625      | 27.73          | -33.41      | 40.73    | -60.22      | -40.00      | 20.22       | Horizontal |

| Final Data List |                 |                |             |          |             |             |             |          |
|-----------------|-----------------|----------------|-------------|----------|-------------|-------------|-------------|----------|
| NO.             | Frequency [MHz] | Reading [dBμV] | Factor [dB] | AF[dB/m] | Level [dBm] | Limit [dBm] | Margin [dB] | Polarity |
| 1               | 7241.2708       | 42.29          | -43.40      | 35.88    | -60.49      | -40.00      | 20.49       | Vertical |
| 2               | 8411.875        | 38.06          | -41.55      | 36.59    | -62.16      | -40.00      | 22.16       | Vertical |
| 3               | 10088.4792      | 32.09          | -39.10      | 38.24    | -64.03      | -40.00      | 24.03       | Vertical |
| 4               | 12219.3333      | 28.07          | -37.11      | 38.87    | -65.44      | -40.00      | 25.44       | Vertical |
| 5               | 13847.0625      | 27.74          | -35.74      | 40.62    | -62.63      | -40.00      | 22.63       | Vertical |
| 6               | 15400.0417      | 25.21          | -33.80      | 40.46    | -63.39      | -40.00      | 23.39       | Vertical |



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**Test Band = NR SA Band 48\_ TM1**

**Test Channel = Mid Channel**

| Final Data List |                 |                |             |          |             |             |             |            |
|-----------------|-----------------|----------------|-------------|----------|-------------|-------------|-------------|------------|
| NO.             | Frequency [MHz] | Reading [dBμV] | Factor [dB] | AF[dB/m] | Level [dBm] | Limit [dBm] | Margin [dB] | Polarity   |
| 1               | 7654.3125       | 39.08          | -42.95      | 36.66    | -62.47      | -40.00      | 22.47       | Horizontal |
| 2               | 9045.8125       | 35.42          | -40.56      | 36.39    | -64.01      | -40.00      | 24.01       | Horizontal |
| 3               | 11329.5208      | 29.23          | -37.44      | 38.73    | -64.73      | -40.00      | 24.73       | Horizontal |
| 4               | 13671.6875      | 27.19          | -36.00      | 40.31    | -63.76      | -40.00      | 23.76       | Horizontal |
| 5               | 15393.3333      | 25.49          | -33.81      | 40.47    | -63.11      | -40.00      | 23.11       | Horizontal |
| 6               | 17161.9375      | 27.33          | -34.91      | 43.03    | -59.81      | -40.00      | 19.81       | Horizontal |

| Final Data List |                 |                |             |          |             |             |             |          |
|-----------------|-----------------|----------------|-------------|----------|-------------|-------------|-------------|----------|
| NO.             | Frequency [MHz] | Reading [dBμV] | Factor [dB] | AF[dB/m] | Level [dBm] | Limit [dBm] | Margin [dB] | Polarity |
| 1               | 7863.2292       | 39.05          | -42.64      | 36.75    | -62.10      | -40.00      | 22.10       | Vertical |
| 2               | 9588.7083       | 34.87          | -39.16      | 37.42    | -62.13      | -40.00      | 22.13       | Vertical |
| 3               | 11148.3958      | 29.25          | -37.62      | 38.71    | -64.91      | -40.00      | 24.91       | Vertical |
| 4               | 13370.2917      | 26.23          | -36.71      | 39.77    | -65.97      | -40.00      | 25.97       | Vertical |
| 5               | 15155.1875      | 25.86          | -34.60      | 40.97    | -63.03      | -40.00      | 23.03       | Vertical |
| 6               | 16464.2708      | 27.97          | -33.59      | 40.64    | -60.24      | -40.00      | 20.24       | Vertical |



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**Test Band = NR SA Band 48\_ TM1**

**Test Channel = High Channel**

| Final Data List |                 |                |             |          |             |             |             |            |
|-----------------|-----------------|----------------|-------------|----------|-------------|-------------|-------------|------------|
| NO.             | Frequency [MHz] | Reading [dBμV] | Factor [dB] | AF[dB/m] | Level [dBm] | Limit [dBm] | Margin [dB] | Polarity   |
| 1               | 7241.2708       | 40.96          | -43.40      | 35.88    | -61.82      | -40.00      | 21.82       | Horizontal |
| 2               | 8401.8125       | 37.95          | -41.55      | 36.60    | -62.26      | -40.00      | 22.26       | Horizontal |
| 3               | 9592.5417       | 34.19          | -39.12      | 37.43    | -62.76      | -40.00      | 22.76       | Horizontal |
| 4               | 11143.125       | 29.70          | -37.62      | 38.71    | -64.47      | -40.00      | 24.47       | Horizontal |
| 5               | 12869.0833      | 27.40          | -36.96      | 39.06    | -65.76      | -40.00      | 25.76       | Horizontal |
| 6               | 16487.2708      | 27.36          | -33.44      | 40.71    | -60.63      | -40.00      | 20.63       | Horizontal |

| Final Data List |                 |                |             |          |             |             |             |          |
|-----------------|-----------------|----------------|-------------|----------|-------------|-------------|-------------|----------|
| NO.             | Frequency [MHz] | Reading [dBμV] | Factor [dB] | AF[dB/m] | Level [dBm] | Limit [dBm] | Margin [dB] | Polarity |
| 1               | 7241.2708       | 40.53          | -43.40      | 35.88    | -62.25      | -40.00      | 22.25       | Vertical |
| 2               | 8409.4792       | 37.86          | -41.55      | 36.60    | -62.35      | -40.00      | 22.35       | Vertical |
| 3               | 9646.2083       | 33.94          | -39.17      | 37.53    | -62.97      | -40.00      | 22.97       | Vertical |
| 4               | 11380.7917      | 28.64          | -37.08      | 38.74    | -64.96      | -40.00      | 24.96       | Vertical |
| 5               | 13855.6875      | 27.43          | -35.66      | 40.64    | -62.85      | -40.00      | 22.85       | Vertical |
| 6               | 16510.2708      | 27.45          | -33.49      | 40.78    | -60.52      | -40.00      | 20.52       | Vertical |

Remark:

1) The field strength is calculated by adding the Antenna Factor, Cable Factor & AMP. The basic equation with a sample calculation is as follows:

AF = Antenna Factor(dB/m)

Factor = Cable Factor(dB) - Preamplifier (dB)

Level = Reading Level + AF + Factor -95.26

Margin = Limit – Level



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**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 |
| N48     | 30  | 30        | DFT-PI2BPSK | M       | Outer_Full | VL      | NT          | -10.100000    | -0.002786       | PASS    |
| N48     | 30  | 30        | DFT-PI2BPSK | M       | Outer_Full | VN      | NT          | -8.500000     | -0.002345       | PASS    |
| N48     | 30  | 30        | DFT-PI2BPSK | M       | Outer_Full | VH      | NT          | -3.200000     | -0.000883       | PASS    |
| N48     | 30  | 30        | CP-QPSK     | M       | Outer_Full | VL      | NT          | -15.500000    | -0.004276       | PASS    |
| N48     | 30  | 30        | CP-QPSK     | M       | Outer_Full | VN      | NT          | -6.300000     | -0.001738       | PASS    |
| N48     | 30  | 30        | CP-QPSK     | M       | Outer_Full | VH      | NT          | -9.800000     | -0.002703       | PASS    |



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**Frequency Error VS. Temperature**

| Temperature |     |           |             |         |            |         |             |               |                 |         |
|-------------|-----|-----------|-------------|---------|------------|---------|-------------|---------------|-----------------|---------|
| Band        | SCS | Bandwidth | Modulation  | Channel | RB Config  | Voltage | Temperature | Deviation(Hz) | Deviation (ppm) | Verdict |
| N48         | 30  | 30        | DFT-Pi2BPSK | M       | Outer_Full | NV      | -30         | -2.600000     | -0.000717       | PASS    |
| N48         | 30  | 30        | DFT-Pi2BPSK | M       | Outer_Full | NV      | -20         | -3.300000     | -0.000910       | PASS    |
| N48         | 30  | 30        | DFT-Pi2BPSK | M       | Outer_Full | NV      | -10         | -6.000000     | -0.001655       | PASS    |
| N48         | 30  | 30        | DFT-Pi2BPSK | M       | Outer_Full | NV      | 0           | -0.200000     | -0.000055       | PASS    |
| N48         | 30  | 30        | DFT-Pi2BPSK | M       | Outer_Full | NV      | 10          | -7.400000     | -0.002041       | PASS    |
| N48         | 30  | 30        | DFT-Pi2BPSK | M       | Outer_Full | NV      | 20          | -7.800000     | -0.002152       | PASS    |
| N48         | 30  | 30        | DFT-Pi2BPSK | M       | Outer_Full | NV      | 30          | -3.500000     | -0.000966       | PASS    |
| N48         | 30  | 30        | DFT-Pi2BPSK | M       | Outer_Full | NV      | 40          | -5.300000     | -0.001462       | PASS    |
| N48         | 30  | 30        | DFT-Pi2BPSK | M       | Outer_Full | NV      | 50          | -4.800000     | -0.001324       | PASS    |
| N48         | 30  | 30        | CP-QPSK     | M       | Outer_Full | NV      | -30         | -6.100000     | -0.001683       | PASS    |
| N48         | 30  | 30        | CP-QPSK     | M       | Outer_Full | NV      | -20         | 4.200000      | 0.001159        | PASS    |
| N48         | 30  | 30        | CP-QPSK     | M       | Outer_Full | NV      | -10         | -1.500000     | -0.000414       | PASS    |
| N48         | 30  | 30        | CP-QPSK     | M       | Outer_Full | NV      | 0           | -5.600000     | -0.001545       | PASS    |
| N48         | 30  | 30        | CP-QPSK     | M       | Outer_Full | NV      | 10          | -6.000000     | -0.001655       | PASS    |
| N48         | 30  | 30        | CP-QPSK     | M       | Outer_Full | NV      | 20          | 0.000000      | 0.000000        | PASS    |
| N48         | 30  | 30        | CP-QPSK     | M       | Outer_Full | NV      | 30          | -5.000000     | -0.001379       | PASS    |
| N48         | 30  | 30        | CP-QPSK     | M       | Outer_Full | NV      | 40          | -9.000000     | -0.002483       | PASS    |
| N48         | 30  | 30        | CP-QPSK     | M       | Outer_Full | NV      | 50          | -3.600000     | -0.000993       | PASS    |

---End of Attachment---



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