



# Appendix B

## E-UTRA Band 38



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## 1. Effective (Isotropic) Radiated Power

### 1.1. Test Result

| Band   | Bandwidth | Modulation | Channel | RB Configuration | Conducted Power(dBm) | EIRP (dBm) | Limit (dBm) | Verdict |
|--------|-----------|------------|---------|------------------|----------------------|------------|-------------|---------|
| Band38 | 5MHz      | QPSK       | 37775   | 1RB#0            | 22.32                | 21.22      | 33.00       | PASS    |
| Band38 | 5MHz      | QPSK       | 37775   | 1RB#12           | 22.53                | 21.43      | 33.00       | PASS    |
| Band38 | 5MHz      | QPSK       | 37775   | 1RB#24           | 22.33                | 21.23      | 33.00       | PASS    |
| Band38 | 5MHz      | QPSK       | 37775   | 12RB#0           | 21.64                | 20.54      | 33.00       | PASS    |
| Band38 | 5MHz      | QPSK       | 37775   | 12RB#6           | 21.61                | 20.51      | 33.00       | PASS    |
| Band38 | 5MHz      | QPSK       | 37775   | 12RB#13          | 21.58                | 20.48      | 33.00       | PASS    |
| Band38 | 5MHz      | QPSK       | 37775   | 25RB#0           | 21.53                | 20.43      | 33.00       | PASS    |
| Band38 | 5MHz      | QPSK       | 38000   | 1RB#0            | 22.17                | 21.07      | 33.00       | PASS    |
| Band38 | 5MHz      | QPSK       | 38000   | 1RB#12           | 22.26                | 21.16      | 33.00       | PASS    |
| Band38 | 5MHz      | QPSK       | 38000   | 1RB#24           | 22.06                | 20.96      | 33.00       | PASS    |
| Band38 | 5MHz      | QPSK       | 38000   | 12RB#0           | 21.39                | 20.29      | 33.00       | PASS    |
| Band38 | 5MHz      | QPSK       | 38000   | 12RB#6           | 21.43                | 20.33      | 33.00       | PASS    |
| Band38 | 5MHz      | QPSK       | 38000   | 12RB#13          | 21.29                | 20.19      | 33.00       | PASS    |
| Band38 | 5MHz      | QPSK       | 38000   | 25RB#0           | 21.31                | 20.21      | 33.00       | PASS    |
| Band38 | 5MHz      | QPSK       | 38225   | 1RB#0            | 22.00                | 20.90      | 33.00       | PASS    |
| Band38 | 5MHz      | QPSK       | 38225   | 1RB#12           | 22.08                | 20.98      | 33.00       | PASS    |
| Band38 | 5MHz      | QPSK       | 38225   | 1RB#24           | 22.00                | 20.90      | 33.00       | PASS    |
| Band38 | 5MHz      | QPSK       | 38225   | 12RB#0           | 21.24                | 20.14      | 33.00       | PASS    |
| Band38 | 5MHz      | QPSK       | 38225   | 12RB#6           | 21.22                | 20.12      | 33.00       | PASS    |
| Band38 | 5MHz      | QPSK       | 38225   | 12RB#13          | 21.14                | 20.04      | 33.00       | PASS    |
| Band38 | 5MHz      | QPSK       | 38225   | 25RB#0           | 21.07                | 19.97      | 33.00       | PASS    |
| Band38 | 5MHz      | 16QAM      | 37775   | 1RB#0            | 21.51                | 20.41      | 33.00       | PASS    |
| Band38 | 5MHz      | 16QAM      | 37775   | 1RB#12           | 21.62                | 20.52      | 33.00       | PASS    |
| Band38 | 5MHz      | 16QAM      | 37775   | 1RB#24           | 21.38                | 20.28      | 33.00       | PASS    |
| Band38 | 5MHz      | 16QAM      | 37775   | 12RB#0           | 20.51                | 19.41      | 33.00       | PASS    |
| Band38 | 5MHz      | 16QAM      | 37775   | 12RB#6           | 20.56                | 19.46      | 33.00       | PASS    |
| Band38 | 5MHz      | 16QAM      | 37775   | 12RB#13          | 20.47                | 19.37      | 33.00       | PASS    |
| Band38 | 5MHz      | 16QAM      | 37775   | 25RB#0           | 20.55                | 19.45      | 33.00       | PASS    |
| Band38 | 5MHz      | 16QAM      | 38000   | 1RB#0            | 21.31                | 20.21      | 33.00       | PASS    |
| Band38 | 5MHz      | 16QAM      | 38000   | 1RB#12           | 21.33                | 20.23      | 33.00       | PASS    |
| Band38 | 5MHz      | 16QAM      | 38000   | 1RB#24           | 21.19                | 20.09      | 33.00       | PASS    |
| Band38 | 5MHz      | 16QAM      | 38000   | 12RB#0           | 20.37                | 19.27      | 33.00       | PASS    |
| Band38 | 5MHz      | 16QAM      | 38000   | 12RB#6           | 20.34                | 19.24      | 33.00       | PASS    |
| Band38 | 5MHz      | 16QAM      | 38000   | 12RB#13          | 20.22                | 19.12      | 33.00       | PASS    |
| Band38 | 5MHz      | 16QAM      | 38000   | 25RB#0           | 20.33                | 19.23      | 33.00       | PASS    |
| Band38 | 5MHz      | 16QAM      | 38225   | 1RB#0            | 21.13                | 20.03      | 33.00       | PASS    |
| Band38 | 5MHz      | 16QAM      | 38225   | 1RB#12           | 21.16                | 20.06      | 33.00       | PASS    |
| Band38 | 5MHz      | 16QAM      | 38225   | 1RB#24           | 21.07                | 19.97      | 33.00       | PASS    |



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|        |       |       |       |         |       |       |       |      |
|--------|-------|-------|-------|---------|-------|-------|-------|------|
| Band38 | 5MHz  | 16QAM | 38225 | 12RB#0  | 20.11 | 19.01 | 33.00 | PASS |
| Band38 | 5MHz  | 16QAM | 38225 | 12RB#6  | 20.11 | 19.01 | 33.00 | PASS |
| Band38 | 5MHz  | 16QAM | 38225 | 12RB#13 | 20.05 | 18.95 | 33.00 | PASS |
| Band38 | 5MHz  | 16QAM | 38225 | 25RB#0  | 20.10 | 19.00 | 33.00 | PASS |
| Band38 | 10MHz | QPSK  | 37800 | 1RB#0   | 22.53 | 21.43 | 33.00 | PASS |
| Band38 | 10MHz | QPSK  | 37800 | 1RB#24  | 22.33 | 21.23 | 33.00 | PASS |
| Band38 | 10MHz | QPSK  | 37800 | 1RB#49  | 22.41 | 21.31 | 33.00 | PASS |
| Band38 | 10MHz | QPSK  | 37800 | 25RB#0  | 21.59 | 20.49 | 33.00 | PASS |
| Band38 | 10MHz | QPSK  | 37800 | 25RB#12 | 21.57 | 20.47 | 33.00 | PASS |
| Band38 | 10MHz | QPSK  | 37800 | 25RB#25 | 21.58 | 20.48 | 33.00 | PASS |
| Band38 | 10MHz | QPSK  | 37800 | 50RB#0  | 21.51 | 20.41 | 33.00 | PASS |
| Band38 | 10MHz | QPSK  | 38000 | 1RB#0   | 22.36 | 21.26 | 33.00 | PASS |
| Band38 | 10MHz | QPSK  | 38000 | 1RB#24  | 22.20 | 21.10 | 33.00 | PASS |
| Band38 | 10MHz | QPSK  | 38000 | 1RB#49  | 22.14 | 21.04 | 33.00 | PASS |
| Band38 | 10MHz | QPSK  | 38000 | 25RB#0  | 21.40 | 20.30 | 33.00 | PASS |
| Band38 | 10MHz | QPSK  | 38000 | 25RB#12 | 21.31 | 20.21 | 33.00 | PASS |
| Band38 | 10MHz | QPSK  | 38000 | 25RB#25 | 21.33 | 20.23 | 33.00 | PASS |
| Band38 | 10MHz | QPSK  | 38000 | 50RB#0  | 21.30 | 20.20 | 33.00 | PASS |
| Band38 | 10MHz | QPSK  | 38200 | 1RB#0   | 22.17 | 21.07 | 33.00 | PASS |
| Band38 | 10MHz | QPSK  | 38200 | 1RB#24  | 21.96 | 20.86 | 33.00 | PASS |
| Band38 | 10MHz | QPSK  | 38200 | 1RB#49  | 22.07 | 20.97 | 33.00 | PASS |
| Band38 | 10MHz | QPSK  | 38200 | 25RB#0  | 21.29 | 20.19 | 33.00 | PASS |
| Band38 | 10MHz | QPSK  | 38200 | 25RB#12 | 21.24 | 20.14 | 33.00 | PASS |
| Band38 | 10MHz | QPSK  | 38200 | 25RB#25 | 21.18 | 20.08 | 33.00 | PASS |
| Band38 | 10MHz | QPSK  | 38200 | 50RB#0  | 21.13 | 20.03 | 33.00 | PASS |
| Band38 | 10MHz | 16QAM | 37800 | 1RB#0   | 21.65 | 20.55 | 33.00 | PASS |
| Band38 | 10MHz | 16QAM | 37800 | 1RB#24  | 21.52 | 20.42 | 33.00 | PASS |
| Band38 | 10MHz | 16QAM | 37800 | 1RB#49  | 21.56 | 20.46 | 33.00 | PASS |
| Band38 | 10MHz | 16QAM | 37800 | 25RB#0  | 20.58 | 19.48 | 33.00 | PASS |
| Band38 | 10MHz | 16QAM | 37800 | 25RB#12 | 20.60 | 19.50 | 33.00 | PASS |
| Band38 | 10MHz | 16QAM | 37800 | 25RB#25 | 20.58 | 19.48 | 33.00 | PASS |
| Band38 | 10MHz | 16QAM | 37800 | 50RB#0  | 20.60 | 19.50 | 33.00 | PASS |
| Band38 | 10MHz | 16QAM | 38000 | 1RB#0   | 21.48 | 20.38 | 33.00 | PASS |
| Band38 | 10MHz | 16QAM | 38000 | 1RB#24  | 21.29 | 20.19 | 33.00 | PASS |
| Band38 | 10MHz | 16QAM | 38000 | 1RB#49  | 21.25 | 20.15 | 33.00 | PASS |
| Band38 | 10MHz | 16QAM | 38000 | 25RB#0  | 20.42 | 19.32 | 33.00 | PASS |
| Band38 | 10MHz | 16QAM | 38000 | 25RB#12 | 20.35 | 19.25 | 33.00 | PASS |
| Band38 | 10MHz | 16QAM | 38000 | 25RB#25 | 20.34 | 19.24 | 33.00 | PASS |
| Band38 | 10MHz | 16QAM | 38000 | 50RB#0  | 20.40 | 19.30 | 33.00 | PASS |
| Band38 | 10MHz | 16QAM | 38200 | 1RB#0   | 21.32 | 20.22 | 33.00 | PASS |
| Band38 | 10MHz | 16QAM | 38200 | 1RB#24  | 21.14 | 20.04 | 33.00 | PASS |
| Band38 | 10MHz | 16QAM | 38200 | 1RB#49  | 21.17 | 20.07 | 33.00 | PASS |
| Band38 | 10MHz | 16QAM | 38200 | 25RB#0  | 20.24 | 19.14 | 33.00 | PASS |
| Band38 | 10MHz | 16QAM | 38200 | 25RB#12 | 20.21 | 19.11 | 33.00 | PASS |
| Band38 | 10MHz | 16QAM | 38200 | 25RB#25 | 20.15 | 19.05 | 33.00 | PASS |
| Band38 | 10MHz | 16QAM | 38200 | 50RB#0  | 20.24 | 19.14 | 33.00 | PASS |
| Band38 | 15MHz | QPSK  | 37825 | 1RB#0   | 22.42 | 21.32 | 33.00 | PASS |



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|        |       |       |       |         |       |       |       |      |
|--------|-------|-------|-------|---------|-------|-------|-------|------|
| Band38 | 15MHz | QPSK  | 37825 | 1RB#38  | 22.52 | 21.42 | 33.00 | PASS |
| Band38 | 15MHz | QPSK  | 37825 | 1RB#74  | 22.31 | 21.21 | 33.00 | PASS |
| Band38 | 15MHz | QPSK  | 37825 | 36RB#0  | 21.61 | 20.51 | 33.00 | PASS |
| Band38 | 15MHz | QPSK  | 37825 | 36RB#18 | 21.67 | 20.57 | 33.00 | PASS |
| Band38 | 15MHz | QPSK  | 37825 | 36RB#39 | 21.61 | 20.51 | 33.00 | PASS |
| Band38 | 15MHz | QPSK  | 37825 | 75RB#0  | 21.50 | 20.40 | 33.00 | PASS |
| Band38 | 15MHz | QPSK  | 38000 | 1RB#0   | 22.31 | 21.21 | 33.00 | PASS |
| Band38 | 15MHz | QPSK  | 38000 | 1RB#38  | 22.23 | 21.13 | 33.00 | PASS |
| Band38 | 15MHz | QPSK  | 38000 | 1RB#74  | 22.03 | 20.93 | 33.00 | PASS |
| Band38 | 15MHz | QPSK  | 38000 | 36RB#0  | 21.43 | 20.33 | 33.00 | PASS |
| Band38 | 15MHz | QPSK  | 38000 | 36RB#18 | 21.33 | 20.23 | 33.00 | PASS |
| Band38 | 15MHz | QPSK  | 38000 | 36RB#39 | 21.29 | 20.19 | 33.00 | PASS |
| Band38 | 15MHz | QPSK  | 38000 | 75RB#0  | 21.27 | 20.17 | 33.00 | PASS |
| Band38 | 15MHz | QPSK  | 38175 | 1RB#0   | 22.13 | 21.03 | 33.00 | PASS |
| Band38 | 15MHz | QPSK  | 38175 | 1RB#38  | 22.10 | 21.00 | 33.00 | PASS |
| Band38 | 15MHz | QPSK  | 38175 | 1RB#74  | 21.98 | 20.88 | 33.00 | PASS |
| Band38 | 15MHz | QPSK  | 38175 | 36RB#0  | 21.22 | 20.12 | 33.00 | PASS |
| Band38 | 15MHz | QPSK  | 38175 | 36RB#18 | 21.23 | 20.13 | 33.00 | PASS |
| Band38 | 15MHz | QPSK  | 38175 | 36RB#39 | 21.20 | 20.10 | 33.00 | PASS |
| Band38 | 15MHz | QPSK  | 38175 | 75RB#0  | 21.12 | 20.02 | 33.00 | PASS |
| Band38 | 15MHz | 16QAM | 37825 | 1RB#0   | 21.47 | 20.37 | 33.00 | PASS |
| Band38 | 15MHz | 16QAM | 37825 | 1RB#38  | 21.51 | 20.41 | 33.00 | PASS |
| Band38 | 15MHz | 16QAM | 37825 | 1RB#74  | 21.33 | 20.23 | 33.00 | PASS |
| Band38 | 15MHz | 16QAM | 37825 | 36RB#0  | 20.54 | 19.44 | 33.00 | PASS |
| Band38 | 15MHz | 16QAM | 37825 | 36RB#18 | 20.63 | 19.53 | 33.00 | PASS |
| Band38 | 15MHz | 16QAM | 37825 | 36RB#39 | 20.47 | 19.37 | 33.00 | PASS |
| Band38 | 15MHz | 16QAM | 37825 | 75RB#0  | 20.56 | 19.46 | 33.00 | PASS |
| Band38 | 15MHz | 16QAM | 38000 | 1RB#0   | 21.38 | 20.28 | 33.00 | PASS |
| Band38 | 15MHz | 16QAM | 38000 | 1RB#38  | 21.34 | 20.24 | 33.00 | PASS |
| Band38 | 15MHz | 16QAM | 38000 | 1RB#74  | 21.12 | 20.02 | 33.00 | PASS |
| Band38 | 15MHz | 16QAM | 38000 | 36RB#0  | 20.43 | 19.33 | 33.00 | PASS |
| Band38 | 15MHz | 16QAM | 38000 | 36RB#18 | 20.34 | 19.24 | 33.00 | PASS |
| Band38 | 15MHz | 16QAM | 38000 | 36RB#39 | 20.21 | 19.11 | 33.00 | PASS |
| Band38 | 15MHz | 16QAM | 38000 | 75RB#0  | 20.34 | 19.24 | 33.00 | PASS |
| Band38 | 15MHz | 16QAM | 38175 | 1RB#0   | 21.22 | 20.12 | 33.00 | PASS |
| Band38 | 15MHz | 16QAM | 38175 | 1RB#38  | 21.18 | 20.08 | 33.00 | PASS |
| Band38 | 15MHz | 16QAM | 38175 | 1RB#74  | 21.03 | 19.93 | 33.00 | PASS |
| Band38 | 15MHz | 16QAM | 38175 | 36RB#0  | 20.17 | 19.07 | 33.00 | PASS |
| Band38 | 15MHz | 16QAM | 38175 | 36RB#18 | 20.13 | 19.03 | 33.00 | PASS |
| Band38 | 15MHz | 16QAM | 38175 | 36RB#39 | 20.09 | 18.99 | 33.00 | PASS |
| Band38 | 15MHz | 16QAM | 38175 | 75RB#0  | 20.18 | 19.08 | 33.00 | PASS |
| Band38 | 20MHz | QPSK  | 37850 | 1RB#0   | 22.26 | 21.16 | 33.00 | PASS |
| Band38 | 20MHz | QPSK  | 37850 | 1RB#49  | 22.51 | 21.41 | 33.00 | PASS |
| Band38 | 20MHz | QPSK  | 37850 | 1RB#99  | 22.03 | 20.93 | 33.00 | PASS |
| Band38 | 20MHz | QPSK  | 37850 | 50RB#0  | 21.47 | 20.37 | 33.00 | PASS |
| Band38 | 20MHz | QPSK  | 37850 | 50RB#25 | 21.43 | 20.33 | 33.00 | PASS |
| Band38 | 20MHz | QPSK  | 37850 | 50RB#50 | 21.37 | 20.27 | 33.00 | PASS |



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|        |       |       |       |         |       |       |       |      |
|--------|-------|-------|-------|---------|-------|-------|-------|------|
| Band38 | 20MHz | QPSK  | 37850 | 100RB#0 | 21.42 | 20.32 | 33.00 | PASS |
| Band38 | 20MHz | QPSK  | 38000 | 1RB#0   | 22.17 | 21.07 | 33.00 | PASS |
| Band38 | 20MHz | QPSK  | 38000 | 1RB#49  | 22.27 | 21.17 | 33.00 | PASS |
| Band38 | 20MHz | QPSK  | 38000 | 1RB#99  | 21.82 | 20.72 | 33.00 | PASS |
| Band38 | 20MHz | QPSK  | 38000 | 50RB#0  | 21.25 | 20.15 | 33.00 | PASS |
| Band38 | 20MHz | QPSK  | 38000 | 50RB#25 | 21.23 | 20.13 | 33.00 | PASS |
| Band38 | 20MHz | QPSK  | 38000 | 50RB#50 | 21.18 | 20.08 | 33.00 | PASS |
| Band38 | 20MHz | QPSK  | 38000 | 100RB#0 | 21.30 | 20.20 | 33.00 | PASS |
| Band38 | 20MHz | QPSK  | 38150 | 1RB#0   | 21.95 | 20.85 | 33.00 | PASS |
| Band38 | 20MHz | QPSK  | 38150 | 1RB#49  | 22.21 | 21.11 | 33.00 | PASS |
| Band38 | 20MHz | QPSK  | 38150 | 1RB#99  | 21.76 | 20.66 | 33.00 | PASS |
| Band38 | 20MHz | QPSK  | 38150 | 50RB#0  | 21.12 | 20.02 | 33.00 | PASS |
| Band38 | 20MHz | QPSK  | 38150 | 50RB#25 | 21.04 | 19.94 | 33.00 | PASS |
| Band38 | 20MHz | QPSK  | 38150 | 50RB#50 | 20.95 | 19.85 | 33.00 | PASS |
| Band38 | 20MHz | QPSK  | 38150 | 100RB#0 | 21.12 | 20.02 | 33.00 | PASS |
| Band38 | 20MHz | 16QAM | 37850 | 1RB#0   | 21.33 | 20.23 | 33.00 | PASS |
| Band38 | 20MHz | 16QAM | 37850 | 1RB#49  | 21.60 | 20.50 | 33.00 | PASS |
| Band38 | 20MHz | 16QAM | 37850 | 1RB#99  | 21.11 | 20.01 | 33.00 | PASS |
| Band38 | 20MHz | 16QAM | 37850 | 50RB#0  | 20.53 | 19.43 | 33.00 | PASS |
| Band38 | 20MHz | 16QAM | 37850 | 50RB#25 | 20.51 | 19.41 | 33.00 | PASS |
| Band38 | 20MHz | 16QAM | 37850 | 50RB#50 | 20.46 | 19.36 | 33.00 | PASS |
| Band38 | 20MHz | 16QAM | 37850 | 100RB#0 | 20.59 | 19.49 | 33.00 | PASS |
| Band38 | 20MHz | 16QAM | 38000 | 1RB#0   | 21.23 | 20.13 | 33.00 | PASS |
| Band38 | 20MHz | 16QAM | 38000 | 1RB#49  | 21.41 | 20.31 | 33.00 | PASS |
| Band38 | 20MHz | 16QAM | 38000 | 1RB#99  | 20.93 | 19.83 | 33.00 | PASS |
| Band38 | 20MHz | 16QAM | 38000 | 50RB#0  | 20.46 | 19.36 | 33.00 | PASS |
| Band38 | 20MHz | 16QAM | 38000 | 50RB#25 | 20.35 | 19.25 | 33.00 | PASS |
| Band38 | 20MHz | 16QAM | 38000 | 50RB#50 | 20.27 | 19.17 | 33.00 | PASS |
| Band38 | 20MHz | 16QAM | 38000 | 100RB#0 | 20.36 | 19.26 | 33.00 | PASS |
| Band38 | 20MHz | 16QAM | 38150 | 1RB#0   | 21.10 | 20.00 | 33.00 | PASS |
| Band38 | 20MHz | 16QAM | 38150 | 1RB#49  | 21.29 | 20.19 | 33.00 | PASS |
| Band38 | 20MHz | 16QAM | 38150 | 1RB#99  | 20.86 | 19.76 | 33.00 | PASS |
| Band38 | 20MHz | 16QAM | 38150 | 50RB#0  | 20.24 | 19.14 | 33.00 | PASS |
| Band38 | 20MHz | 16QAM | 38150 | 50RB#25 | 20.25 | 19.15 | 33.00 | PASS |
| Band38 | 20MHz | 16QAM | 38150 | 50RB#50 | 20.08 | 18.98 | 33.00 | PASS |
| Band38 | 20MHz | 16QAM | 38150 | 100RB#0 | 20.16 | 19.06 | 33.00 | PASS |

Remark:

a: For getting the EIRP (Efficient Isotropic Radiated Power), the following formula should be taken to calculate it,

ERP [dBm] = Conducted Power [dBm] + Gain [dBd]

EIRP [dBm] = Conducted Power [dBm] + Gain [dBi]



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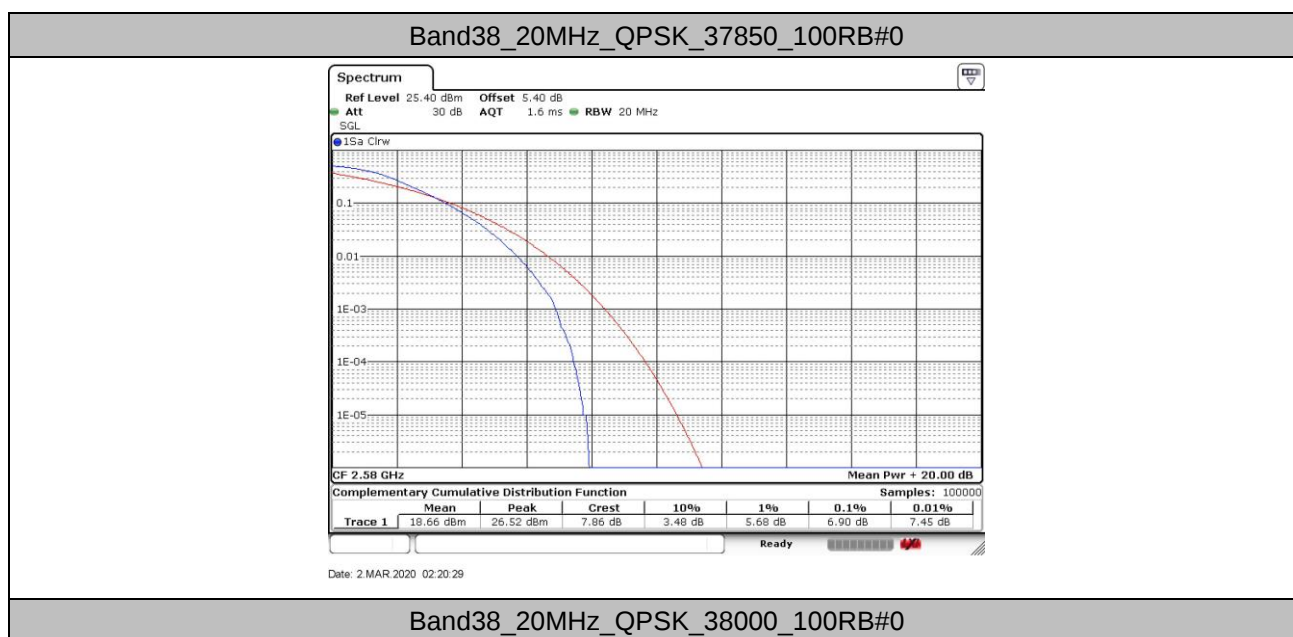
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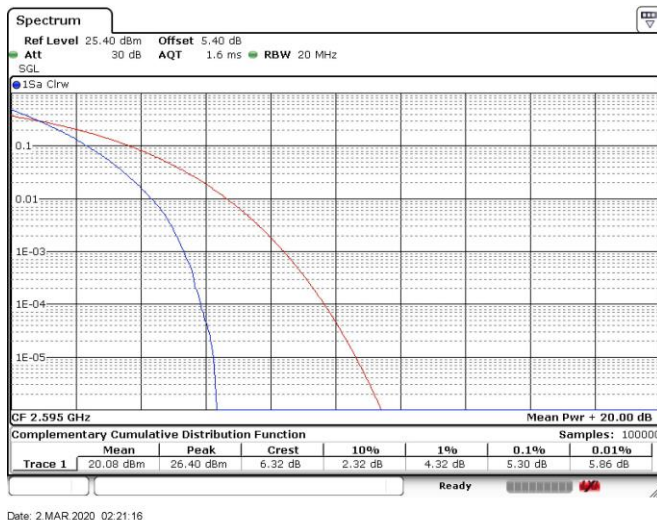
## 2. Peak-to-Average Ratio(CCDF)

### 2.1. Test Result

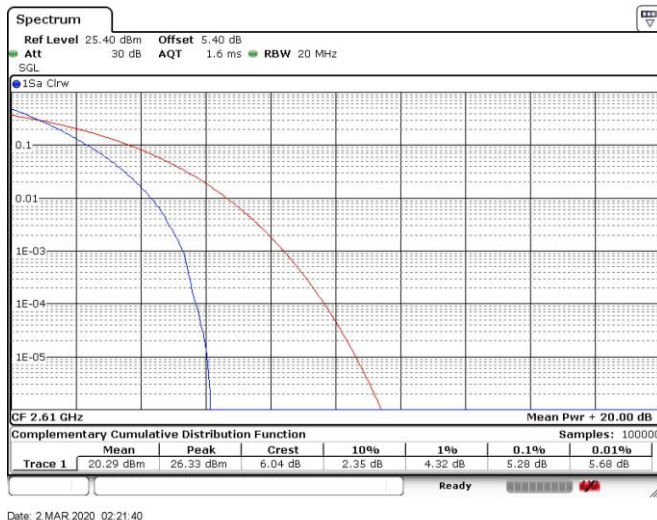
| Band   | Bandwidth | Modulation | Channel | RB Configuration | Result(dB) | Limit(dB) | Verdict |
|--------|-----------|------------|---------|------------------|------------|-----------|---------|
| Band38 | 20MHz     | QPSK       | 37850   | 100RB#0          | 6.90       | 13        | PASS    |
| Band38 | 20MHz     | QPSK       | 38000   | 100RB#0          | 5.30       | 13        | PASS    |
| Band38 | 20MHz     | QPSK       | 38150   | 100RB#0          | 5.28       | 13        | PASS    |
| Band38 | 20MHz     | 16QAM      | 37850   | 100RB#0          | 5.91       | 13        | PASS    |
| Band38 | 20MHz     | 16QAM      | 38000   | 100RB#0          | 6.32       | 13        | PASS    |
| Band38 | 20MHz     | 16QAM      | 38150   | 100RB#0          | 6.87       | 13        | PASS    |

### 2.2. Test Plots





Band38\_20MHz\_QPSK\_38150\_100RB#0

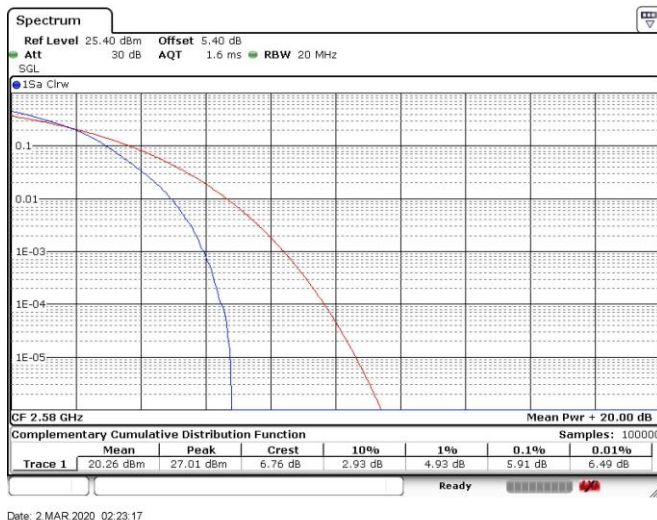


Band38\_20MHz\_16QAM\_37850\_100RB#0

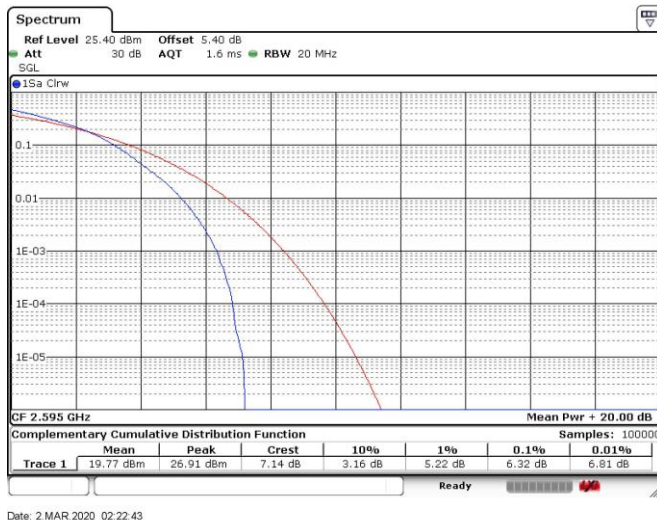


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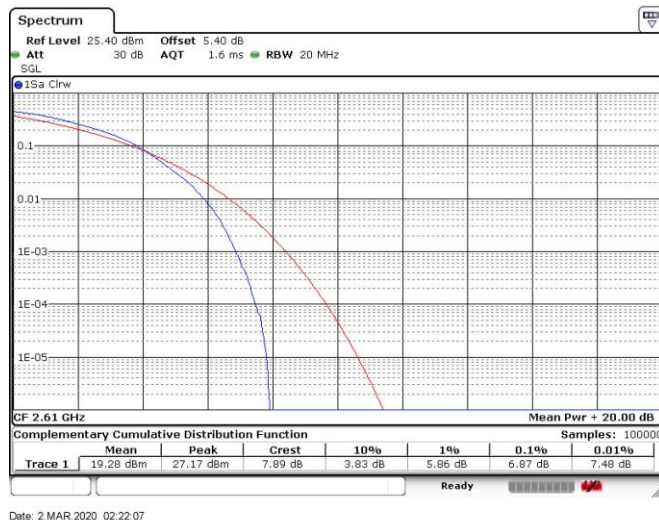


Band38\_20MHz\_16QAM\_38000\_100RB#0



Band38\_20MHz\_16QAM\_38150\_100RB#0





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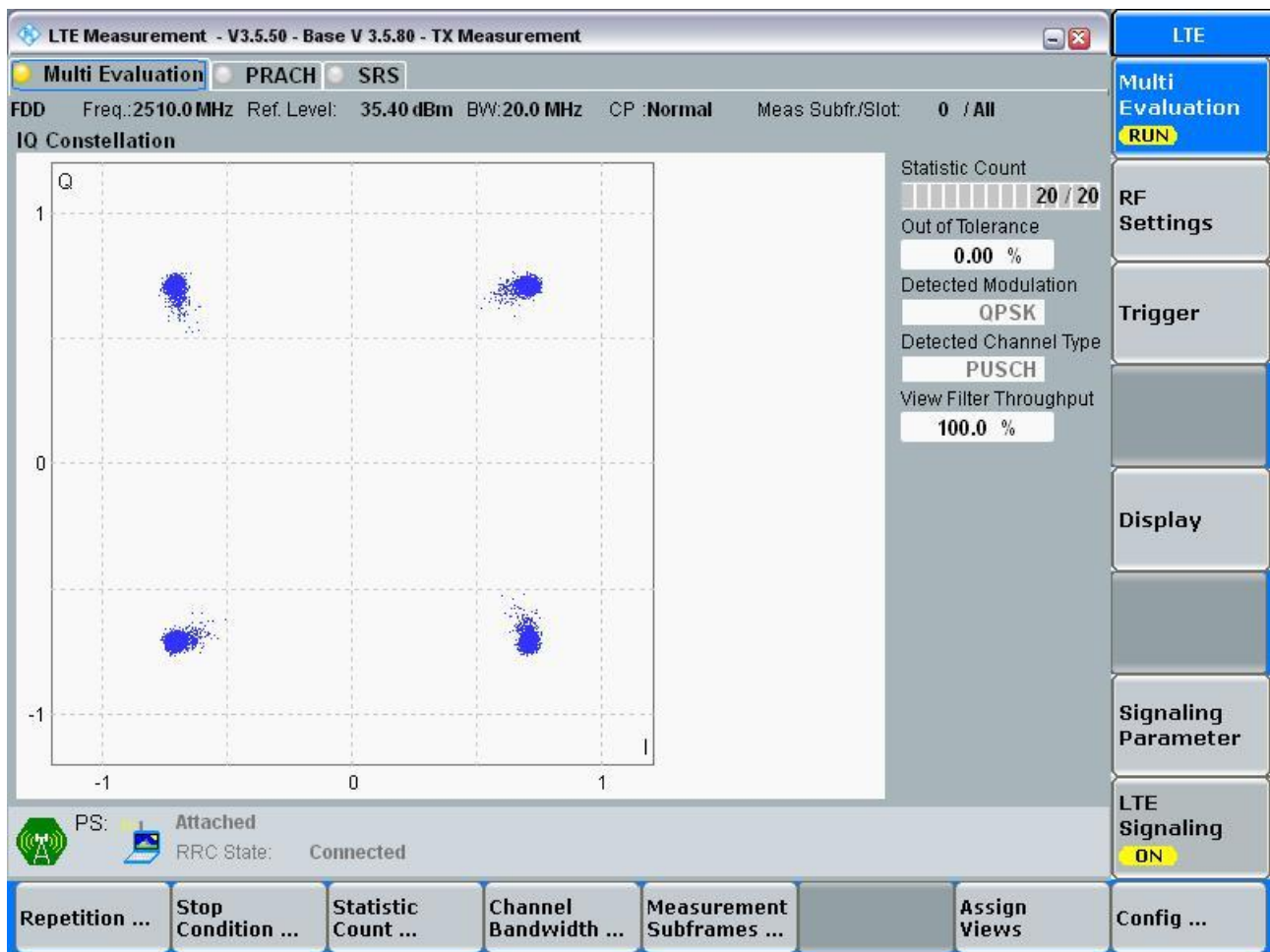
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### 3. Modulation Characteristics

#### 3.1. Test Band = LTE Band 38

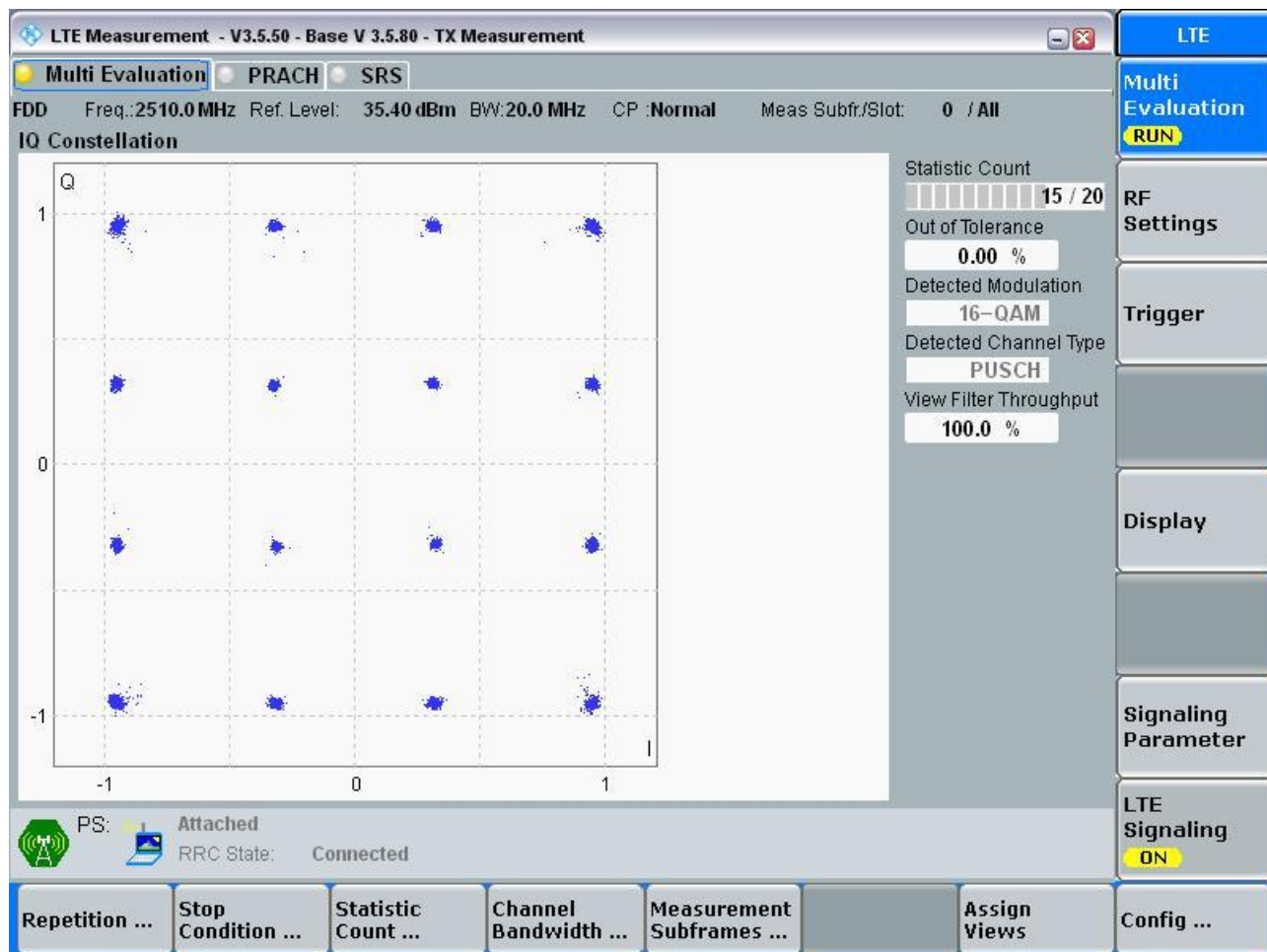
#### 3.2. Test Mode = LTE /TM1 20MHz

#### 3.2.1. Test Channel = LCH



### 3.3. Test Mode = LTE /TM2 20MHz

#### 3.3.1. Test Channel = LCH



## 4. 26dB Bandwidth and Occupied Bandwidth

### 4.1. Test Result

| Band   | Bandwidth | Modulation | Channel | RB Configuration | Occupied Bandwidth (MHz) | 26dB Bandwidth (MHz) | Verdict |
|--------|-----------|------------|---------|------------------|--------------------------|----------------------|---------|
| Band38 | 5MHz      | QPSK       | 37775   | 25RB#0           | 4.466                    | 4.880                | PASS    |
| Band38 | 5MHz      | QPSK       | 38000   | 25RB#0           | 4.486                    | 4.870                | PASS    |
| Band38 | 5MHz      | QPSK       | 38225   | 25RB#0           | 4.456                    | 4.860                | PASS    |
| Band38 | 5MHz      | 16QAM      | 37775   | 25RB#0           | 4.466                    | 4.820                | PASS    |
| Band38 | 5MHz      | 16QAM      | 38000   | 25RB#0           | 4.466                    | 4.910                | PASS    |
| Band38 | 5MHz      | 16QAM      | 38225   | 25RB#0           | 4.466                    | 4.850                | PASS    |
| Band38 | 10MHz     | QPSK       | 37800   | 50RB#0           | 8.951                    | 9.560                | PASS    |
| Band38 | 10MHz     | QPSK       | 38000   | 50RB#0           | 8.951                    | 9.620                | PASS    |
| Band38 | 10MHz     | QPSK       | 38200   | 50RB#0           | 8.951                    | 9.840                | PASS    |
| Band38 | 10MHz     | 16QAM      | 37800   | 50RB#0           | 8.931                    | 10.380               | PASS    |
| Band38 | 10MHz     | 16QAM      | 38000   | 50RB#0           | 8.931                    | 9.620                | PASS    |
| Band38 | 10MHz     | 16QAM      | 38200   | 50RB#0           | 8.931                    | 9.480                | PASS    |
| Band38 | 15MHz     | QPSK       | 37825   | 75RB#0           | 13.427                   | 15.660               | PASS    |
| Band38 | 15MHz     | QPSK       | 38000   | 75RB#0           | 13.457                   | 15.510               | PASS    |
| Band38 | 15MHz     | QPSK       | 38175   | 75RB#0           | 13.516                   | 16.050               | PASS    |
| Band38 | 15MHz     | 16QAM      | 37825   | 75RB#0           | 13.516                   | 17.340               | PASS    |
| Band38 | 15MHz     | 16QAM      | 38000   | 75RB#0           | 13.487                   | 15.840               | PASS    |
| Band38 | 15MHz     | 16QAM      | 38175   | 75RB#0           | 13.487                   | 16.140               | PASS    |
| Band38 | 20MHz     | QPSK       | 37850   | 100RB#0          | 17.902                   | 20.400               | PASS    |
| Band38 | 20MHz     | QPSK       | 38000   | 100RB#0          | 17.902                   | 19.760               | PASS    |
| Band38 | 20MHz     | QPSK       | 38150   | 100RB#0          | 17.942                   | 19.880               | PASS    |
| Band38 | 20MHz     | 16QAM      | 37850   | 100RB#0          | 17.862                   | 19.320               | PASS    |
| Band38 | 20MHz     | 16QAM      | 38000   | 100RB#0          | 17.902                   | 20.960               | PASS    |
| Band38 | 20MHz     | 16QAM      | 38150   | 100RB#0          | 17.902                   | 19.880               | PASS    |



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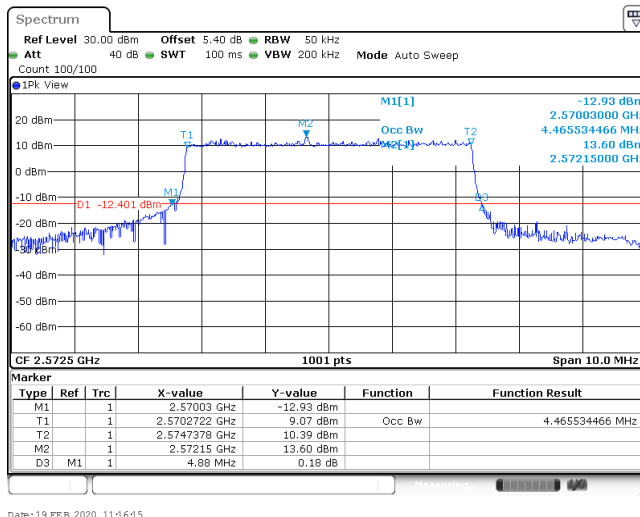
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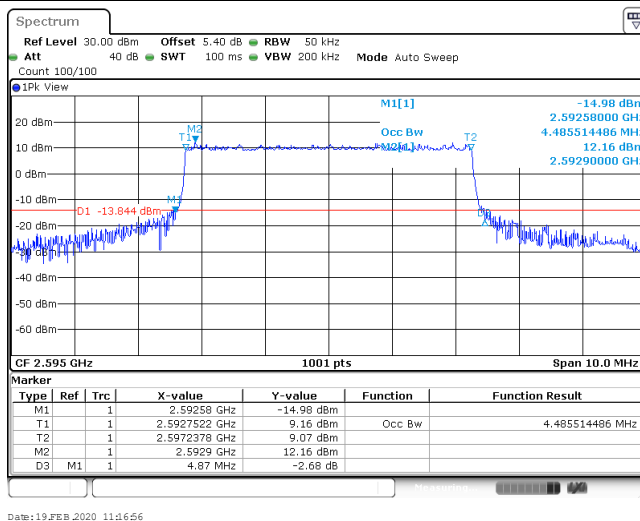
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## 4.2. Test Plots

Band38\_5MHz\_QPSK\_37775\_25RB#0

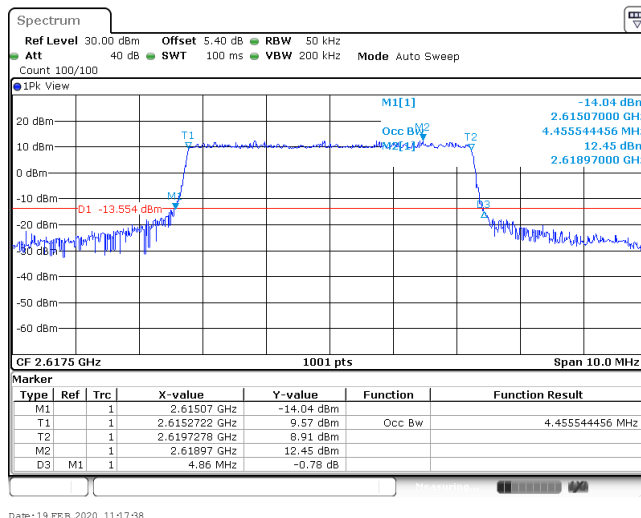


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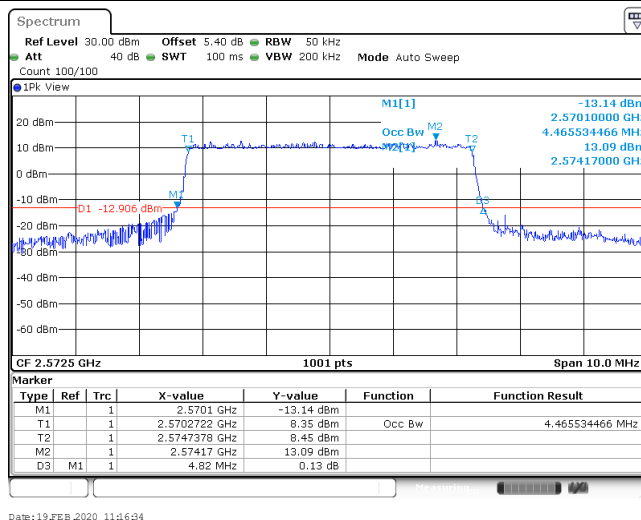


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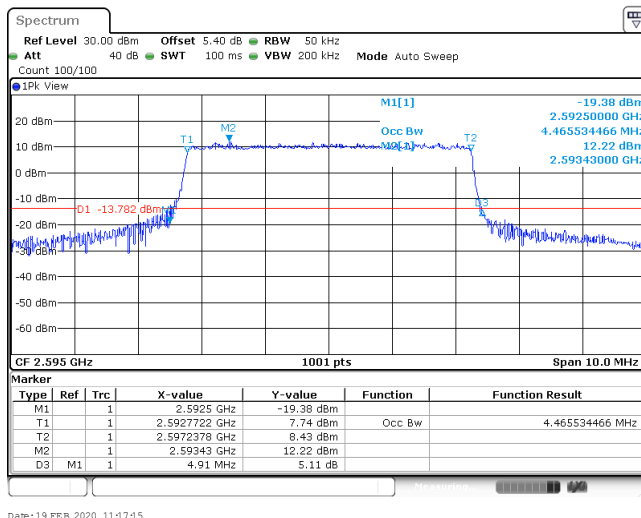


## Band38\_5MHz\_16QAM\_37775\_25RB#0



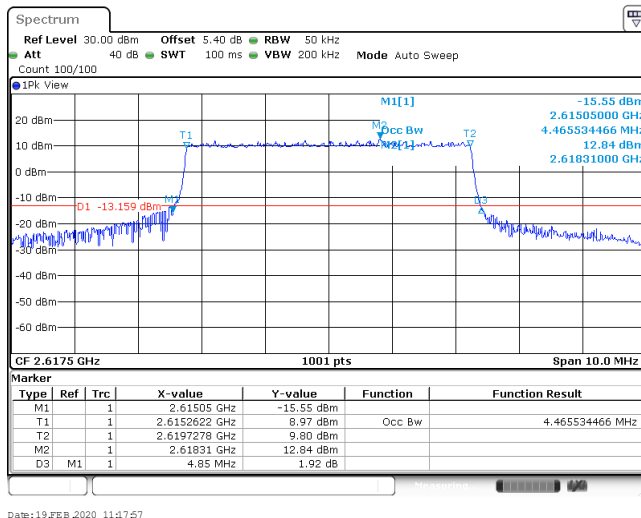
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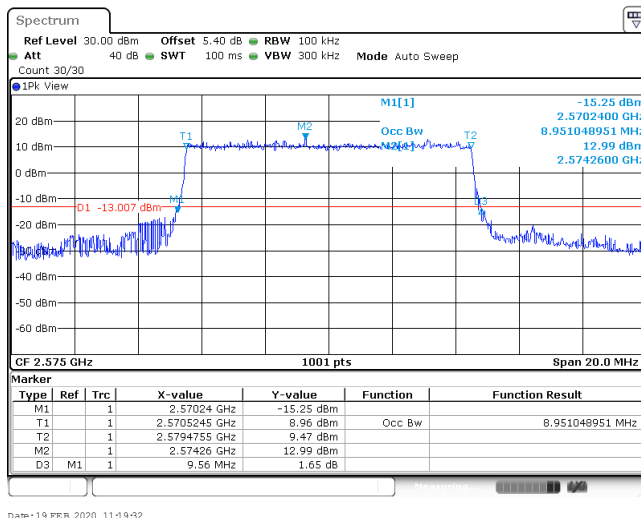
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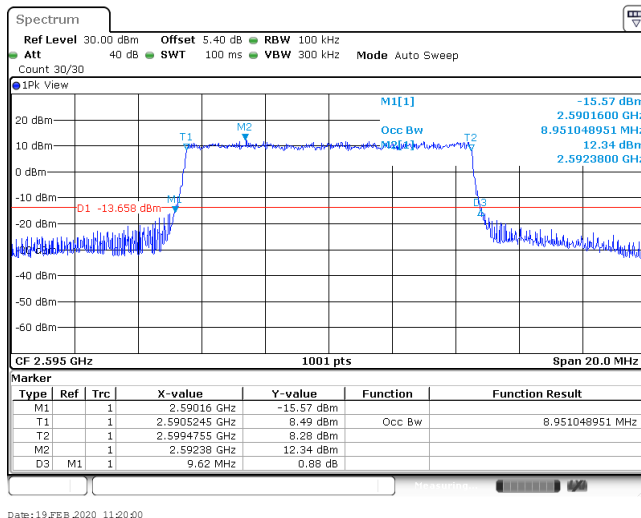
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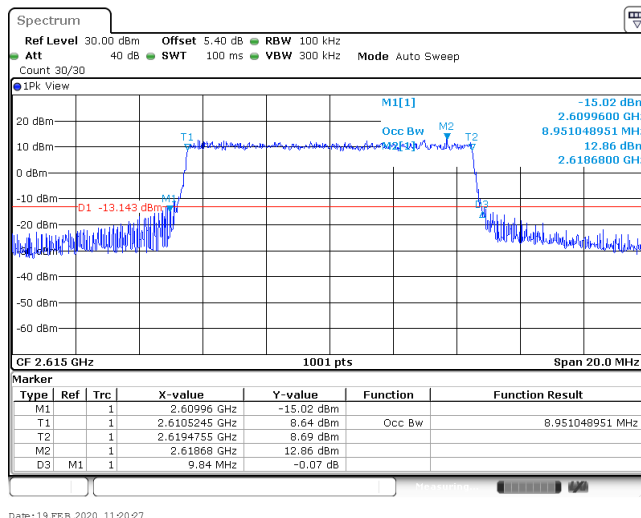


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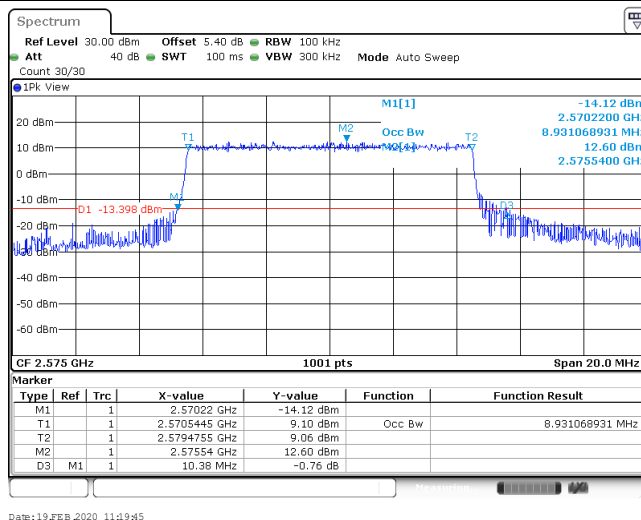


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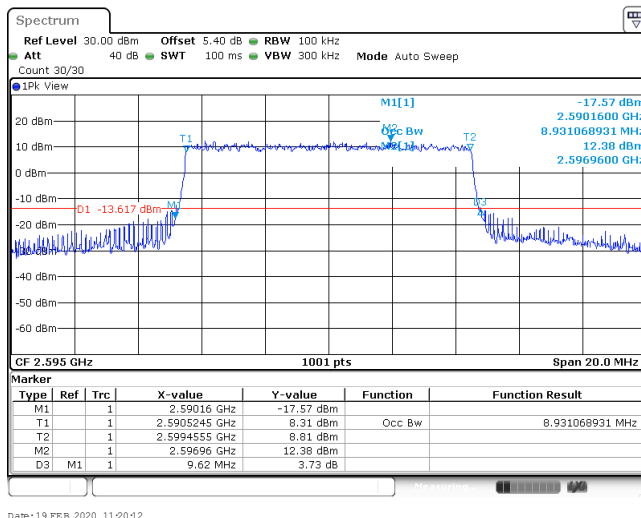


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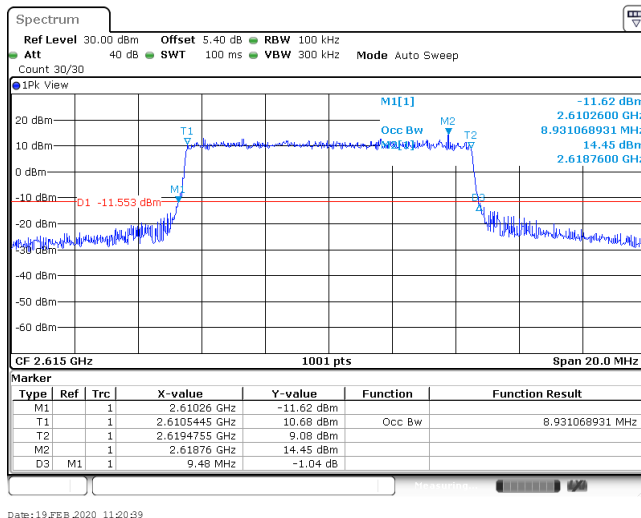


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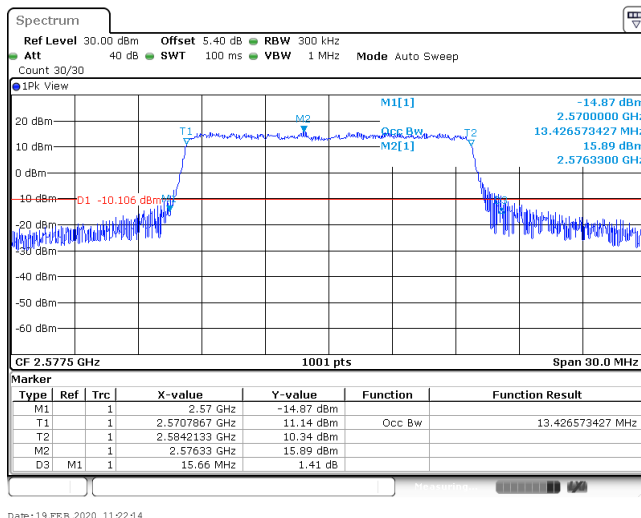


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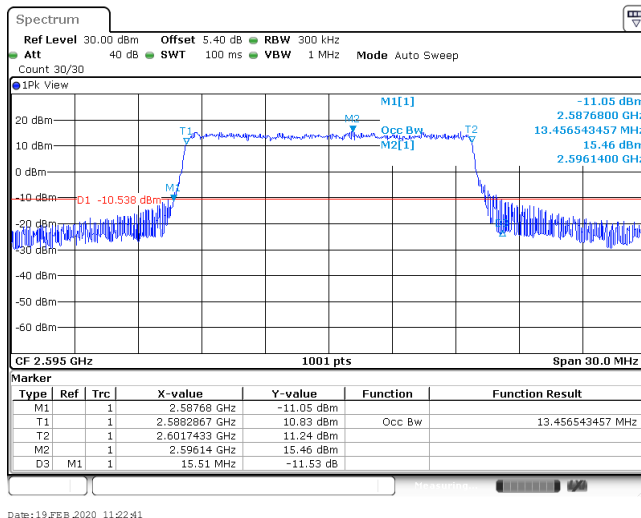
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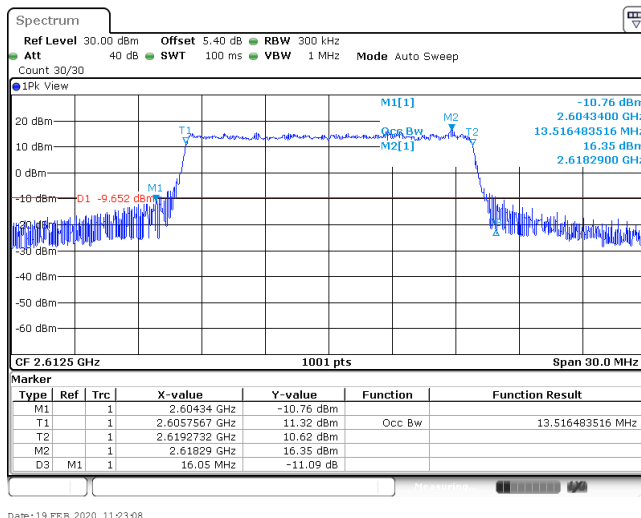
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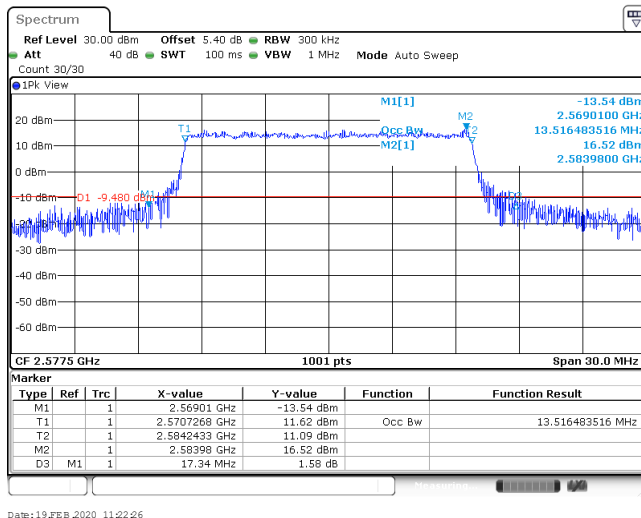
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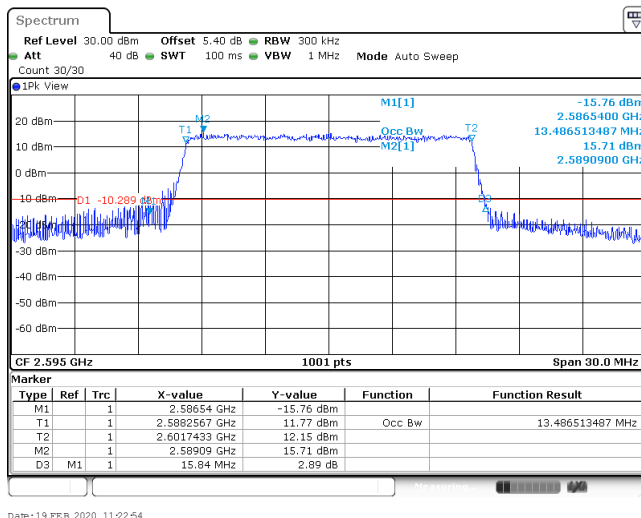


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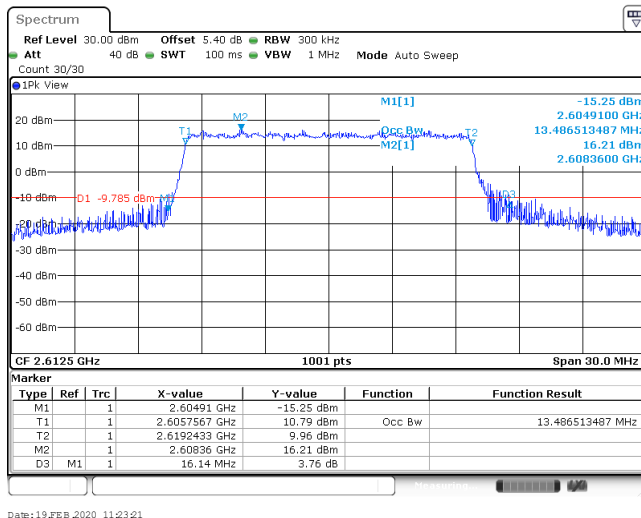
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Date: 19 FEB 2020 11:22:54

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Date: 19 FEB 2020 11:23:21

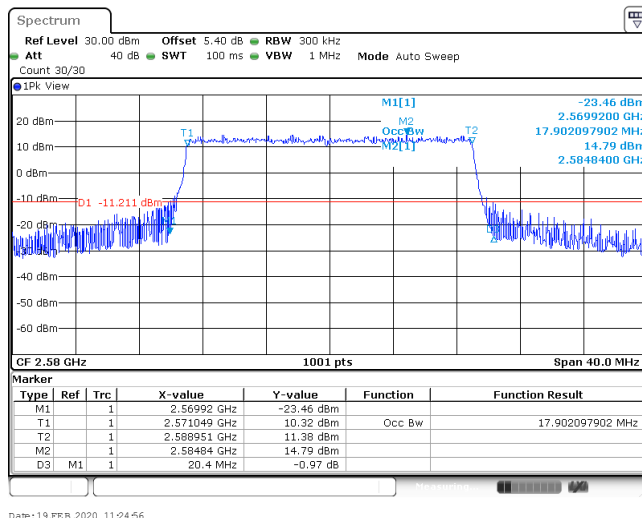
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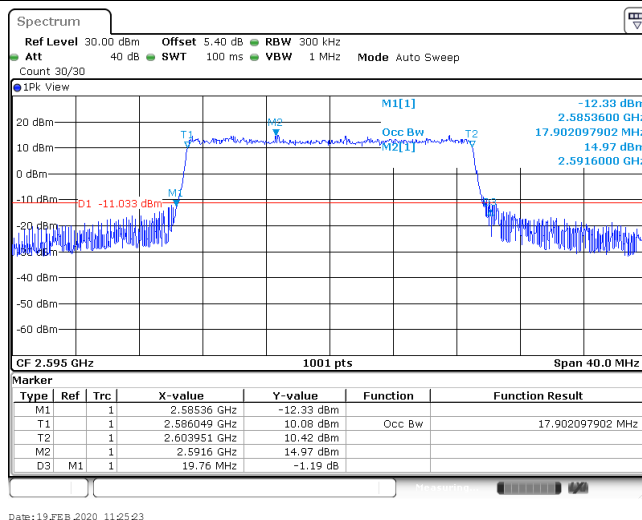
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Date: 19 FEB 2020 11:24:56

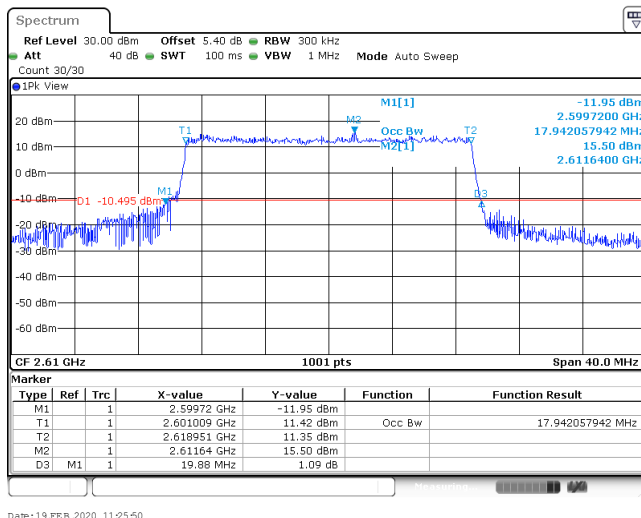
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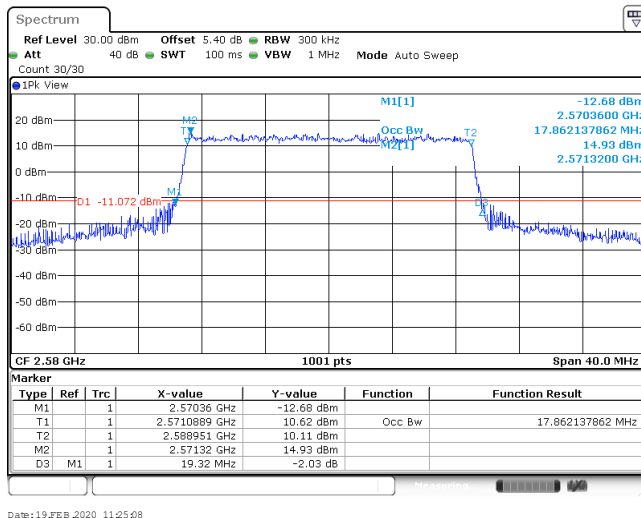
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## Band38\_20MHz\_QPSK\_38150\_100RB#0





## Band38\_20MHz\_16QAM\_37850\_100RB#0

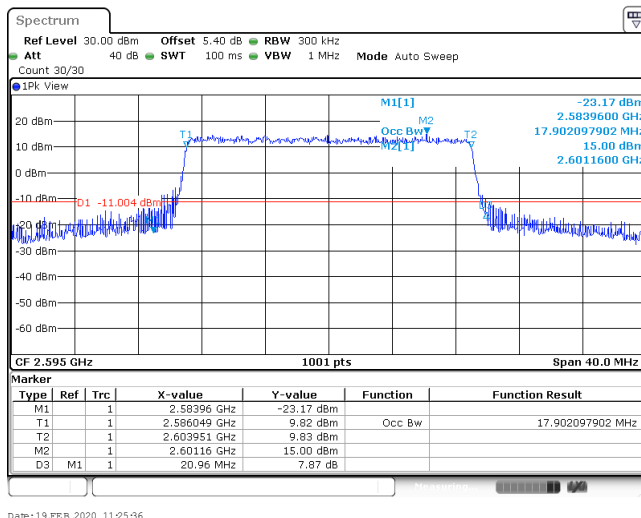


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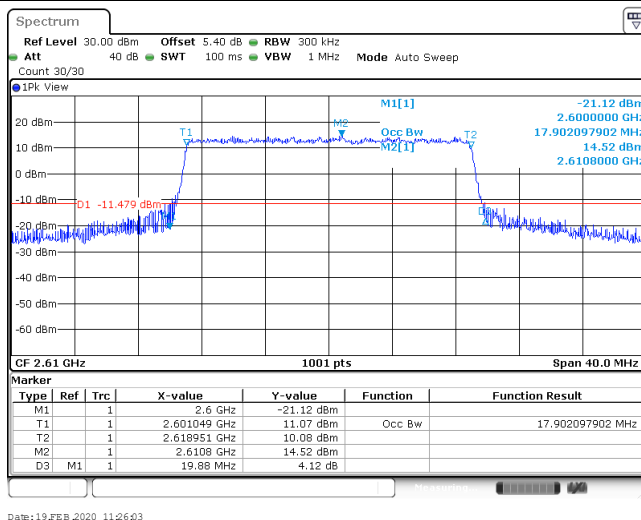


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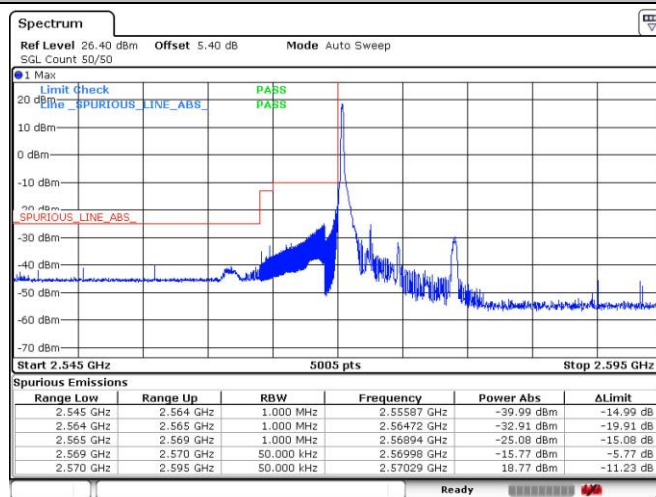
## Band38\_20MHz\_16QAM\_38150\_100RB#0



## 5. Band Edge Compliance

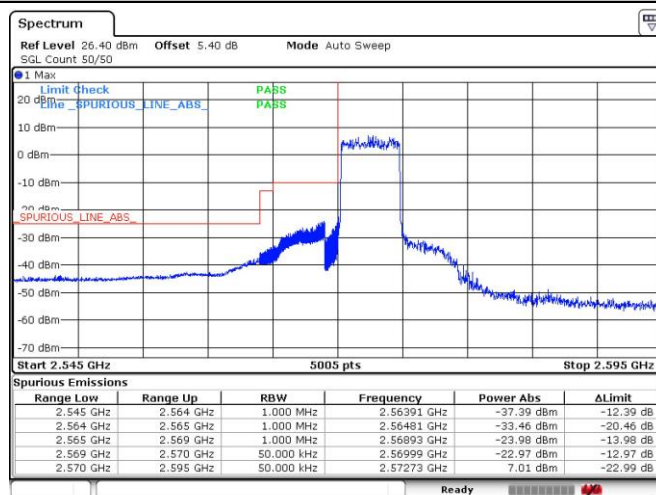
### 5.1. Test Plots

Band38\_5MHz\_QPSK\_37775\_1RB#0



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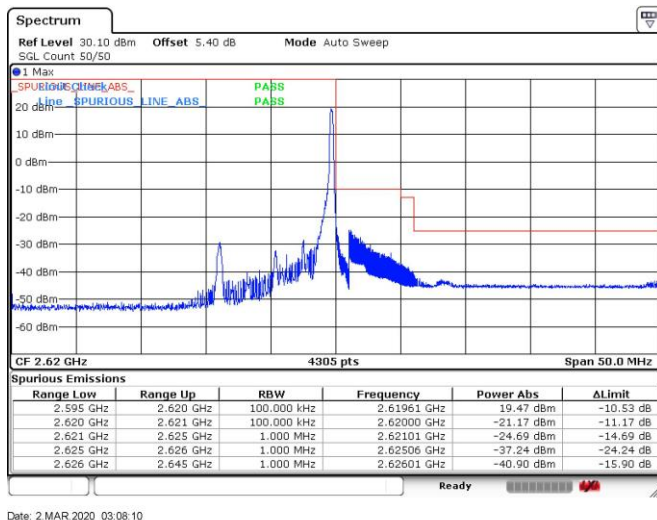
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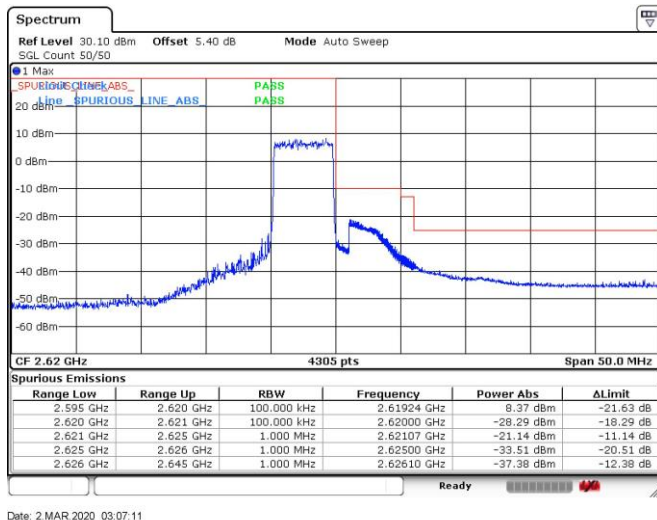
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Band38\_5MHz\_QPSK\_38225\_1RB#24



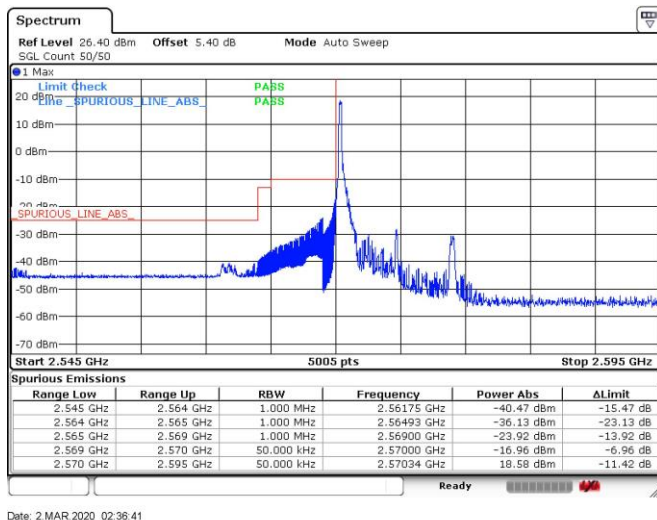


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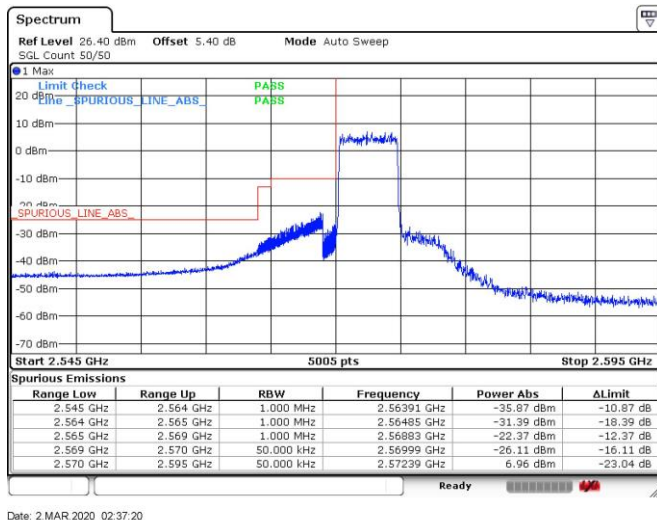


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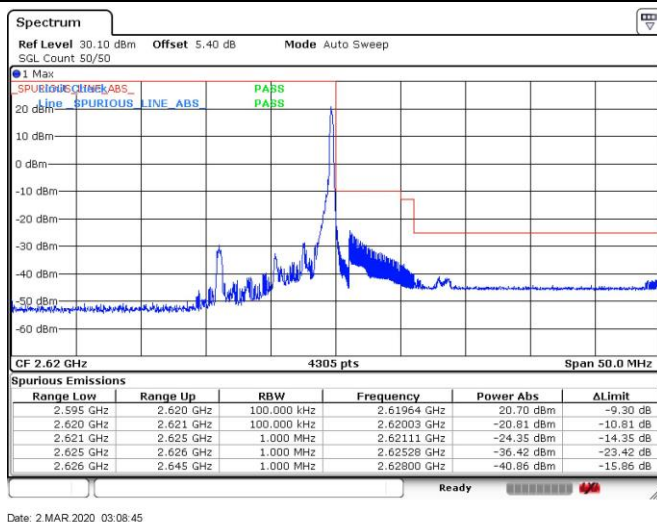


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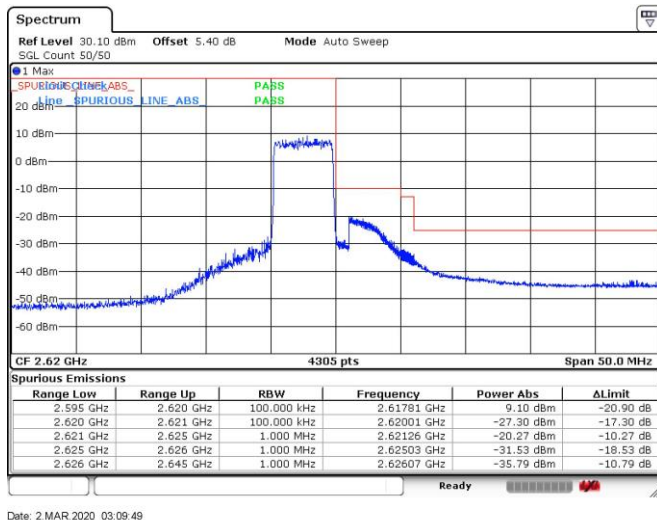


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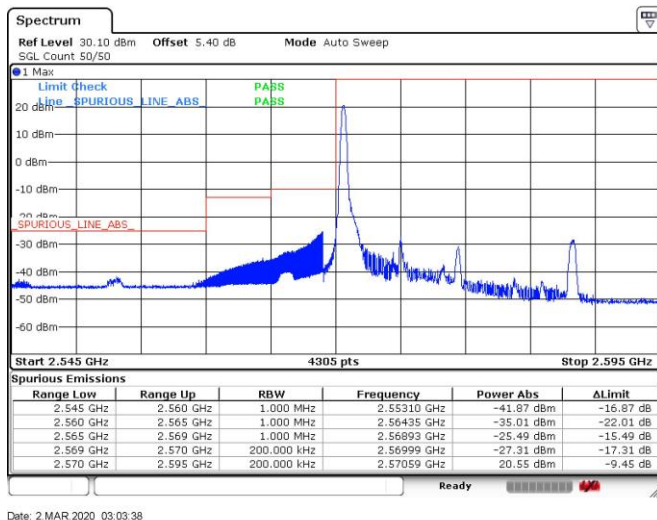


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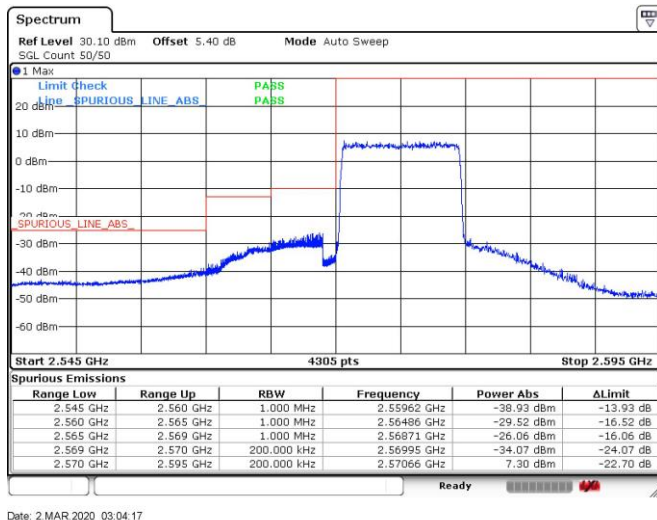


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Band38\_10MHz\_QPSK\_37800\_50RB#0

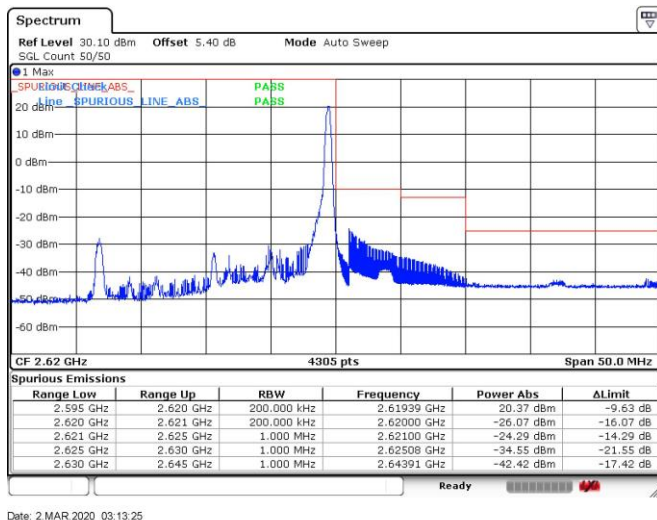


Band38\_10MHz\_QPSK\_38200\_1RB#49

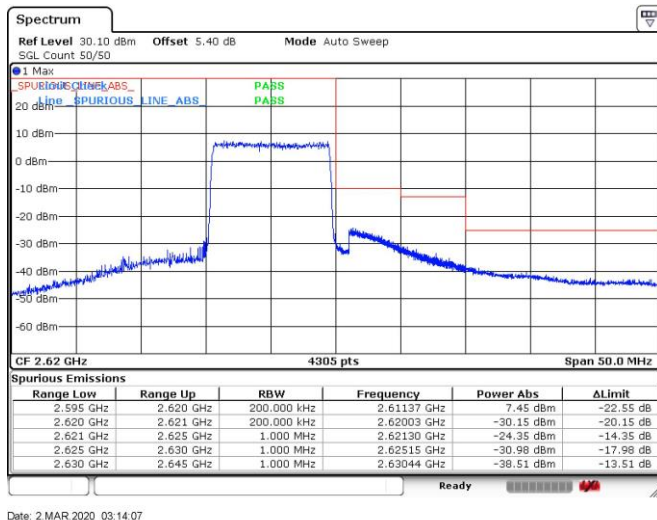


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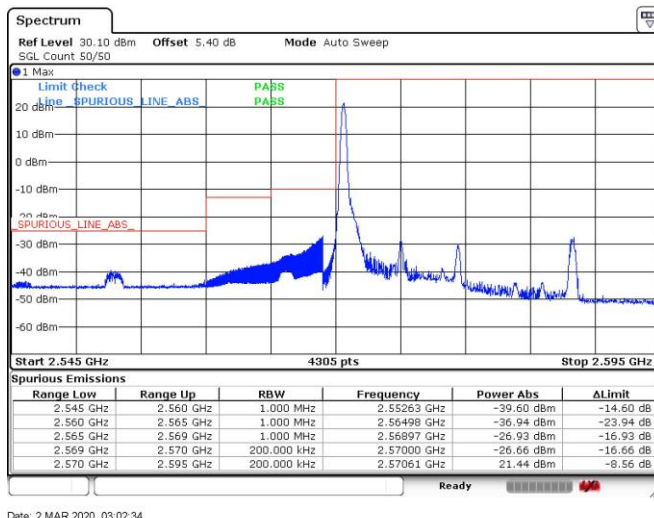


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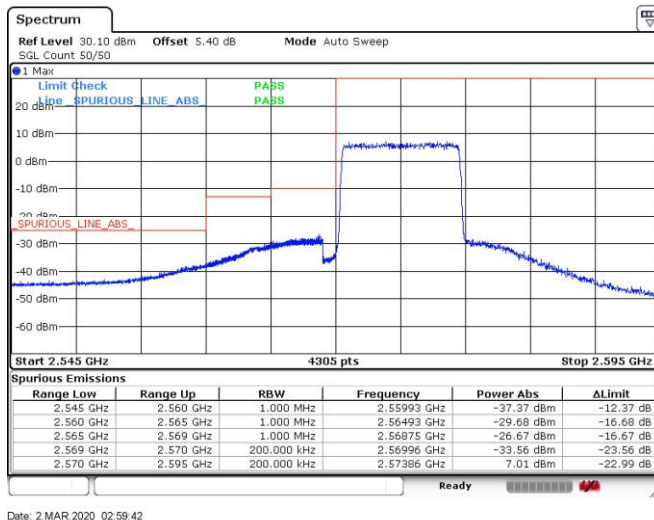


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Band38\_10MHz\_16QAM\_37800\_50RB#0

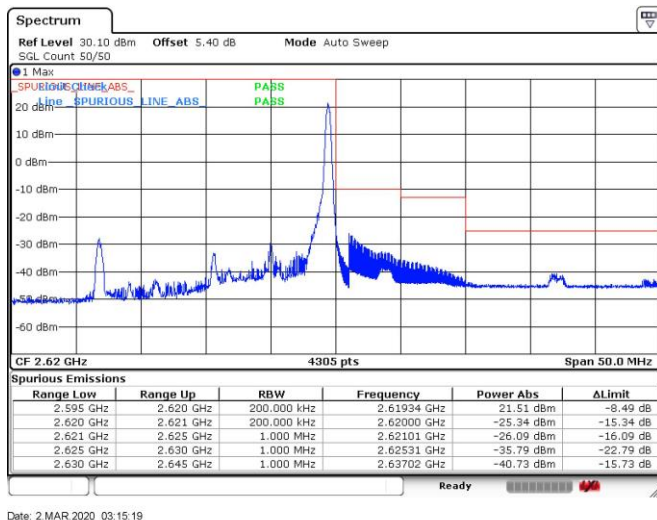


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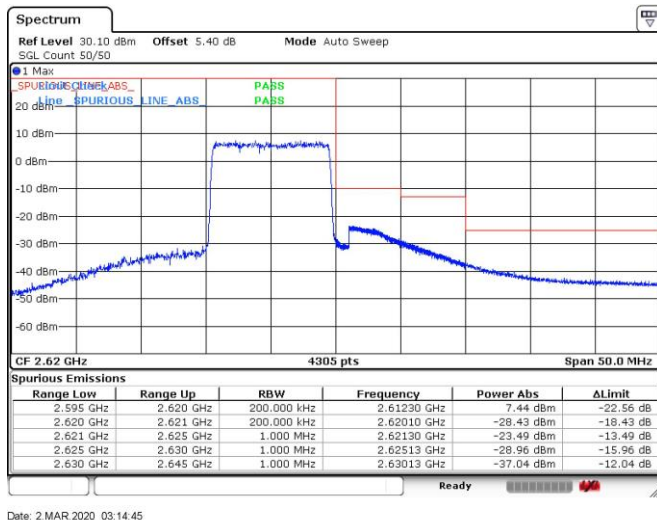


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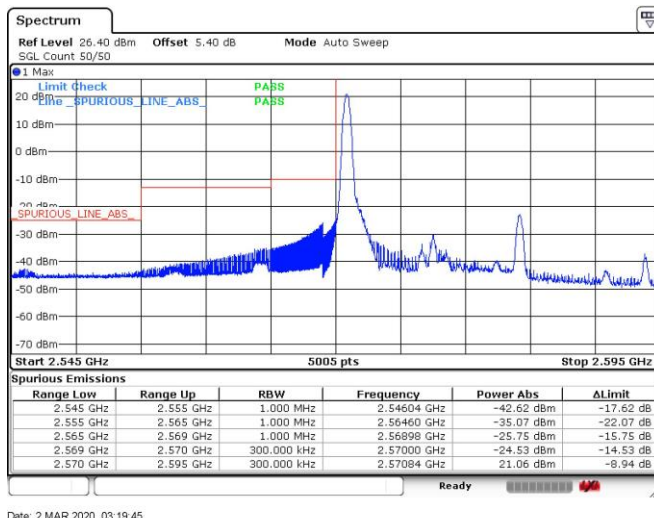


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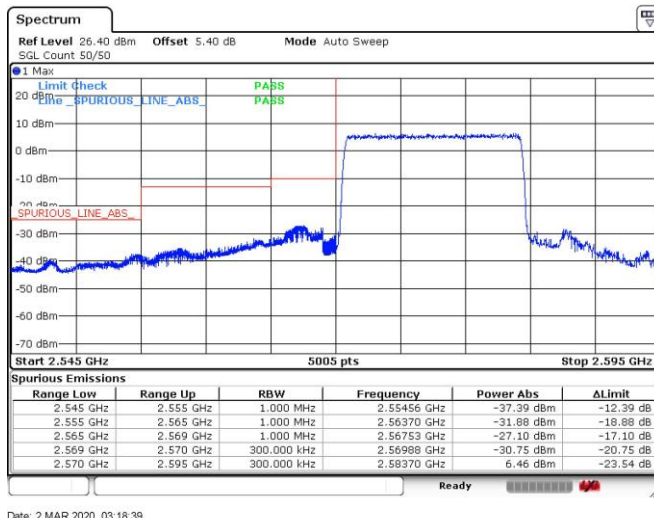


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Band38\_15MHz\_QPSK\_37825\_75RB#0

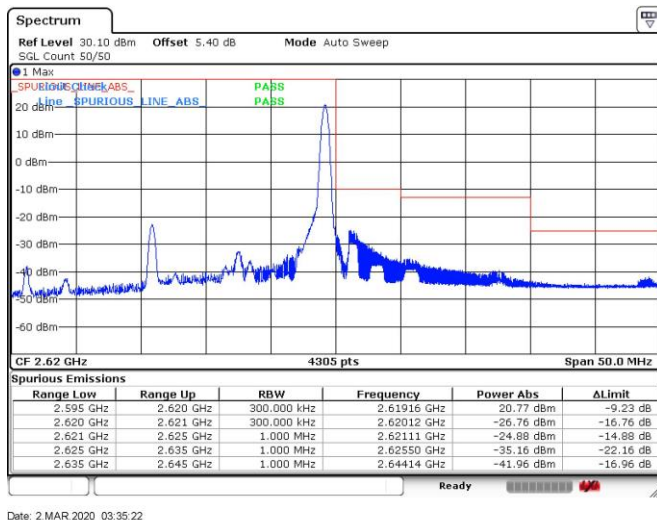


Band38\_15MHz\_QPSK\_38175\_1RB#74

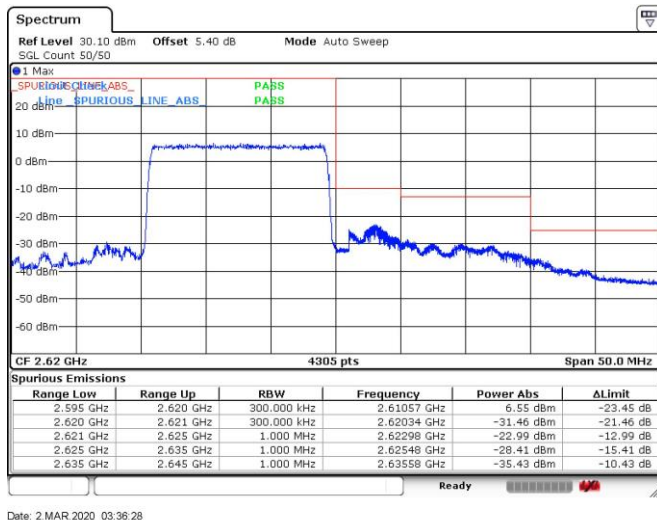


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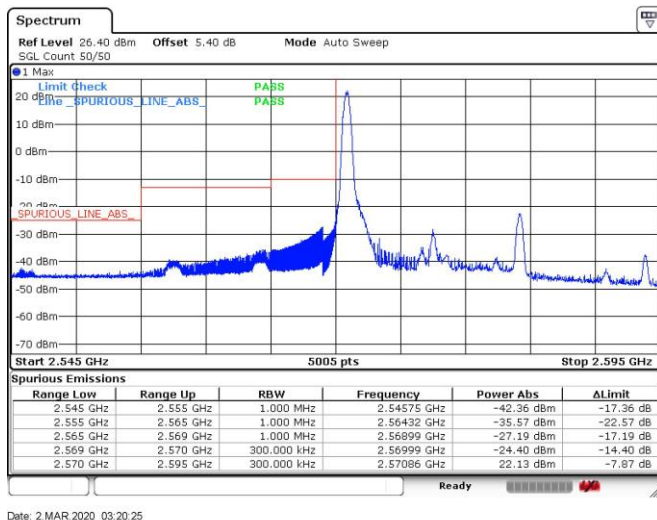


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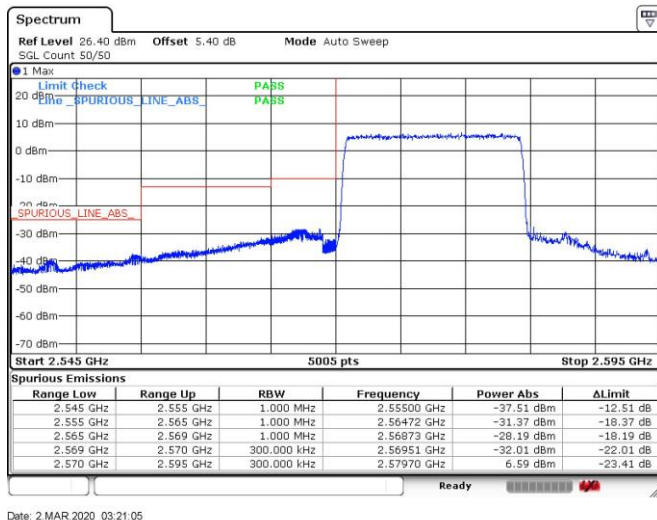


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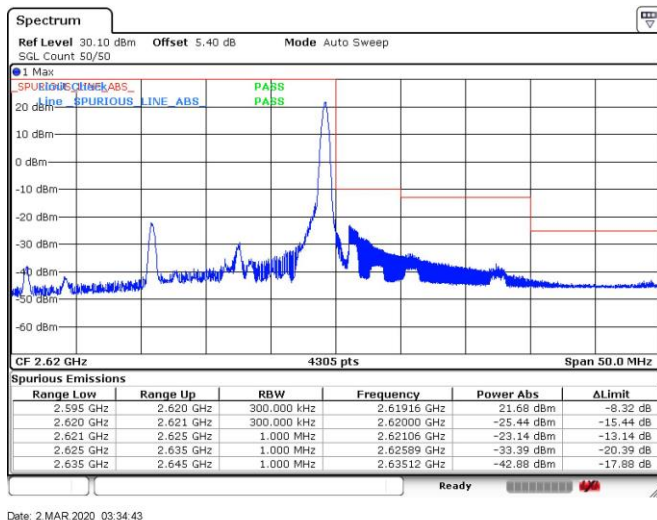


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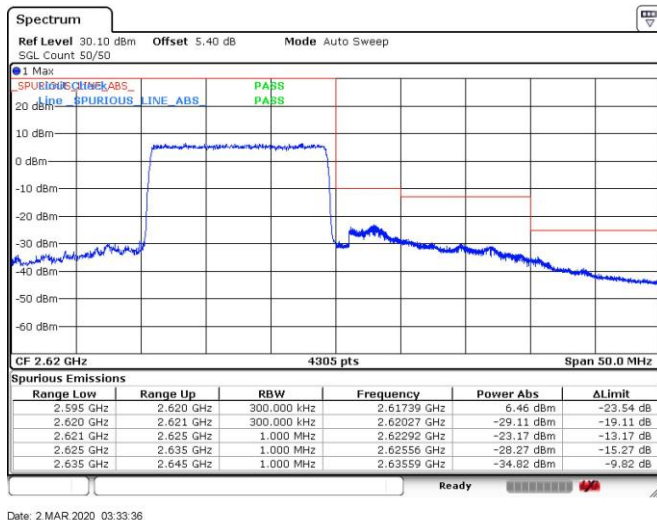


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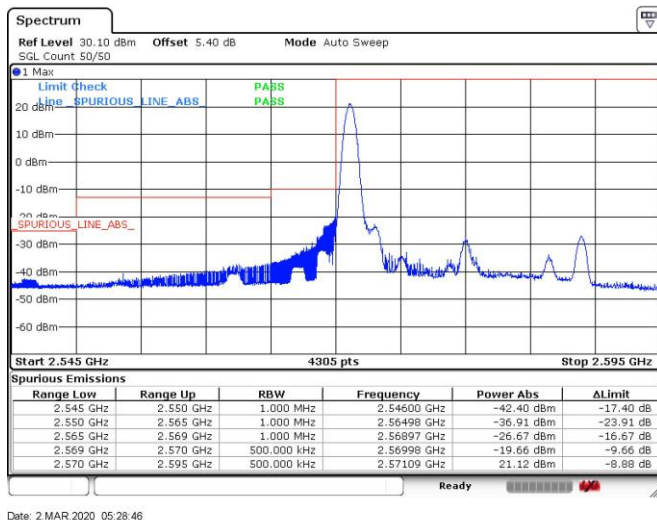


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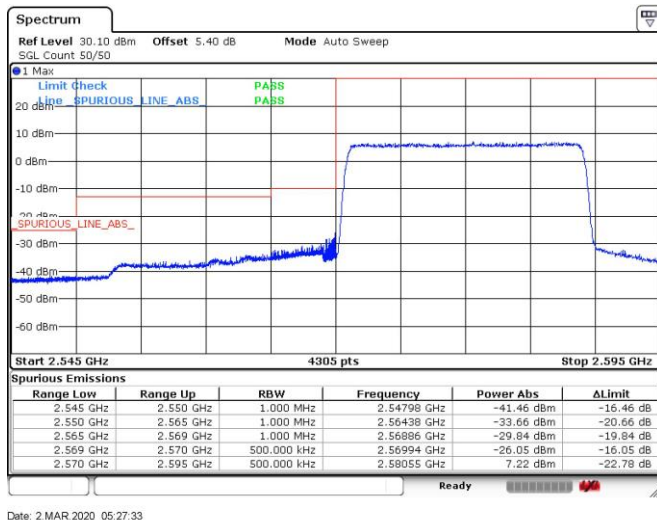


## Band38\_20MHz\_QPSK\_37850\_1RB#0





Band38\_20MHz\_QPSK\_37850\_100RB#0

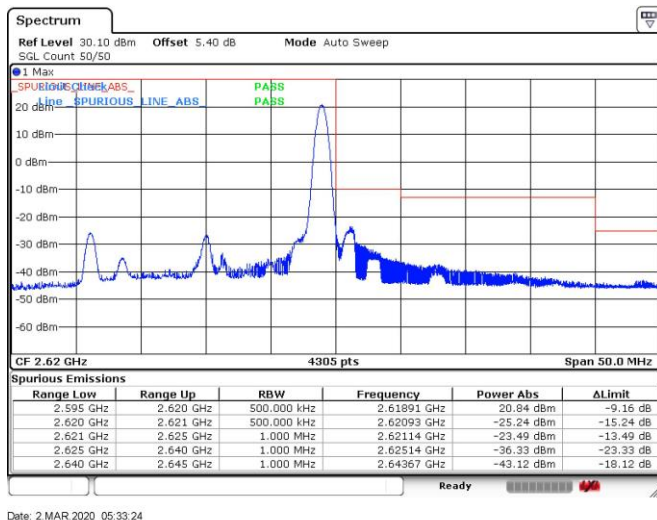


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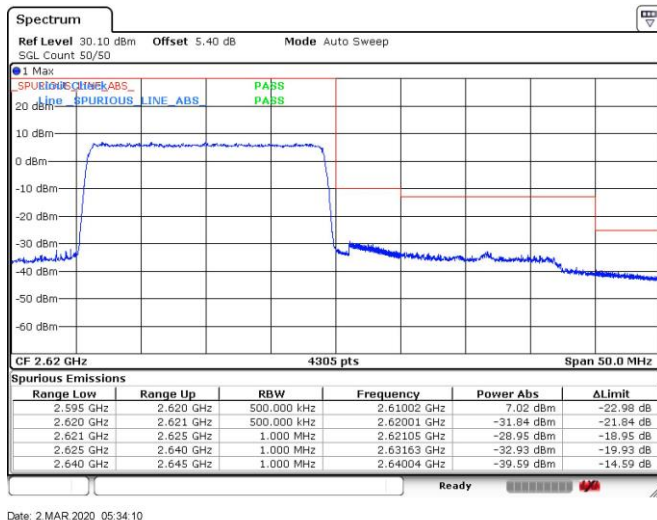


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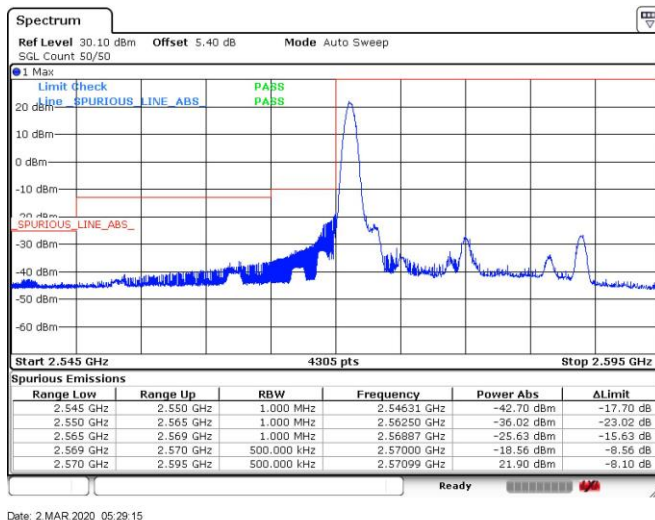


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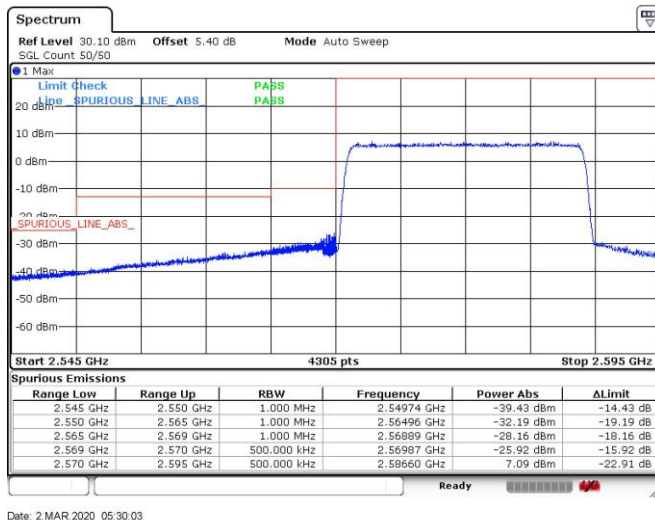


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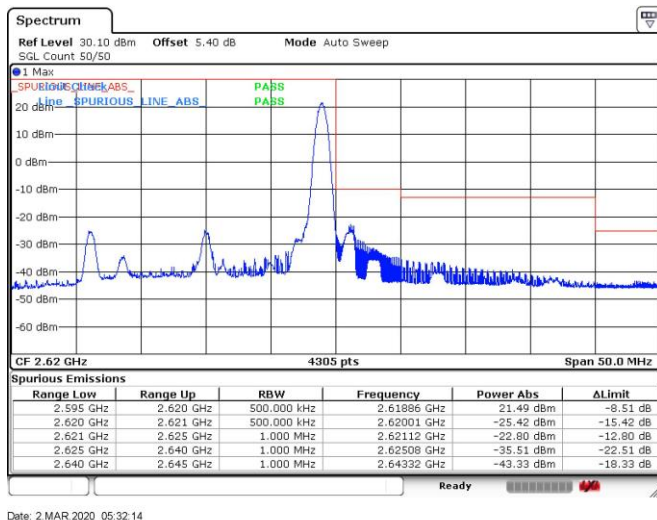


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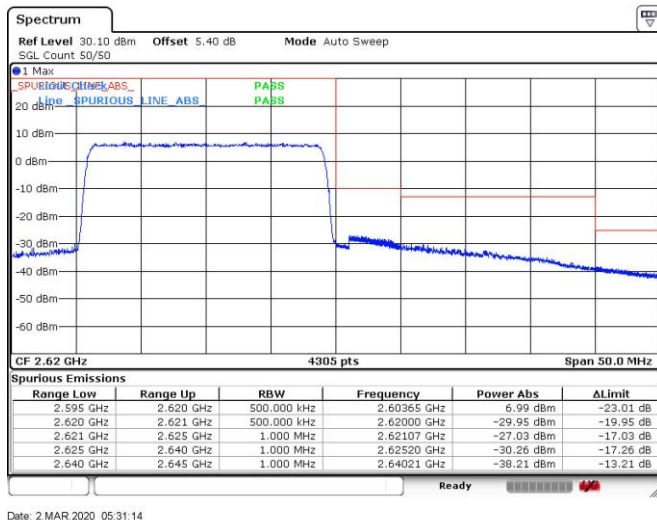


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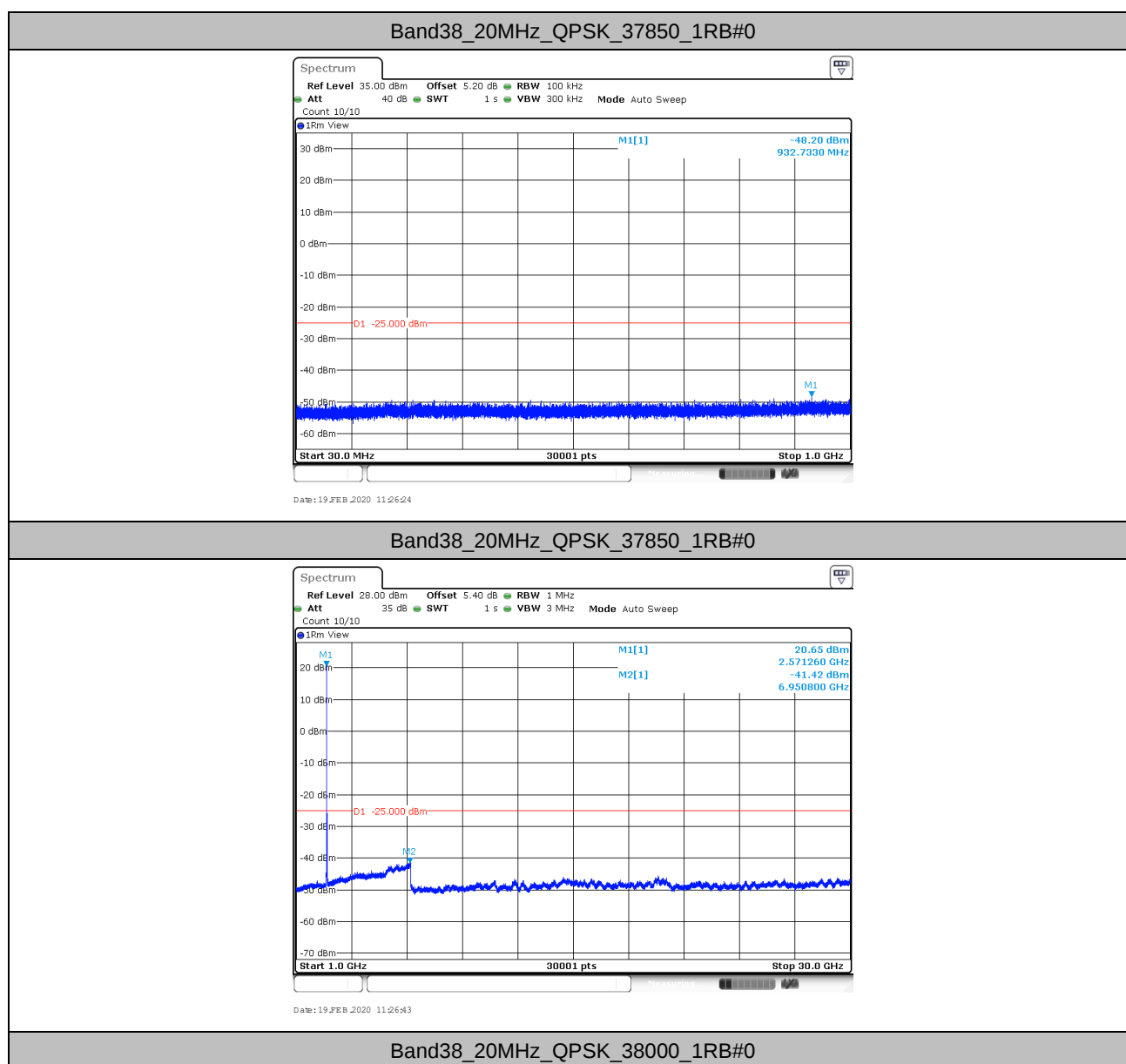


## 6. Spurious Emission at Antenna Terminal

Remark1: For the averaged unwanted emissions measurements, the measurement points in each sweep is greater than twice the Span/RBW in order to ensure bin-to-bin spacing of  $< RBW/2$  so that narrowband signals are not lost between frequency bins. As to the present test item, the "Measurement Points =  $k * (\text{Span} / RBW)$ " with  $k$  between 4 and 5, which results in an acceptable level error of less than 0.5 dB.

Remark2: only the worst case data displayed in this report.

### 6.1. Test Plots

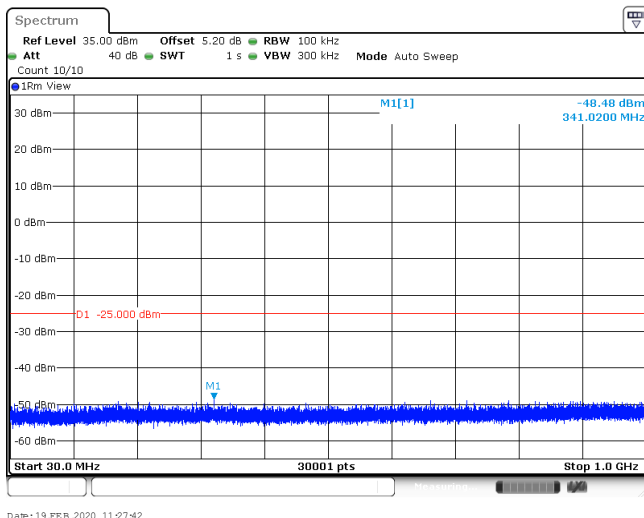


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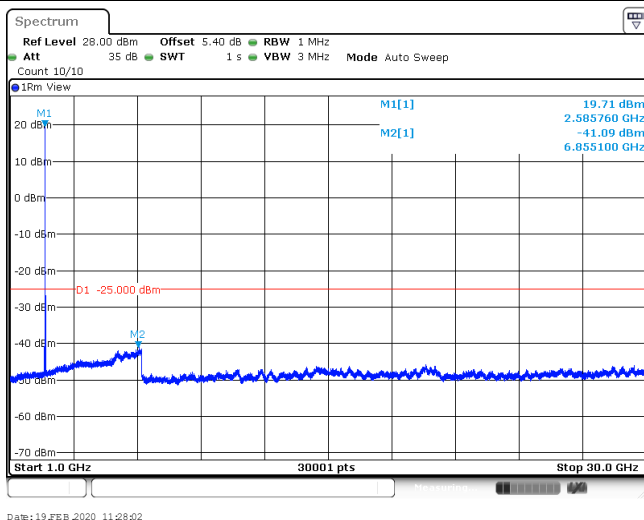
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Band38\_20MHz\_QPSK\_38000\_1RB#0

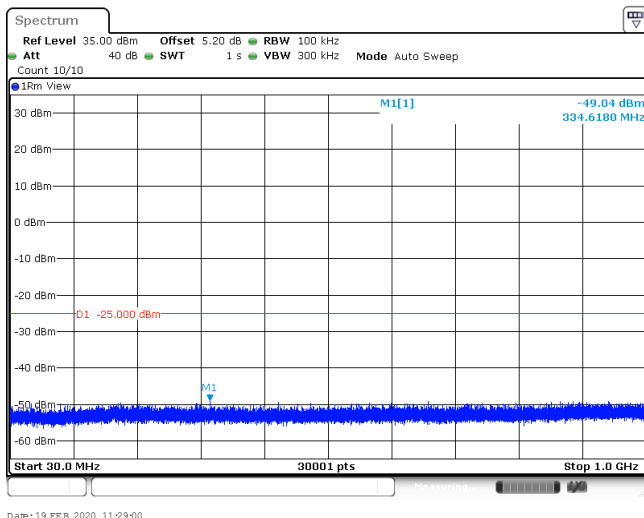


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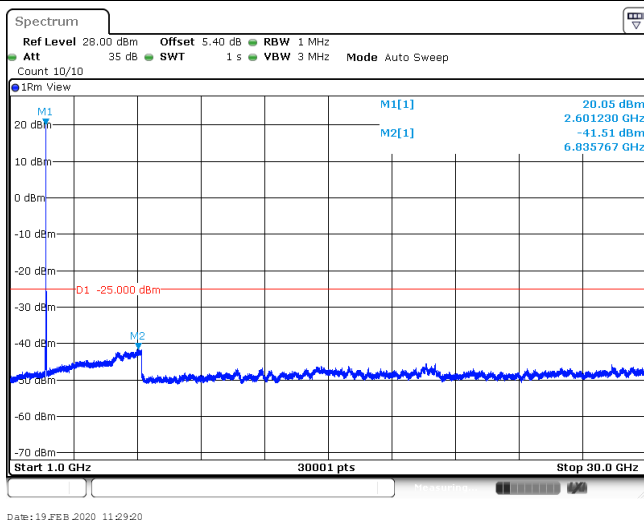


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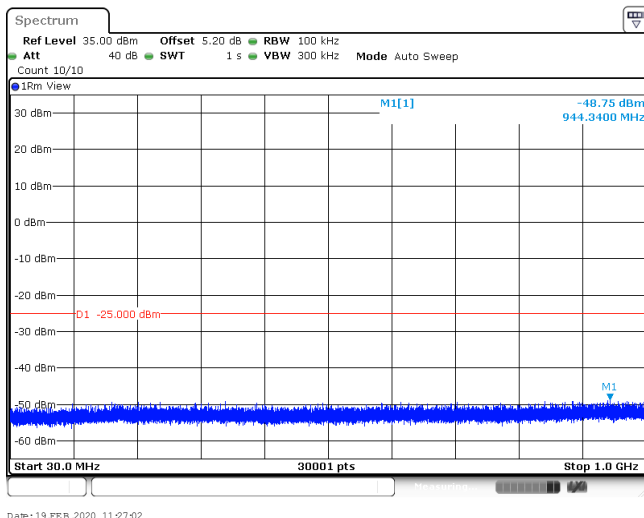
Band38\_20MHz\_QPSK\_38150\_1RB#0



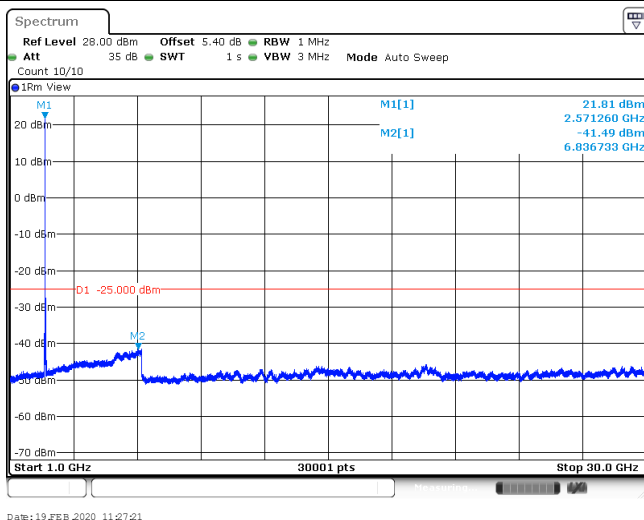
Band38\_20MHz\_16QAM\_37850\_1RB#0



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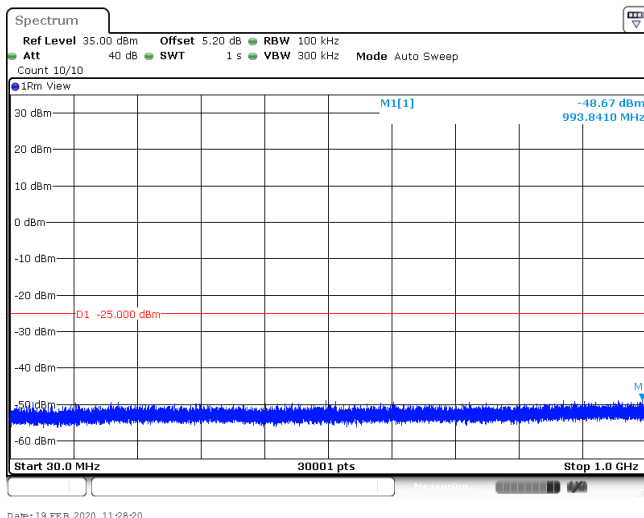


Band38\_20MHz\_16QAM\_37850\_1RB#0

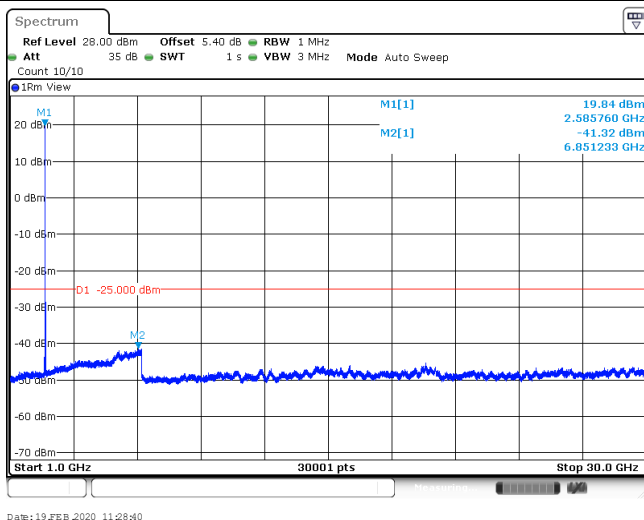


Band38\_20MHz\_16QAM\_38000\_1RB#0





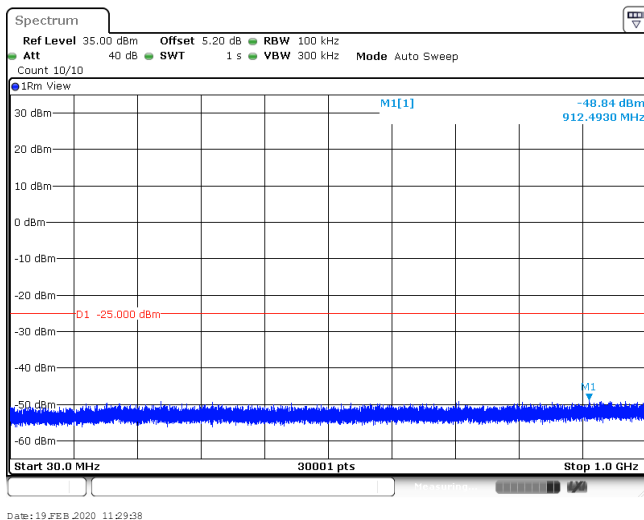
Band38\_20MHz\_16QAM\_38000\_1RB#0



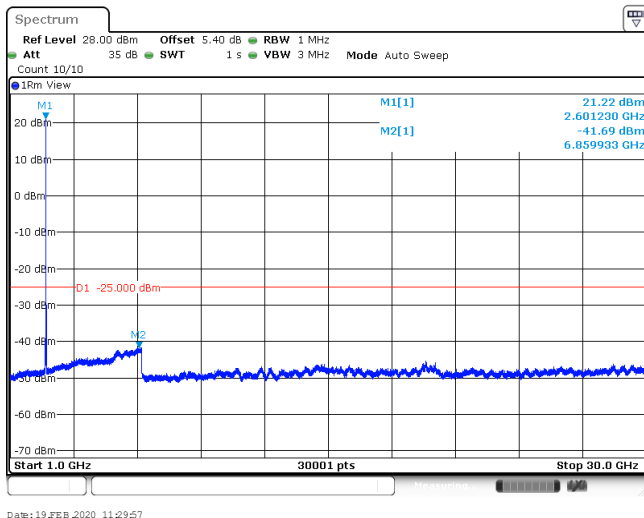
Band38\_20MHz\_16QAM\_38150\_1RB#0



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## Band38\_20MHz\_16QAM\_38150\_1RB#0





## 7. Field Strength of Spurious Radiation

### 7.1. Test Band = LTE Band 38

#### 7.1.1. Test Mode = LTE/TM1

##### 7.1.1.1. Test Channel = LCH

| Frequency (MHz) | Level (dBm) | Limit Line (dBm) | Margin (dB) | Polarization |
|-----------------|-------------|------------------|-------------|--------------|
| 65.7463         | -67.52      | -25.00           | 42.52       | Vertical     |
| 113.0847        | -64.18      | -25.00           | 39.18       | Vertical     |
| 612.7081        | -63.45      | -25.00           | 38.45       | Vertical     |
| 2997.1994       | -38.14      | -25.00           | 13.14       | Vertical     |
| 5172.0724       | -52.52      | -25.00           | 27.52       | Vertical     |
| 7758.1586       | -42.16      | -25.00           | 17.16       | Vertical     |
| 45.6663         | -63.29      | -25.00           | 38.29       | Horizontal   |
| 251.0256        | -67.11      | -25.00           | 42.11       | Horizontal   |
| 580.5025        | -63.74      | -25.00           | 38.74       | Horizontal   |
| 2987.9976       | -38.35      | -25.00           | 13.35       | Horizontal   |
| 5172.0724       | -54.97      | -25.00           | 29.97       | Horizontal   |
| 7758.1586       | -47.39      | -25.00           | 22.39       | Horizontal   |

##### 7.1.1.2. Test Channel = MCH

| Frequency (MHz) | Level (dBm) | Limit Line (dBm) | Margin (dB) | Polarization |
|-----------------|-------------|------------------|-------------|--------------|
| 113.9092        | -64.42      | -25.00           | 39.42       | Vertical     |
| 388.5299        | -68.12      | -25.00           | 43.12       | Vertical     |
| 2991.5983       | -38.18      | -25.00           | 13.18       | Vertical     |
| 5142.5714       | -54.18      | -25.00           | 29.18       | Vertical     |
| 7713.6571       | -43.79      | -25.00           | 18.79       | Vertical     |
| 10284.2428      | -48.08      | -25.00           | 23.08       | Vertical     |
| 43.7747         | -63.84      | -25.00           | 38.84       | Horizontal   |
| 242.0526        | -68.28      | -25.00           | 43.28       | Horizontal   |
| 592.5311        | -63.91      | -25.00           | 38.91       | Horizontal   |
| 2997.5995       | -38.38      | -25.00           | 13.38       | Horizontal   |
| 7713.1571       | -44.97      | -25.00           | 19.97       | Horizontal   |
| 16395.4465      | -44.37      | -25.00           | 19.37       | Horizontal   |



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### 7.1.1.3. Test Channel = HCH

| Frequency (MHz) | Level (dBm) | Limit Line (dBm) | Margin (dB) | Polarization |
|-----------------|-------------|------------------|-------------|--------------|
| 107.2644        | -64.59      | -25.00           | 39.59       | Vertical     |
| 294.9687        | -68.60      | -25.00           | 43.60       | Vertical     |
| 2991.5983       | -38.30      | -25.00           | 13.30       | Vertical     |
| 5202.0734       | -52.85      | -25.00           | 27.85       | Vertical     |
| 7803.1601       | -43.54      | -25.00           | 18.54       | Vertical     |
| 10404.2468      | -48.00      | -25.00           | 23.00       | Vertical     |
| 44.4052         | -63.70      | -25.00           | 38.70       | Horizontal   |
| 236.7173        | -67.14      | -25.00           | 42.14       | Horizontal   |
| 540.3425        | -64.79      | -25.00           | 39.79       | Horizontal   |
| 2986.3973       | -38.39      | -25.00           | 13.39       | Horizontal   |
| 7803.1601       | -47.06      | -25.00           | 22.06       | Horizontal   |
| 16376.4459      | -44.16      | -25.00           | 19.16       | Horizontal   |

#### Remark:

- 1 According to 971168 D01 Power Meas License Digital Systems, The amplitudes of unwanted emissions that are attenuated more than 20 dB below the applicable limit are not required to be reported.
- 2 The disturbance below 30MHz was very low, and the above harmonics were the highest point could be found when testing, so only the worst case data had been displayed.
- 3 all modulation and all Bandwidth had been tested, but only the worst case data displayed in this report.





## 8. Frequency Stability

### 8.1. Frequency Vs Voltage

| Band   | Bandwidth | Modulation | Channel | RB Configure | Voltage [Vdc] | Temperature (°C) | Deviation (Hz) | Deviation (ppm) | Limit (ppm) | Verdict |
|--------|-----------|------------|---------|--------------|---------------|------------------|----------------|-----------------|-------------|---------|
| Band38 | 20MHz     | QPSK       | 37850   | 100RB#0      | VL            | NT               | -22.20         | -0.008605       | ±2.5        | PASS    |
| Band38 | 20MHz     | QPSK       | 37850   | 100RB#0      | VN            | NT               | -26.68         | -0.010341       | ±2.5        | PASS    |
| Band38 | 20MHz     | QPSK       | 37850   | 100RB#0      | VH            | NT               | -22.30         | -0.008643       | ±2.5        | PASS    |
| Band38 | 20MHz     | QPSK       | 38000   | 100RB#0      | VL            | NT               | -20.81         | -0.008019       | ±2.5        | PASS    |
| Band38 | 20MHz     | QPSK       | 38000   | 100RB#0      | VN            | NT               | -22.87         | -0.008813       | ±2.5        | PASS    |
| Band38 | 20MHz     | QPSK       | 38000   | 100RB#0      | VH            | NT               | -19.45         | -0.007495       | ±2.5        | PASS    |
| Band38 | 20MHz     | QPSK       | 38150   | 100RB#0      | VL            | NT               | -19.96         | -0.007648       | ±2.5        | PASS    |
| Band38 | 20MHz     | QPSK       | 38150   | 100RB#0      | VN            | NT               | -25.82         | -0.009893       | ±2.5        | PASS    |
| Band38 | 20MHz     | QPSK       | 38150   | 100RB#0      | VH            | NT               | -23.82         | -0.009126       | ±2.5        | PASS    |
| Band38 | 20MHz     | 16QAM      | 37850   | 100RB#0      | VL            | NT               | -23.76         | -0.009209       | ±2.5        | PASS    |
| Band38 | 20MHz     | 16QAM      | 37850   | 100RB#0      | VN            | NT               | -21.87         | -0.008477       | ±2.5        | PASS    |
| Band38 | 20MHz     | 16QAM      | 37850   | 100RB#0      | VH            | NT               | -18.25         | -0.007074       | ±2.5        | PASS    |
| Band38 | 20MHz     | 16QAM      | 38000   | 100RB#0      | VL            | NT               | -23.45         | -0.009037       | ±2.5        | PASS    |
| Band38 | 20MHz     | 16QAM      | 38000   | 100RB#0      | VN            | NT               | -21.29         | -0.008204       | ±2.5        | PASS    |
| Band38 | 20MHz     | 16QAM      | 38000   | 100RB#0      | VH            | NT               | -20.13         | -0.007757       | ±2.5        | PASS    |
| Band38 | 20MHz     | 16QAM      | 38150   | 100RB#0      | VL            | NT               | -21.69         | -0.008310       | ±2.5        | PASS    |
| Band38 | 20MHz     | 16QAM      | 38150   | 100RB#0      | VN            | NT               | -21.70         | -0.008314       | ±2.5        | PASS    |
| Band38 | 20MHz     | 16QAM      | 38150   | 100RB#0      | VH            | NT               | -25.22         | -0.009663       | ±2.5        | PASS    |

### 8.2. Frequency Vs Temperature

| Band   | Bandwidth | Modulation | Channel | RB Configure | Voltage [Vdc] | Temperature (°C) | Deviation (Hz) | Deviation (ppm) | Limit (ppm) | Verdict |
|--------|-----------|------------|---------|--------------|---------------|------------------|----------------|-----------------|-------------|---------|
| Band38 | 20MHz     | QPSK       | 37850   | 100RB#0      | NV            | -30              | -22.69         | -0.008795       | ±2.5        | PASS    |
| Band38 | 20MHz     | QPSK       | 37850   | 100RB#0      | NV            | -20              | -20.70         | -0.008023       | ±2.5        | PASS    |
| Band38 | 20MHz     | QPSK       | 37850   | 100RB#0      | NV            | 0                | -21.89         | -0.008484       | ±2.5        | PASS    |
| Band38 | 20MHz     | QPSK       | 37850   | 100RB#0      | NV            | 10               | -22.60         | -0.008760       | ±2.5        | PASS    |
| Band38 | 20MHz     | QPSK       | 37850   | 100RB#0      | NV            | 20               | -23.67         | -0.009174       | ±2.5        | PASS    |
| Band38 | 20MHz     | QPSK       | 37850   | 100RB#0      | NV            | 30               | -21.04         | -0.008155       | ±2.5        | PASS    |
| Band38 | 20MHz     | QPSK       | 37850   | 100RB#0      | NV            | 40               | -26.14         | -0.010132       | ±2.5        | PASS    |
| Band38 | 20MHz     | QPSK       | 37850   | 100RB#0      | NV            | 50               | -20.73         | -0.008035       | ±2.5        | PASS    |
| Band38 | 20MHz     | QPSK       | 38000   | 100RB#0      | NV            | -30              | -17.95         | -0.006917       | ±2.5        | PASS    |
| Band38 | 20MHz     | QPSK       | 38000   | 100RB#0      | NV            | -20              | -23.26         | -0.008963       | ±2.5        | PASS    |
| Band38 | 20MHz     | QPSK       | 38000   | 100RB#0      | NV            | 0                | -18.73         | -0.007218       | ±2.5        | PASS    |
| Band38 | 20MHz     | QPSK       | 38000   | 100RB#0      | NV            | 10               | -23.20         | -0.008940       | ±2.5        | PASS    |
| Band38 | 20MHz     | QPSK       | 38000   | 100RB#0      | NV            | 20               | -21.62         | -0.008331       | ±2.5        | PASS    |
| Band38 | 20MHz     | QPSK       | 38000   | 100RB#0      | NV            | 30               | -21.11         | -0.008135       | ±2.5        | PASS    |
| Band38 | 20MHz     | QPSK       | 38000   | 100RB#0      | NV            | 40               | -19.47         | -0.007503       | ±2.5        | PASS    |
| Band38 | 20MHz     | QPSK       | 38000   | 100RB#0      | NV            | 50               | -20.59         | -0.007934       | ±2.5        | PASS    |



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|        |       |       |       |         |    |     |        |           |      |      |
|--------|-------|-------|-------|---------|----|-----|--------|-----------|------|------|
| Band38 | 20MHz | QPSK  | 38150 | 100RB#0 | NV | -30 | -25.56 | -0.009793 | ±2.5 | PASS |
| Band38 | 20MHz | QPSK  | 38150 | 100RB#0 | NV | -20 | -20.89 | -0.008004 | ±2.5 | PASS |
| Band38 | 20MHz | QPSK  | 38150 | 100RB#0 | NV | 0   | -24.62 | -0.009433 | ±2.5 | PASS |
| Band38 | 20MHz | QPSK  | 38150 | 100RB#0 | NV | 10  | -24.58 | -0.009418 | ±2.5 | PASS |
| Band38 | 20MHz | QPSK  | 38150 | 100RB#0 | NV | 20  | -23.12 | -0.008858 | ±2.5 | PASS |
| Band38 | 20MHz | QPSK  | 38150 | 100RB#0 | NV | 30  | -19.10 | -0.007318 | ±2.5 | PASS |
| Band38 | 20MHz | QPSK  | 38150 | 100RB#0 | NV | 40  | -20.08 | -0.007693 | ±2.5 | PASS |
| Band38 | 20MHz | QPSK  | 38150 | 100RB#0 | NV | 50  | -23.50 | -0.009004 | ±2.5 | PASS |
| Band38 | 20MHz | 16QAM | 37850 | 100RB#0 | NV | -30 | -17.84 | -0.006915 | ±2.5 | PASS |
| Band38 | 20MHz | 16QAM | 37850 | 100RB#0 | NV | -20 | -20.63 | -0.007996 | ±2.5 | PASS |
| Band38 | 20MHz | 16QAM | 37850 | 100RB#0 | NV | 0   | -21.44 | -0.008310 | ±2.5 | PASS |
| Band38 | 20MHz | 16QAM | 37850 | 100RB#0 | NV | 10  | -16.88 | -0.006543 | ±2.5 | PASS |
| Band38 | 20MHz | 16QAM | 37850 | 100RB#0 | NV | 20  | -23.32 | -0.009039 | ±2.5 | PASS |
| Band38 | 20MHz | 16QAM | 37850 | 100RB#0 | NV | 30  | -30.66 | -0.011884 | ±2.5 | PASS |
| Band38 | 20MHz | 16QAM | 37850 | 100RB#0 | NV | 40  | -25.39 | -0.009841 | ±2.5 | PASS |
| Band38 | 20MHz | 16QAM | 37850 | 100RB#0 | NV | 50  | -20.69 | -0.008019 | ±2.5 | PASS |
| Band38 | 20MHz | 16QAM | 38000 | 100RB#0 | NV | -30 | -24.88 | -0.009588 | ±2.5 | PASS |
| Band38 | 20MHz | 16QAM | 38000 | 100RB#0 | NV | -20 | -20.86 | -0.008039 | ±2.5 | PASS |
| Band38 | 20MHz | 16QAM | 38000 | 100RB#0 | NV | 0   | -25.33 | -0.009761 | ±2.5 | PASS |
| Band38 | 20MHz | 16QAM | 38000 | 100RB#0 | NV | 10  | -18.32 | -0.007060 | ±2.5 | PASS |
| Band38 | 20MHz | 16QAM | 38000 | 100RB#0 | NV | 20  | -21.49 | -0.008281 | ±2.5 | PASS |
| Band38 | 20MHz | 16QAM | 38000 | 100RB#0 | NV | 30  | -18.84 | -0.007260 | ±2.5 | PASS |
| Band38 | 20MHz | 16QAM | 38000 | 100RB#0 | NV | 40  | -22.29 | -0.008590 | ±2.5 | PASS |
| Band38 | 20MHz | 16QAM | 38000 | 100RB#0 | NV | 50  | -16.44 | -0.006335 | ±2.5 | PASS |
| Band38 | 20MHz | 16QAM | 38150 | 100RB#0 | NV | -30 | -19.53 | -0.007483 | ±2.5 | PASS |
| Band38 | 20MHz | 16QAM | 38150 | 100RB#0 | NV | -20 | -23.82 | -0.009126 | ±2.5 | PASS |
| Band38 | 20MHz | 16QAM | 38150 | 100RB#0 | NV | 0   | -20.17 | -0.007728 | ±2.5 | PASS |
| Band38 | 20MHz | 16QAM | 38150 | 100RB#0 | NV | 10  | -26.35 | -0.010096 | ±2.5 | PASS |
| Band38 | 20MHz | 16QAM | 38150 | 100RB#0 | NV | 20  | -20.84 | -0.007985 | ±2.5 | PASS |
| Band38 | 20MHz | 16QAM | 38150 | 100RB#0 | NV | 30  | -20.04 | -0.007678 | ±2.5 | PASS |
| Band38 | 20MHz | 16QAM | 38150 | 100RB#0 | NV | 40  | -26.97 | -0.010333 | ±2.5 | PASS |
| Band38 | 20MHz | 16QAM | 38150 | 100RB#0 | NV | 50  | -26.02 | -0.009969 | ±2.5 | PASS |

The End



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