

Frequency Error VS. Voltage

| Test Band      | Test mode       | Test Channel | Test Temp. | Test Volt. | Freq. Error [Hz] | Freq. vs. rated [ppm] | Verdict |
|----------------|-----------------|--------------|------------|------------|------------------|-----------------------|---------|
| CatM1<br>Band5 | QPSK/<br>10MHz  | LCH          | TN         | VL         | -0.65            | -0.00079              | PASS    |
|                |                 |              |            | VN         | 0.58             | 0.00070               | PASS    |
|                |                 |              |            | VH         | 2.18             | 0.00264               | PASS    |
|                |                 | MCH          | TN         | VL         | 2.28             | 0.00274               | PASS    |
|                |                 |              |            | VN         | 1.09             | 0.00131               | PASS    |
|                |                 |              |            | VH         | 0.46             | 0.00055               | PASS    |
|                |                 | HCH          | TN         | VL         | 1.38             | 0.00163               | PASS    |
|                |                 |              |            | VN         | 2.74             | 0.00323               | PASS    |
|                |                 |              |            | VH         | 3.15             | 0.00372               | PASS    |
|                | 16QAM/<br>10MHz | LCH          | TN         | VL         | 0.09             | 0.00011               | PASS    |
|                |                 |              |            | VN         | 1.41             | 0.00171               | PASS    |
|                |                 |              |            | VH         | 2.24             | 0.00271               | PASS    |
|                |                 | MCH          | TN         | VL         | 1.76             | 0.00211               | PASS    |
|                |                 |              |            | VN         | 1.5              | 0.00180               | PASS    |
|                |                 |              |            | VH         | -0.79            | -0.00095              | PASS    |
|                |                 | HCH          | TN         | VL         | 1.28             | 0.00151               | PASS    |
|                |                 |              |            | VN         | -1.39            | -0.00164              | PASS    |
|                |                 |              |            | VH         | 2.62             | 0.00309               | PASS    |

Frequency Error VS. Temperature

| Test Band      | Test mode      | Test Channel | Test Volt. | Test Temp. | Freq. Error [Hz] | Freq. vs. rated [ppm] | Verdict |
|----------------|----------------|--------------|------------|------------|------------------|-----------------------|---------|
| CatM1<br>Band5 | QPSK/<br>10MHz | LCH          | VN         | -30        | 2.14             | 0.00259               | PASS    |
|                |                |              |            | -20        | 2.13             | 0.00258               | PASS    |
|                |                |              |            | -10        | 1.26             | 0.00153               | PASS    |
|                |                |              |            | 0          | 1.89             | 0.00229               | PASS    |
|                |                |              |            | 10         | 4.34             | 0.00526               | PASS    |
|                |                |              |            | 20         | 4.21             | 0.00510               | PASS    |
|                |                |              |            | 30         | 2.75             | 0.00333               | PASS    |
|                |                |              |            | 40         | 2.26             | 0.00274               | PASS    |
|                |                |              |            | 50         | 2.41             | 0.00292               | PASS    |
|                |                | MCH          | VN         | -30        | -2.24            | -0.00269              | PASS    |
|                |                |              |            | -20        | -2.25            | -0.00270              | PASS    |
|                |                |              |            | -10        | -3.39            | -0.00407              | PASS    |
|                |                |              |            | 0          | -2.91            | -0.00349              | PASS    |
|                |                |              |            | 10         | -3.09            | -0.00371              | PASS    |
|                |                |              |            | 20         | -1.51            | -0.00181              | PASS    |
|                |                |              |            | 30         | -0.39            | -0.00047              | PASS    |
|                |                |              |            | 40         | -3.04            | -0.00365              | PASS    |
|                |                |              |            | 50         | -2.09            | -0.00251              | PASS    |
|                |                | HCH          | VN         | -30        | 4                | 0.00480               | PASS    |
|                |                |              |            | -20        | 3.99             | 0.00479               | PASS    |
|                |                |              |            | -10        | 1.92             | 0.00231               | PASS    |
|                |                |              |            | 0          | 2.76             | 0.00331               | PASS    |
|                |                |              |            | 10         | 0.52             | 0.00062               | PASS    |
|                |                |              |            | 20         | 6.04             | 0.00725               | PASS    |
|                |                |              |            | 30         | 2.86             | 0.00343               | PASS    |
|                |                |              |            | 40         | 0.73             | 0.00088               | PASS    |
|                |                |              |            | 50         | -4.18            | -0.00502              | PASS    |

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|----------------|-----------------|--------------|------------|------------|------------------|-----------------------|---------|
| CatM1<br>Band5 | 16QAM/<br>10MHz | LCH          | VN         | -30        | 1.74             | 0.00211               | PASS    |
|                |                 |              |            | -20        | 1.75             | 0.00212               | PASS    |
|                |                 |              |            | -10        | -0.1             | -0.00012              | PASS    |
|                |                 |              |            | 0          | -1.53            | -0.00185              | PASS    |
|                |                 |              |            | 10         | 1.09             | 0.00132               | PASS    |
|                |                 |              |            | 20         | 1.15             | 0.00139               | PASS    |
|                |                 |              |            | 30         | 2.32             | 0.00281               | PASS    |
|                |                 |              |            | 40         | 2.11             | 0.00256               | PASS    |
|                |                 |              |            | 50         | 1.29             | 0.00156               | PASS    |
|                |                 | MCH          | VN         | -30        | -1.06            | -0.00127              | PASS    |
|                |                 |              |            | -20        | -1.05            | -0.00126              | PASS    |
|                |                 |              |            | -10        | 0.17             | 0.00020               | PASS    |
|                |                 |              |            | 0          | -3.3             | -0.00396              | PASS    |
|                |                 |              |            | 10         | -2.37            | -0.00285              | PASS    |
|                |                 |              |            | 20         | 1.51             | 0.00181               | PASS    |
|                |                 |              |            | 30         | 1.29             | 0.00155               | PASS    |
|                |                 |              |            | 40         | -0.99            | -0.00119              | PASS    |
|                |                 |              |            | 50         | -0.27            | -0.00032              | PASS    |
|                |                 | HCH          | VN         | -30        | 1.91             | 0.00229               | PASS    |
|                |                 |              |            | -20        | 1.92             | 0.00231               | PASS    |
|                |                 |              |            | -10        | 0.93             | 0.00112               | PASS    |
|                |                 |              |            | 0          | -0.2             | -0.00024              | PASS    |
|                |                 |              |            | 10         | -0.05            | -0.00006              | PASS    |
|                |                 |              |            | 20         | 2.06             | 0.00247               | PASS    |
|                |                 |              |            | 30         | 1.91             | 0.00229               | PASS    |
|                |                 |              |            | 40         | 0.19             | 0.00023               | PASS    |
|                |                 |              |            | 50         | -3.22            | -0.00387              | PASS    |

Note: All modes have been tested and we only record the worst test result.