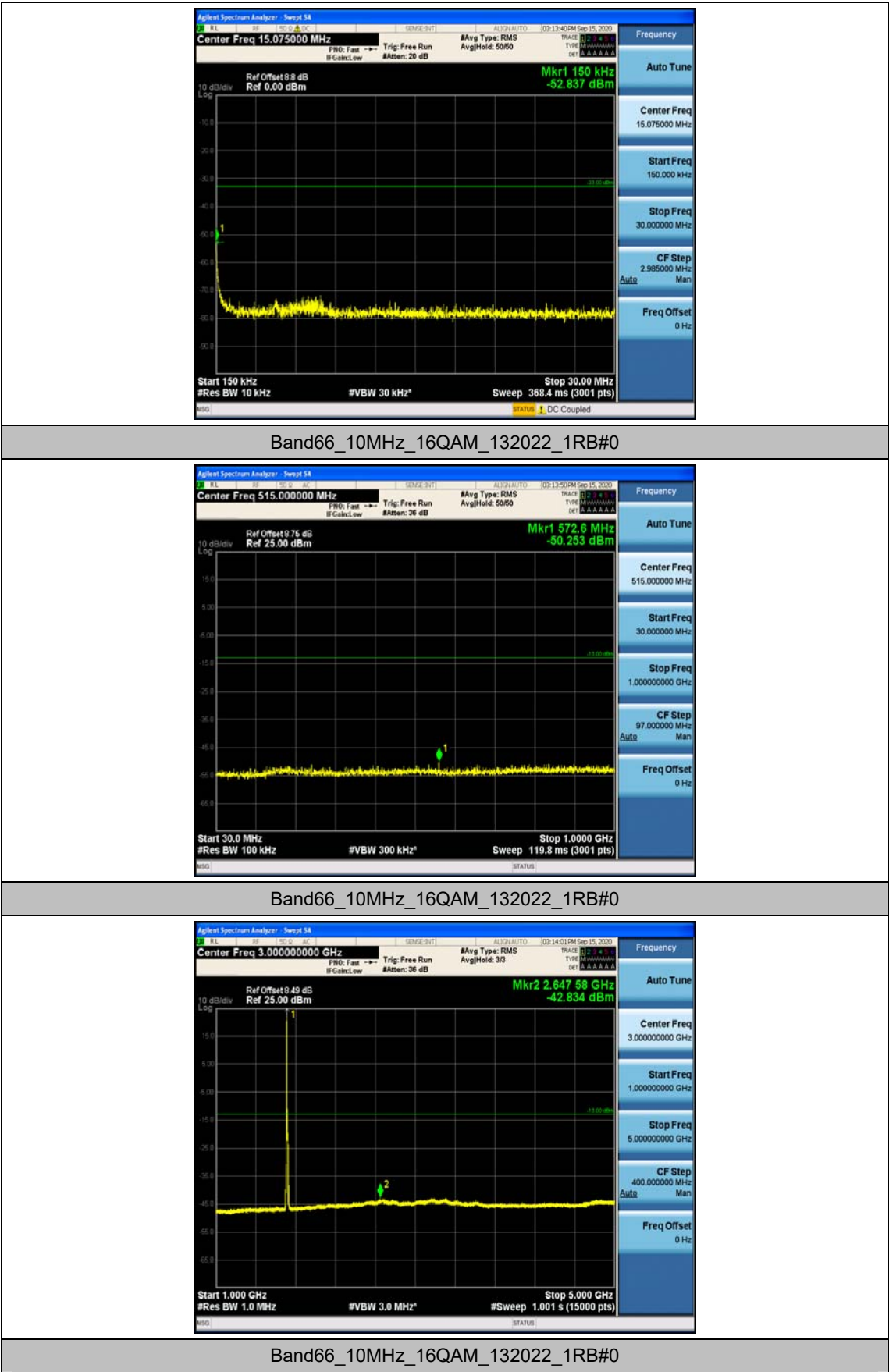






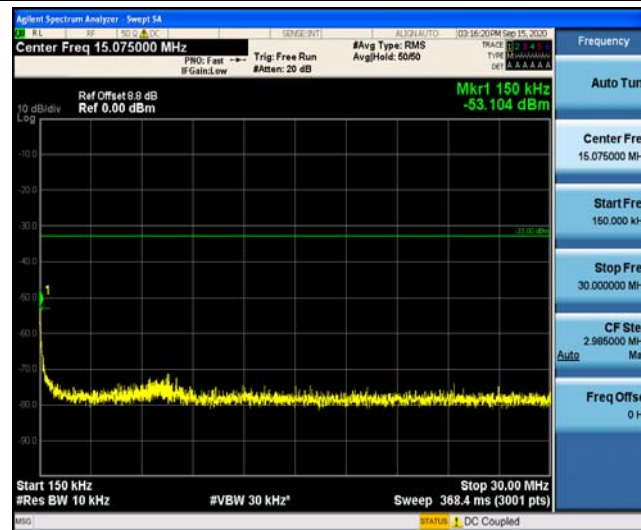
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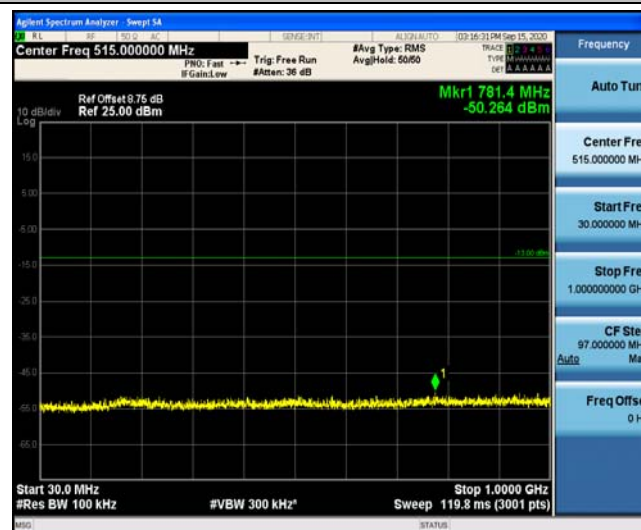
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Band66\_10MHz\_16QAM\_132322\_1RB#0



Band66\_10MHz\_16QAM\_132322\_1RB#0



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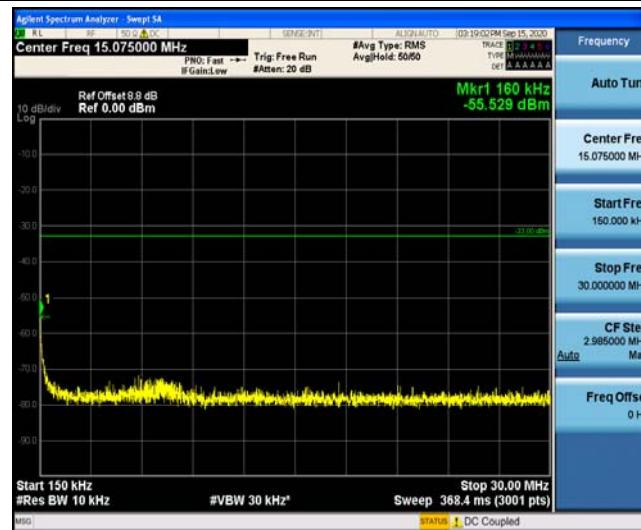
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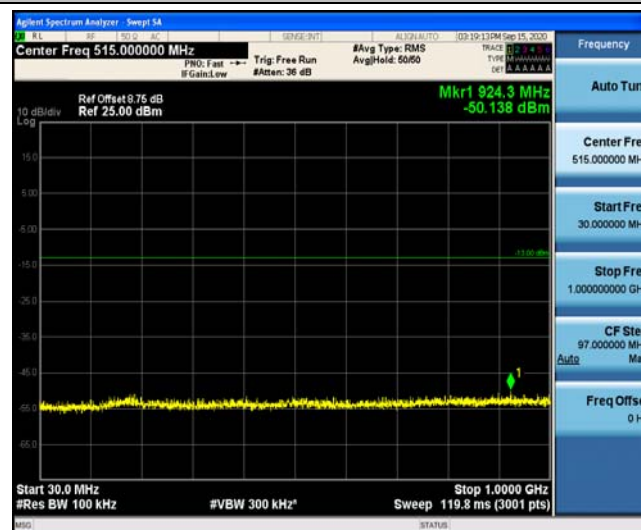
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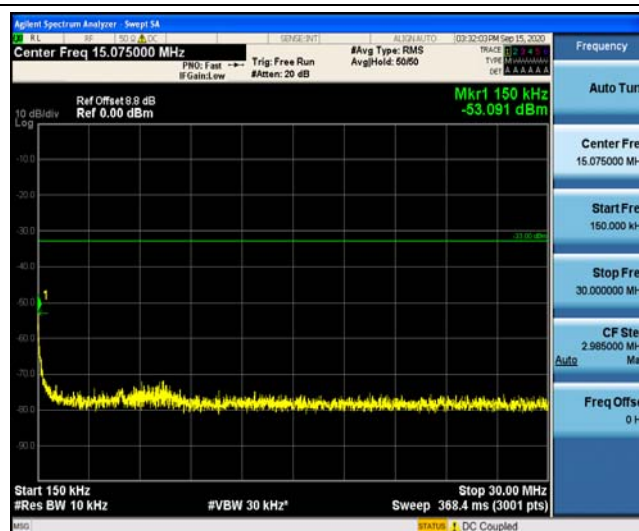
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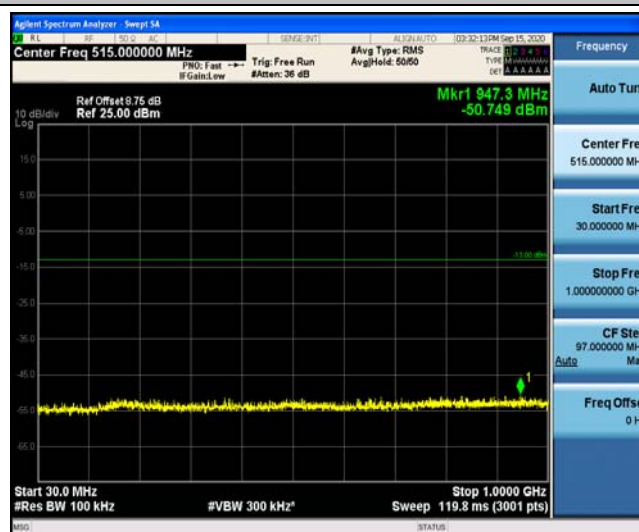
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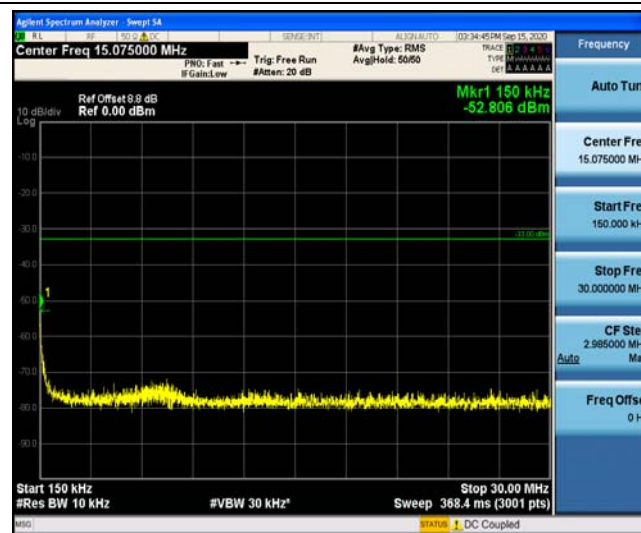


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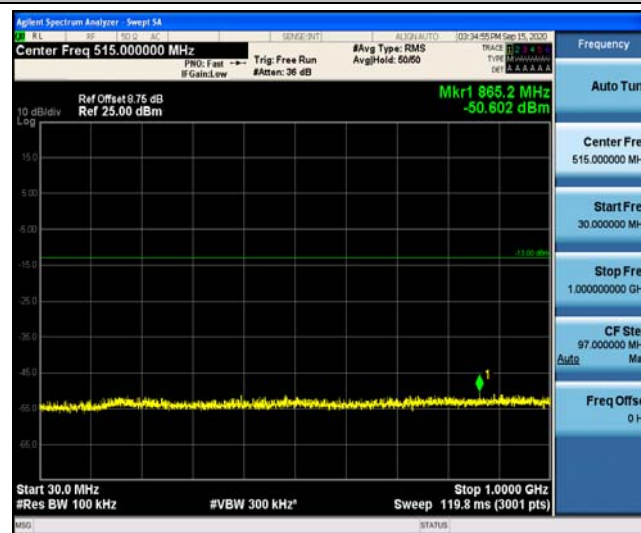


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Band66\_15MHz\_QPSK\_132322\_1RB#0



Band66\_15MHz\_QPSK\_132322\_1RB#0



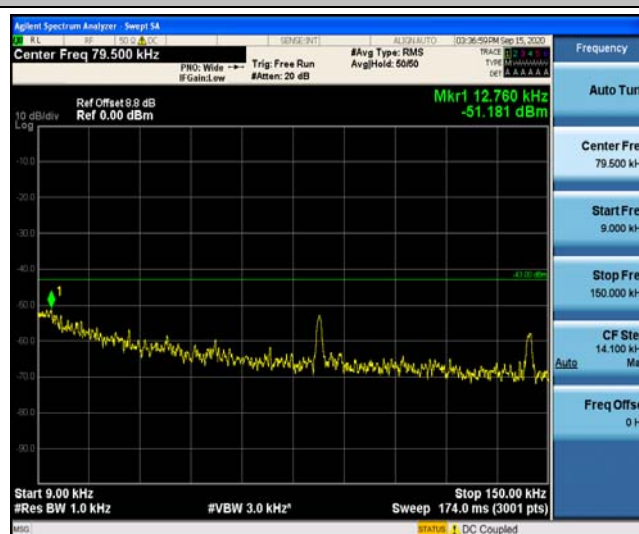
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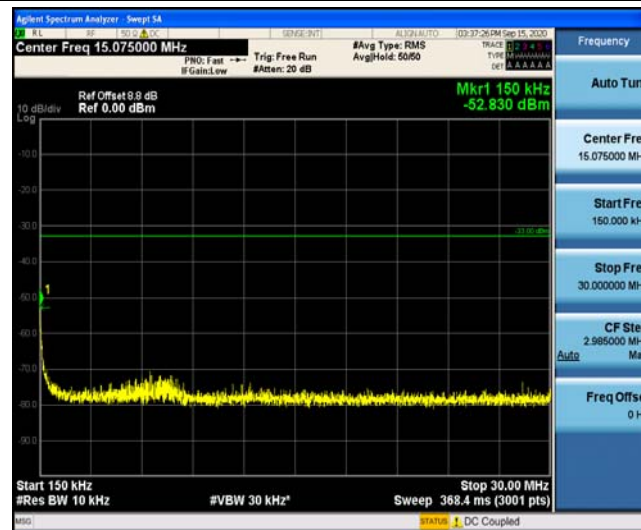
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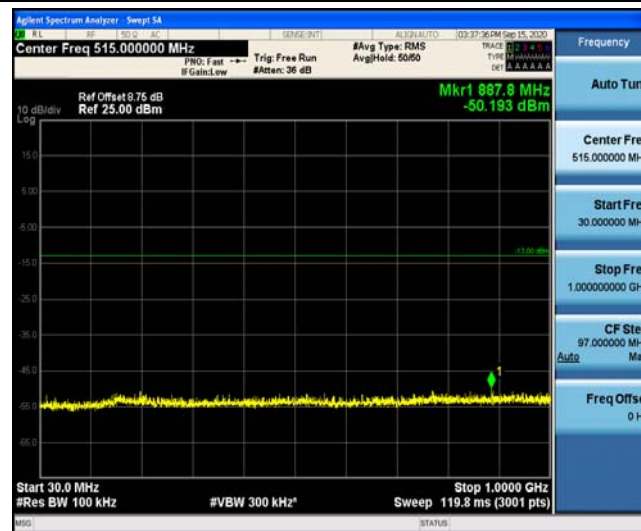
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Band66\_15MHz\_QPSK\_132597\_1RB#0



Band66\_15MHz\_QPSK\_132597\_1RB#0



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Band66\_15MHz\_QPSK\_132597\_1RB#0



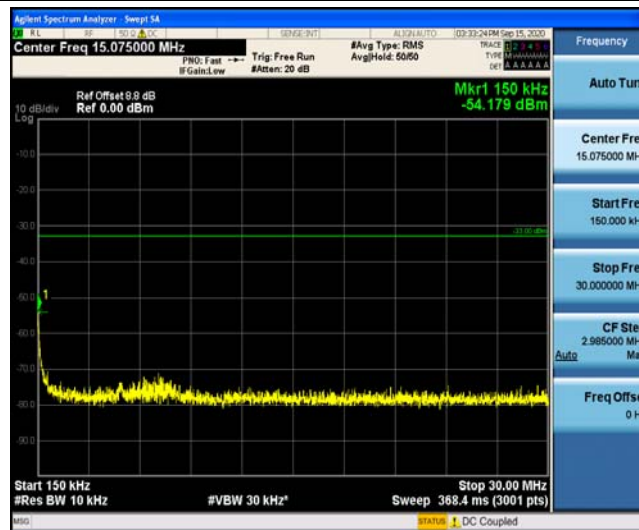
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Band66\_15MHz\_16QAM\_132047\_1RB#0



Band66\_15MHz\_16QAM\_132047\_1RB#0



Band66\_15MHz\_16QAM\_132047\_1RB#0

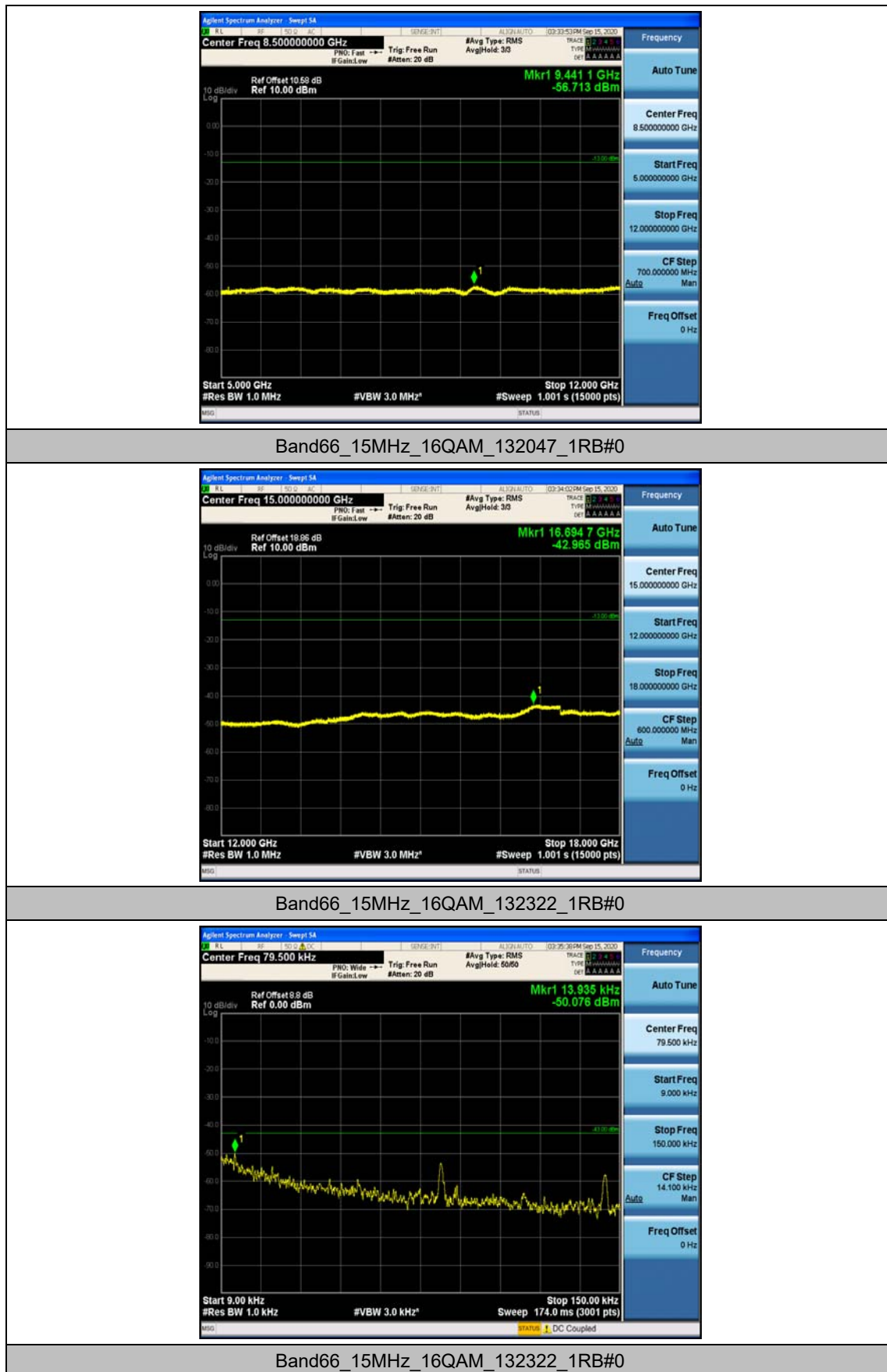


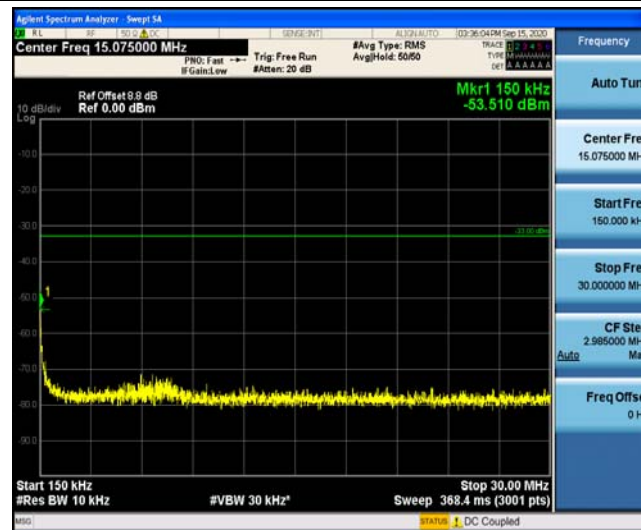
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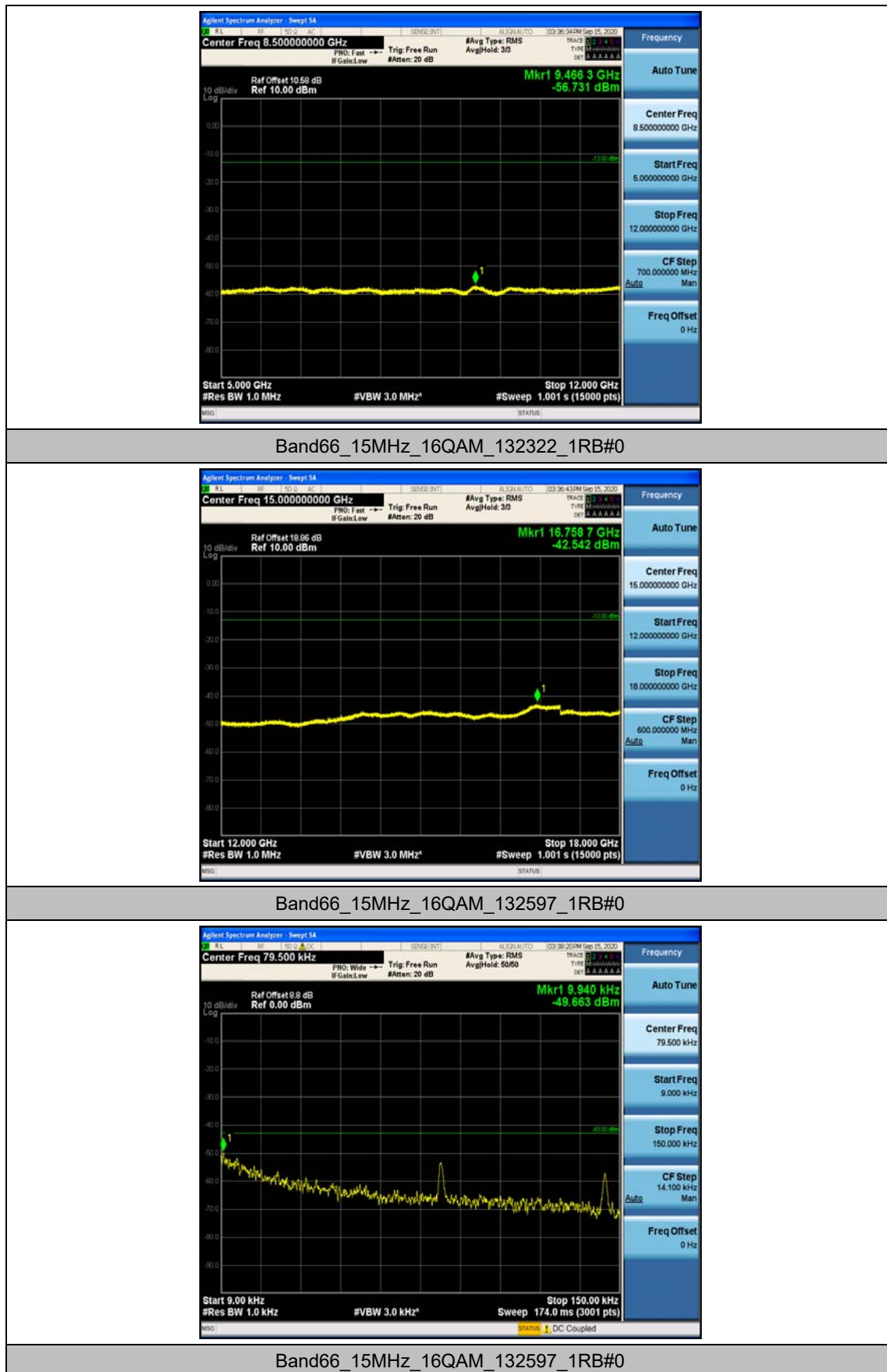
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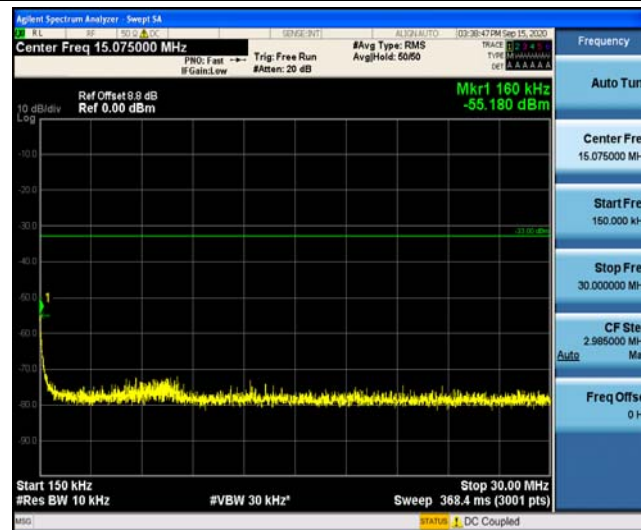


Band66\_15MHz\_16QAM\_132322\_1RB#0



Band66\_15MHz\_16QAM\_132322\_1RB#0





Band66\_15MHz\_16QAM\_132597\_1RB#0



Band66\_15MHz\_16QAM\_132597\_1RB#0



Band66\_15MHz\_16QAM\_132597\_1RB#0



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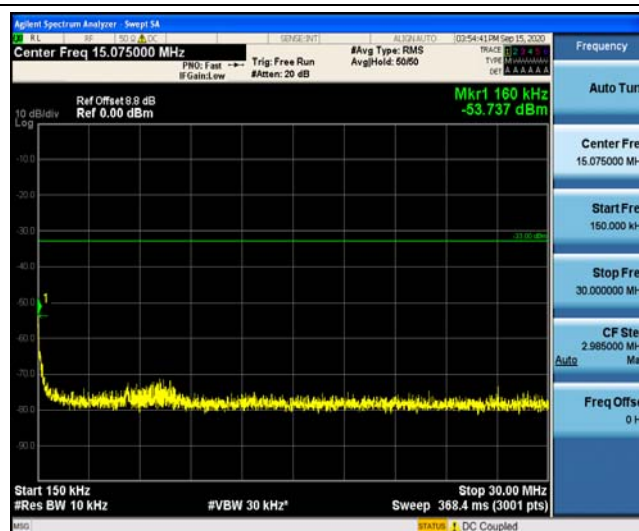


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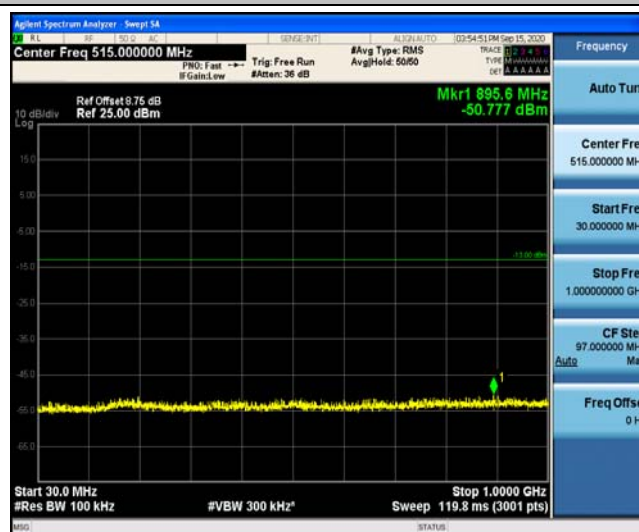


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Band66\_20MHz\_QPSK\_132072\_1RB#0



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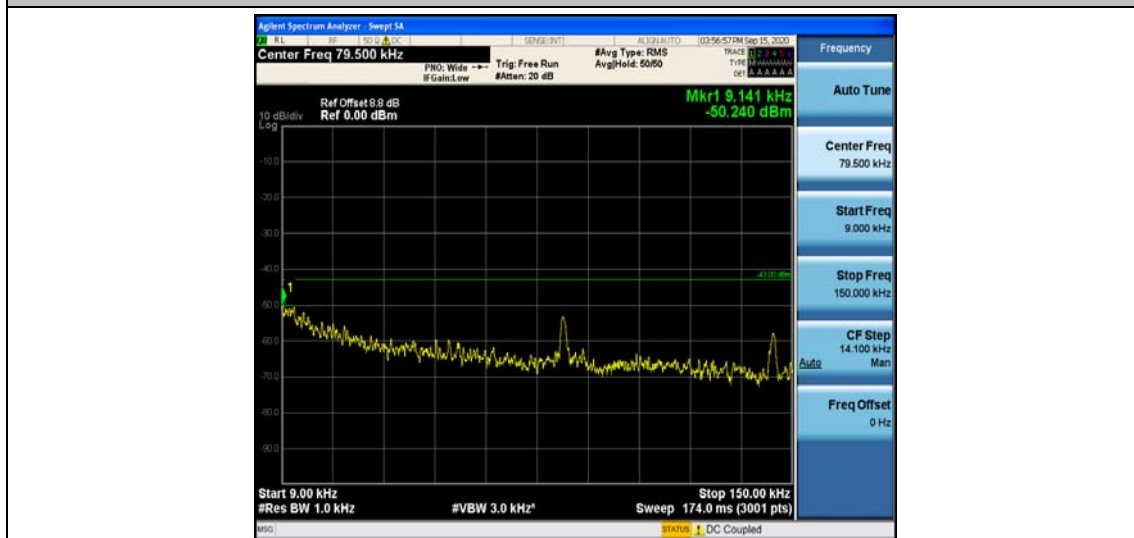
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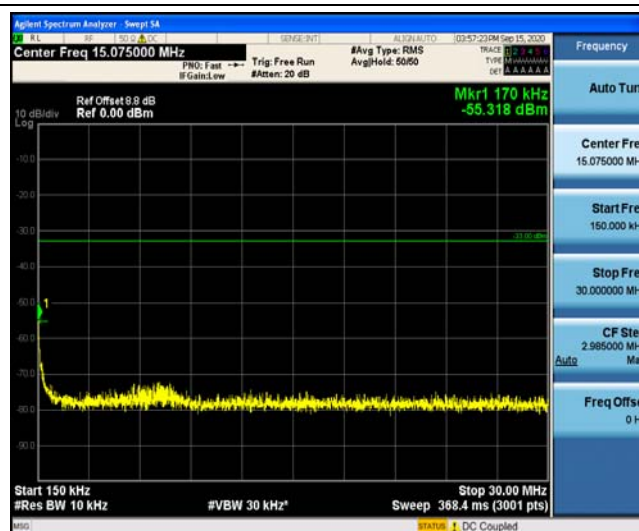
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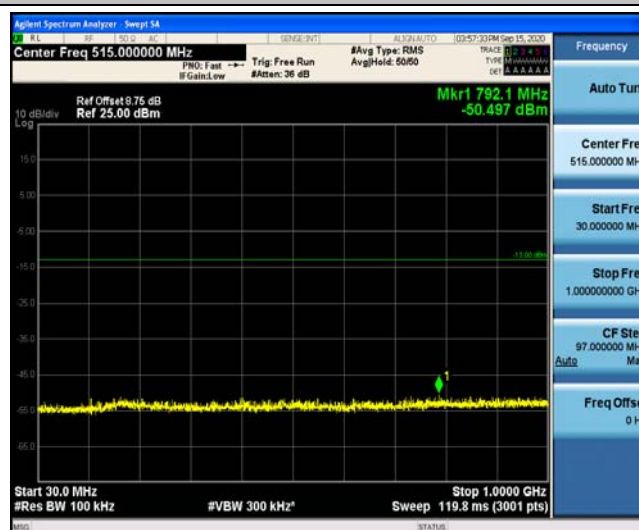
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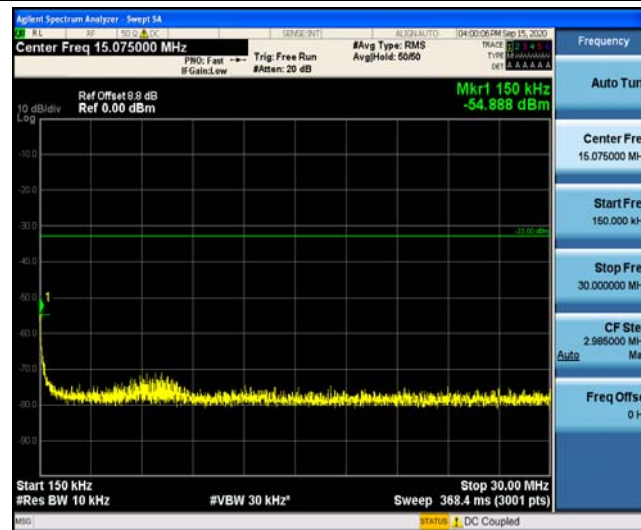
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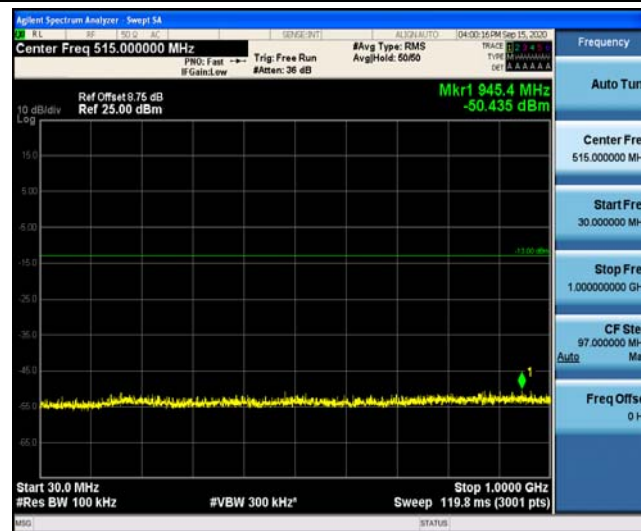
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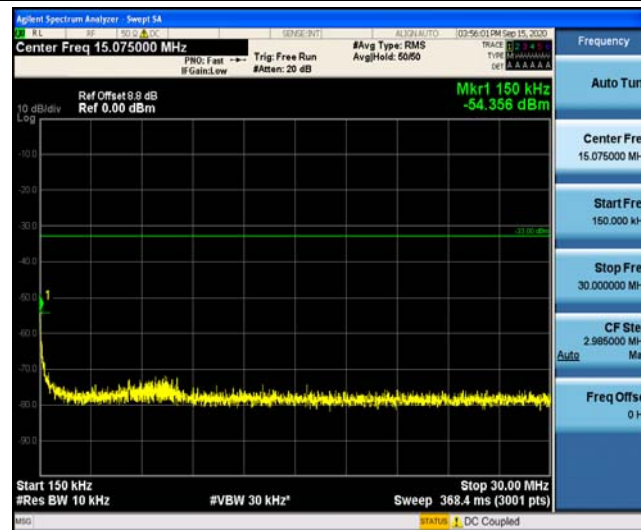
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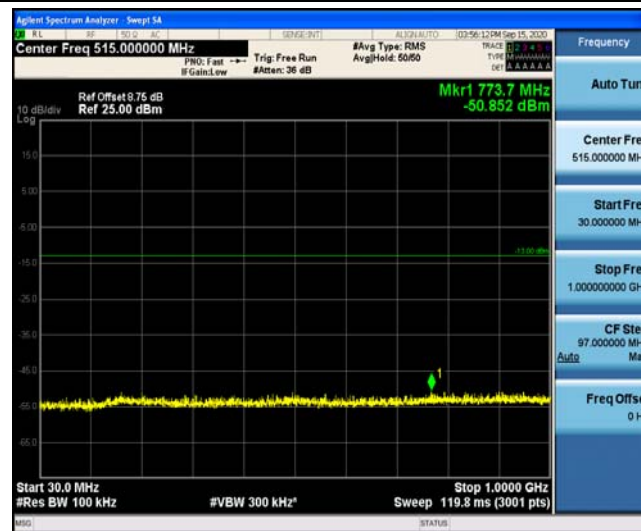
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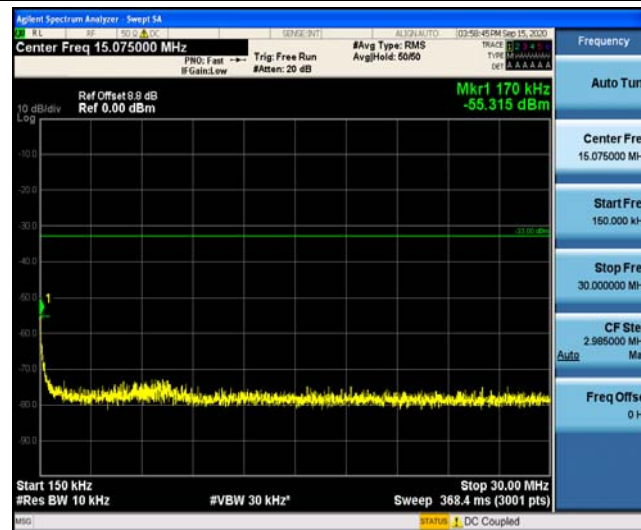
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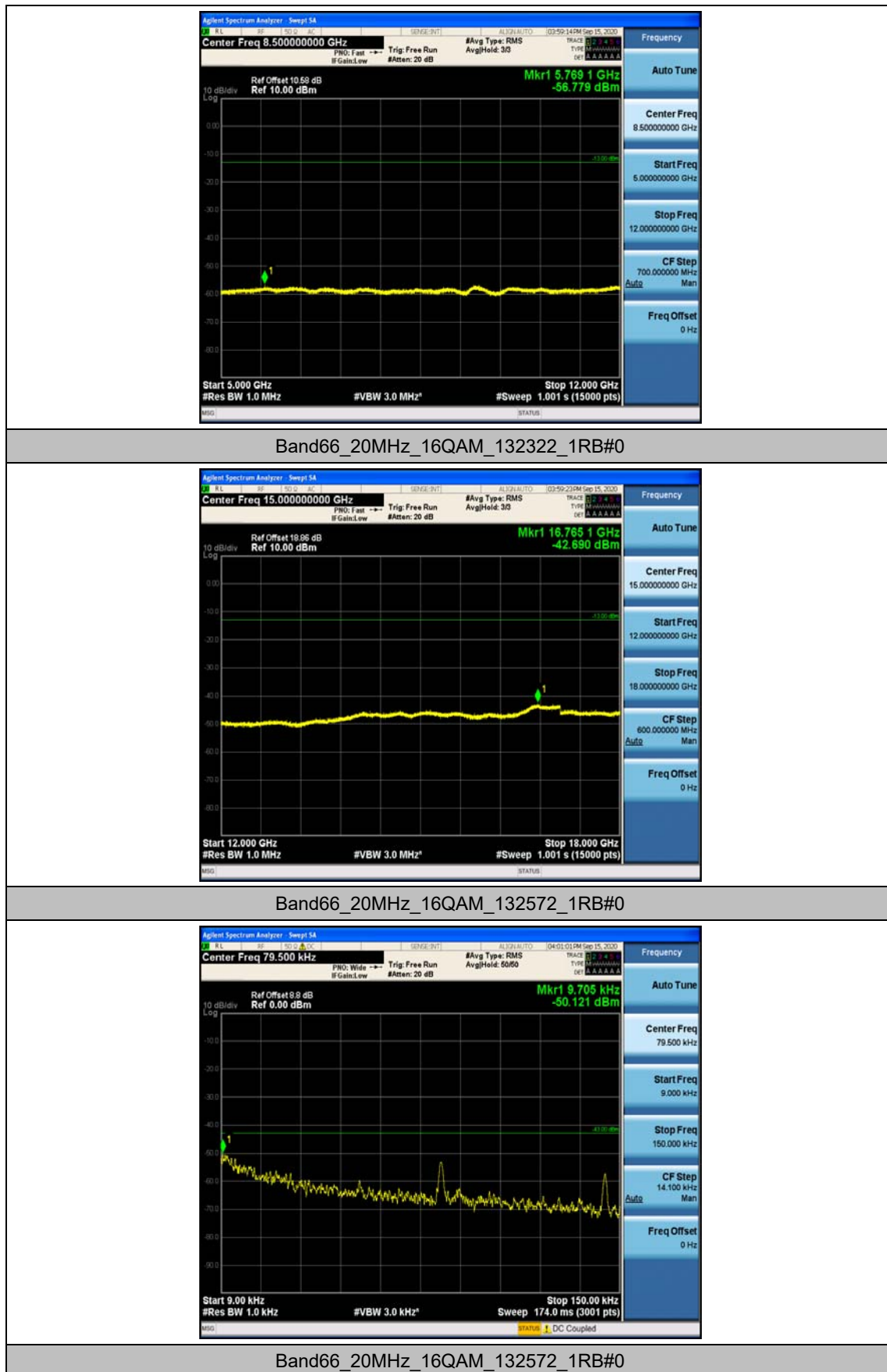
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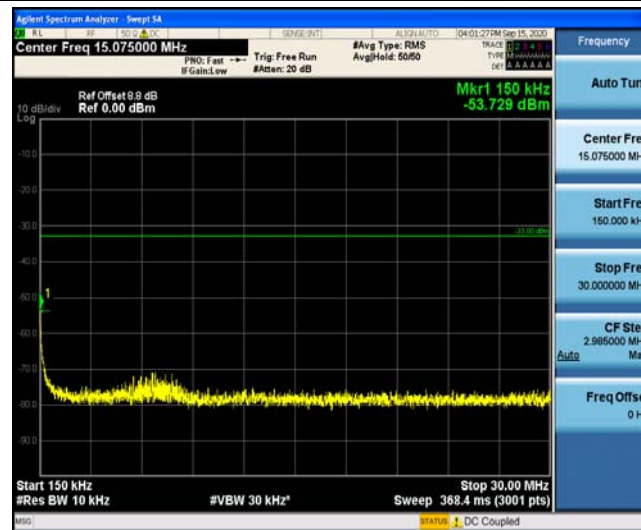
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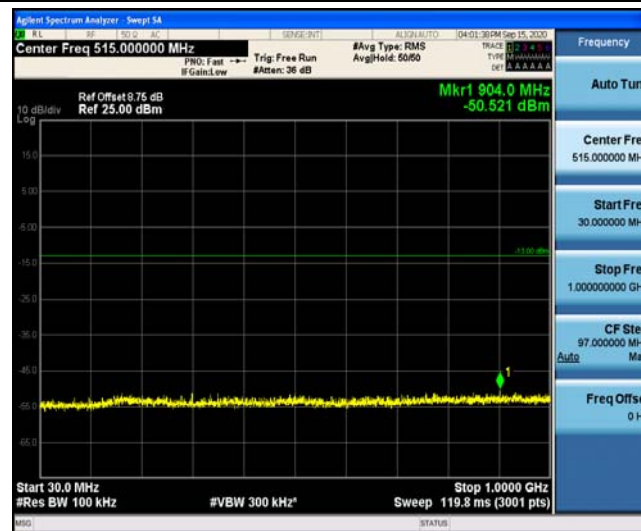
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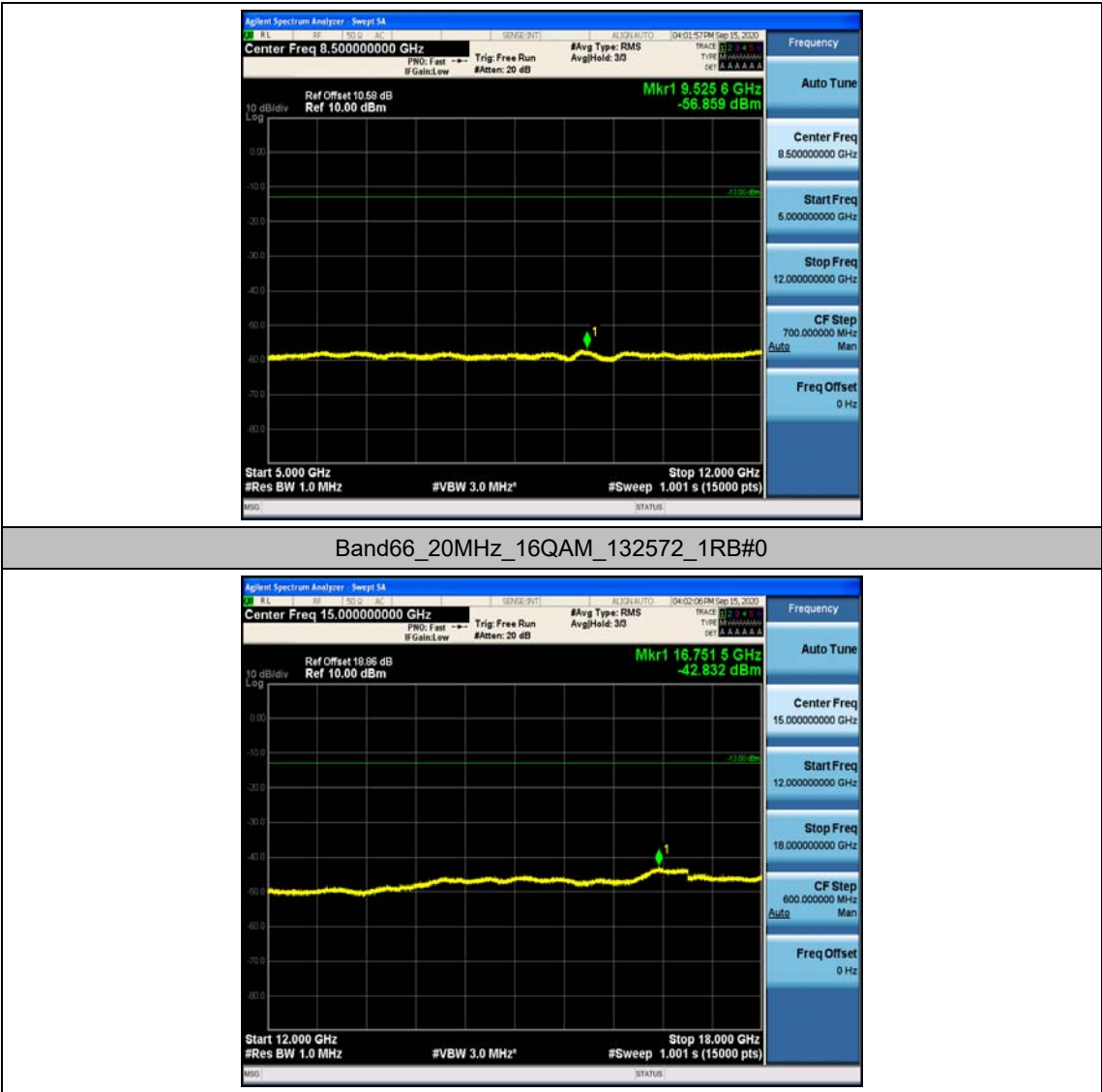
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Band66\_20MHz\_16QAM\_132572\_1RB#0



Band66\_20MHz\_16QAM\_132572\_1RB#0



## Appendix F: Frequency Stability

### Test Result

**Channel Bandwidth: 1.4 MHz**

| Channel Bandwidth: 1.4 MHz |         |               |                  |                |                 |             |         |
|----------------------------|---------|---------------|------------------|----------------|-----------------|-------------|---------|
| Voltage                    |         |               |                  |                |                 |             |         |
| Modulation                 | Channel | Voltage [Vdc] | Temperature (°C) | Deviation (Hz) | Deviation (ppm) | Limit (ppm) | Verdict |
| QPSK                       | LCH     | VL            | TN               | -1.84          | -0.001076       | ± 2.5       | PASS    |
|                            |         | VN            | TN               | 0.41           | 0.000240        | ± 2.5       | PASS    |
|                            |         | VH            | TN               | 1.68           | 0.000982        | ± 2.5       | PASS    |
|                            | MCH     | VL            | TN               | 4.51           | 0.002585        | ± 2.5       | PASS    |
|                            |         | VN            | TN               | 2.22           | 0.001272        | ± 2.5       | PASS    |
|                            |         | VH            | TN               | -1.33          | -0.000762       | ± 2.5       | PASS    |
|                            | HCH     | VL            | TN               | -0.88          | -0.000495       | ± 2.5       | PASS    |
|                            |         | VN            | TN               | 3.85           | 0.002164        | ± 2.5       | PASS    |
|                            |         | VH            | TN               | 2.6            | 0.001461        | ± 2.5       | PASS    |
| 16QAM                      | LCH     | VL            | TN               | 2.95           | 0.001724        | ± 2.5       | PASS    |
|                            |         | VN            | TN               | 3.59           | 0.002099        | ± 2.5       | PASS    |
|                            |         | VH            | TN               | 2.49           | 0.001456        | ± 2.5       | PASS    |
|                            | MCH     | VL            | TN               | 3.92           | 0.002246        | ± 2.5       | PASS    |
|                            |         | VN            | TN               | -1.09          | -0.000625       | ± 2.5       | PASS    |
|                            |         | VH            | TN               | -1.35          | -0.000774       | ± 2.5       | PASS    |
|                            | HCH     | VL            | TN               | 3.59           | 0.002018        | ± 2.5       | PASS    |
|                            |         | VN            | TN               | -0.47          | -0.000264       | ± 2.5       | PASS    |
|                            |         | VH            | TN               | 3.68           | 0.002068        | ± 2.5       | PASS    |
| Temperature                |         |               |                  |                |                 |             |         |
| Modulation                 | Channel | Voltage [Vdc] | Temperature (°C) | Deviation (Hz) | Deviation (ppm) | Limit (ppm) | Verdict |
| QPSK                       | LCH     | VN            | -30              | -1.16          | -0.000678       | ± 2.5       | PASS    |
|                            |         | VN            | -20              | 0.63           | 0.000368        | ± 2.5       | PASS    |
|                            |         | VN            | -10              | 4.76           | 0.002782        | ± 2.5       | PASS    |
|                            |         | VN            | 0                | 4.04           | 0.002362        | ± 2.5       | PASS    |
|                            |         | VN            | 10               | 3.38           | 0.001976        | ± 2.5       | PASS    |
|                            |         | VN            | 20               | -1.52          | -0.000889       | ± 2.5       | PASS    |
|                            |         | VN            | 30               | -1.84          | -0.001076       | ± 2.5       | PASS    |
|                            |         | VN            | 40               | 2.12           | 0.001239        | ± 2.5       | PASS    |
|                            |         | VN            | 50               | 1.38           | 0.000807        | ± 2.5       | PASS    |
|                            | MCH     | VN            | -30              | 2              | 0.001146        | ± 2.5       | PASS    |

|       |     |    |     |       |           |       |      |
|-------|-----|----|-----|-------|-----------|-------|------|
|       |     | VN | -20 | 0.78  | 0.000447  | ± 2.5 | PASS |
|       |     | VN | -10 | 3.88  | 0.002223  | ± 2.5 | PASS |
|       |     | VN | 0   | 3.24  | 0.001857  | ± 2.5 | PASS |
|       |     | VN | 10  | 4.62  | 0.002648  | ± 2.5 | PASS |
|       |     | VN | 20  | 1.02  | 0.000585  | ± 2.5 | PASS |
|       |     | VN | 30  | 1.46  | 0.000837  | ± 2.5 | PASS |
|       |     | VN | 40  | -1.02 | -0.000585 | ± 2.5 | PASS |
|       |     | VN | 50  | 3.52  | 0.002017  | ± 2.5 | PASS |
|       | HCH | VN | -30 | -0.36 | -0.000202 | ± 2.5 | PASS |
|       |     | VN | -20 | 1.54  | 0.000866  | ± 2.5 | PASS |
|       |     | VN | -10 | 2.23  | 0.001253  | ± 2.5 | PASS |
|       |     | VN | 0   | 3.81  | 0.002141  | ± 2.5 | PASS |
|       |     | VN | 10  | 1.91  | 0.001073  | ± 2.5 | PASS |
|       |     | VN | 20  | 1.18  | 0.000663  | ± 2.5 | PASS |
|       |     | VN | 30  | 4.75  | 0.002670  | ± 2.5 | PASS |
|       |     | VN | 40  | 3.96  | 0.002226  | ± 2.5 | PASS |
|       |     | VN | 50  | -1.35 | -0.000759 | ± 2.5 | PASS |
| 16QAM | LCH | VN | -30 | 3.62  | 0.002116  | ± 2.5 | PASS |
|       |     | VN | -20 | 1.2   | 0.000701  | ± 2.5 | PASS |
|       |     | VN | -10 | 3.78  | 0.002210  | ± 2.5 | PASS |
|       |     | VN | 0   | 2.53  | 0.001479  | ± 2.5 | PASS |
|       |     | VN | 10  | 1.6   | 0.000935  | ± 2.5 | PASS |
|       |     | VN | 20  | 4.83  | 0.002823  | ± 2.5 | PASS |
|       |     | VN | 30  | 2.1   | 0.001228  | ± 2.5 | PASS |
|       |     | VN | 40  | -0.96 | -0.000561 | ± 2.5 | PASS |
|       |     | VN | 50  | 4.49  | 0.002625  | ± 2.5 | PASS |
|       | MCH | VN | -30 | 3.91  | 0.002241  | ± 2.5 | PASS |
|       |     | VN | -20 | 1.86  | 0.001066  | ± 2.5 | PASS |
|       |     | VN | -10 | 1.46  | 0.000837  | ± 2.5 | PASS |
|       |     | VN | 0   | -1.54 | -0.000883 | ± 2.5 | PASS |
|       |     | VN | 10  | 4.75  | 0.002722  | ± 2.5 | PASS |
|       |     | VN | 20  | -0.43 | -0.000246 | ± 2.5 | PASS |
|       |     | VN | 30  | 4.52  | 0.002590  | ± 2.5 | PASS |
|       |     | VN | 40  | -0.12 | -0.000069 | ± 2.5 | PASS |
|       |     | VN | 50  | 4.17  | 0.002390  | ± 2.5 | PASS |
|       | HCH | VN | -30 | 0.77  | 0.000433  | ± 2.5 | PASS |
|       |     | VN | -20 | -1.62 | -0.000910 | ± 2.5 | PASS |
|       |     | VN | -10 | 0.19  | 0.000107  | ± 2.5 | PASS |
|       |     | VN | 0   | 1.7   | 0.000955  | ± 2.5 | PASS |
|       |     | VN | 10  | -1.61 | -0.000905 | ± 2.5 | PASS |
|       |     | VN | 20  | 0.42  | 0.000236  | ± 2.5 | PASS |

|  |  |    |    |       |           |       |      |
|--|--|----|----|-------|-----------|-------|------|
|  |  | VN | 30 | 2.64  | 0.001484  | ± 2.5 | PASS |
|  |  | VN | 40 | -0.29 | -0.000163 | ± 2.5 | PASS |
|  |  | VN | 50 | 1.01  | 0.000568  | ± 2.5 | PASS |

**Channel Bandwidth: 3 MHz**

| Channel Bandwidth: 3 MHz+ |         |               |                  |                |                 |             |         |
|---------------------------|---------|---------------|------------------|----------------|-----------------|-------------|---------|
| Voltage                   |         |               |                  |                |                 |             |         |
| Modulation                | Channel | Voltage [Vdc] | Temperature (°C) | Deviation (Hz) | Deviation (ppm) | Limit (ppm) | Verdict |
| QPSK                      | LCH     | VL            | TN               | -0.14          | -0.000082       | ± 2.5       | PASS    |
|                           |         | VN            | TN               | -1.29          | -0.000754       | ± 2.5       | PASS    |
|                           |         | VH            | TN               | 1.67           | 0.000976        | ± 2.5       | PASS    |
|                           | MCH     | VL            | TN               | 1.82           | 0.001043        | ± 2.5       | PASS    |
|                           |         | VN            | TN               | 1.41           | 0.000808        | ± 2.5       | PASS    |
|                           |         | VH            | TN               | 3.79           | 0.002172        | ± 2.5       | PASS    |
|                           | HCH     | VL            | TN               | 3.56           | 0.002001        | ± 2.5       | PASS    |
|                           |         | VN            | TN               | 1.85           | 0.001040        | ± 2.5       | PASS    |
|                           |         | VH            | TN               | 3.25           | 0.001827        | ± 2.5       | PASS    |
| 16QAM                     | LCH     | VL            | TN               | 2.48           | 0.001449        | ± 2.5       | PASS    |
|                           |         | VN            | TN               | -1.37          | -0.000800       | ± 2.5       | PASS    |
|                           |         | VH            | TN               | 4.34           | 0.002536        | ± 2.5       | PASS    |
|                           | MCH     | VL            | TN               | 3.73           | 0.002138        | ± 2.5       | PASS    |
|                           |         | VN            | TN               | 2.73           | 0.001564        | ± 2.5       | PASS    |
|                           |         | VH            | TN               | -0.49          | -0.000281       | ± 2.5       | PASS    |
|                           | HCH     | VL            | TN               | -1.55          | -0.000871       | ± 2.5       | PASS    |
|                           |         | VN            | TN               | -0.23          | -0.000129       | ± 2.5       | PASS    |
|                           |         | VH            | TN               | 2.76           | 0.001551        | ± 2.5       | PASS    |
| Temperature               |         |               |                  |                |                 |             |         |
| Modulation                | Channel | Voltage [Vdc] | Temperature (°C) | Deviation (Hz) | Deviation (ppm) | Limit (ppm) | Verdict |
| QPSK                      | LCH     | VN            | -30              | 1.76           | 0.001028        | ± 2.5       | PASS    |
|                           |         | VN            | -20              | 2.85           | 0.001665        | ± 2.5       | PASS    |
|                           |         | VN            | -10              | 0.15           | 0.000088        | ± 2.5       | PASS    |
|                           |         | VN            | 0                | -0.22          | -0.000129       | ± 2.5       | PASS    |
|                           |         | VN            | 10               | 1.27           | 0.000742        | ± 2.5       | PASS    |
|                           |         | VN            | 20               | -1.01          | -0.000590       | ± 2.5       | PASS    |
|                           |         | VN            | 30               | 0.92           | 0.000538        | ± 2.5       | PASS    |
|                           |         | VN            | 40               | 0.77           | 0.000450        | ± 2.5       | PASS    |
|                           |         | VN            | 50               | -0.33          | -0.000193       | ± 2.5       | PASS    |
|                           | MCH     | VN            | -30              | 1.69           | 0.000968        | ± 2.5       | PASS    |
|                           |         | VN            | -20              | 2.88           | 0.001650        | ± 2.5       | PASS    |



|     |       |     |      |          |           |           |       |      |
|-----|-------|-----|------|----------|-----------|-----------|-------|------|
|     |       | VN  | -10  | 4.84     | 0.002774  | ± 2.5     | PASS  |      |
|     |       | VN  | 0    | 3.06     | 0.001754  | ± 2.5     | PASS  |      |
|     |       | VN  | 10   | 1.81     | 0.001037  | ± 2.5     | PASS  |      |
|     |       | VN  | 20   | 2.15     | 0.001232  | ± 2.5     | PASS  |      |
|     |       | VN  | 30   | -0.41    | -0.000235 | ± 2.5     | PASS  |      |
|     |       | VN  | 40   | 3.23     | 0.001851  | ± 2.5     | PASS  |      |
|     |       | VN  | 50   | 1.21     | 0.000693  | ± 2.5     | PASS  |      |
|     | HCH   | VN  | -30  | 0.77     | 0.000433  | ± 2.5     | PASS  |      |
|     |       | VN  | -20  | -0.62    | -0.000348 | ± 2.5     | PASS  |      |
|     |       | VN  | -10  | -1.82    | -0.001023 | ± 2.5     | PASS  |      |
|     |       | VN  | 0    | 4.94     | 0.002776  | ± 2.5     | PASS  |      |
|     |       | VN  | 10   | -1.84    | -0.001034 | ± 2.5     | PASS  |      |
|     |       | VN  | 20   | 4.86     | 0.002731  | ± 2.5     | PASS  |      |
|     |       | VN  | 30   | 3.82     | 0.002147  | ± 2.5     | PASS  |      |
|     | VN    | 40  | 2.16 | 0.001214 | ± 2.5     | PASS      |       |      |
|     | VN    | 50  | 4.32 | 0.002428 | ± 2.5     | PASS      |       |      |
|     | 16QAM | LCH | VN   | -30      | 1.65      | 0.000964  | ± 2.5 | PASS |
|     |       |     | VN   | -20      | -0.17     | -0.000099 | ± 2.5 | PASS |
| VN  |       |     | -10  | 0.63     | 0.000368  | ± 2.5     | PASS  |      |
| VN  |       |     | 0    | 3.5      | 0.002045  | ± 2.5     | PASS  |      |
| VN  |       |     | 10   | -1.44    | -0.000841 | ± 2.5     | PASS  |      |
| VN  |       |     | 20   | 2.26     | 0.001320  | ± 2.5     | PASS  |      |
| VN  |       |     | 30   | -1.19    | -0.000695 | ± 2.5     | PASS  |      |
| VN  |       |     | 40   | 2.48     | 0.001449  | ± 2.5     | PASS  |      |
| VN  |       |     | 50   | 0.2      | 0.000117  | ± 2.5     | PASS  |      |
| MCH |       | VN  | -30  | 4.35     | 0.002493  | ± 2.5     | PASS  |      |
|     |       | VN  | -20  | 1.34     | 0.000768  | ± 2.5     | PASS  |      |
|     |       | VN  | -10  | 1.58     | 0.000905  | ± 2.5     | PASS  |      |
|     |       | VN  | 0    | -1.68    | -0.000963 | ± 2.5     | PASS  |      |
|     |       | VN  | 10   | 4.64     | 0.002659  | ± 2.5     | PASS  |      |
|     |       | VN  | 20   | 3.52     | 0.002017  | ± 2.5     | PASS  |      |
|     |       | VN  | 30   | 3.93     | 0.002252  | ± 2.5     | PASS  |      |
|     |       | VN  | 40   | 3.02     | 0.001731  | ± 2.5     | PASS  |      |
|     |       | VN  | 50   | -0.23    | -0.000132 | ± 2.5     | PASS  |      |
| HCH |       | VN  | -30  | -1.1     | -0.000618 | ± 2.5     | PASS  |      |
|     |       | VN  | -20  | 4.06     | 0.002282  | ± 2.5     | PASS  |      |
|     |       | VN  | -10  | 5        | 0.002810  | ± 2.5     | PASS  |      |
|     |       | VN  | 0    | 2.33     | 0.001310  | ± 2.5     | PASS  |      |
|     |       | VN  | 10   | 4.27     | 0.002400  | ± 2.5     | PASS  |      |
|     |       | VN  | 20   | -1.49    | -0.000837 | ± 2.5     | PASS  |      |
|     |       | VN  | 30   | 2.52     | 0.001416  | ± 2.5     | PASS  |      |

|  |  |    |    |       |           |       |      |
|--|--|----|----|-------|-----------|-------|------|
|  |  | VN | 40 | -0.95 | -0.000534 | ± 2.5 | PASS |
|  |  | VN | 50 | -1.64 | -0.000922 | ± 2.5 | PASS |

**Channel Bandwidth: 5 MHz**

| Channel Bandwidth: 5 MHz |         |               |                  |                |                 |             |         |
|--------------------------|---------|---------------|------------------|----------------|-----------------|-------------|---------|
| Voltage                  |         |               |                  |                |                 |             |         |
| Modulation               | Channel | Voltage [Vdc] | Temperature (°C) | Deviation (Hz) | Deviation (ppm) | Limit (ppm) | Verdict |
| QPSK                     | LCH     | VL            | TN               | 4.66           | 0.002721        | ± 2.5       | PASS    |
|                          |         | VN            | TN               | -1.01          | -0.000590       | ± 2.5       | PASS    |
|                          |         | VH            | TN               | 3.43           | 0.002003        | ± 2.5       | PASS    |
|                          | MCH     | VL            | TN               | -0.25          | -0.000143       | ± 2.5       | PASS    |
|                          |         | VN            | TN               | 1.66           | 0.000951        | ± 2.5       | PASS    |
|                          |         | VH            | TN               | -0.6           | -0.000344       | ± 2.5       | PASS    |
|                          | HCH     | VL            | TN               | 4.51           | 0.002536        | ± 2.5       | PASS    |
|                          |         | VN            | TN               | -0.89          | -0.000500       | ± 2.5       | PASS    |
|                          |         | VH            | TN               | 4.02           | 0.002260        | ± 2.5       | PASS    |
| 16QAM                    | LCH     | VL            | TN               | 0.48           | 0.000280        | ± 2.5       | PASS    |
|                          |         | VN            | TN               | 4.55           | 0.002657        | ± 2.5       | PASS    |
|                          |         | VH            | TN               | -0.01          | -0.000006       | ± 2.5       | PASS    |
|                          | MCH     | VL            | TN               | 0.57           | 0.000327        | ± 2.5       | PASS    |
|                          |         | VN            | TN               | 3.63           | 0.002080        | ± 2.5       | PASS    |
|                          |         | VH            | TN               | 0.95           | 0.000544        | ± 2.5       | PASS    |
|                          | HCH     | VL            | TN               | -1.42          | -0.000798       | ± 2.5       | PASS    |
|                          |         | VN            | TN               | 3.19           | 0.001794        | ± 2.5       | PASS    |
|                          |         | VH            | TN               | 3.39           | 0.001906        | ± 2.5       | PASS    |
| Temperature              |         |               |                  |                |                 |             |         |
| Modulation               | Channel | Voltage [Vdc] | Temperature (°C) | Deviation (Hz) | Deviation (ppm) | Limit (ppm) | Verdict |
| QPSK                     | LCH     | VN            | -30              | 1.13           | 0.000660        | ± 2.5       | PASS    |
|                          |         | VN            | -20              | 1.72           | 0.001004        | ± 2.5       | PASS    |
|                          |         | VN            | -10              | 4.34           | 0.002534        | ± 2.5       | PASS    |
|                          |         | VN            | 0                | 2.45           | 0.001431        | ± 2.5       | PASS    |
|                          |         | VN            | 10               | 4.58           | 0.002674        | ± 2.5       | PASS    |
|                          |         | VN            | 20               | 4.14           | 0.002418        | ± 2.5       | PASS    |
|                          |         | VN            | 30               | 1.52           | 0.000888        | ± 2.5       | PASS    |
|                          |         | VN            | 40               | 0.26           | 0.000152        | ± 2.5       | PASS    |
|                          |         | VN            | 50               | -0.13          | -0.000076       | ± 2.5       | PASS    |
|                          | MCH     | VN            | -30              | 2.07           | 0.001186        | ± 2.5       | PASS    |
|                          |         | VN            | -20              | 2.64           | 0.001513        | ± 2.5       | PASS    |
|                          |         | VN            | -10              | 1.85           | 0.001060        | ± 2.5       | PASS    |

|       |     |    |     |       |           |       |      |
|-------|-----|----|-----|-------|-----------|-------|------|
|       |     | VN | 0   | -1.33 | -0.000762 | ± 2.5 | PASS |
|       |     | VN | 10  | 0.26  | 0.000149  | ± 2.5 | PASS |
|       |     | VN | 20  | 4.05  | 0.002321  | ± 2.5 | PASS |
|       |     | VN | 30  | 3.96  | 0.002269  | ± 2.5 | PASS |
|       |     | VN | 40  | -0.35 | -0.000201 | ± 2.5 | PASS |
|       |     | VN | 50  | -1.95 | -0.001117 | ± 2.5 | PASS |
|       | HCH | VN | -30 | 1.86  | 0.001046  | ± 2.5 | PASS |
|       |     | VN | -20 | -0.07 | -0.000039 | ± 2.5 | PASS |
|       |     | VN | -10 | 4.16  | 0.002339  | ± 2.5 | PASS |
|       |     | VN | 0   | 3.5   | 0.001968  | ± 2.5 | PASS |
|       |     | VN | 10  | 2.24  | 0.001259  | ± 2.5 | PASS |
|       |     | VN | 20  | 2.54  | 0.001428  | ± 2.5 | PASS |
|       |     | VN | 30  | 4.62  | 0.002598  | ± 2.5 | PASS |
|       |     | VN | 40  | -0.75 | -0.000422 | ± 2.5 | PASS |
|       |     | VN | 50  | 4.62  | 0.002598  | ± 2.5 | PASS |
| 16QAM | LCH | VN | -30 | 4.44  | 0.002593  | ± 2.5 | PASS |
|       |     | VN | -20 | -0.99 | -0.000578 | ± 2.5 | PASS |
|       |     | VN | -10 | -1.64 | -0.000958 | ± 2.5 | PASS |
|       |     | VN | 0   | -1.4  | -0.000818 | ± 2.5 | PASS |
|       |     | VN | 10  | 3.95  | 0.002307  | ± 2.5 | PASS |
|       |     | VN | 20  | 3.2   | 0.001869  | ± 2.5 | PASS |
|       |     | VN | 30  | 4.27  | 0.002493  | ± 2.5 | PASS |
|       |     | VN | 40  | -0.25 | -0.000146 | ± 2.5 | PASS |
|       |     | VN | 50  | 0.73  | 0.000426  | ± 2.5 | PASS |
|       | MCH | VN | -30 | 2.43  | 0.001393  | ± 2.5 | PASS |
|       |     | VN | -20 | 4.37  | 0.002504  | ± 2.5 | PASS |
|       |     | VN | -10 | 0.16  | 0.000092  | ± 2.5 | PASS |
|       |     | VN | 0   | -0.72 | -0.000413 | ± 2.5 | PASS |
|       |     | VN | 10  | 1.46  | 0.000837  | ± 2.5 | PASS |
|       |     | VN | 20  | 3.91  | 0.002241  | ± 2.5 | PASS |
|       |     | VN | 30  | 2.06  | 0.001181  | ± 2.5 | PASS |
|       |     | VN | 40  | 1.36  | 0.000779  | ± 2.5 | PASS |
|       |     | VN | 50  | 0.97  | 0.000556  | ± 2.5 | PASS |
|       | HCH | VN | -30 | 1.17  | 0.000658  | ± 2.5 | PASS |
|       |     | VN | -20 | 0.1   | 0.000056  | ± 2.5 | PASS |
|       |     | VN | -10 | 1.44  | 0.000810  | ± 2.5 | PASS |
|       |     | VN | 0   | 1.32  | 0.000742  | ± 2.5 | PASS |
|       |     | VN | 10  | -0.38 | -0.000214 | ± 2.5 | PASS |
|       |     | VN | 20  | -1.8  | -0.001012 | ± 2.5 | PASS |
|       |     | VN | 30  | 0.04  | 0.000022  | ± 2.5 | PASS |
|       |     | VN | 40  | 1.9   | 0.001068  | ± 2.5 | PASS |

|  |  |    |    |       |           |       |      |
|--|--|----|----|-------|-----------|-------|------|
|  |  | VN | 50 | -0.67 | -0.000377 | ± 2.5 | PASS |
|--|--|----|----|-------|-----------|-------|------|

**Channel Bandwidth: 10 MHz**

| Channel Bandwidth: 10 MHz |         |               |                  |                |                 |             |         |
|---------------------------|---------|---------------|------------------|----------------|-----------------|-------------|---------|
| Voltage                   |         |               |                  |                |                 |             |         |
| Modulation                | Channel | Voltage [Vdc] | Temperature (°C) | Deviation (Hz) | Deviation (ppm) | Limit (ppm) | Verdict |
| QPSK                      | LCH     | VL            | TN               | 2.06           | 0.001201        | ± 2.5       | PASS    |
|                           |         | VN            | TN               | 0.7            | 0.000408        | ± 2.5       | PASS    |
|                           |         | VH            | TN               | -0.33          | -0.000192       | ± 2.5       | PASS    |
|                           | MCH     | VL            | TN               | -1.26          | -0.000722       | ± 2.5       | PASS    |
|                           |         | VN            | TN               | 4.73           | 0.002711        | ± 2.5       | PASS    |
|                           |         | VH            | TN               | 4.81           | 0.002756        | ± 2.5       | PASS    |
|                           | HCH     | VL            | TN               | 1.57           | 0.000883        | ± 2.5       | PASS    |
|                           |         | VN            | TN               | 0.95           | 0.000534        | ± 2.5       | PASS    |
|                           |         | VH            | TN               | 1.85           | 0.001041        | ± 2.5       | PASS    |
| 16QAM                     | LCH     | VL            | TN               | 3.06           | 0.001784        | ± 2.5       | PASS    |
|                           |         | VN            | TN               | -1.06          | -0.000618       | ± 2.5       | PASS    |
|                           |         | VH            | TN               | 2.5            | 0.001458        | ± 2.5       | PASS    |
|                           | MCH     | VL            | TN               | 0.38           | 0.000218        | ± 2.5       | PASS    |
|                           |         | VN            | TN               | -0.1           | -0.000057       | ± 2.5       | PASS    |
|                           |         | VH            | TN               | 1.71           | 0.000980        | ± 2.5       | PASS    |
|                           | HCH     | VL            | TN               | 3.91           | 0.002200        | ± 2.5       | PASS    |
|                           |         | VN            | TN               | 0.51           | 0.000287        | ± 2.5       | PASS    |
|                           |         | VH            | TN               | 1.36           | 0.000765        | ± 2.5       | PASS    |
| Temperature               |         |               |                  |                |                 |             |         |
| Modulation                | Channel | Voltage [Vdc] | Temperature (°C) | Deviation (Hz) | Deviation (ppm) | Limit (ppm) | Verdict |
| QPSK                      | LCH     | VN            | -30              | 1.16           | 0.000675        | ± 2.5       | PASS    |
|                           |         | VN            | -20              | -1.12          | -0.000652       | ± 2.5       | PASS    |
|                           |         | VN            | -10              | 3.71           | 0.002160        | ± 2.5       | PASS    |
|                           |         | VN            | 0                | 1.3            | 0.000757        | ± 2.5       | PASS    |
|                           |         | VN            | 10               | -0.9           | -0.000524       | ± 2.5       | PASS    |
|                           |         | VN            | 20               | 3.88           | 0.002259        | ± 2.5       | PASS    |
|                           |         | VN            | 30               | 0.06           | 0.000035        | ± 2.5       | PASS    |
|                           |         | VN            | 40               | 1.07           | 0.000623        | ± 2.5       | PASS    |
|                           |         | VN            | 50               | 1.61           | 0.000937        | ± 2.5       | PASS    |
|                           | MCH     | VN            | -30              | 2.66           | 0.001524        | ± 2.5       | PASS    |
|                           |         | VN            | -20              | 1.84           | 0.001054        | ± 2.5       | PASS    |
|                           |         | VN            | -10              | -1.31          | -0.000751       | ± 2.5       | PASS    |
|                           |         | VN            | 0                | 4.58           | 0.002625        | ± 2.5       | PASS    |

|       |     |    |     |       |           |       |      |
|-------|-----|----|-----|-------|-----------|-------|------|
|       |     | VN | 10  | 0.71  | 0.000407  | ± 2.5 | PASS |
|       |     | VN | 20  | 0.36  | 0.000206  | ± 2.5 | PASS |
|       |     | VN | 30  | 2.53  | 0.001450  | ± 2.5 | PASS |
|       |     | VN | 40  | 1.39  | 0.000797  | ± 2.5 | PASS |
|       |     | VN | 50  | 3.87  | 0.002218  | ± 2.5 | PASS |
|       | HCH | VN | -30 | 4.03  | 0.002270  | ± 2.5 | PASS |
|       |     | VN | -20 | 1.21  | 0.000682  | ± 2.5 | PASS |
|       |     | VN | -10 | 2.78  | 0.001566  | ± 2.5 | PASS |
|       |     | VN | 0   | 2.08  | 0.001172  | ± 2.5 | PASS |
|       |     | VN | 10  | 0.1   | 0.000056  | ± 2.5 | PASS |
|       |     | VN | 20  | 4.9   | 0.002761  | ± 2.5 | PASS |
|       |     | VN | 30  | -0.87 | -0.000490 | ± 2.5 | PASS |
|       |     | VN | 40  | 0.75  | 0.000423  | ± 2.5 | PASS |
|       |     | VN | 50  | 2.12  | 0.001194  | ± 2.5 | PASS |
| 16QAM | LCH | VN | -30 | 2.45  | 0.001426  | ± 2.5 | PASS |
|       |     | VN | -20 | -1.26 | -0.000734 | ± 2.5 | PASS |
|       |     | VN | -10 | 1.06  | 0.000617  | ± 2.5 | PASS |
|       |     | VN | 0   | 3.92  | 0.002282  | ± 2.5 | PASS |
|       |     | VN | 10  | -1.72 | -0.001001 | ± 2.5 | PASS |
|       |     | VN | 20  | 3.3   | 0.001921  | ± 2.5 | PASS |
|       |     | VN | 30  | -1.94 | -0.001130 | ± 2.5 | PASS |
|       |     | VN | 40  | -0.13 | -0.000076 | ± 2.5 | PASS |
|       |     | VN | 50  | -1.07 | -0.000623 | ± 2.5 | PASS |
|       | MCH | VN | -30 | 3.76  | 0.002155  | ± 2.5 | PASS |
|       |     | VN | -20 | 0.06  | 0.000034  | ± 2.5 | PASS |
|       |     | VN | -10 | 0.58  | 0.000332  | ± 2.5 | PASS |
|       |     | VN | 0   | 1.37  | 0.000785  | ± 2.5 | PASS |
|       |     | VN | 10  | 0.45  | 0.000258  | ± 2.5 | PASS |
|       |     | VN | 20  | -0.53 | -0.000304 | ± 2.5 | PASS |
|       |     | VN | 30  | 4.32  | 0.002476  | ± 2.5 | PASS |
|       |     | VN | 40  | 0.42  | 0.000241  | ± 2.5 | PASS |
|       |     | VN | 50  | 3.23  | 0.001851  | ± 2.5 | PASS |
|       | HCH | VN | -30 | 2.46  | 0.001386  | ± 2.5 | PASS |
|       |     | VN | -20 | -1.79 | -0.001008 | ± 2.5 | PASS |
|       |     | VN | -10 | 0.66  | 0.000372  | ± 2.5 | PASS |
|       |     | VN | 0   | 0.61  | 0.000344  | ± 2.5 | PASS |
|       |     | VN | 10  | 4.77  | 0.002687  | ± 2.5 | PASS |
|       |     | VN | 20  | -0.53 | -0.000299 | ± 2.5 | PASS |
|       |     | VN | 30  | -1.23 | -0.000693 | ± 2.5 | PASS |
|       |     | VN | 40  | -1.03 | -0.000580 | ± 2.5 | PASS |
|       |     | VN | 50  | -1.56 | -0.000879 | ± 2.5 | PASS |

**Channel Bandwidth: 15 MHz**

| Channel Bandwidth: 15 MHz |         |               |                  |                |                 |             |         |
|---------------------------|---------|---------------|------------------|----------------|-----------------|-------------|---------|
| Voltage                   |         |               |                  |                |                 |             |         |
| Modulation                | Channel | Voltage [Vdc] | Temperature (°C) | Deviation (Hz) | Deviation (ppm) | Limit (ppm) | Verdict |
| QPSK                      | LCH     | VL            | TN               | 1.51           | 0.000879        | ± 2.5       | PASS    |
|                           |         | VN            | TN               | 0.9            | 0.000524        | ± 2.5       | PASS    |
|                           |         | VH            | TN               | 4.3            | 0.002504        | ± 2.5       | PASS    |
|                           | MCH     | VL            | TN               | 3.77           | 0.002160        | ± 2.5       | PASS    |
|                           |         | VN            | TN               | 1.37           | 0.000785        | ± 2.5       | PASS    |
|                           |         | VH            | TN               | -1.5           | -0.000860       | ± 2.5       | PASS    |
|                           | HCH     | VL            | TN               | 2.39           | 0.001346        | ± 2.5       | PASS    |
|                           |         | VN            | TN               | 0.16           | 0.000090        | ± 2.5       | PASS    |
|                           |         | VH            | TN               | 2.83           | 0.001594        | ± 2.5       | PASS    |
| 16QAM                     | LCH     | VL            | TN               | 0.01           | 0.000006        | ± 2.5       | PASS    |
|                           |         | VN            | TN               | 0.16           | 0.000093        | ± 2.5       | PASS    |
|                           |         | VH            | TN               | 0.08           | 0.000047        | ± 2.5       | PASS    |
|                           | MCH     | VL            | TN               | 3.57           | 0.002046        | ± 2.5       | PASS    |
|                           |         | VN            | TN               | 4.46           | 0.002556        | ± 2.5       | PASS    |
|                           |         | VH            | TN               | 1.92           | 0.001100        | ± 2.5       | PASS    |
|                           | HCH     | VL            | TN               | 0.33           | 0.000186        | ± 2.5       | PASS    |
|                           |         | VN            | TN               | 3.96           | 0.002231        | ± 2.5       | PASS    |
|                           |         | VH            | TN               | 3.35           | 0.001887        | ± 2.5       | PASS    |
| Temperature               |         |               |                  |                |                 |             |         |
| Modulation                | Channel | Voltage [Vdc] | Temperature (°C) | Deviation (Hz) | Deviation (ppm) | Limit (ppm) | Verdict |
| QPSK                      | LCH     | VN            | -30              | 2.64           | 0.001537        | ± 2.5       | PASS    |
|                           |         | VN            | -20              | 1.86           | 0.001083        | ± 2.5       | PASS    |
|                           |         | VN            | -10              | 3.59           | 0.002090        | ± 2.5       | PASS    |
|                           |         | VN            | 0                | -0.66          | -0.000384       | ± 2.5       | PASS    |
|                           |         | VN            | 10               | 1.23           | 0.000716        | ± 2.5       | PASS    |
|                           |         | VN            | 20               | 4.16           | 0.002422        | ± 2.5       | PASS    |
|                           |         | VN            | 30               | 1.23           | 0.000716        | ± 2.5       | PASS    |
|                           |         | VN            | 40               | 0.25           | 0.000146        | ± 2.5       | PASS    |
|                           |         | VN            | 50               | 4.16           | 0.002422        | ± 2.5       | PASS    |
|                           | MCH     | VN            | -30              | 4.37           | 0.002504        | ± 2.5       | PASS    |
|                           |         | VN            | -20              | 1.68           | 0.000963        | ± 2.5       | PASS    |
|                           |         | VN            | -10              | 0.05           | 0.000029        | ± 2.5       | PASS    |
|                           |         | VN            | 0                | -1.53          | -0.000877       | ± 2.5       | PASS    |
|                           |         | VN            | 10               | 0.09           | 0.000052        | ± 2.5       | PASS    |



|       |     |    |     |       |           |       |      |
|-------|-----|----|-----|-------|-----------|-------|------|
|       |     | VN | 20  | -1.9  | -0.001089 | ± 2.5 | PASS |
|       |     | VN | 30  | -0.32 | -0.000183 | ± 2.5 | PASS |
|       |     | VN | 40  | -0.96 | -0.000550 | ± 2.5 | PASS |
|       |     | VN | 50  | -0.56 | -0.000321 | ± 2.5 | PASS |
|       | HCH | VN | -30 | 1.41  | 0.000794  | ± 2.5 | PASS |
|       |     | VN | -20 | 1.95  | 0.001099  | ± 2.5 | PASS |
|       |     | VN | -10 | 1.97  | 0.001110  | ± 2.5 | PASS |
|       |     | VN | 0   | 2.47  | 0.001392  | ± 2.5 | PASS |
|       |     | VN | 10  | 3.61  | 0.002034  | ± 2.5 | PASS |
|       |     | VN | 20  | 4.09  | 0.002304  | ± 2.5 | PASS |
|       |     | VN | 30  | 1.53  | 0.000862  | ± 2.5 | PASS |
|       |     | VN | 40  | 1.19  | 0.000670  | ± 2.5 | PASS |
|       |     | VN | 50  | 3.96  | 0.002231  | ± 2.5 | PASS |
| 16QAM | LCH | VN | -30 | -1.91 | -0.001112 | ± 2.5 | PASS |
|       |     | VN | -20 | 4.36  | 0.002539  | ± 2.5 | PASS |
|       |     | VN | -10 | 2.93  | 0.001706  | ± 2.5 | PASS |
|       |     | VN | 0   | 2.92  | 0.001700  | ± 2.5 | PASS |
|       |     | VN | 10  | 2.56  | 0.001491  | ± 2.5 | PASS |
|       |     | VN | 20  | 4.95  | 0.002882  | ± 2.5 | PASS |
|       |     | VN | 30  | -0.47 | -0.000274 | ± 2.5 | PASS |
|       |     | VN | 40  | 4.71  | 0.002742  | ± 2.5 | PASS |
|       |     | VN | 50  | 0.18  | 0.000105  | ± 2.5 | PASS |
|       | MCH | VN | -30 | -1.14 | -0.000653 | ± 2.5 | PASS |
|       |     | VN | -20 | 0.42  | 0.000241  | ± 2.5 | PASS |
|       |     | VN | -10 | 2.52  | 0.001444  | ± 2.5 | PASS |
|       |     | VN | 0   | -1.3  | -0.000745 | ± 2.5 | PASS |
|       |     | VN | 10  | -0.98 | -0.000562 | ± 2.5 | PASS |
|       |     | VN | 20  | 4.12  | 0.002361  | ± 2.5 | PASS |
|       |     | VN | 30  | 2.34  | 0.001341  | ± 2.5 | PASS |
|       |     | VN | 40  | 4.4   | 0.002521  | ± 2.5 | PASS |
|       |     | VN | 50  | 3.63  | 0.002080  | ± 2.5 | PASS |
|       | HCH | VN | -30 | -0.57 | -0.000321 | ± 2.5 | PASS |
|       |     | VN | -20 | 1.73  | 0.000975  | ± 2.5 | PASS |
|       |     | VN | -10 | 2.86  | 0.001611  | ± 2.5 | PASS |
|       |     | VN | 0   | 4.97  | 0.002800  | ± 2.5 | PASS |
|       |     | VN | 10  | 4.52  | 0.002546  | ± 2.5 | PASS |
|       |     | VN | 20  | 0.92  | 0.000518  | ± 2.5 | PASS |
|       |     | VN | 30  | 0.75  | 0.000423  | ± 2.5 | PASS |
|       |     | VN | 40  | 0.53  | 0.000299  | ± 2.5 | PASS |
|       |     | VN | 50  | 1.68  | 0.000946  | ± 2.5 | PASS |

**Channel Bandwidth: 20 MHz**

| Channel Bandwidth: 20 MHz |         |               |                  |                |                 |             |         |
|---------------------------|---------|---------------|------------------|----------------|-----------------|-------------|---------|
| Voltage                   |         |               |                  |                |                 |             |         |
| Modulation                | Channel | Voltage [Vdc] | Temperature (°C) | Deviation (Hz) | Deviation (ppm) | Limit (ppm) | Verdict |
| QPSK                      | LCH     | VL            | TN               | -0.56          | -0.000326       | ± 2.5       | PASS    |
|                           |         | VN            | TN               | 3.34           | 0.001942        | ± 2.5       | PASS    |
|                           |         | VH            | TN               | 3.63           | 0.002110        | ± 2.5       | PASS    |
|                           | MCH     | VL            | TN               | 2.37           | 0.001358        | ± 2.5       | PASS    |
|                           |         | VN            | TN               | -0.23          | -0.000132       | ± 2.5       | PASS    |
|                           |         | VH            | TN               | 4.11           | 0.002355        | ± 2.5       | PASS    |
|                           | HCH     | VL            | TN               | 3.39           | 0.001913        | ± 2.5       | PASS    |
|                           |         | VN            | TN               | -0.84          | -0.000474       | ± 2.5       | PASS    |
|                           |         | VH            | TN               | 3.53           | 0.001992        | ± 2.5       | PASS    |
| 16QAM                     | LCH     | VL            | TN               | 3.28           | 0.001907        | ± 2.5       | PASS    |
|                           |         | VN            | TN               | 2.45           | 0.001424        | ± 2.5       | PASS    |
|                           |         | VH            | TN               | 3.96           | 0.002302        | ± 2.5       | PASS    |
|                           | MCH     | VL            | TN               | 3.61           | 0.002069        | ± 2.5       | PASS    |
|                           |         | VN            | TN               | 3.08           | 0.001765        | ± 2.5       | PASS    |
|                           |         | VH            | TN               | 0.19           | 0.000109        | ± 2.5       | PASS    |
|                           | HCH     | VL            | TN               | -0.81          | -0.000457       | ± 2.5       | PASS    |
|                           |         | VN            | TN               | 0.13           | 0.000073        | ± 2.5       | PASS    |
|                           |         | VH            | TN               | 1.45           | 0.000818        | ± 2.5       | PASS    |
| Temperature               |         |               |                  |                |                 |             |         |
| Modulation                | Channel | Voltage [Vdc] | Temperature (°C) | Deviation (Hz) | Deviation (ppm) | Limit (ppm) | Verdict |
| QPSK                      | LCH     | VN            | -30              | 1.8            | 0.001047        | ± 2.5       | PASS    |
|                           |         | VN            | -20              | 3.22           | 0.001872        | ± 2.5       | PASS    |
|                           |         | VN            | -10              | -0.84          | -0.000488       | ± 2.5       | PASS    |
|                           |         | VN            | 0                | -1.54          | -0.000895       | ± 2.5       | PASS    |
|                           |         | VN            | 10               | -1.59          | -0.000924       | ± 2.5       | PASS    |
|                           |         | VN            | 20               | 3.1            | 0.001802        | ± 2.5       | PASS    |
|                           |         | VN            | 30               | -1.85          | -0.001076       | ± 2.5       | PASS    |
|                           |         | VN            | 40               | 2.78           | 0.001616        | ± 2.5       | PASS    |
|                           |         | VN            | 50               | 0.96           | 0.000558        | ± 2.5       | PASS    |
|                           | MCH     | VN            | -30              | 1.34           | 0.000768        | ± 2.5       | PASS    |
|                           |         | VN            | -20              | 3.3            | 0.001891        | ± 2.5       | PASS    |
|                           |         | VN            | -10              | -0.52          | -0.000298       | ± 2.5       | PASS    |
|                           |         | VN            | 0                | 4.18           | 0.002395        | ± 2.5       | PASS    |
|                           |         | VN            | 10               | 2.87           | 0.001645        | ± 2.5       | PASS    |
|                           |         | VN            | 20               | 0.25           | 0.000143        | ± 2.5       | PASS    |

|       |     |    |     |       |           |       |      |
|-------|-----|----|-----|-------|-----------|-------|------|
|       |     | VN | 30  | 1.22  | 0.000699  | ± 2.5 | PASS |
|       |     | VN | 40  | 4     | 0.002292  | ± 2.5 | PASS |
|       |     | VN | 50  | 2.54  | 0.001456  | ± 2.5 | PASS |
|       | HCH | VN | -30 | 1.73  | 0.000976  | ± 2.5 | PASS |
|       |     | VN | -20 | 3.72  | 0.002099  | ± 2.5 | PASS |
|       |     | VN | -10 | 2.42  | 0.001365  | ± 2.5 | PASS |
|       |     | VN | 0   | 3.35  | 0.001890  | ± 2.5 | PASS |
|       |     | VN | 10  | 3.58  | 0.002020  | ± 2.5 | PASS |
|       |     | VN | 20  | 0.8   | 0.000451  | ± 2.5 | PASS |
|       |     | VN | 30  | -0.82 | -0.000463 | ± 2.5 | PASS |
|       |     | VN | 40  | 0.05  | 0.000028  | ± 2.5 | PASS |
|       |     | VN | 50  | -1.79 | -0.001010 | ± 2.5 | PASS |
| 16QAM | LCH | VN | -30 | -0.02 | -0.000012 | ± 2.5 | PASS |
|       |     | VN | -20 | 1.57  | 0.000913  | ± 2.5 | PASS |
|       |     | VN | -10 | -1.02 | -0.000593 | ± 2.5 | PASS |
|       |     | VN | 0   | -0.09 | -0.000052 | ± 2.5 | PASS |
|       |     | VN | 10  | 0.81  | 0.000471  | ± 2.5 | PASS |
|       |     | VN | 20  | -1.27 | -0.000738 | ± 2.5 | PASS |
|       |     | VN | 30  | 2.99  | 0.001738  | ± 2.5 | PASS |
|       |     | VN | 40  | 4.19  | 0.002436  | ± 2.5 | PASS |
|       |     | VN | 50  | 3.11  | 0.001808  | ± 2.5 | PASS |
|       | MCH | VN | -30 | 2.69  | 0.001542  | ± 2.5 | PASS |
|       |     | VN | -20 | 0.25  | 0.000143  | ± 2.5 | PASS |
|       |     | VN | -10 | 2.66  | 0.001524  | ± 2.5 | PASS |
|       |     | VN | 0   | 3.73  | 0.002138  | ± 2.5 | PASS |
|       |     | VN | 10  | 0.42  | 0.000241  | ± 2.5 | PASS |
|       |     | VN | 20  | 4.21  | 0.002413  | ± 2.5 | PASS |
|       |     | VN | 30  | 1.2   | 0.000688  | ± 2.5 | PASS |
|       |     | VN | 40  | 1.85  | 0.001060  | ± 2.5 | PASS |
|       |     | VN | 50  | 2.16  | 0.001238  | ± 2.5 | PASS |
|       | HCH | VN | -30 | 3.35  | 0.001890  | ± 2.5 | PASS |
|       |     | VN | -20 | 3.51  | 0.001980  | ± 2.5 | PASS |
|       |     | VN | -10 | 4.63  | 0.002612  | ± 2.5 | PASS |
|       |     | VN | 0   | 1.37  | 0.000773  | ± 2.5 | PASS |
|       |     | VN | 10  | -0.33 | -0.000186 | ± 2.5 | PASS |
|       |     | VN | 20  | 4.89  | 0.002759  | ± 2.5 | PASS |
|       |     | VN | 30  | 2.39  | 0.001348  | ± 2.5 | PASS |
|       |     | VN | 40  | 3.03  | 0.001709  | ± 2.5 | PASS |
|       |     | VN | 50  | 1.75  | 0.000987  | ± 2.5 | PASS |