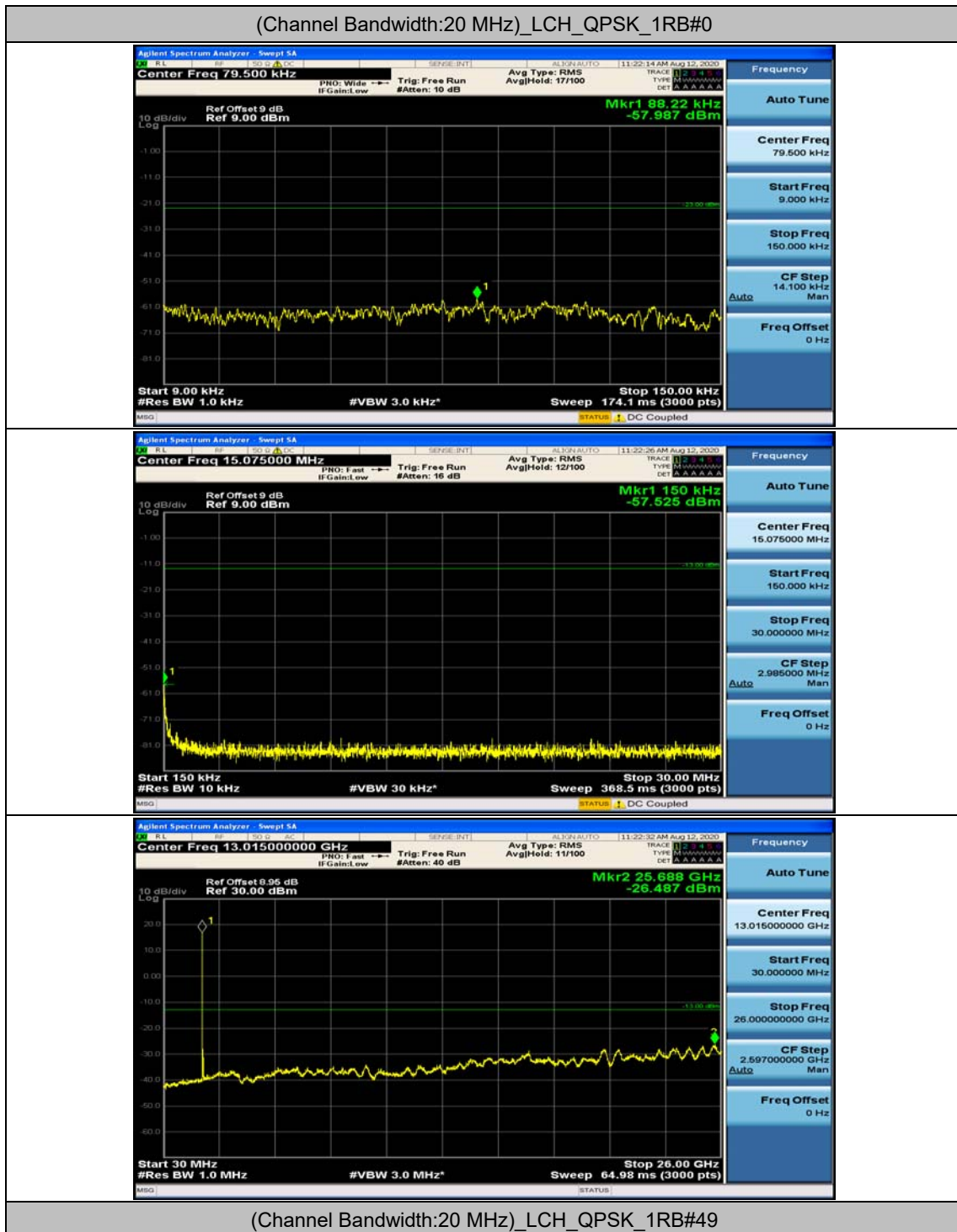
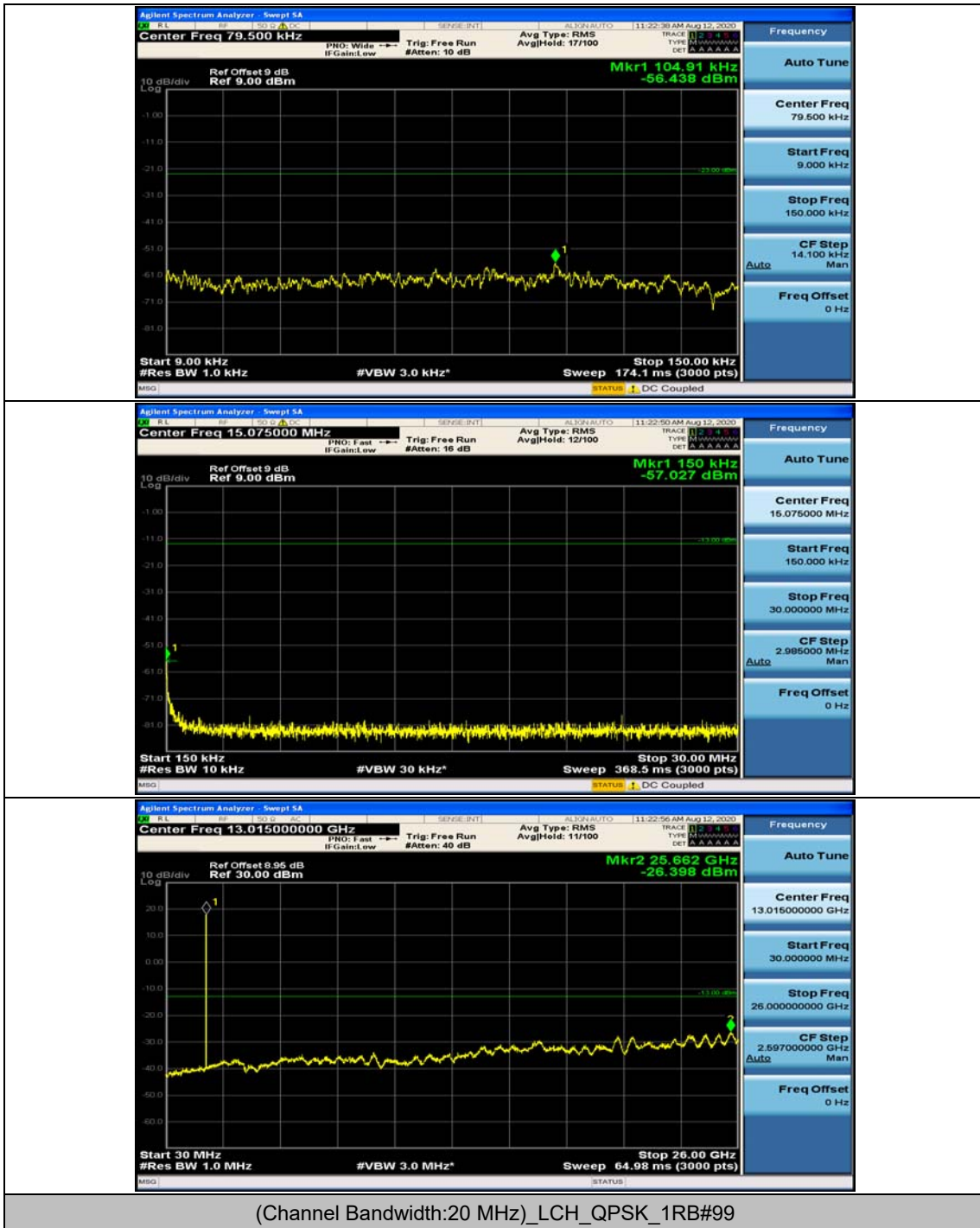
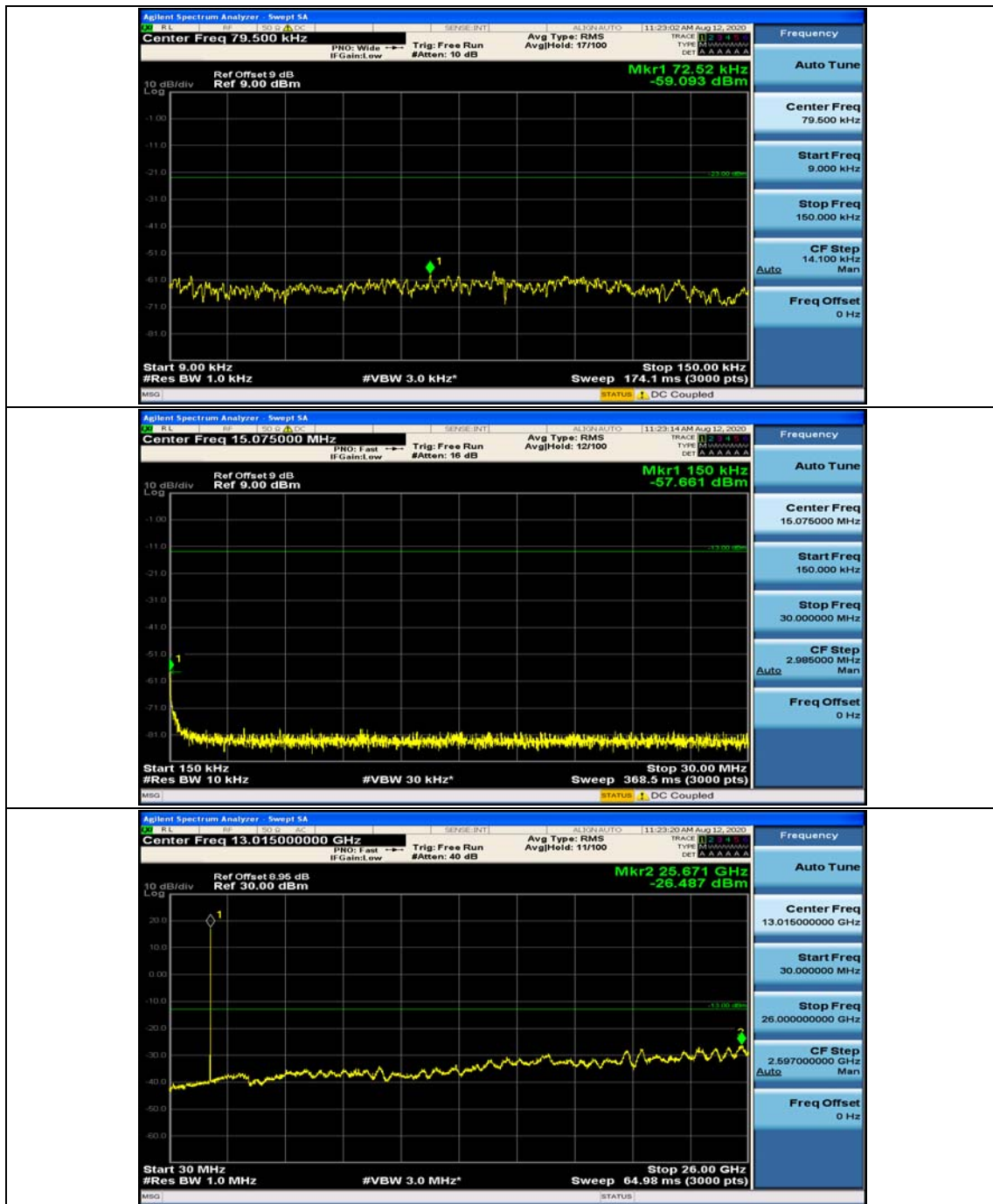
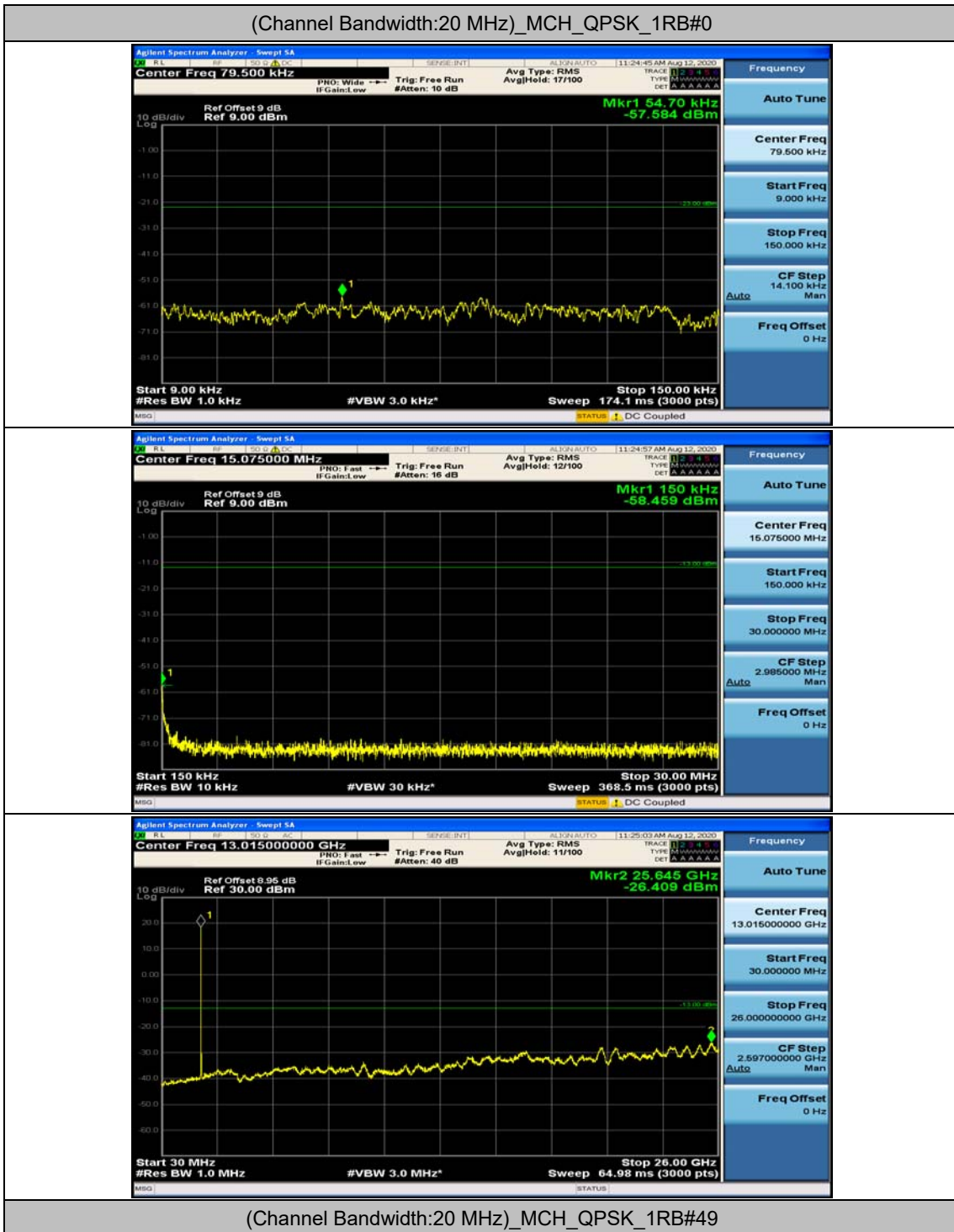


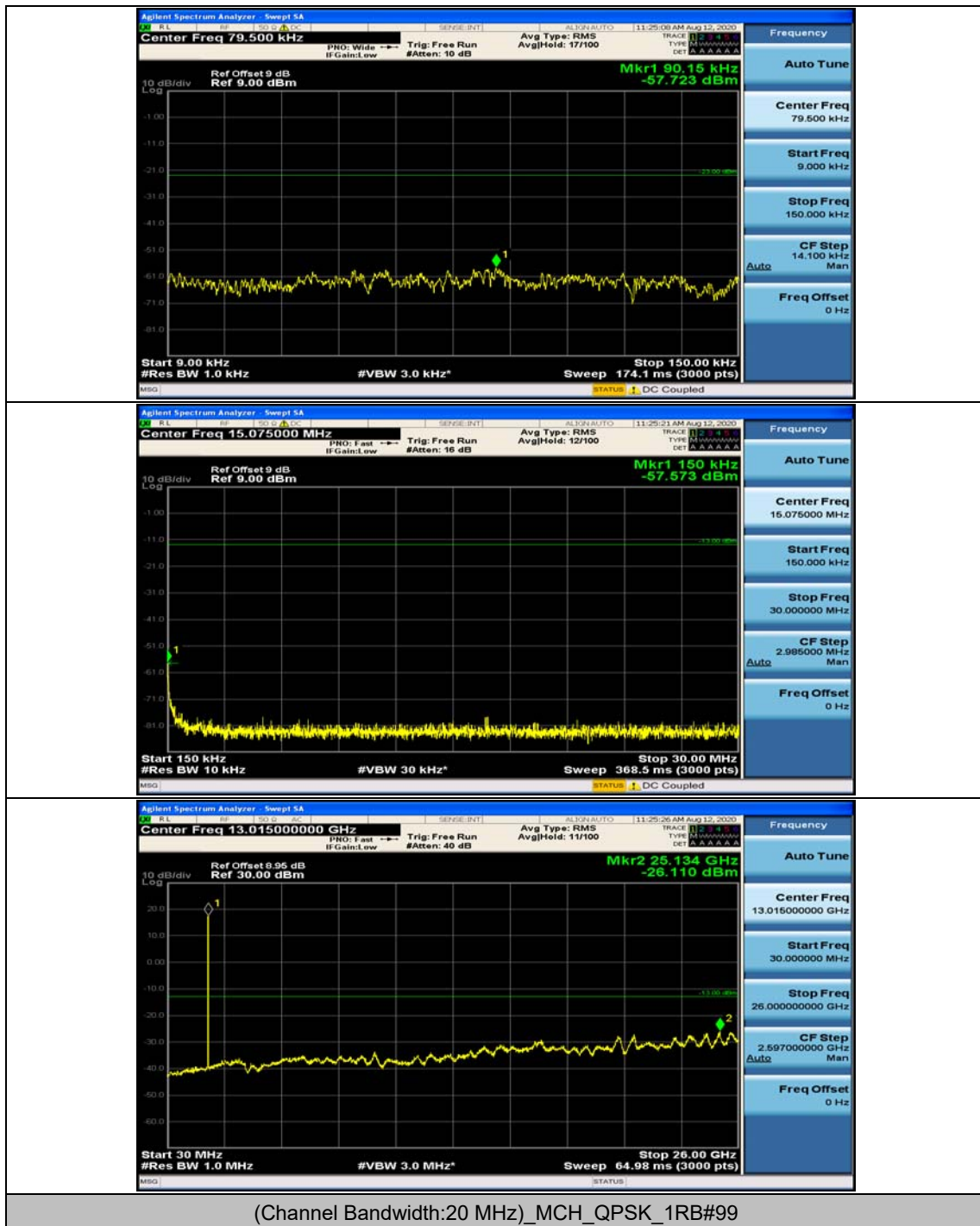
Channel Bandwidth: 20 MHz

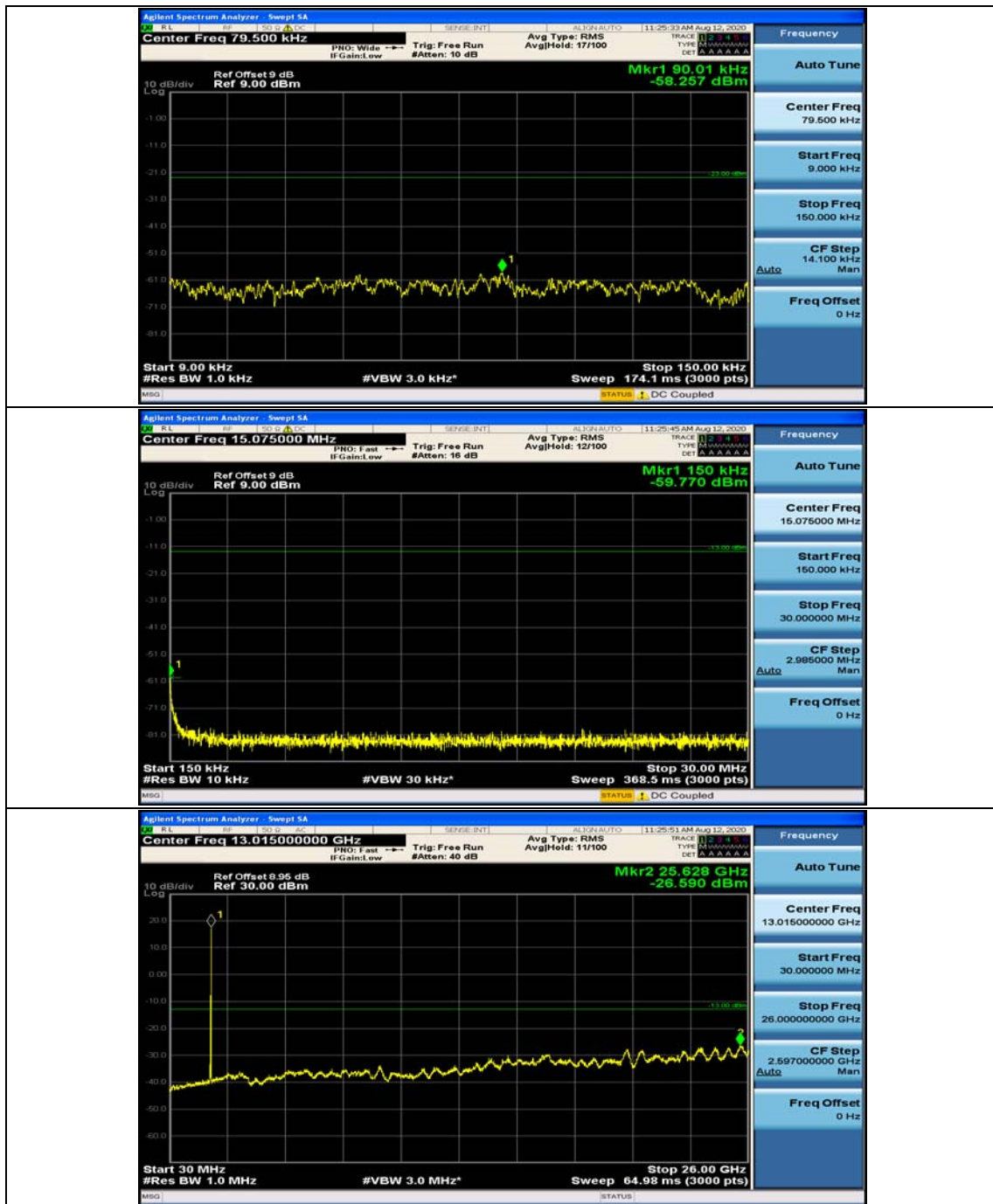


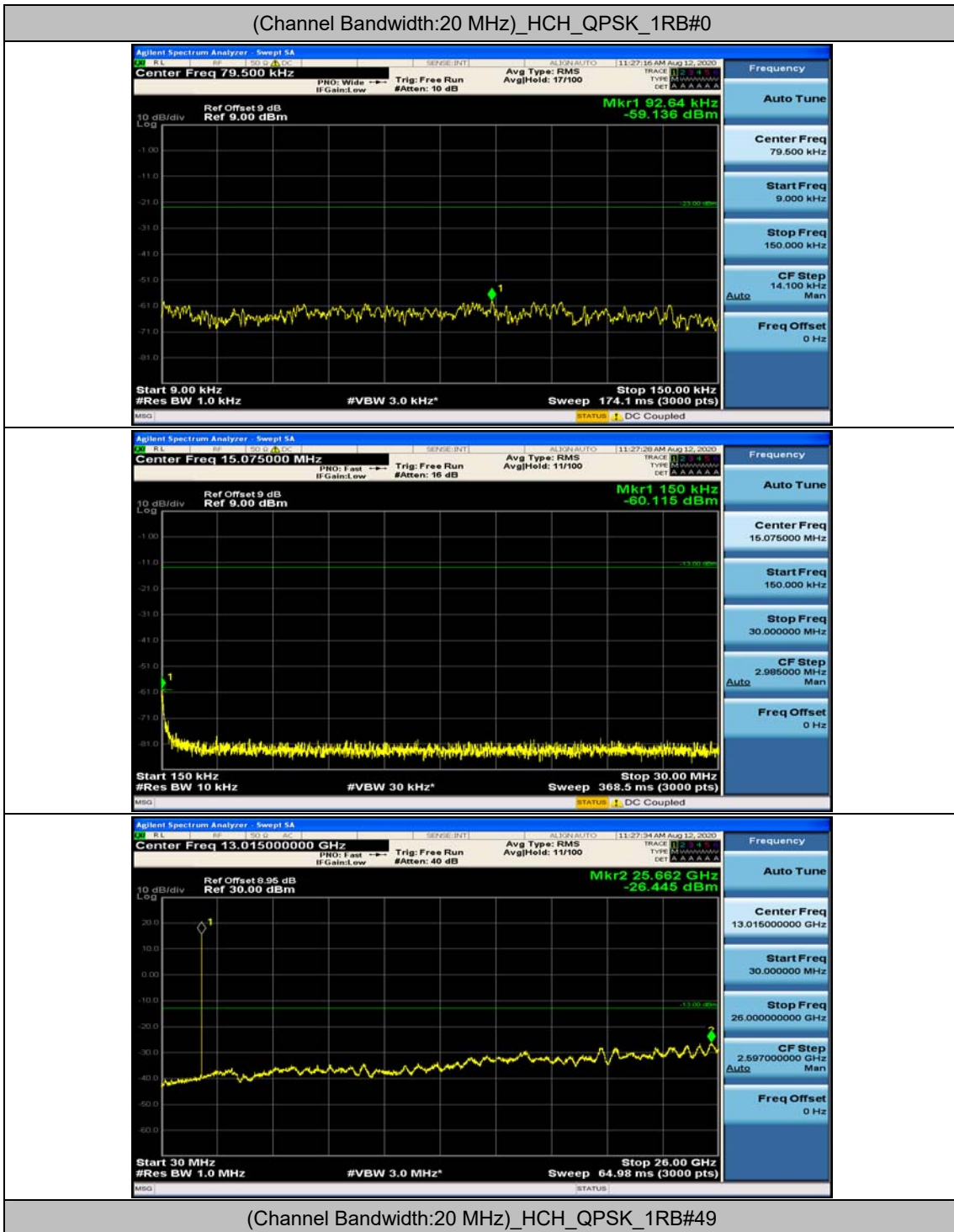


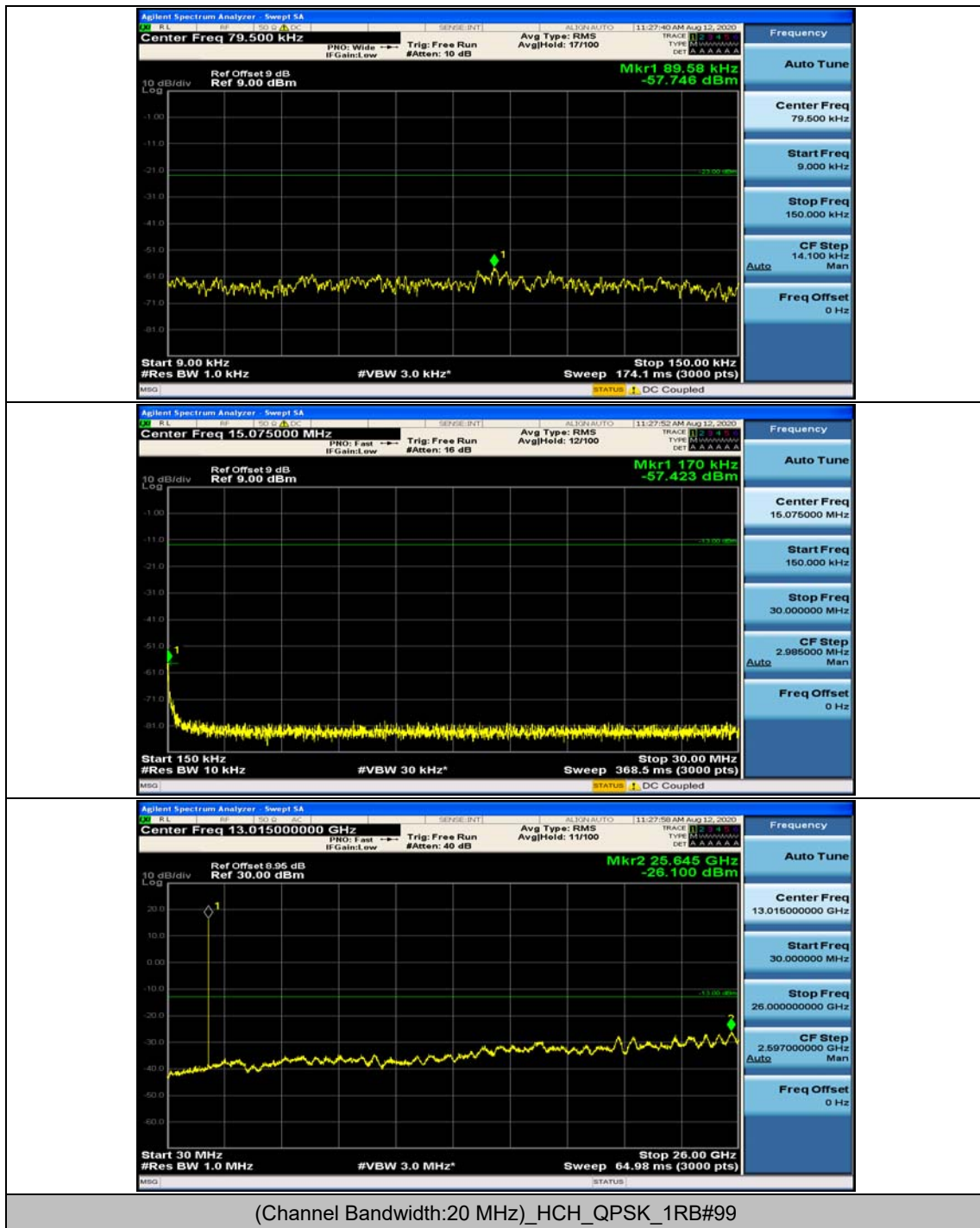


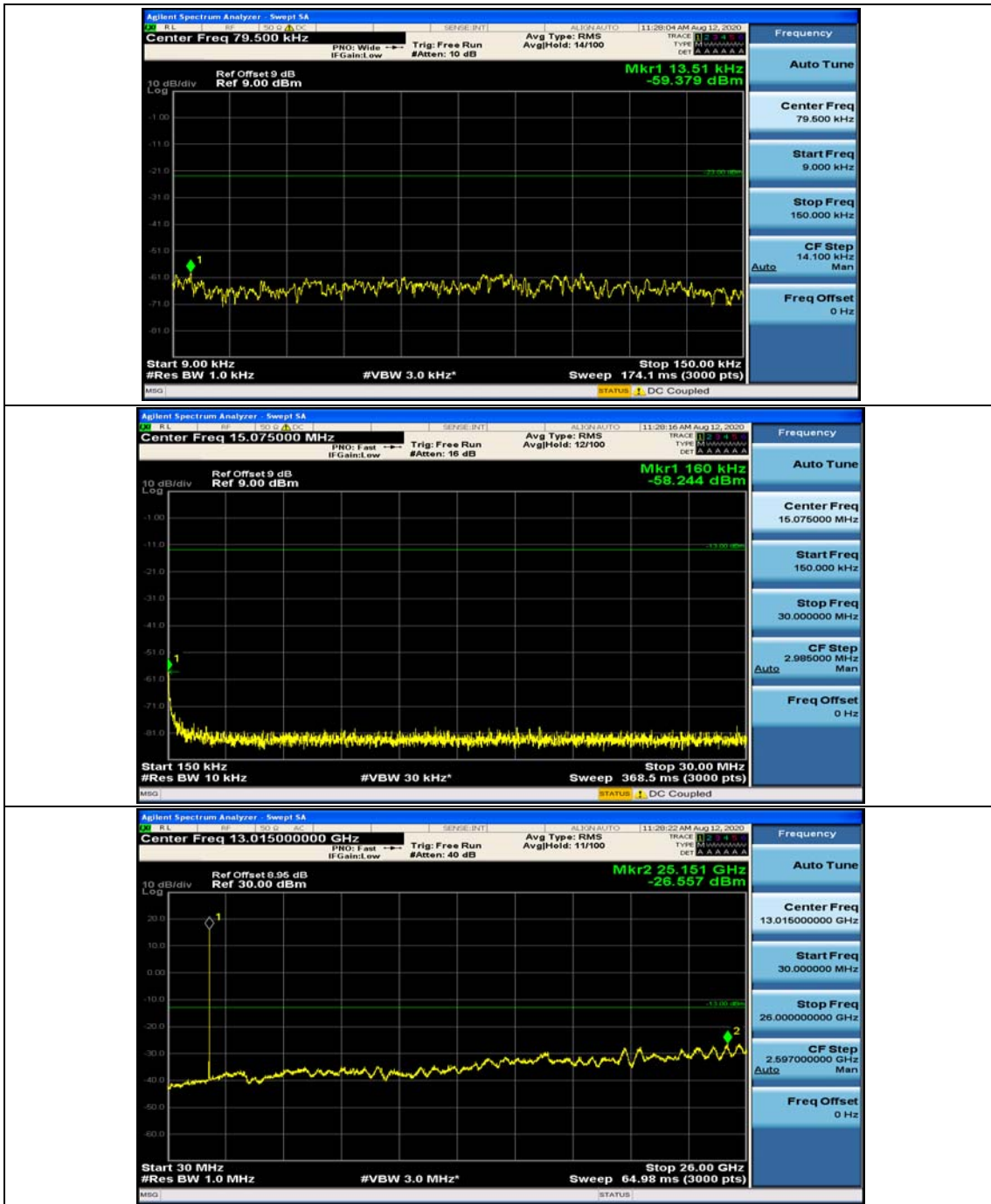


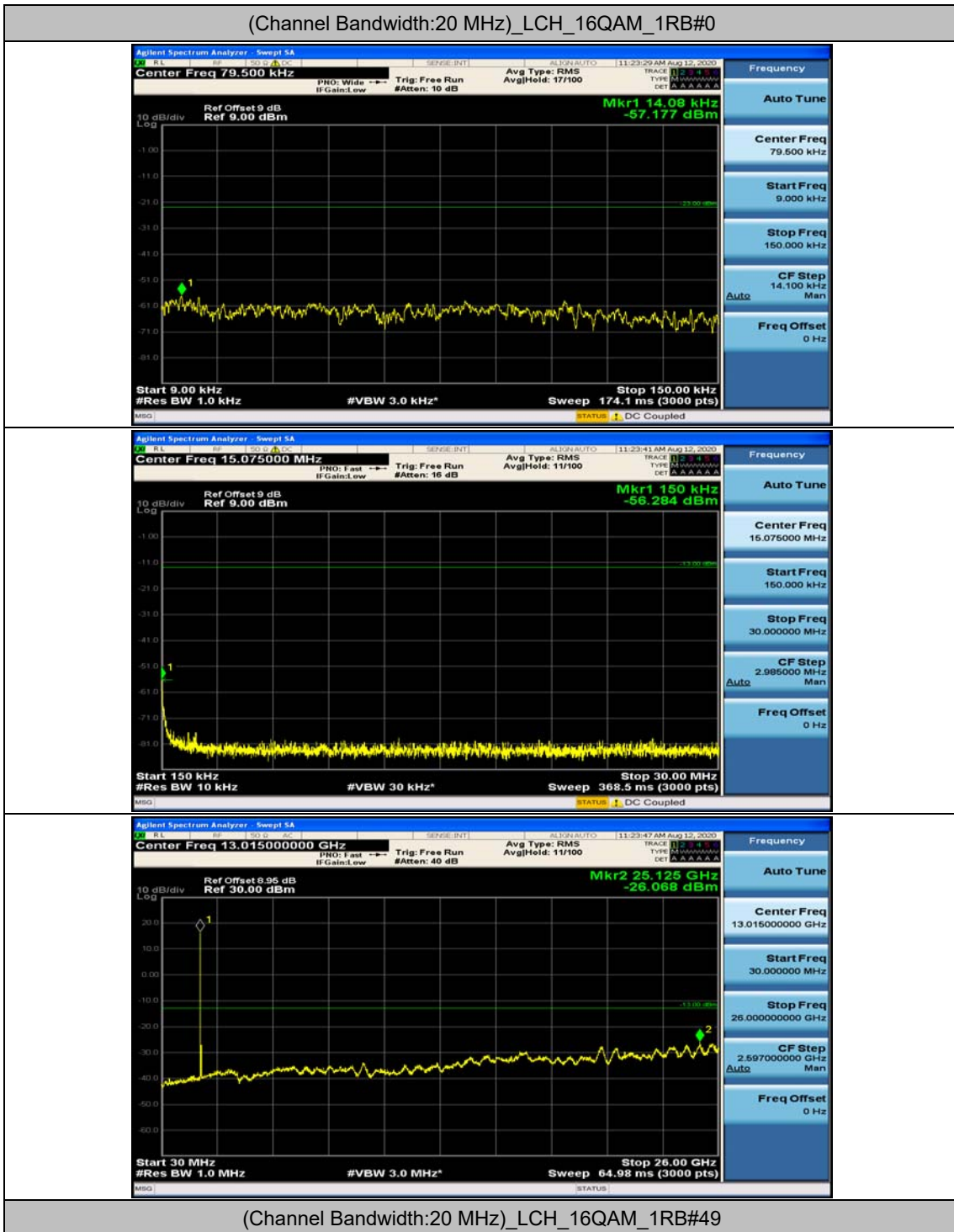


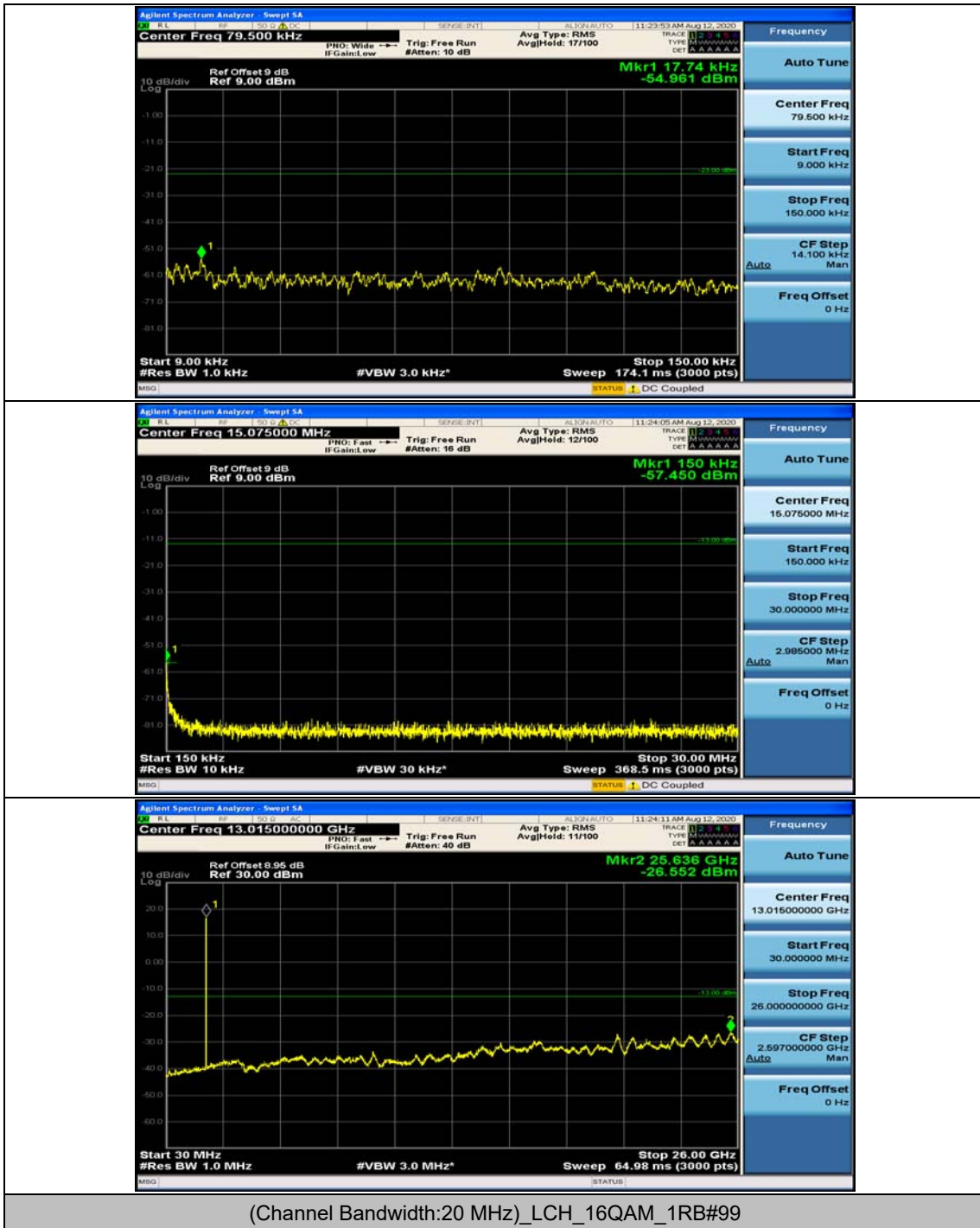


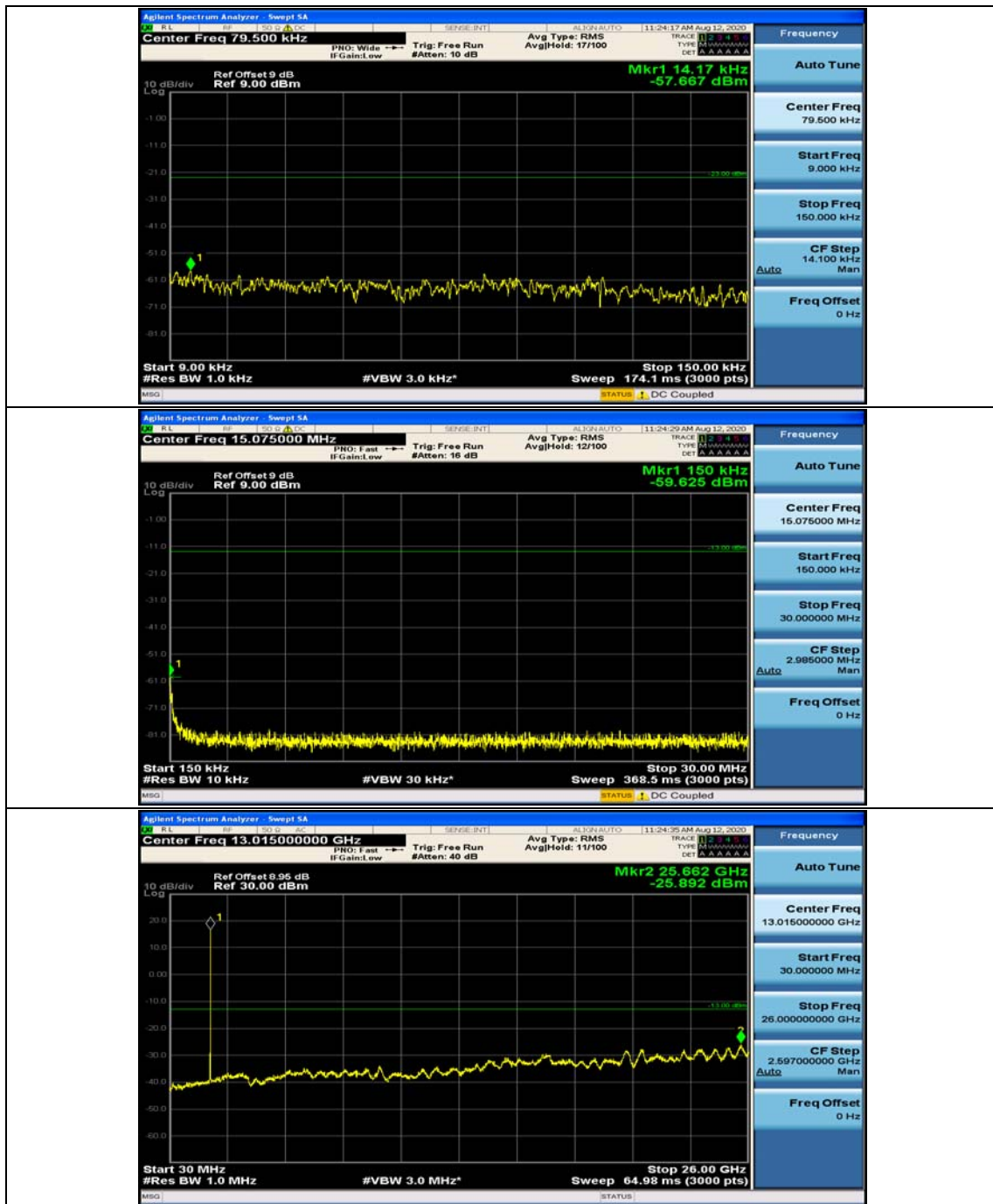


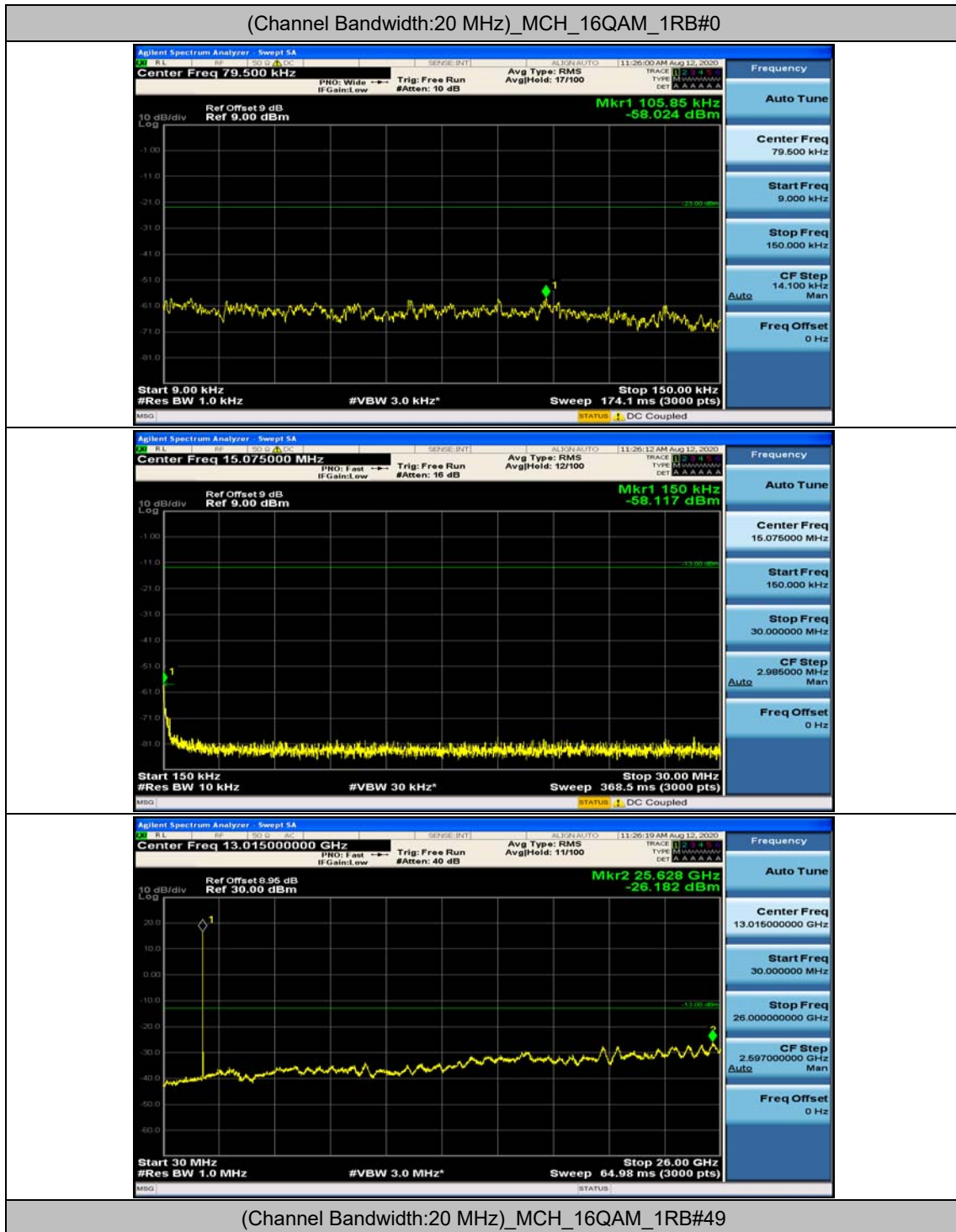


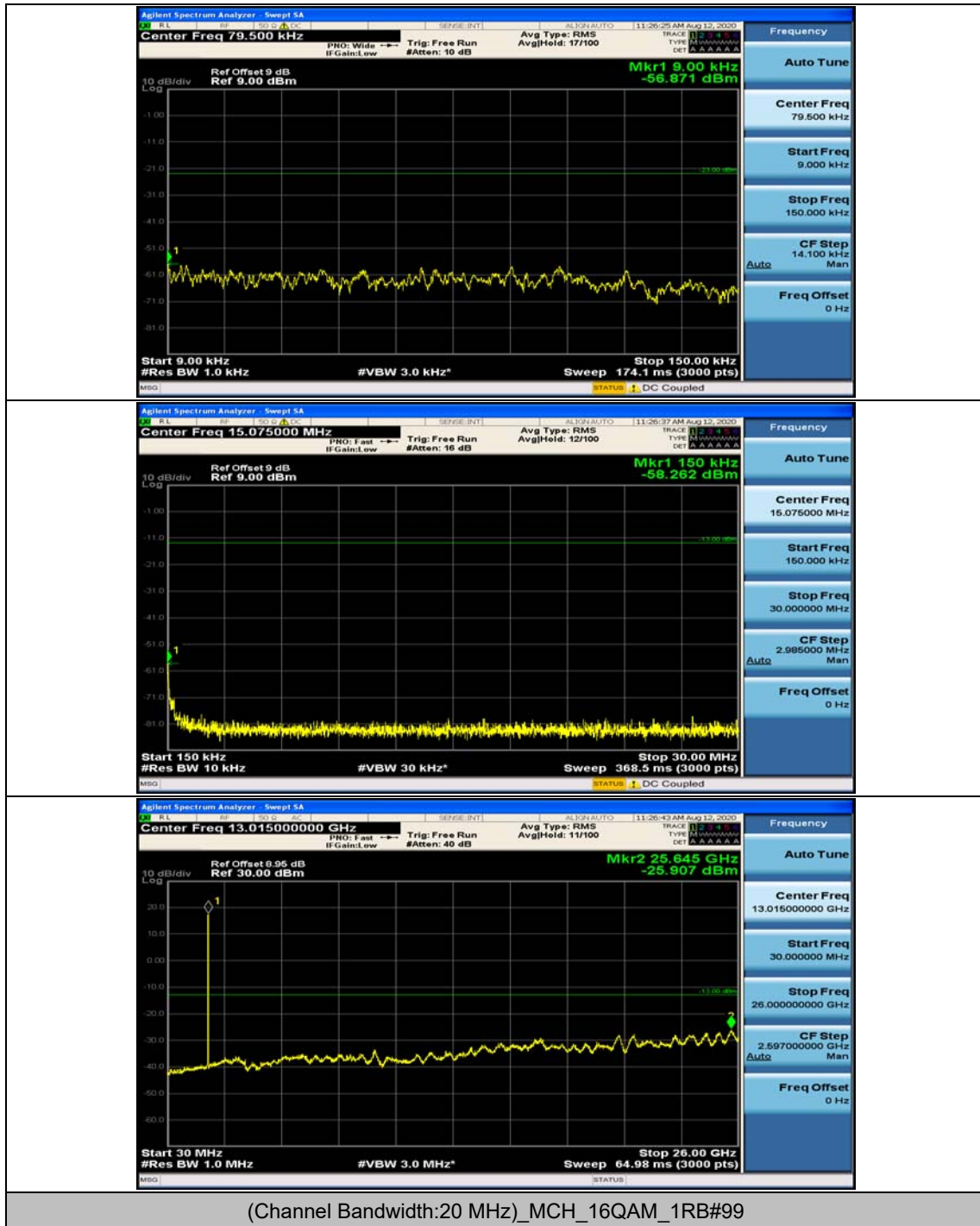


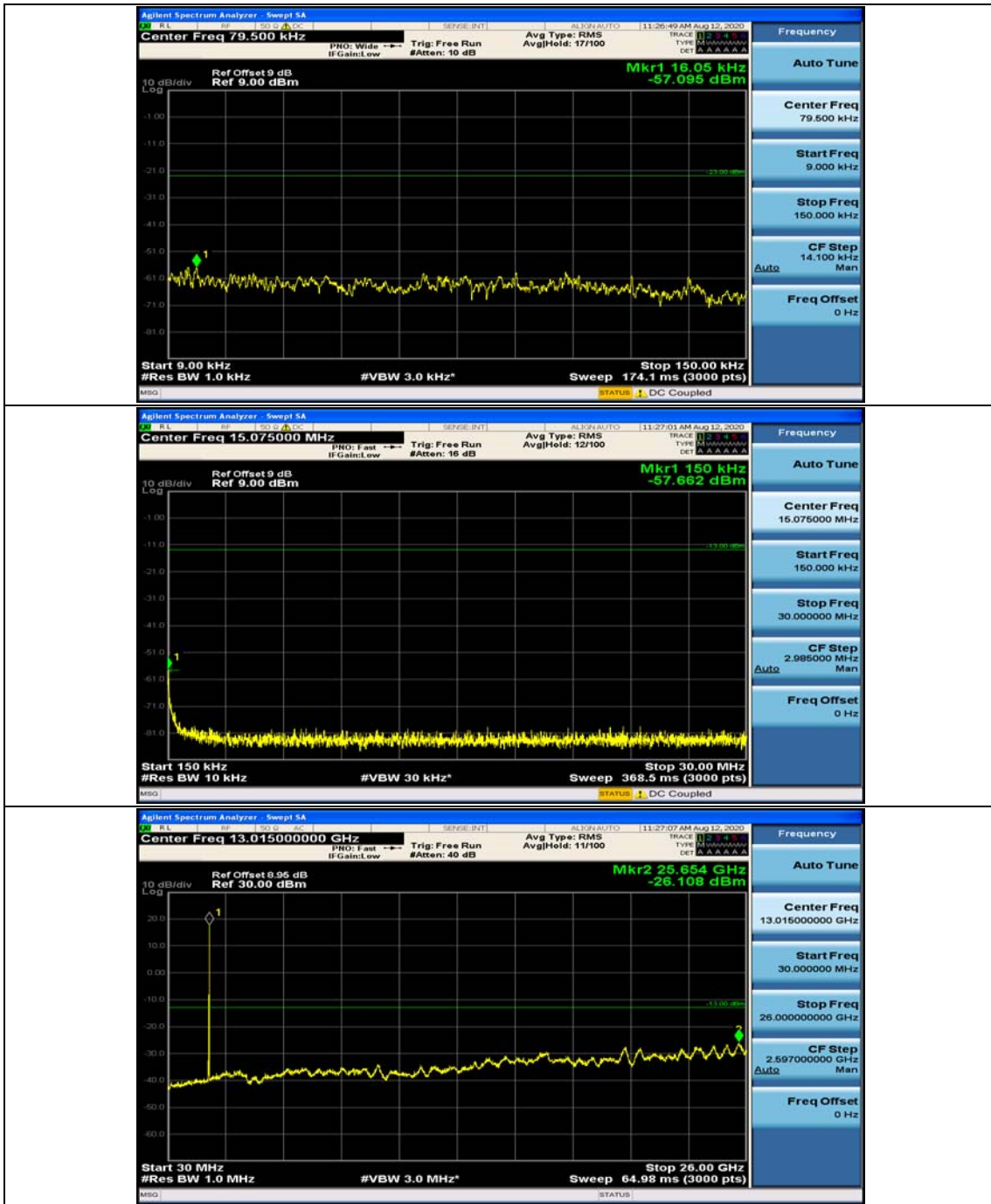


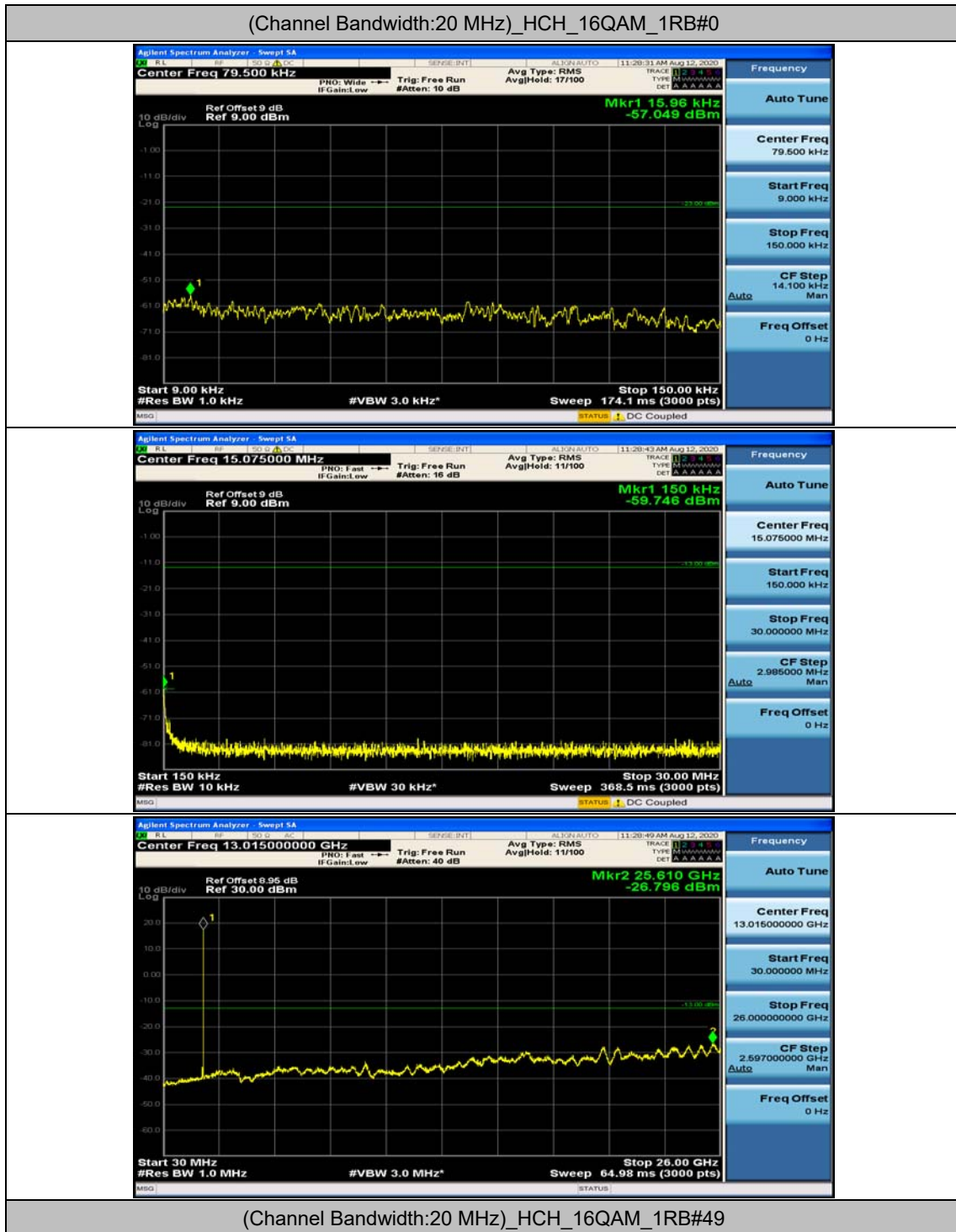


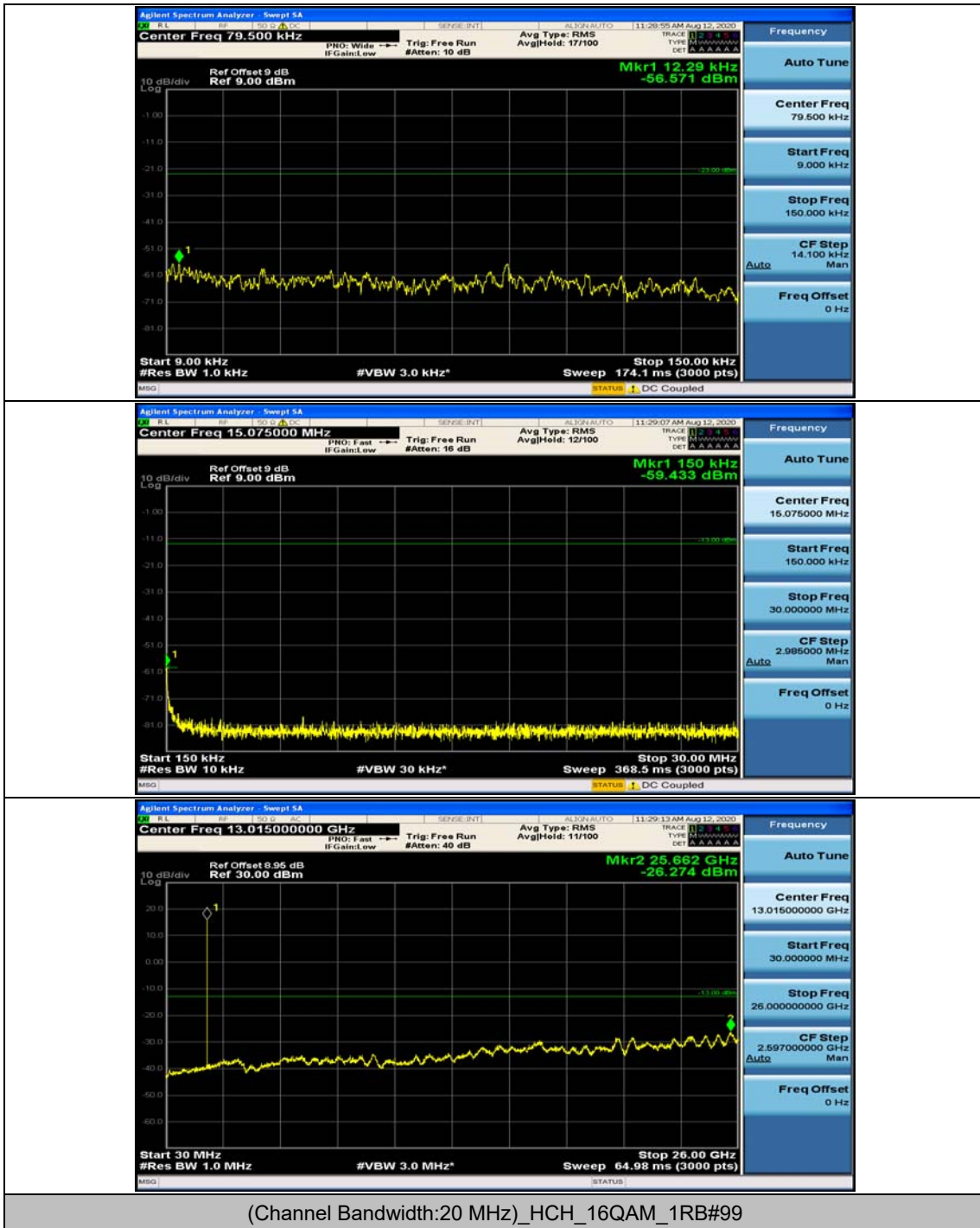


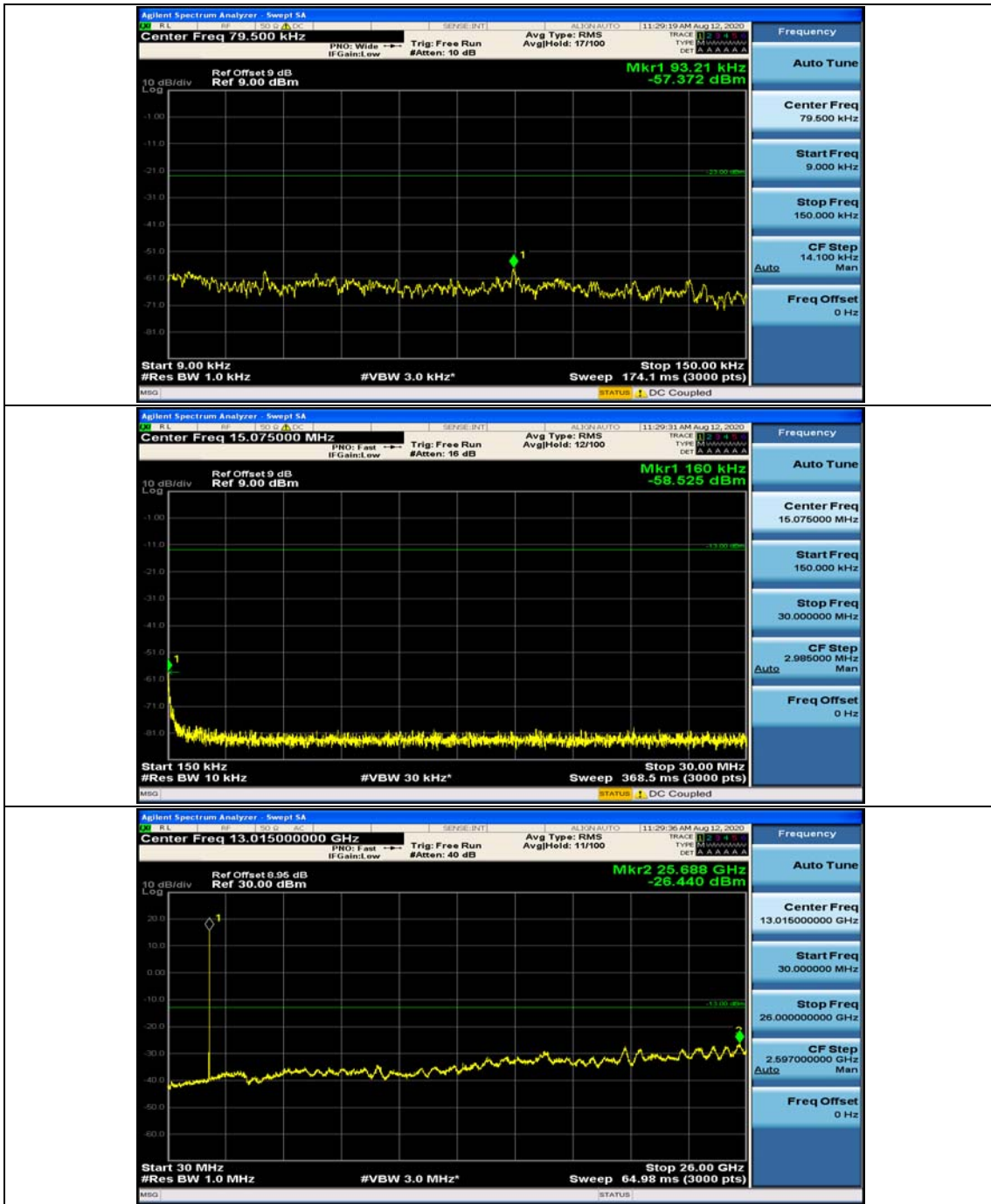












Appendix F: Frequency Stability

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 | -0.66 | -0.000357 | ± 2.5 | PASS |
| | | VN | TN | 4.7 | 0.002540 | ± 2.5 | PASS |
| | | VH | TN | -1.5 | -0.000811 | ± 2.5 | PASS |
| | MCH | VL | TN | -0.72 | -0.000383 | ± 2.5 | PASS |
| | | VN | TN | -0.83 | -0.000441 | ± 2.5 | PASS |
| | | VH | TN | -1.92 | -0.001021 | ± 2.5 | PASS |
| | HCH | VL | TN | 1.63 | 0.000854 | ± 2.5 | PASS |
| | | VN | TN | 0.43 | 0.000225 | ± 2.5 | PASS |
| | | VH | TN | -1.99 | -0.001042 | ± 2.5 | PASS |
| 16QAM | LCH | VL | TN | 1.91 | 0.001032 | ± 2.5 | PASS |
| | | VN | TN | 4.65 | 0.002513 | ± 2.5 | PASS |
| | | VH | TN | 4.7 | 0.002540 | ± 2.5 | PASS |
| | MCH | VL | TN | 2.03 | 0.001080 | ± 2.5 | PASS |
| | | VN | TN | -1.67 | -0.000888 | ± 2.5 | PASS |
| | | VH | TN | -0.43 | -0.000229 | ± 2.5 | PASS |
| | HCH | VL | TN | 1.34 | 0.000702 | ± 2.5 | PASS |
| | | VN | TN | 4.87 | 0.002551 | ± 2.5 | PASS |
| | | VH | TN | -0.01 | -0.000005 | ± 2.5 | PASS |
| Temperature | | | | | | | |
| Modulation | Channel | Voltage [Vdc] | Temperature (°C) | Deviation (Hz) | Deviation (ppm) | Limit (ppm) | Verdict |
| QPSK | LCH | VN | -30 | -0.65 | -0.000351 | ± 2.5 | PASS |
| | | VN | -20 | 2.97 | 0.001605 | ± 2.5 | PASS |
| | | VN | -10 | -1.34 | -0.000724 | ± 2.5 | PASS |
| | | VN | 0 | -1.46 | -0.000789 | ± 2.5 | PASS |
| | | VN | 10 | 1.86 | 0.001005 | ± 2.5 | PASS |
| | | VN | 20 | 2.2 | 0.001189 | ± 2.5 | PASS |
| | | VN | 30 | -0.56 | -0.000303 | ± 2.5 | PASS |
| | | VN | 40 | 1.89 | 0.001021 | ± 2.5 | PASS |
| | | VN | 50 | 0.12 | 0.000065 | ± 2.5 | PASS |
| | MCH | VN | -30 | 4.25 | 0.002261 | ± 2.5 | PASS |

| | | | | | | | |
|-----|-----|-------|-----|-------|-----------|-------|----------|
| | | VN | -20 | 3.1 | 0.001649 | ± 2.5 | PASS |
| | | VN | -10 | 2.29 | 0.001218 | ± 2.5 | PASS |
| | | VN | 0 | -0.76 | -0.000404 | ± 2.5 | PASS |
| | | VN | 10 | 1.48 | 0.000787 | ± 2.5 | PASS |
| | | VN | 20 | 4.33 | 0.002303 | ± 2.5 | PASS |
| | | VN | 30 | -0.74 | -0.000394 | ± 2.5 | PASS |
| | | VN | 40 | 4.87 | 0.002590 | ± 2.5 | PASS |
| | | VN | 50 | 3.35 | 0.001782 | ± 2.5 | PASS |
| | HCH | VN | -30 | 3.02 | 0.001582 | ± 2.5 | PASS |
| | | VN | -20 | 3.96 | 0.002074 | ± 2.5 | PASS |
| | | VN | -10 | 3.48 | 0.001823 | ± 2.5 | PASS |
| | | VN | 0 | 4.12 | 0.002158 | ± 2.5 | PASS |
| | | VN | 10 | -0.64 | -0.000335 | ± 2.5 | PASS |
| | | VN | 20 | -1.87 | -0.000979 | ± 2.5 | PASS |
| | | VN | 30 | 3.03 | 0.001587 | ± 2.5 | PASS |
| | | VN | 40 | 0.9 | 0.000471 | ± 2.5 | PASS |
| | | VN | 50 | 4.88 | 0.002556 | ± 2.5 | PASS |
| | | 16QAM | LCH | VN | -30 | 4.35 | 0.002350 |
| VN | -20 | | | 3.31 | 0.001789 | ± 2.5 | PASS |
| VN | -10 | | | 4.22 | 0.002280 | ± 2.5 | PASS |
| VN | 0 | | | -1.35 | -0.000729 | ± 2.5 | PASS |
| VN | 10 | | | -0.34 | -0.000184 | ± 2.5 | PASS |
| VN | 20 | | | -0.13 | -0.000070 | ± 2.5 | PASS |
| VN | 30 | | | 1.87 | 0.001010 | ± 2.5 | PASS |
| VN | 40 | | | -0.91 | -0.000492 | ± 2.5 | PASS |
| VN | 50 | | | -1.77 | -0.000956 | ± 2.5 | PASS |
| MCH | VN | | -30 | -1.49 | -0.000793 | ± 2.5 | PASS |
| | VN | | -20 | 4.18 | 0.002223 | ± 2.5 | PASS |
| | VN | | -10 | 4.99 | 0.002654 | ± 2.5 | PASS |
| | VN | | 0 | -1.41 | -0.000750 | ± 2.5 | PASS |
| | VN | | 10 | -0.4 | -0.000213 | ± 2.5 | PASS |
| | VN | | 20 | 4.63 | 0.002463 | ± 2.5 | PASS |
| | VN | | 30 | -1.68 | -0.000894 | ± 2.5 | PASS |
| | VN | | 40 | 0.25 | 0.000133 | ± 2.5 | PASS |
| | VN | | 50 | 3.42 | 0.001819 | ± 2.5 | PASS |
| HCH | VN | | -30 | 1.09 | 0.000571 | ± 2.5 | PASS |
| | VN | | -20 | 0.69 | 0.000361 | ± 2.5 | PASS |
| | VN | | -10 | -0.3 | -0.000157 | ± 2.5 | PASS |
| | VN | | 0 | 0.99 | 0.000519 | ± 2.5 | PASS |
| | VN | | 10 | 3.81 | 0.001995 | ± 2.5 | PASS |
| | VN | | 20 | 3.04 | 0.001592 | ± 2.5 | PASS |

| | | | | | | | |
|--|--|----|----|-------|-----------|-------|------|
| | | VN | 30 | -1.48 | -0.000775 | ± 2.5 | PASS |
| | | VN | 40 | -0.06 | -0.000031 | ± 2.5 | PASS |
| | | VN | 50 | 2.53 | 0.001325 | ± 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 | 2 | 0.001080 | ± 2.5 | PASS |
| | | VN | TN | 0.81 | 0.000437 | ± 2.5 | PASS |
| | | VH | TN | -0.85 | -0.000459 | ± 2.5 | PASS |
| | MCH | VL | TN | 3.04 | 0.001617 | ± 2.5 | PASS |
| | | VN | TN | 4.86 | 0.002585 | ± 2.5 | PASS |
| | | VH | TN | -1.98 | -0.001053 | ± 2.5 | PASS |
| | HCH | VL | TN | -1.44 | -0.000755 | ± 2.5 | PASS |
| | | VN | TN | -1.03 | -0.000540 | ± 2.5 | PASS |
| | | VH | TN | 1.87 | 0.000980 | ± 2.5 | PASS |
| 16QAM | LCH | VL | TN | 0.42 | 0.000227 | ± 2.5 | PASS |
| | | VN | TN | 3.79 | 0.002047 | ± 2.5 | PASS |
| | | VH | TN | 4.37 | 0.002360 | ± 2.5 | PASS |
| | MCH | VL | TN | 2.05 | 0.001090 | ± 2.5 | PASS |
| | | VN | TN | 0.26 | 0.000138 | ± 2.5 | PASS |
| | | VH | TN | -1.68 | -0.000894 | ± 2.5 | PASS |
| | HCH | VL | TN | 1.16 | 0.000608 | ± 2.5 | PASS |
| | | VN | TN | 2.91 | 0.001525 | ± 2.5 | PASS |
| | | VH | TN | 0.43 | 0.000225 | ± 2.5 | PASS |
| Temperature | | | | | | | |
| Modulation | Channel | Voltage [Vdc] | Temperature (°C) | Deviation (Hz) | Deviation (ppm) | Limit (ppm) | Verdict |
| QPSK | LCH | VN | -30 | 2.93 | 0.001583 | ± 2.5 | PASS |
| | | VN | -20 | 0.18 | 0.000097 | ± 2.5 | PASS |
| | | VN | -10 | -0.26 | -0.000140 | ± 2.5 | PASS |
| | | VN | 0 | -0.52 | -0.000281 | ± 2.5 | PASS |
| | | VN | 10 | 2.09 | 0.001129 | ± 2.5 | PASS |
| | | VN | 20 | 3.17 | 0.001712 | ± 2.5 | PASS |
| | | VN | 30 | 2.64 | 0.001426 | ± 2.5 | PASS |
| | | VN | 40 | 1.15 | 0.000621 | ± 2.5 | PASS |
| | | VN | 50 | 2.09 | 0.001129 | ± 2.5 | PASS |
| | MCH | VN | -30 | -0.3 | -0.000160 | ± 2.5 | PASS |

| | | | | | | | |
|-----|-----|-------|-----|-------|-----------|-------|-----------|
| | VN | VN | -20 | 2.83 | 0.001505 | ± 2.5 | PASS |
| | | VN | -10 | -1.16 | -0.000617 | ± 2.5 | PASS |
| | | VN | 0 | 1.64 | 0.000872 | ± 2.5 | PASS |
| | | VN | 10 | 1.48 | 0.000787 | ± 2.5 | PASS |
| | | VN | 20 | 4.37 | 0.002324 | ± 2.5 | PASS |
| | | VN | 30 | -0.31 | -0.000165 | ± 2.5 | PASS |
| | | VN | 40 | -1.18 | -0.000628 | ± 2.5 | PASS |
| | | VN | 50 | 1.59 | 0.000846 | ± 2.5 | PASS |
| | HCH | VN | -30 | -1.52 | -0.000796 | ± 2.5 | PASS |
| | | VN | -20 | -0.89 | -0.000466 | ± 2.5 | PASS |
| | | VN | -10 | 4.02 | 0.002106 | ± 2.5 | PASS |
| | | VN | 0 | 0.92 | 0.000482 | ± 2.5 | PASS |
| | | VN | 10 | 0.48 | 0.000252 | ± 2.5 | PASS |
| | | VN | 20 | -0.97 | -0.000508 | ± 2.5 | PASS |
| | | VN | 30 | -1.4 | -0.000734 | ± 2.5 | PASS |
| | | VN | 40 | -0.49 | -0.000257 | ± 2.5 | PASS |
| | | VN | 50 | -0.17 | -0.000089 | ± 2.5 | PASS |
| | | 16QAM | LCH | VN | -30 | -1.81 | -0.000978 |
| VN | -20 | | | 0.89 | 0.000481 | ± 2.5 | PASS |
| VN | -10 | | | -1.79 | -0.000967 | ± 2.5 | PASS |
| VN | 0 | | | 2.49 | 0.001345 | ± 2.5 | PASS |
| VN | 10 | | | -0.85 | -0.000459 | ± 2.5 | PASS |
| VN | 20 | | | -0.56 | -0.000302 | ± 2.5 | PASS |
| VN | 30 | | | 2.51 | 0.001356 | ± 2.5 | PASS |
| VN | 40 | | | 2.1 | 0.001134 | ± 2.5 | PASS |
| VN | 50 | | | 1.42 | 0.000767 | ± 2.5 | PASS |
| MCH | VN | | -30 | 2.26 | 0.001202 | ± 2.5 | PASS |
| | VN | | -20 | 4.36 | 0.002319 | ± 2.5 | PASS |
| | VN | | -10 | 3.94 | 0.002096 | ± 2.5 | PASS |
| | VN | | 0 | -1.76 | -0.000936 | ± 2.5 | PASS |
| | VN | | 10 | 1.57 | 0.000835 | ± 2.5 | PASS |
| | VN | | 20 | 1.32 | 0.000702 | ± 2.5 | PASS |
| | VN | | 30 | 3.08 | 0.001638 | ± 2.5 | PASS |
| | VN | | 40 | 0.92 | 0.000489 | ± 2.5 | PASS |
| | VN | | 50 | 0.44 | 0.000234 | ± 2.5 | PASS |
| HCH | VN | | -30 | -1.37 | -0.000718 | ± 2.5 | PASS |
| | VN | | -20 | 3.63 | 0.001902 | ± 2.5 | PASS |
| | VN | | -10 | 1.95 | 0.001022 | ± 2.5 | PASS |
| | VN | | 0 | 4.12 | 0.002159 | ± 2.5 | PASS |
| | VN | | 10 | 4.01 | 0.002101 | ± 2.5 | PASS |
| | VN | | 20 | -0.23 | -0.000121 | ± 2.5 | PASS |

| | | | | | | | |
|--|--|----|----|------|----------|-------|------|
| | | VN | 30 | 2.78 | 0.001457 | ± 2.5 | PASS |
| | | VN | 40 | 4.44 | 0.002326 | ± 2.5 | PASS |
| | | VN | 50 | 1.13 | 0.000592 | ± 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 | -1.48 | -0.000799 | ± 2.5 | PASS |
| | | VN | TN | 0.73 | 0.000394 | ± 2.5 | PASS |
| | | VH | TN | 0.03 | 0.000016 | ± 2.5 | PASS |
| | MCH | VL | TN | 2.11 | 0.001122 | ± 2.5 | PASS |
| | | VN | TN | -0.69 | -0.000367 | ± 2.5 | PASS |
| | | VH | TN | 3.78 | 0.002011 | ± 2.5 | PASS |
| | HCH | VL | TN | -0.53 | -0.000278 | ± 2.5 | PASS |
| | | VN | TN | -1.67 | -0.000875 | ± 2.5 | PASS |
| | | VH | TN | -0.89 | -0.000467 | ± 2.5 | PASS |
| 16QAM | LCH | VL | TN | 0.91 | 0.000491 | ± 2.5 | PASS |
| | | VN | TN | 4.43 | 0.002391 | ± 2.5 | PASS |
| | | VH | TN | 1.78 | 0.000961 | ± 2.5 | PASS |
| | MCH | VL | TN | 0.9 | 0.000479 | ± 2.5 | PASS |
| | | VN | TN | 0.53 | 0.000282 | ± 2.5 | PASS |
| | | VH | TN | -1.12 | -0.000596 | ± 2.5 | PASS |
| | HCH | VL | TN | 1.85 | 0.000970 | ± 2.5 | PASS |
| | | VN | TN | 4.64 | 0.002433 | ± 2.5 | PASS |
| | | VH | TN | 1.27 | 0.000666 | ± 2.5 | PASS |
| Temperature | | | | | | | |
| Modulation | Channel | Voltage [Vdc] | Temperature (°C) | Deviation (Hz) | Deviation (ppm) | Limit (ppm) | Verdict |
| QPSK | LCH | VN | -30 | -0.83 | -0.000448 | ± 2.5 | PASS |
| | | VN | -20 | 3.87 | 0.002089 | ± 2.5 | PASS |
| | | VN | -10 | 4.15 | 0.002240 | ± 2.5 | PASS |
| | | VN | 0 | -1.34 | -0.000723 | ± 2.5 | PASS |
| | | VN | 10 | 3.59 | 0.001938 | ± 2.5 | PASS |
| | | VN | 20 | 3.55 | 0.001916 | ± 2.5 | PASS |
| | | VN | 30 | 3.7 | 0.001997 | ± 2.5 | PASS |
| | | VN | 40 | 0.46 | 0.000248 | ± 2.5 | PASS |
| | | VN | 50 | -1.81 | -0.000977 | ± 2.5 | PASS |
| | MCH | VN | -30 | -1.16 | -0.000617 | ± 2.5 | PASS |

| | | | | | | | |
|-----|-----|-------|-------|-----------|-----------|-------|-----------|
| | VN | VN | -20 | 3.03 | 0.001612 | ± 2.5 | PASS |
| | | VN | -10 | -1.48 | -0.000787 | ± 2.5 | PASS |
| | | VN | 0 | 2.46 | 0.001309 | ± 2.5 | PASS |
| | | VN | 10 | -0.09 | -0.000048 | ± 2.5 | PASS |
| | | VN | 20 | 3.42 | 0.001819 | ± 2.5 | PASS |
| | | VN | 30 | 0.85 | 0.000452 | ± 2.5 | PASS |
| | | VN | 40 | 0.57 | 0.000303 | ± 2.5 | PASS |
| | | VN | 50 | -0.58 | -0.000309 | ± 2.5 | PASS |
| | HCH | VN | -30 | -0.8 | -0.000419 | ± 2.5 | PASS |
| | | VN | -20 | 3.21 | 0.001683 | ± 2.5 | PASS |
| | | VN | -10 | -1.17 | -0.000613 | ± 2.5 | PASS |
| | | VN | 0 | -1.42 | -0.000744 | ± 2.5 | PASS |
| | | VN | 10 | 4.81 | 0.002522 | ± 2.5 | PASS |
| | | VN | 20 | 3.65 | 0.001913 | ± 2.5 | PASS |
| | | VN | 30 | 2.87 | 0.001505 | ± 2.5 | PASS |
| | | VN | 40 | 1.59 | 0.000834 | ± 2.5 | PASS |
| | | VN | 50 | -0.92 | -0.000482 | ± 2.5 | PASS |
| | | 16QAM | LCH | VN | -30 | -1.38 | -0.000745 |
| VN | -20 | | | 4.43 | 0.002391 | ± 2.5 | PASS |
| VN | -10 | | | 3.95 | 0.002132 | ± 2.5 | PASS |
| VN | 0 | | | 3.86 | 0.002084 | ± 2.5 | PASS |
| VN | 10 | | | 3.92 | 0.002116 | ± 2.5 | PASS |
| VN | 20 | | | -0.68 | -0.000367 | ± 2.5 | PASS |
| VN | 30 | | | 1.84 | 0.000993 | ± 2.5 | PASS |
| VN | 40 | | | 3.57 | 0.001927 | ± 2.5 | PASS |
| VN | 50 | | | 4.33 | 0.002337 | ± 2.5 | PASS |
| MCH | VN | | -30 | -1.31 | -0.000697 | ± 2.5 | PASS |
| | VN | | -20 | 1.41 | 0.000750 | ± 2.5 | PASS |
| | VN | | -10 | -1.96 | -0.001043 | ± 2.5 | PASS |
| | VN | | 0 | 2.91 | 0.001548 | ± 2.5 | PASS |
| | VN | | 10 | -1.84 | -0.000979 | ± 2.5 | PASS |
| | VN | | 20 | 1.17 | 0.000622 | ± 2.5 | PASS |
| | VN | | 30 | 2.31 | 0.001229 | ± 2.5 | PASS |
| | VN | | 40 | 1.31 | 0.000697 | ± 2.5 | PASS |
| | VN | | 50 | 4.83 | 0.002569 | ± 2.5 | PASS |
| HCH | VN | -30 | 1.65 | 0.000865 | ± 2.5 | PASS | |
| | VN | -20 | -1.12 | -0.000587 | ± 2.5 | PASS | |
| | VN | -10 | 4.55 | 0.002385 | ± 2.5 | PASS | |
| | VN | 0 | -1.3 | -0.000682 | ± 2.5 | PASS | |
| | VN | 10 | 4.65 | 0.002438 | ± 2.5 | PASS | |
| | VN | 20 | 0.08 | 0.000042 | ± 2.5 | PASS | |

| | | | | | | | |
|--|--|----|----|------|----------|-------|------|
| | | VN | 30 | 0.24 | 0.000126 | ± 2.5 | PASS |
| | | VN | 40 | 3.21 | 0.001683 | ± 2.5 | PASS |
| | | VN | 50 | 0.64 | 0.000336 | ± 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 | 2.66 | 0.001434 | ± 2.5 | PASS |
| | | VN | TN | 2.18 | 0.001175 | ± 2.5 | PASS |
| | | VH | TN | 2.2 | 0.001186 | ± 2.5 | PASS |
| | MCH | VL | TN | -1.69 | -0.000899 | ± 2.5 | PASS |
| | | VN | TN | 4.41 | 0.002346 | ± 2.5 | PASS |
| | | VH | TN | -1.71 | -0.000910 | ± 2.5 | PASS |
| | HCH | VL | TN | 1.52 | 0.000798 | ± 2.5 | PASS |
| | | VN | TN | -0.85 | -0.000446 | ± 2.5 | PASS |
| | | VH | TN | 2.2 | 0.001155 | ± 2.5 | PASS |
| 16QAM | LCH | VL | TN | 3.87 | 0.002086 | ± 2.5 | PASS |
| | | VN | TN | -1.02 | -0.000550 | ± 2.5 | PASS |
| | | VH | TN | -1.61 | -0.000868 | ± 2.5 | PASS |
| | MCH | VL | TN | -1.35 | -0.000718 | ± 2.5 | PASS |
| | | VN | TN | -0.74 | -0.000394 | ± 2.5 | PASS |
| | | VH | TN | -1.99 | -0.001059 | ± 2.5 | PASS |
| | HCH | VL | TN | 2.69 | 0.001412 | ± 2.5 | PASS |
| | | VN | TN | -0.95 | -0.000499 | ± 2.5 | PASS |
| | | VH | TN | -1 | -0.000525 | ± 2.5 | PASS |
| Temperature | | | | | | | |
| Modulation | Channel | Voltage [Vdc] | Temperature (°C) | Deviation (Hz) | Deviation (ppm) | Limit (ppm) | Verdict |
| QPSK | LCH | VN | -30 | 4.18 | 0.002253 | ± 2.5 | PASS |
| | | VN | -20 | -1.15 | -0.000620 | ± 2.5 | PASS |
| | | VN | -10 | 2.3 | 0.001240 | ± 2.5 | PASS |
| | | VN | 0 | 4.7 | 0.002534 | ± 2.5 | PASS |
| | | VN | 10 | -1.21 | -0.000652 | ± 2.5 | PASS |
| | | VN | 20 | 1.1 | 0.000593 | ± 2.5 | PASS |
| | | VN | 30 | 0.84 | 0.000453 | ± 2.5 | PASS |
| | | VN | 40 | -0.4 | -0.000216 | ± 2.5 | PASS |
| | | VN | 50 | 2.34 | 0.001261 | ± 2.5 | PASS |
| | MCH | VN | -30 | 1.8 | 0.000957 | ± 2.5 | PASS |

| | | | | | | | |
|-----|-----|-------|-----|-------|-----------|-------|----------|
| | VN | VN | -20 | -1.59 | -0.000846 | ± 2.5 | PASS |
| | | VN | -10 | 2.69 | 0.001431 | ± 2.5 | PASS |
| | | VN | 0 | -1.69 | -0.000899 | ± 2.5 | PASS |
| | | VN | 10 | -0.43 | -0.000229 | ± 2.5 | PASS |
| | | VN | 20 | -0.64 | -0.000340 | ± 2.5 | PASS |
| | | VN | 30 | 1.81 | 0.000963 | ± 2.5 | PASS |
| | | VN | 40 | 2.83 | 0.001505 | ± 2.5 | PASS |
| | | VN | 50 | 1.99 | 0.001059 | ± 2.5 | PASS |
| | HCH | VN | -30 | 1.17 | 0.000614 | ± 2.5 | PASS |
| | | VN | -20 | -0.6 | -0.000315 | ± 2.5 | PASS |
| | | VN | -10 | 1.73 | 0.000908 | ± 2.5 | PASS |
| | | VN | 0 | -1.2 | -0.000630 | ± 2.5 | PASS |
| | | VN | 10 | -1.84 | -0.000966 | ± 2.5 | PASS |
| | | VN | 20 | 3.64 | 0.001911 | ± 2.5 | PASS |
| | | VN | 30 | 4.97 | 0.002609 | ± 2.5 | PASS |
| | | VN | 40 | 0.09 | 0.000047 | ± 2.5 | PASS |
| | | VN | 50 | 3.43 | 0.001801 | ± 2.5 | PASS |
| | | 16QAM | LCH | VN | -30 | 3.55 | 0.001914 |
| VN | -20 | | | 3.85 | 0.002075 | ± 2.5 | PASS |
| VN | -10 | | | 2.36 | 0.001272 | ± 2.5 | PASS |
| VN | 0 | | | 1.11 | 0.000598 | ± 2.5 | PASS |
| VN | 10 | | | -0.08 | -0.000043 | ± 2.5 | PASS |
| VN | 20 | | | 0.58 | 0.000313 | ± 2.5 | PASS |
| VN | 30 | | | -1.89 | -0.001019 | ± 2.5 | PASS |
| VN | 40 | | | 2.41 | 0.001299 | ± 2.5 | PASS |
| VN | 50 | | | 1.63 | 0.000879 | ± 2.5 | PASS |
| MCH | VN | | -30 | 0.13 | 0.000069 | ± 2.5 | PASS |
| | VN | | -20 | 2.84 | 0.001511 | ± 2.5 | PASS |
| | VN | | -10 | 2.74 | 0.001457 | ± 2.5 | PASS |
| | VN | | 0 | -1.7 | -0.000904 | ± 2.5 | PASS |
| | VN | | 10 | 3.28 | 0.001745 | ± 2.5 | PASS |
| | VN | | 20 | 3.66 | 0.001947 | ± 2.5 | PASS |
| | VN | | 30 | 3.52 | 0.001872 | ± 2.5 | PASS |
| | VN | | 40 | -2 | -0.001064 | ± 2.5 | PASS |
| | VN | | 50 | 2.36 | 0.001255 | ± 2.5 | PASS |
| HCH | VN | | -30 | 4.49 | 0.002357 | ± 2.5 | PASS |
| | VN | | -20 | 4.71 | 0.002472 | ± 2.5 | PASS |
| | VN | | -10 | 2.83 | 0.001486 | ± 2.5 | PASS |
| | VN | | 0 | -0.37 | -0.000194 | ± 2.5 | PASS |
| | VN | | 10 | 4.17 | 0.002189 | ± 2.5 | PASS |
| | VN | | 20 | -1.86 | -0.000976 | ± 2.5 | PASS |

| | | | | | | | |
|--|--|----|----|------|----------|-------|------|
| | | VN | 30 | 3.77 | 0.001979 | ± 2.5 | PASS |
| | | VN | 40 | 4.28 | 0.002247 | ± 2.5 | PASS |
| | | VN | 50 | 2.57 | 0.001349 | ± 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 | 1.24 | 0.000668 | ± 2.5 | PASS |
| | | VN | TN | -1.81 | -0.000974 | ± 2.5 | PASS |
| | | VH | TN | 1.27 | 0.000684 | ± 2.5 | PASS |
| | MCH | VL | TN | -1.93 | -0.001027 | ± 2.5 | PASS |
| | | VN | TN | 2 | 0.001064 | ± 2.5 | PASS |
| | | VH | TN | 4.56 | 0.002426 | ± 2.5 | PASS |
| | HCH | VL | TN | 3.91 | 0.002055 | ± 2.5 | PASS |
| | | VN | TN | 3.93 | 0.002066 | ± 2.5 | PASS |
| | | VH | TN | 2.18 | 0.001146 | ± 2.5 | PASS |
| 16QAM | LCH | VL | TN | -1.32 | -0.000711 | ± 2.5 | PASS |
| | | VN | TN | -0.84 | -0.000452 | ± 2.5 | PASS |
| | | VH | TN | 2 | 0.001077 | ± 2.5 | PASS |
| | MCH | VL | TN | 0.64 | 0.000340 | ± 2.5 | PASS |
| | | VN | TN | -0.32 | -0.000170 | ± 2.5 | PASS |
| | | VH | TN | 1.27 | 0.000676 | ± 2.5 | PASS |
| | HCH | VL | TN | 2.91 | 0.001530 | ± 2.5 | PASS |
| | | VN | TN | 4.63 | 0.002434 | ± 2.5 | PASS |
| | | VH | TN | -1.24 | -0.000652 | ± 2.5 | PASS |
| Temperature | | | | | | | |
| Modulation | Channel | Voltage [Vdc] | Temperature (°C) | Deviation (Hz) | Deviation (ppm) | Limit (ppm) | Verdict |
| QPSK | LCH | VN | -30 | 3.8 | 0.002046 | ± 2.5 | PASS |
| | | VN | -20 | -1.66 | -0.000894 | ± 2.5 | PASS |
| | | VN | -10 | 4.34 | 0.002336 | ± 2.5 | PASS |
| | | VN | 0 | 2.85 | 0.001534 | ± 2.5 | PASS |
| | | VN | 10 | -0.03 | -0.000016 | ± 2.5 | PASS |
| | | VN | 20 | 0.7 | 0.000377 | ± 2.5 | PASS |
| | | VN | 30 | 1.45 | 0.000781 | ± 2.5 | PASS |
| | | VN | 40 | -1.82 | -0.000980 | ± 2.5 | PASS |
| | | VN | 50 | 2.71 | 0.001459 | ± 2.5 | PASS |
| | MCH | VN | -30 | -0.16 | -0.000085 | ± 2.5 | PASS |

| | | | | | | | |
|-----|-----|-------|-------|-----------|-----------|-------|-----------|
| | VN | VN | -20 | 3.47 | 0.001846 | ± 2.5 | PASS |
| | | VN | -10 | 3.95 | 0.002101 | ± 2.5 | PASS |
| | | VN | 0 | 1.22 | 0.000649 | ± 2.5 | PASS |
| | | VN | 10 | 4.03 | 0.002144 | ± 2.5 | PASS |
| | | VN | 20 | 3.37 | 0.001793 | ± 2.5 | PASS |
| | | VN | 30 | 4.63 | 0.002463 | ± 2.5 | PASS |
| | | VN | 40 | 0.5 | 0.000266 | ± 2.5 | PASS |
| | | VN | 50 | 2.4 | 0.001277 | ± 2.5 | PASS |
| | HCH | VN | -30 | 3.38 | 0.001777 | ± 2.5 | PASS |
| | | VN | -20 | 1.61 | 0.000846 | ± 2.5 | PASS |
| | | VN | -10 | 2.61 | 0.001372 | ± 2.5 | PASS |
| | | VN | 0 | 2.49 | 0.001309 | ± 2.5 | PASS |
| | | VN | 10 | -1.51 | -0.000794 | ± 2.5 | PASS |
| | | VN | 20 | 2.61 | 0.001372 | ± 2.5 | PASS |
| | | VN | 30 | 4.63 | 0.002434 | ± 2.5 | PASS |
| | | VN | 40 | -1.99 | -0.001046 | ± 2.5 | PASS |
| | | VN | 50 | -0.9 | -0.000473 | ± 2.5 | PASS |
| | | 16QAM | LCH | VN | -30 | -0.56 | -0.000301 |
| VN | -20 | | | 2.34 | 0.001260 | ± 2.5 | PASS |
| VN | -10 | | | -0.26 | -0.000140 | ± 2.5 | PASS |
| VN | 0 | | | 3.37 | 0.001814 | ± 2.5 | PASS |
| VN | 10 | | | -0.74 | -0.000398 | ± 2.5 | PASS |
| VN | 20 | | | 0.47 | 0.000253 | ± 2.5 | PASS |
| VN | 30 | | | 1.2 | 0.000646 | ± 2.5 | PASS |
| VN | 40 | | | -0.64 | -0.000345 | ± 2.5 | PASS |
| VN | 50 | | | 1.32 | 0.000711 | ± 2.5 | PASS |
| MCH | VN | | -30 | 3.4 | 0.001809 | ± 2.5 | PASS |
| | VN | | -20 | 2.42 | 0.001287 | ± 2.5 | PASS |
| | VN | | -10 | 3.28 | 0.001745 | ± 2.5 | PASS |
| | VN | | 0 | 0.66 | 0.000351 | ± 2.5 | PASS |
| | VN | | 10 | 4.39 | 0.002335 | ± 2.5 | PASS |
| | VN | | 20 | -2 | -0.001064 | ± 2.5 | PASS |
| | VN | | 30 | 4.99 | 0.002654 | ± 2.5 | PASS |
| | VN | | 40 | 0.45 | 0.000239 | ± 2.5 | PASS |
| | VN | | 50 | 3.99 | 0.002122 | ± 2.5 | PASS |
| HCH | VN | -30 | -0.52 | -0.000273 | ± 2.5 | PASS | |
| | VN | -20 | -1.2 | -0.000631 | ± 2.5 | PASS | |
| | VN | -10 | -1.03 | -0.000541 | ± 2.5 | PASS | |
| | VN | 0 | 2.41 | 0.001267 | ± 2.5 | PASS | |
| | VN | 10 | 3.97 | 0.002087 | ± 2.5 | PASS | |
| | VN | 20 | 2.64 | 0.001388 | ± 2.5 | PASS | |

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|--|--|----|----|------|----------|-------|------|
| | | VN | 30 | 3.1 | 0.001629 | ± 2.5 | PASS |
| | | VN | 40 | 2.45 | 0.001288 | ± 2.5 | PASS |
| | | VN | 50 | 1.69 | 0.000888 | ± 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 | 4.52 | 0.002430 | ± 2.5 | PASS |
| | | VN | TN | 4.27 | 0.002296 | ± 2.5 | PASS |
| | | VH | TN | -0.57 | -0.000306 | ± 2.5 | PASS |
| | MCH | VL | TN | 2.52 | 0.001340 | ± 2.5 | PASS |
| | | VN | TN | 0.71 | 0.000378 | ± 2.5 | PASS |
| | | VH | TN | 0.48 | 0.000255 | ± 2.5 | PASS |
| | HCH | VL | TN | -0.56 | -0.000295 | ± 2.5 | PASS |
| | | VN | TN | -0.11 | -0.000058 | ± 2.5 | PASS |
| | | VH | TN | 0.18 | 0.000095 | ± 2.5 | PASS |
| 16QAM | LCH | VL | TN | 0.09 | 0.000048 | ± 2.5 | PASS |
| | | VN | TN | -1.75 | -0.000941 | ± 2.5 | PASS |
| | | VH | TN | 4.63 | 0.002489 | ± 2.5 | PASS |
| | MCH | VL | TN | 0.82 | 0.000436 | ± 2.5 | PASS |
| | | VN | TN | 3.03 | 0.001612 | ± 2.5 | PASS |
| | | VH | TN | -1.37 | -0.000729 | ± 2.5 | PASS |
| | HCH | VL | TN | 0.82 | 0.000432 | ± 2.5 | PASS |
| | | VN | TN | -1.95 | -0.001026 | ± 2.5 | PASS |
| | | VH | TN | -1.36 | -0.000716 | ± 2.5 | PASS |
| Temperature | | | | | | | |
| Modulation | Channel | Voltage [Vdc] | Temperature (°C) | Deviation (Hz) | Deviation (ppm) | Limit (ppm) | Verdict |
| QPSK | LCH | VN | -30 | -0.07 | -0.000038 | ± 2.5 | PASS |
| | | VN | -20 | 2.53 | 0.001360 | ± 2.5 | PASS |
| | | VN | -10 | 4 | 0.002151 | ± 2.5 | PASS |
| | | VN | 0 | -1.86 | -0.001000 | ± 2.5 | PASS |
| | | VN | 10 | 1.06 | 0.000570 | ± 2.5 | PASS |
| | | VN | 20 | 3.78 | 0.002032 | ± 2.5 | PASS |
| | | VN | 30 | -1.27 | -0.000683 | ± 2.5 | PASS |
| | | VN | 40 | 3.17 | 0.001704 | ± 2.5 | PASS |
| | | VN | 50 | 2.17 | 0.001167 | ± 2.5 | PASS |
| | MCH | VN | -30 | 2.04 | 0.001085 | ± 2.5 | PASS |

| | | | | | | | |
|-----|-----|-------|-----|-------|-----------|-------|-----------|
| | | VN | -20 | -0.71 | -0.000378 | ± 2.5 | PASS |
| | | VN | -10 | 2.2 | 0.001170 | ± 2.5 | PASS |
| | | VN | 0 | 1.71 | 0.000910 | ± 2.5 | PASS |
| | | VN | 10 | 2.11 | 0.001122 | ± 2.5 | PASS |
| | | VN | 20 | 2.5 | 0.001330 | ± 2.5 | PASS |
| | | VN | 30 | -0.8 | -0.000426 | ± 2.5 | PASS |
| | | VN | 40 | -0.79 | -0.000420 | ± 2.5 | PASS |
| | | VN | 50 | 0.33 | 0.000176 | ± 2.5 | PASS |
| | HCH | VN | -30 | 2.73 | 0.001437 | ± 2.5 | PASS |
| | | VN | -20 | 2.71 | 0.001426 | ± 2.5 | PASS |
| | | VN | -10 | 1.65 | 0.000868 | ± 2.5 | PASS |
| | | VN | 0 | -0.96 | -0.000505 | ± 2.5 | PASS |
| | | VN | 10 | 3.5 | 0.001842 | ± 2.5 | PASS |
| | | VN | 20 | -1.58 | -0.000832 | ± 2.5 | PASS |
| | | VN | 30 | 0.52 | 0.000274 | ± 2.5 | PASS |
| | | VN | 40 | 3.18 | 0.001674 | ± 2.5 | PASS |
| | | VN | 50 | -0.52 | -0.000274 | ± 2.5 | PASS |
| | | 16QAM | LCH | VN | -30 | -0.87 | -0.000468 |
| VN | -20 | | | 4.06 | 0.002183 | ± 2.5 | PASS |
| VN | -10 | | | -0.14 | -0.000075 | ± 2.5 | PASS |
| VN | 0 | | | 1.19 | 0.000640 | ± 2.5 | PASS |
| VN | 10 | | | -1 | -0.000538 | ± 2.5 | PASS |
| VN | 20 | | | 1.89 | 0.001016 | ± 2.5 | PASS |
| VN | 30 | | | 1.35 | 0.000726 | ± 2.5 | PASS |
| VN | 40 | | | -0.42 | -0.000226 | ± 2.5 | PASS |
| VN | 50 | | | 1.91 | 0.001027 | ± 2.5 | PASS |
| MCH | VN | | -30 | 1.3 | 0.000691 | ± 2.5 | PASS |
| | VN | | -20 | 3.8 | 0.002021 | ± 2.5 | PASS |
| | VN | | -10 | 1.96 | 0.001043 | ± 2.5 | PASS |
| | VN | | 0 | 2.68 | 0.001426 | ± 2.5 | PASS |
| | VN | | 10 | -1.3 | -0.000691 | ± 2.5 | PASS |
| | VN | | 20 | 3.92 | 0.002085 | ± 2.5 | PASS |
| | VN | | 30 | -1.94 | -0.001032 | ± 2.5 | PASS |
| | VN | | 40 | 0.27 | 0.000144 | ± 2.5 | PASS |
| | VN | | 50 | 2.64 | 0.001404 | ± 2.5 | PASS |
| HCH | VN | | -30 | 3.98 | 0.002095 | ± 2.5 | PASS |
| | VN | | -20 | 2.7 | 0.001421 | ± 2.5 | PASS |
| | VN | | -10 | 3.7 | 0.001947 | ± 2.5 | PASS |
| | VN | | 0 | -1.64 | -0.000863 | ± 2.5 | PASS |
| | VN | | 10 | 2.11 | 0.001111 | ± 2.5 | PASS |
| | VN | | 20 | 0.04 | 0.000021 | ± 2.5 | PASS |

| | | | | | | | |
|--|--|----|----|------|----------|-------|------|
| | | VN | 30 | 4.73 | 0.002489 | ± 2.5 | PASS |
| | | VN | 40 | 1.28 | 0.000674 | ± 2.5 | PASS |
| | | VN | 50 | 3.59 | 0.001889 | ± 2.5 | PASS |