Appendix E: Test Data for E-UTRA Band 7

Product Name: 4G Mi-Fi Trade Mark: LOGIC, iSWAG, UNONU **Test Model: ML10**

Environmental Conditions

| Temperature: | 23.1° C |
|--------------------|------------|
| Relative Humidity: | 53.6% |
| ATM Pressure: | 100.0 kPa |
| Test Engineer: | DIAMOND.LU |
| Supervised by: | LI HUAN |

E.1 Conducted Output Power

| Conducted Output Power Test Result (Channel Bandwidth: 5 MHz) | | | | | | | |
|---|---------|--------|------------|---------------------|---------------------|---------|--|
| Modulation | Channel | RB Con | figuration | Average Power [dBm] | Average Power [dBm] | Verdict | |
| Modulation | Channel | Size | Offset | QPSK | 16QAM | verdict | |
| | | 1 | 0 | 20.93 | 20.01 | PASS | |
| | | 1 | 12 | 20.85 | 20.02 | PASS | |
| | | 1 | 24 | 19.90 | 19.05 | PASS | |
| | LCH | 12 | 0 | 19.73 | 18.54 | PASS | |
| | | 12 | 6 | 19.49 | 18.37 | PASS | |
| | | 12 | 13 | 19.12 | 18.33 | PASS | |
| | | 25 | 0 | 19.38 | 18.36 | PASS | |
| | | 1 | 0 | 21.36 | 20.50 | PASS | |
| | | 1 | 12 | 21.53 | 20.62 | PASS | |
| QPSK / | | 1 | 24 | 20.77 | 20.03 | PASS | |
| 16QAM | MCH | 12 | 0 | 20.25 | 19.40 | PASS | |
| | | 12 | 6 | 20.20 | 19.31 | PASS | |
| | | 12 | 13 | 19.92 | 19.02 | PASS | |
| | | 25 | 0 | 20.19 | 19.15 | PASS | |
| | | 1 | 0 | 20.87 | 20.05 | PASS | |
| | | 1 | 12 | 21.44 | 20.48 | PASS | |
| | HCH | 1 | 24 | 20.98 | 20.15 | PASS | |
| | поп | 12 | 0 | 19.97 | 19.06 | PASS | |
| | | 12 | 6 | 20.03 | 19.10 | PASS | |
| | | 12 | 13 | 19.96 | 19.04 | PASS | |

| SHENZHEN LCS COMPLIANCE TESTING LABORATORY LTD. | | | RY LTD. FCC ID: 0550030 | 20 Report No.: LCS20 | 0730059AEE | |
|---|--|----|-------------------------|----------------------|------------|------|
| | | 25 | 0 | 19.96 | 18.96 | PASS |

| Conducted Output Power Test Result (Channel Bandwidth: 10 MHz) | | | | | | | |
|--|---------|--------|------------|---------------------|---------------------|--------------|--|
| Madulation | Channal | RB Con | figuration | Average Power [dBm] | Average Power [dBm] | \/a nali a t | |
| Modulation | Channel | Size | Offset | QPSK | 16QAM | Verdict | |
| | | 1 | 0 | 20.55 | 19.80 | PASS | |
| | | 1 | 24 | 19.67 | 18.85 | PASS | |
| | | 1 | 49 | 18.62 | 17.75 | PASS | |
| | LCH | 25 | 0 | 19.04 | 17.99 | PASS | |
| | | 25 | 12 | 18.54 | 17.50 | PASS | |
| | | 25 | 25 | 18.17 | 17.15 | PASS | |
| | | 50 | 0 | 18.59 | 17.55 | PASS | |
| | | 1 | 0 | 21.45 | 20.78 | PASS | |
| | | 1 | 24 | 21.39 | 20.76 | PASS | |
| QPSK / | | 1 | 49 | 20.34 | 19.74 | PASS | |
| 16QAM | MCH | 25 | 0 | 20.48 | 19.45 | PASS | |
| TOQAIVI | | 25 | 12 | 20.22 | 19.21 | PASS | |
| | | 25 | 25 | 19.85 | 18.84 | PASS | |
| | | 50 | 0 | 20.12 | 19.19 | PASS | |
| | | 1 | 0 | 20.26 | 19.44 | PASS | |
| | | 1 | 24 | 21.08 | 20.28 | PASS | |
| | | 1 | 49 | 21.02 | 20.22 | PASS | |
| | нсн | 25 | 0 | 19.66 | 18.68 | PASS | |
| | | 25 | 12 | 19.85 | 18.82 | PASS | |
| | | 25 | 25 | 20.00 | 18.97 | PASS | |
| | | 50 | 0 | 19.87 | 18.86 | PASS | |

| Conducted Output Power Test Result (Channel Bandwidth: 15 MHz) | | | | | | | |
|--|---------|--------|------------|---------------------|---------------------|----------|--|
| Madulation | Channal | RB Con | figuration | Average Power [dBm] | Average Power [dBm] | \/andiat | |
| Modulation | Channel | Size | Offset | QPSK | 16QAM | Verdict | |
| | | 1 | 0 | 20.41 | 19.62 | PASS | |
| | | 1 | 37 | 19.18 | 18.35 | PASS | |
| | | 1 | 74 | 18.43 | 17.50 | PASS | |
| | LCH | 37 | 0 | 18.71 | 17.70 | PASS | |
| | | 37 | 18 | 18.16 | 17.11 | PASS | |
| | | 37 | 38 | 17.84 | 16.73 | PASS | |
| | | 75 | 0 | 18.24 | 17.11 | PASS | |
| | | 1 | 0 | 21.11 | 20.40 | PASS | |
| | | 1 | 37 | 21.41 | 20.69 | PASS | |
| QPSK / | | 1 | 74 | 19.79 | 19.07 | PASS | |
| 16QAM | MCH | 37 | 0 | 20.47 | 19.42 | PASS | |
| TOQAIVI | | 37 | 18 | 20.28 | 19.24 | PASS | |
| | | 37 | 38 | 19.69 | 18.59 | PASS | |
| | | 75 | 0 | 20.09 | 19.05 | PASS | |
| | | 1 | 0 | 19.29 | 18.49 | PASS | |
| | | 1 | 37 | 20.77 | 20.01 | PASS | |
| | | 1 | 74 | 20.93 | 20.13 | PASS | |
| | HCH | 37 | 0 | 19.06 | 18.01 | PASS | |
| | | 37 | 18 | 19.53 | 18.48 | PASS | |
| | | 37 | 38 | 19.91 | 18.84 | PASS | |
| | | 75 | 0 | 19.48 | 18.46 | PASS | |

| Conducted Output Power Test Result (Channel Bandwidth: 20 MHz) | | | | | | | |
|--|---------|--------|------------|---------------------|---------------------|----------|--|
| Madulation | Channal | RB Con | figuration | Average Power [dBm] | Average Power [dBm] | \/ordiot | |
| Modulation | Channel | Size | Offset | QPSK | 16QAM | Verdict | |
| | | 1 | 0 | 20.27 | 19.40 | PASS | |
| | | 1 | 49 | 18.94 | 17.95 | PASS | |
| | | 1 | 99 | 18.91 | 18.02 | PASS | |
| | LCH | 50 | 0 | 18.17 | 17.10 | PASS | |
| | | 50 | 25 | 17.72 | 16.67 | PASS | |
| | | 50 | 50 | 17.68 | 16.58 | PASS | |
| | | 100 | 0 | 17.87 | 16.80 | PASS | |
| | | 1 | 0 | 20.61 | 19.97 | PASS | |
| | | 1 | 49 | 21.48 | 20.81 | PASS | |
| QPSK / | MCH | 1 | 99 | 19.27 | 18.57 | PASS | |
| 16QAM | | 50 | 0 | 20.38 | 19.36 | PASS | |
| TOQAIVI | | 50 | 25 | 20.22 | 19.19 | PASS | |
| | | 50 | 50 | 19.51 | 18.52 | PASS | |
| | | 100 | 0 | 19.92 | 18.89 | PASS | |
| | | 1 | 0 | 18.67 | 17.85 | PASS | |
| | | 1 | 49 | 20.21 | 19.48 | PASS | |
| | | 1 | 99 | 20.64 | 19.91 | PASS | |
| | HCH | 50 | 0 | 18.57 | 17.56 | PASS | |
| | | 50 | 25 | 19.17 | 18.12 | PASS | |
| | | 50 | 50 | 19.61 | 18.60 | PASS | |
| | | 100 | 0 | 19.06 | 18.06 | PASS | |

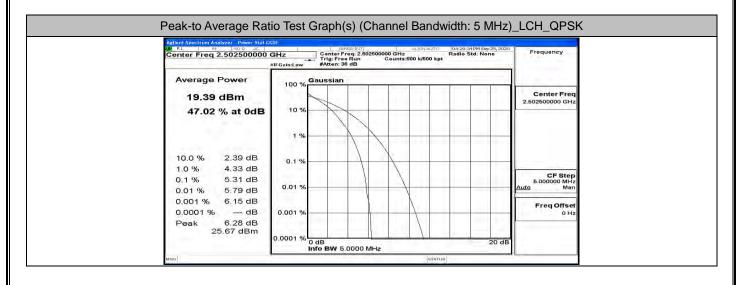
E.2 Peak-to-Average Ratio

| Peak-to Average Ratio Test Result (Channel Bandwidth: 5 MHz) | | | | | | |
|--|----------|-----------------------|-------|---------|--|--|
| Modulation | Channel | Peak-to-Average Ratio | Limit | Verdict | | |
| Modulation | Griannei | [dB] | [dB] | verdict | | |
| | LCH | 5.31 | <13 | PASS | | |
| QPSK | MCH | 5.58 | <13 | PASS | | |
| | HCH | 5.49 | <13 | PASS | | |
| 16QAM | LCH | 6.16 | <13 | PASS | | |
| | MCH | 6.34 | <13 | PASS | | |
| | HCH | 6.21 | <13 | PASS | | |

| Peak-to Average Ratio Test Result (Channel Bandwidth: 10 MHz) | | | | | | |
|---|----------|-----------------------|-------|---------|--|--|
| Modulation | Channel | Peak-to-Average Ratio | Limit | Verdict | | |
| Modulation | Griannei | [dB] | [dB] | verdict | | |
| | LCH | 5.25 | <13 | PASS | | |
| QPSK | MCH | 5.56 | <13 | PASS | | |
| | HCH | 5.45 | <13 | PASS | | |
| 16QAM | LCH | 6.02 | <13 | PASS | | |
| | MCH | 6.35 | <13 | PASS | | |
| | HCH | 6.24 | <13 | PASS | | |

| Peak-to Average Ratio Test Result (Channel Bandwidth: 15 MHz) | | | | | | |
|---|----------|-----------------------|-------|---------|--|--|
| Modulation | Channel | Peak-to-Average Ratio | Limit | Verdict | | |
| Modulation | Griannei | [dB] | [dB] | verdict | | |
| | LCH | 5.09 | <13 | PASS | | |
| QPSK | MCH | 4.95 | <13 | PASS | | |
| | HCH | 5.01 | <13 | PASS | | |
| 16QAM | LCH | 6.2 | <13 | PASS | | |
| | MCH | 6.24 | <13 | PASS | | |
| | HCH | 6.27 | <13 | PASS | | |

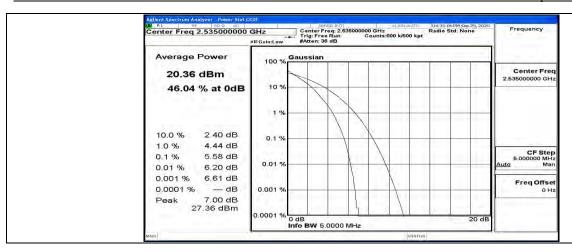
| Peak-to Average Ratio Test Result (Channel Bandwidth: 20 MHz) | | | | | | |
|---|---------|-----------------------|-------|---------|--|--|
| Modulation | Channel | Peak-to-Average Ratio | Limit | Verdict | | |
| Modulation | Chame | [dB] | [dB] | verdict | | |
| | LCH | 5.78 | <13 | PASS | | |
| QPSK | MCH | 5.75 | <13 | PASS | | |
| | HCH | 5.75 | <13 | PASS | | |
| 16QAM | LCH | 6.75 | <13 | PASS | | |
| | MCH | 6.74 | <13 | PASS | | |
| | HCH | 6.73 | <13 | PASS | | |

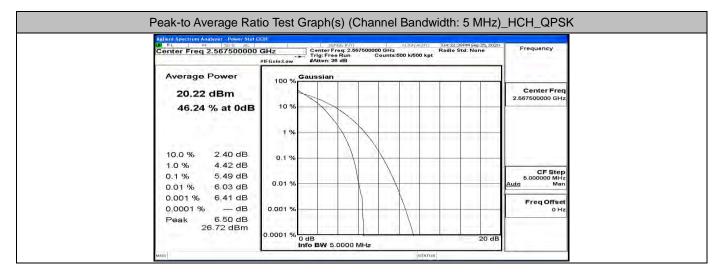


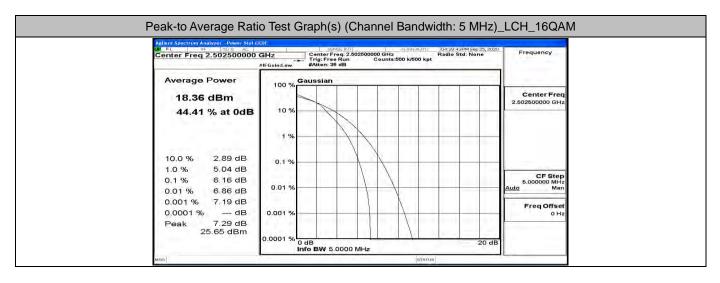
Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 5 MHz)_MCH_QPSK

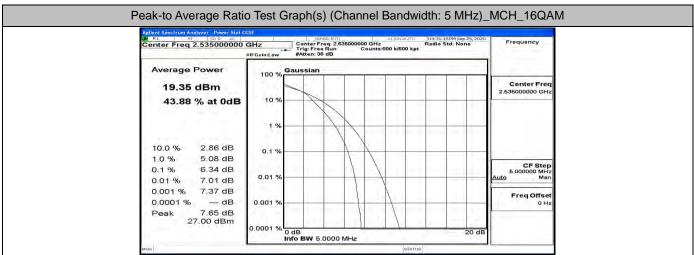
SHENZHEN LCS COMPLIANCE TESTING LABORATORY LTD. FCC ID: 055003020

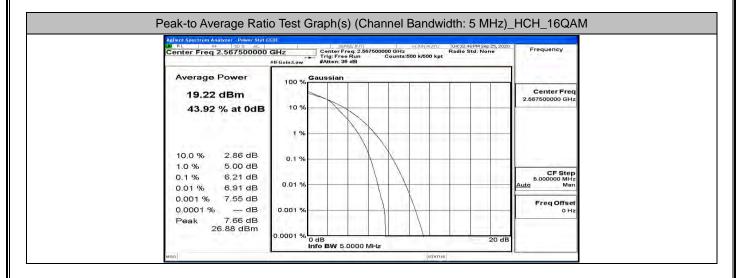
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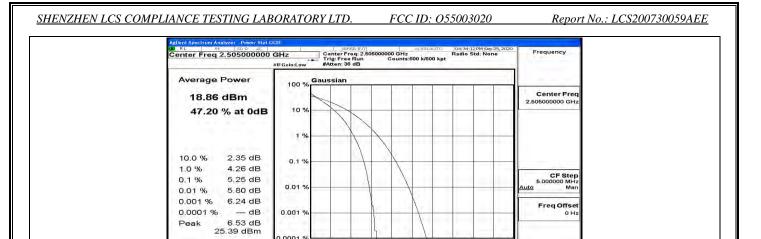








Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 10 MHz)_LCH_QPSK

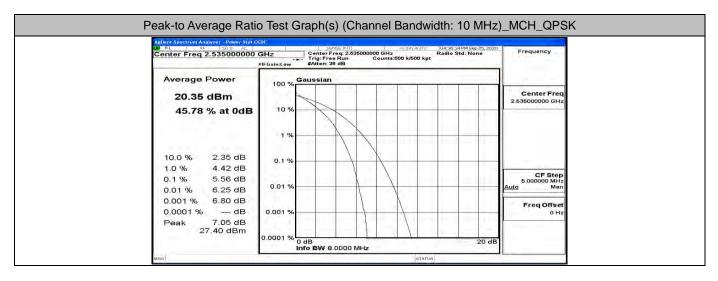


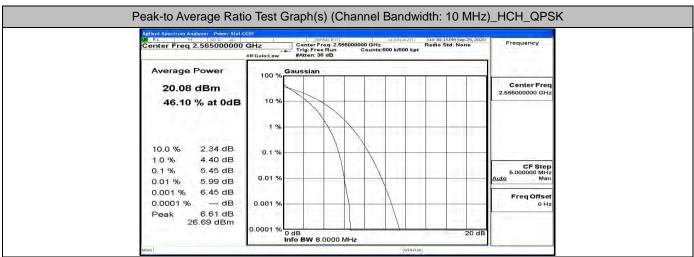
20 dB

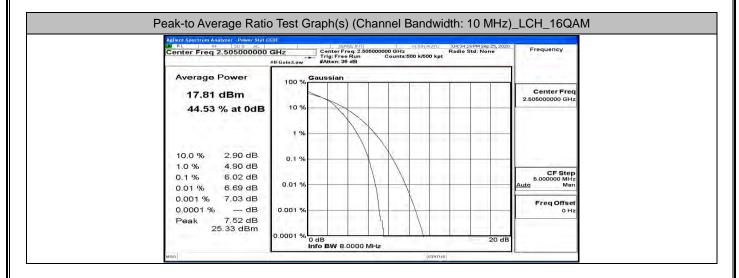
Peak

0.0001 %

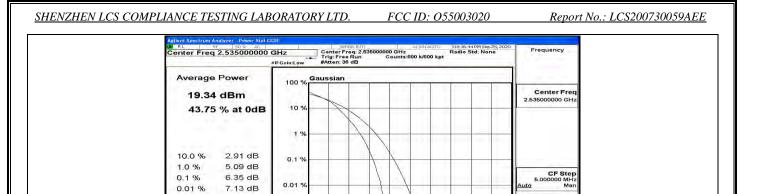
0 dB Info BW 8.0000 MHz







Peak-to Average Ratio Test Graph(s) (Channel Bandwidth: 10 MHz)_MCH_16QAM



20 dB

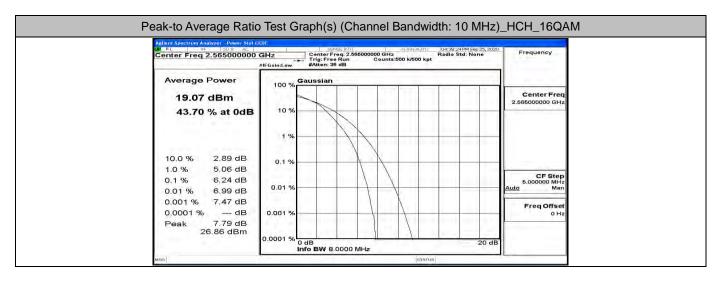
0.001 %

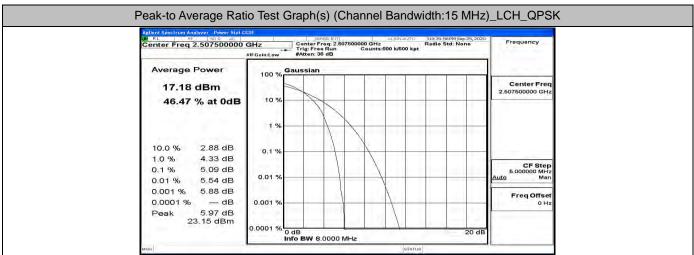
7.68 dB

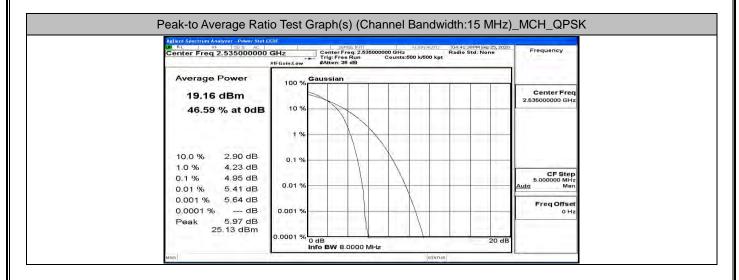
0.001 %

0 dB Info BW 8.0000 MHz

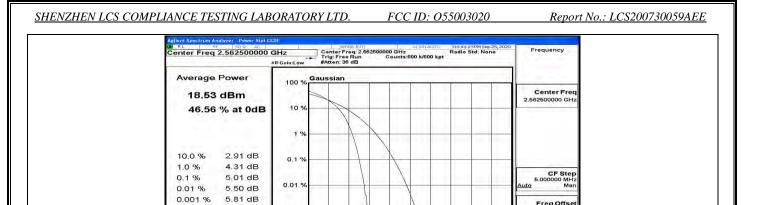
0.0001 % — dB Peak 7.88 dB 27.22 dBm







Peak-to Average Ratio Test Graph(s) (Channel Bandwidth:15 MHz)_HCH_QPSK



20 dB

% — dB 6.03 dB 24.56 dBm

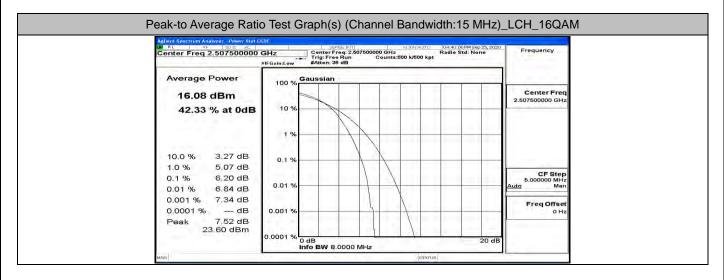
0.001 9

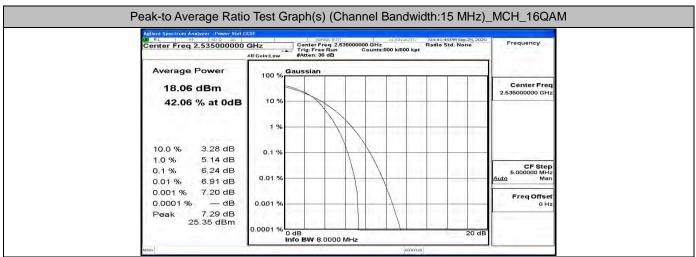
0.0001 %

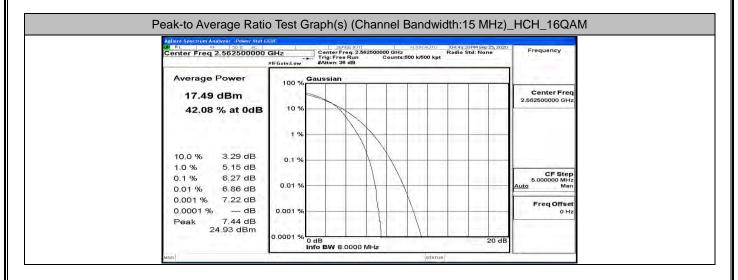
0 dB Info BW 8.0000 MHz

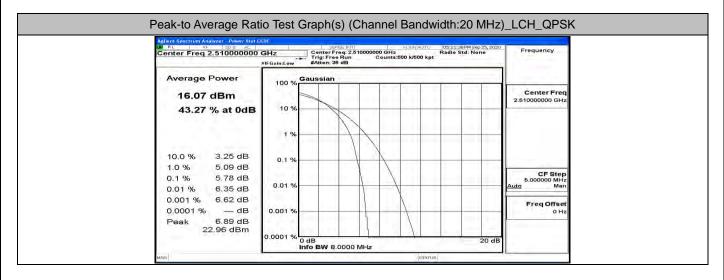
0.0001 %

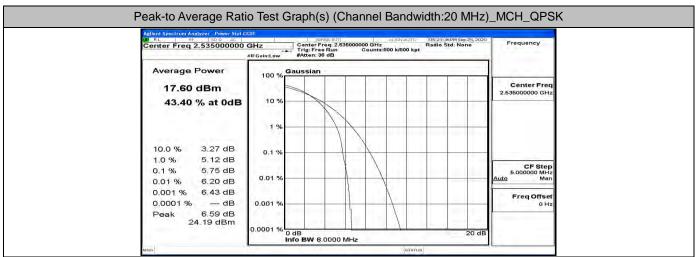
Peak

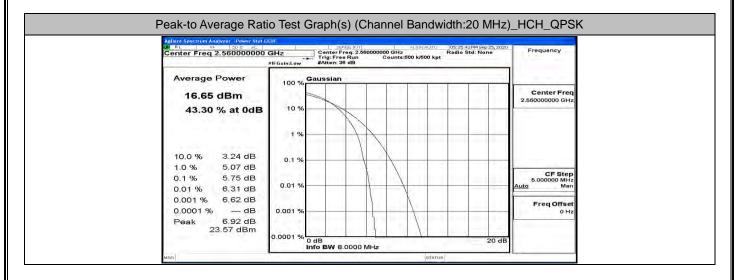


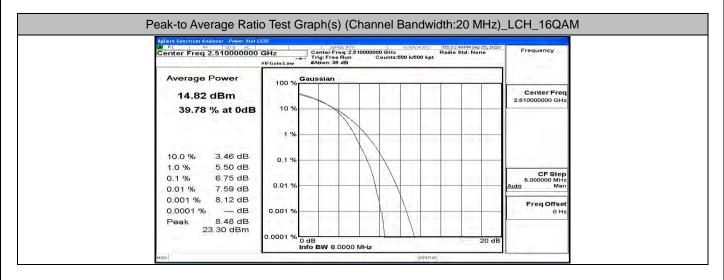


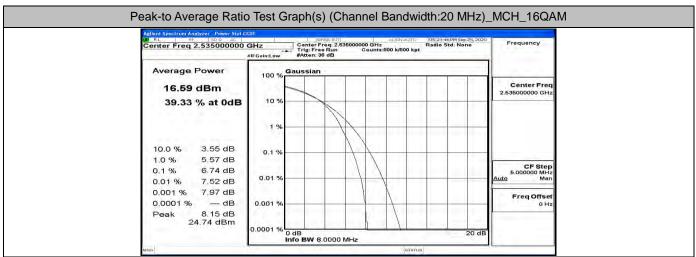


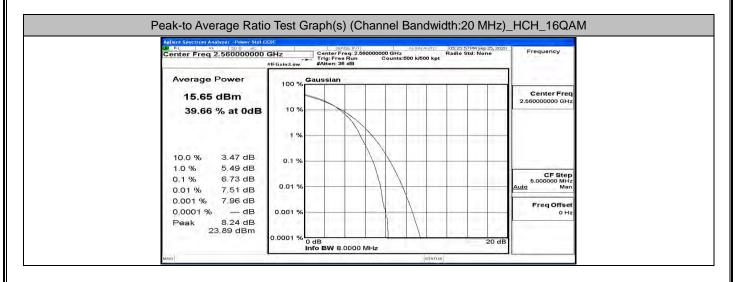












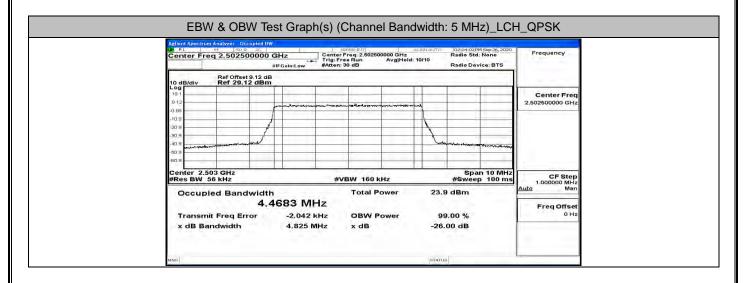
E.3 26dB Bandwidth and Occupied Bandwidth

| EBW & OBW Test Result (Channel Bandwidth: 5 MHz) | | | | | | |
|--|---------|--------------------|----------------|---------|--|--|
| Modulation | Channel | Occupied Bandwidth | 26dB Bandwidth | Verdict | | |
| IVIOGUIATION | Chame | (MHz) | (MHz) | verdict | | |
| | LCH | 4.4683 | 4.825 | PASS | | |
| QPSK | MCH | 4.4744 | 4.857 | PASS | | |
| | HCH | 4.4765 | 4.823 | PASS | | |
| 16QAM | LCH | 4.4729 | 4.794 | PASS | | |
| | MCH | 4.4694 | 4.783 | PASS | | |
| | HCH | 4.4813 | 4.791 | PASS | | |

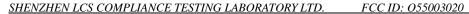
| | EBW & OBW Test Result (Channel Bandwidth: 10 MHz) | | | | | | |
|------------|---|--------------------|----------------|---------|--|--|--|
| Modulation | Channel | Occupied Bandwidth | 26dB Bandwidth | Verdict | | | |
| Wodalation | Onarinci | (MHz) | (MHz) | Verdict | | | |
| | LCH | 8.9277 | 9.436 | PASS | | | |
| QPSK | MCH | 8.9254 | 9.501 | PASS | | | |
| | HCH | 8.9181 | 9.430 | PASS | | | |
| | LCH | 8.9275 | 9.394 | PASS | | | |
| 16QAM | MCH | 8.9480 | 9.473 | PASS | | | |
| | HCH | 8.9112 | 9.366 | PASS | | | |

| EBW & OBW Test Result (Channel Bandwidth: 15 MHz) | | | | | | |
|---|---------|--------------------|----------------|---------|--|--|
| Modulation | Channel | Occupied Bandwidth | 26dB Bandwidth | Verdict | | |
| | | (MHz) | (MHz) | | | |
| QPSK | LCH | 13.368 | 14.08 | PASS | | |
| | MCH | 13.378 | 14.00 | PASS | | |
| | HCH | 13.365 | 13.99 | PASS | | |
| 16QAM | LCH | 13.371 | 13.98 | PASS | | |
| | MCH | 13.536 | 13.97 | PASS | | |
| | HCH | 13.363 | 14.00 | PASS | | |

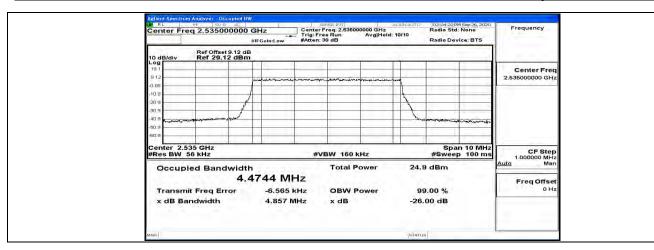
| EBW & OBW Test Result (Channel Bandwidth: 20 MHz) | | | | | | |
|---|---------|--------------------------|-------------------------|---------|--|--|
| Modulation | Channel | Occupied Bandwidth (MHz) | 26dB Bandwidth (MHz) | Verdict | | |
| QPSK | LCH | 17.811 | 18.56 | PASS | | |
| | MCH | 17.855 | 18.63 | PASS | | |
| | HCH | 17.844 | 18.56 | PASS | | |
| 16QAM | LCH | 17.816 | 18.54 | PASS | | |
| | MCH | 17.855 | 18.66 | PASS | | |
| | HCH | 17.828 | 18.59 | PASS | | |

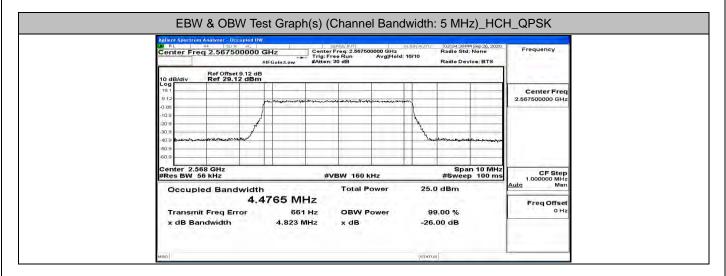


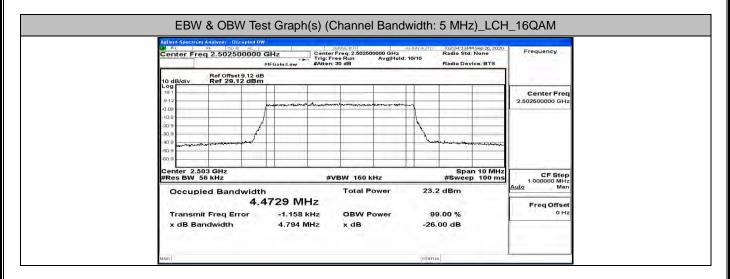
EBW & OBW Test Graph(s) (Channel Bandwidth: 5 MHz)_MCH_QPSK

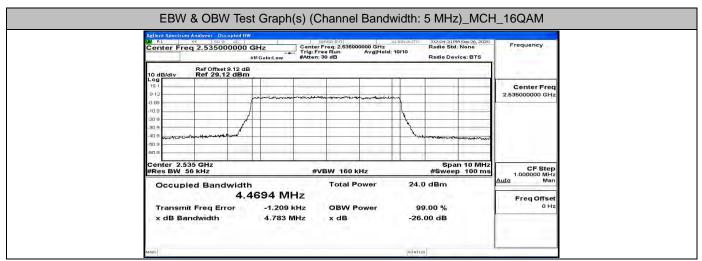


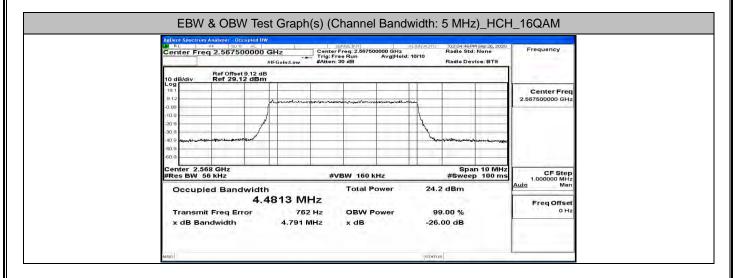


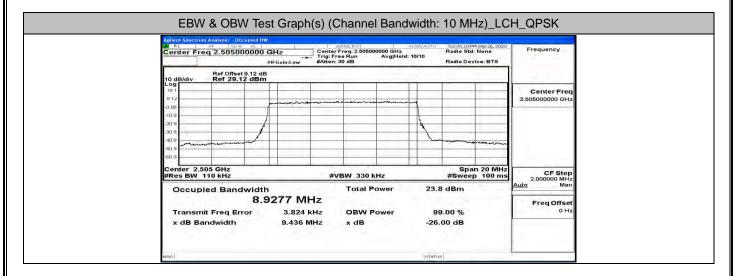


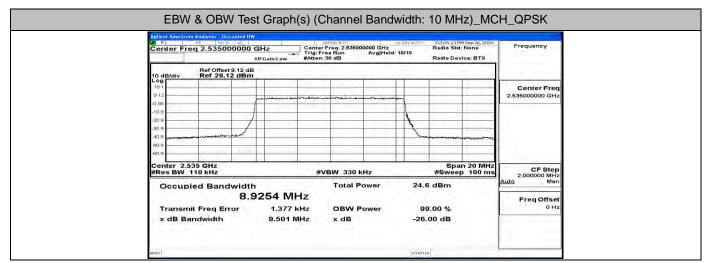


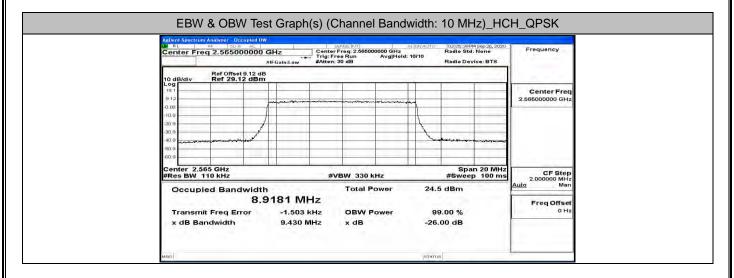


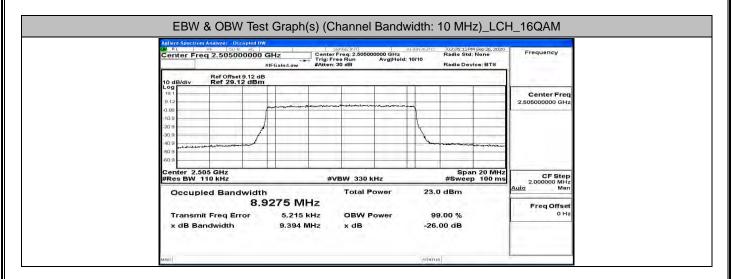


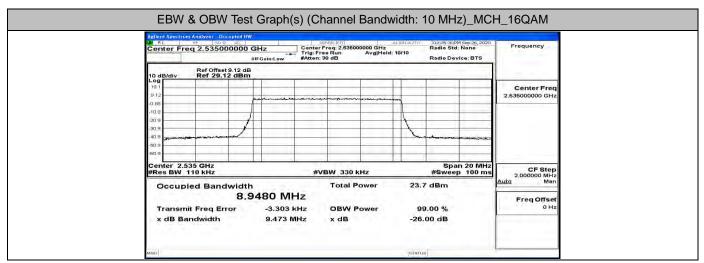


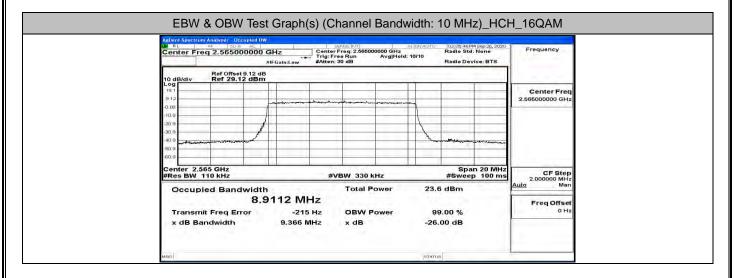


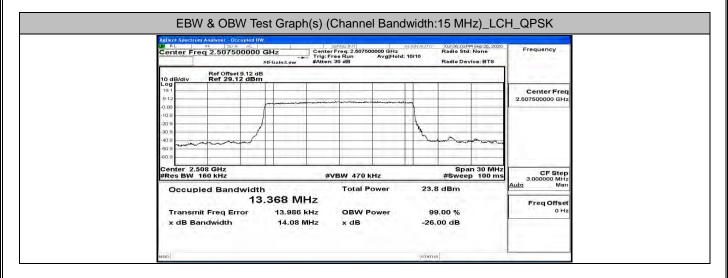


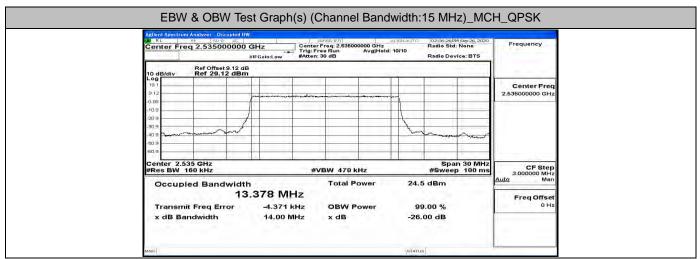


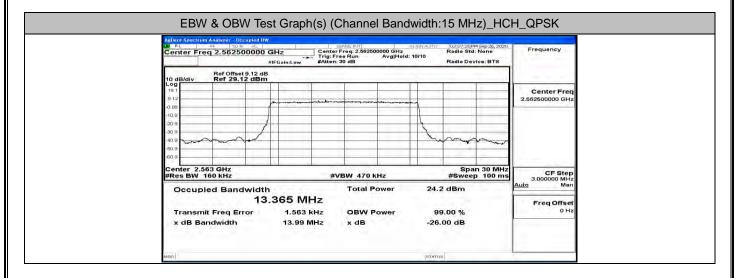


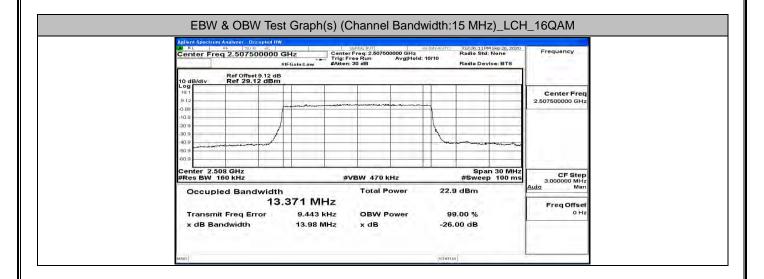


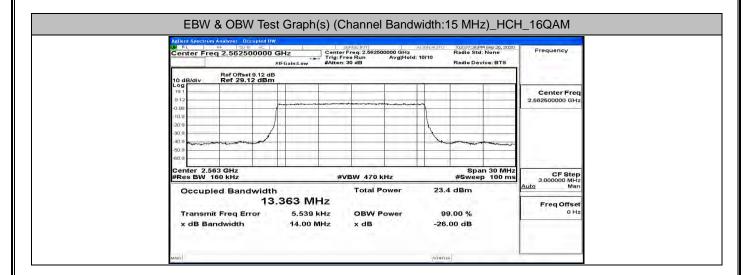


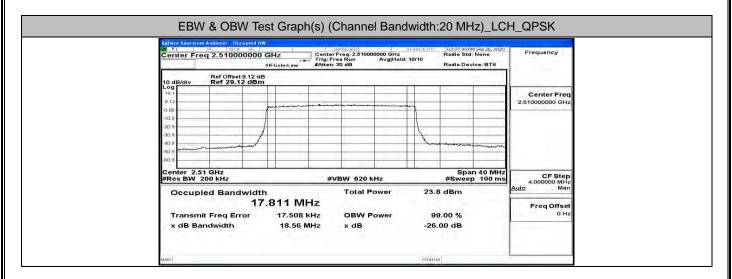


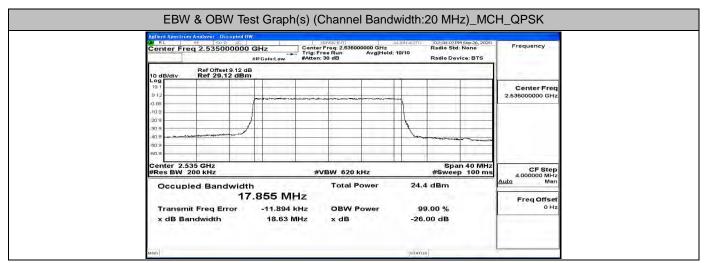


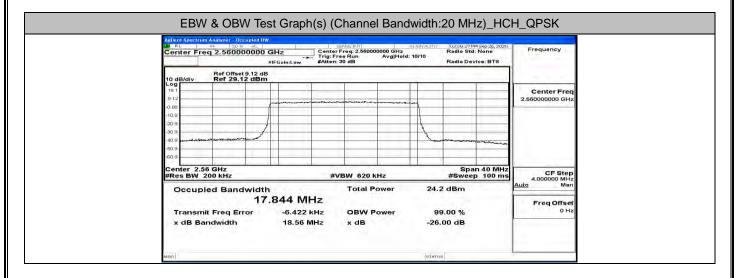


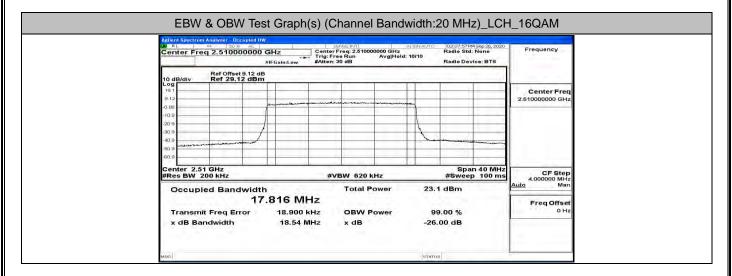


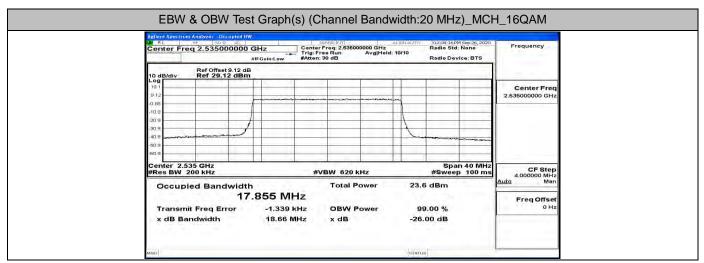


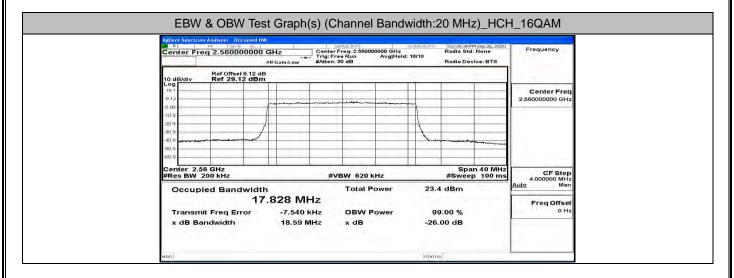




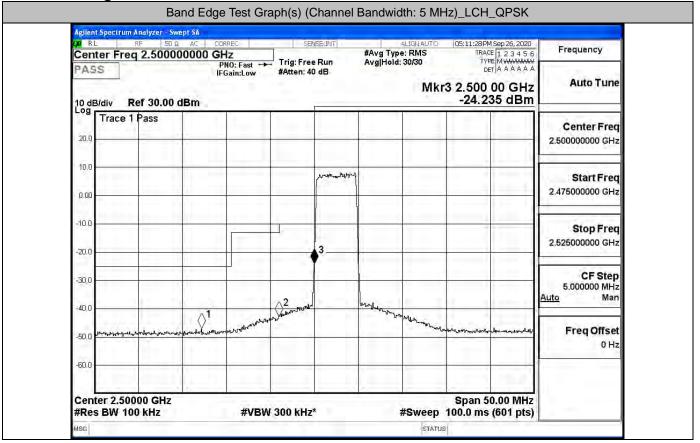


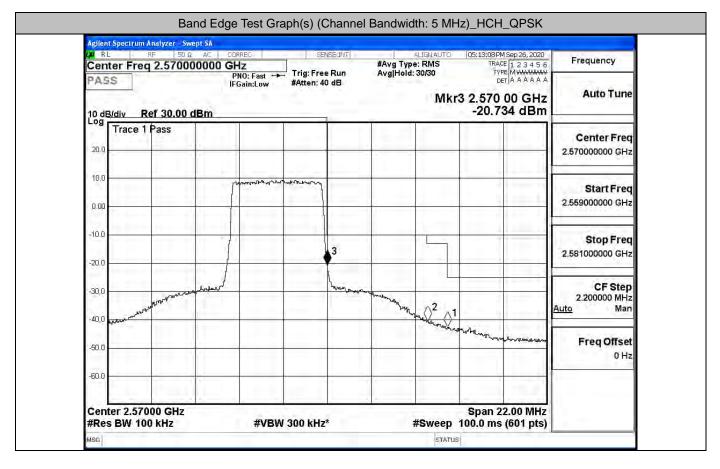


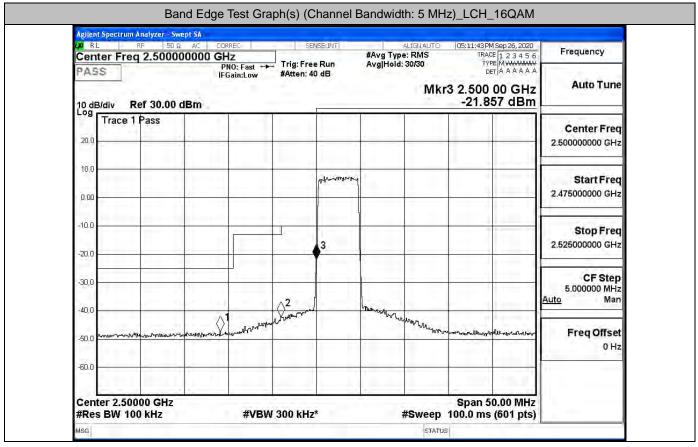


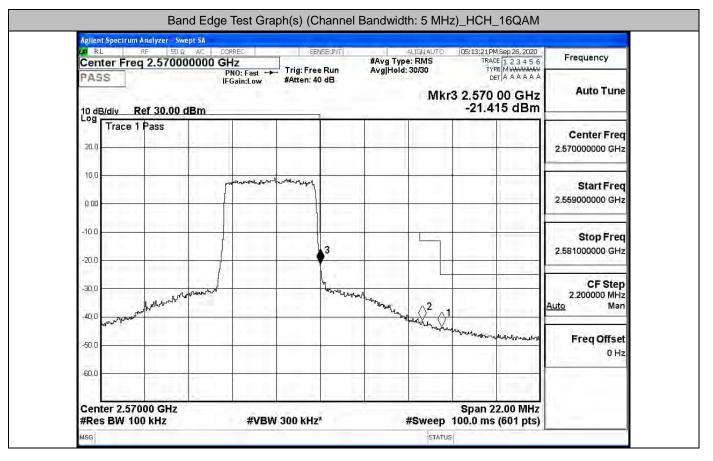


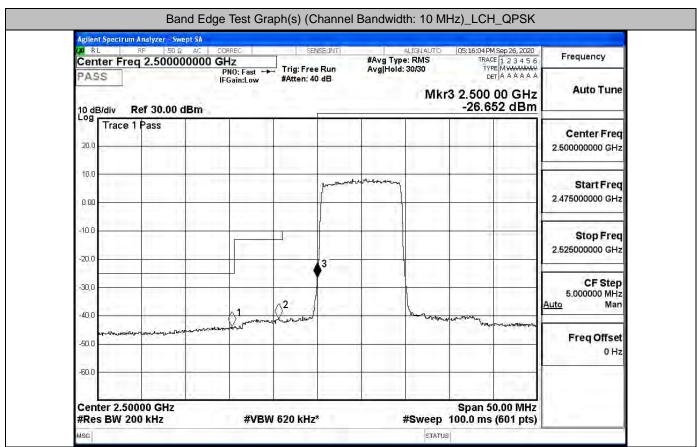
E.4 Band Edge

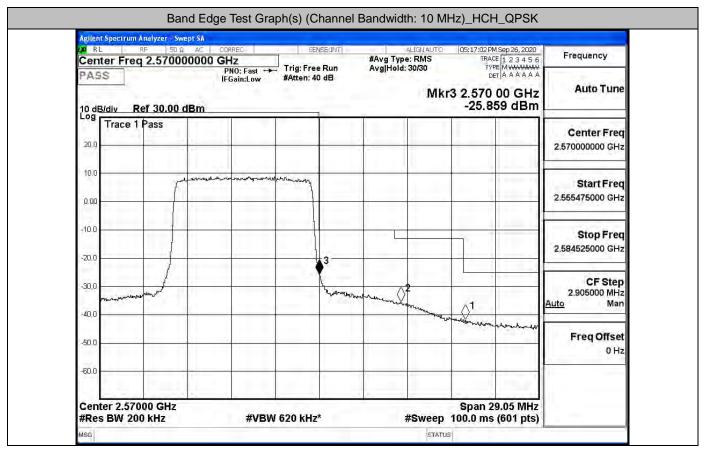


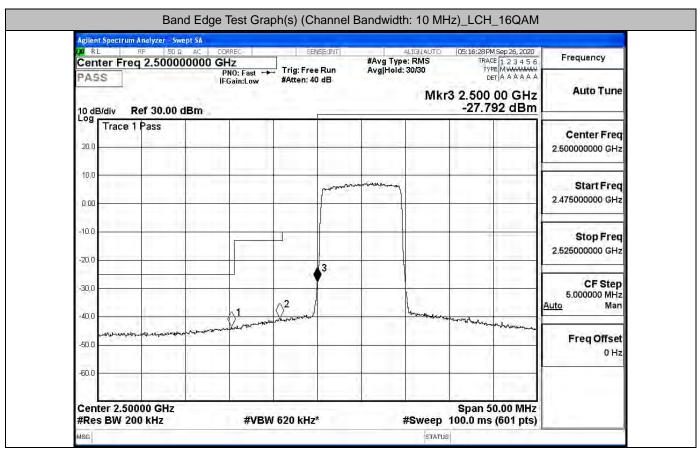


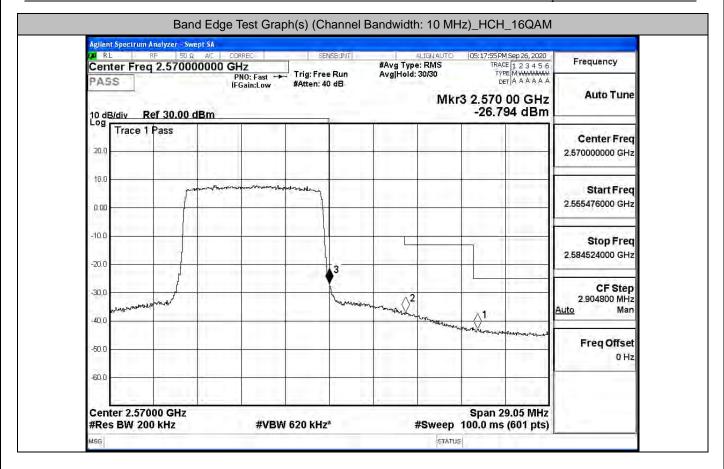


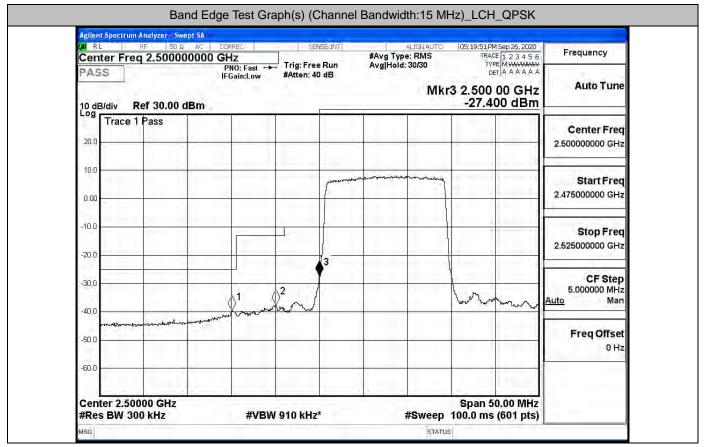


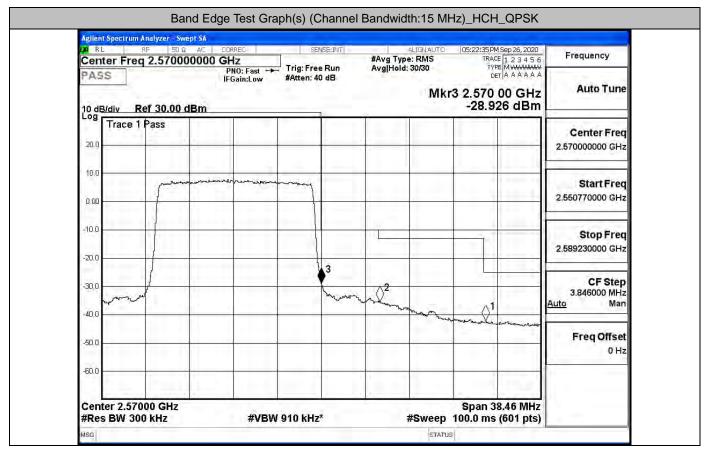


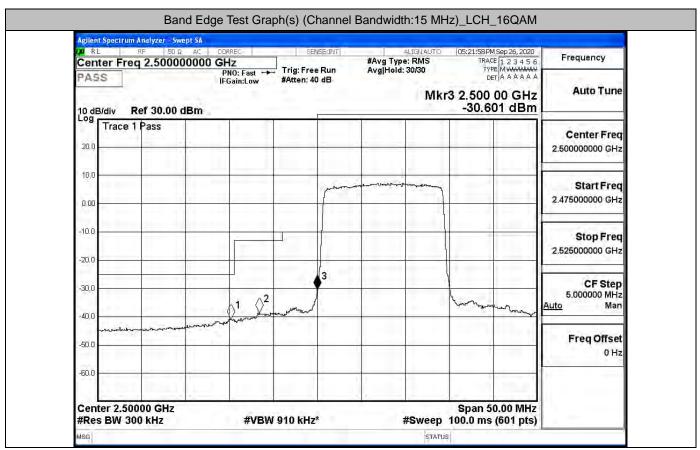


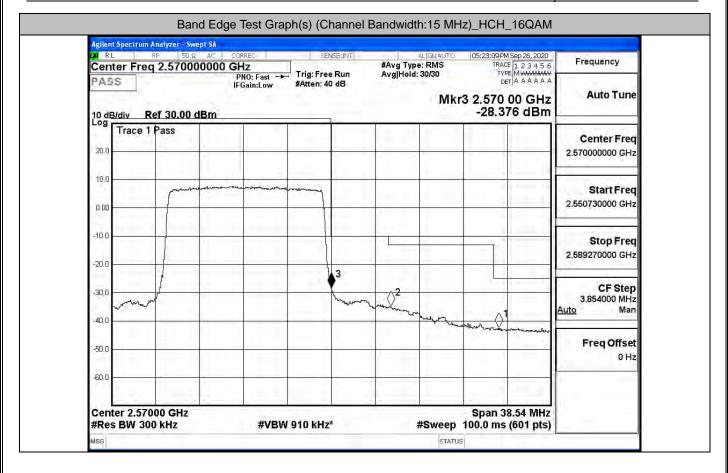


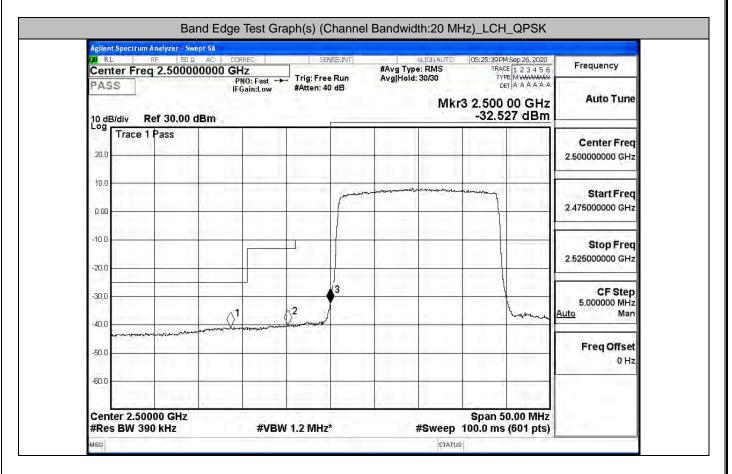


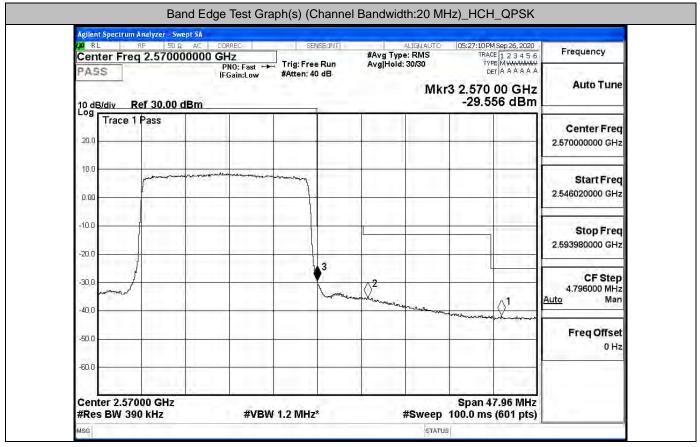


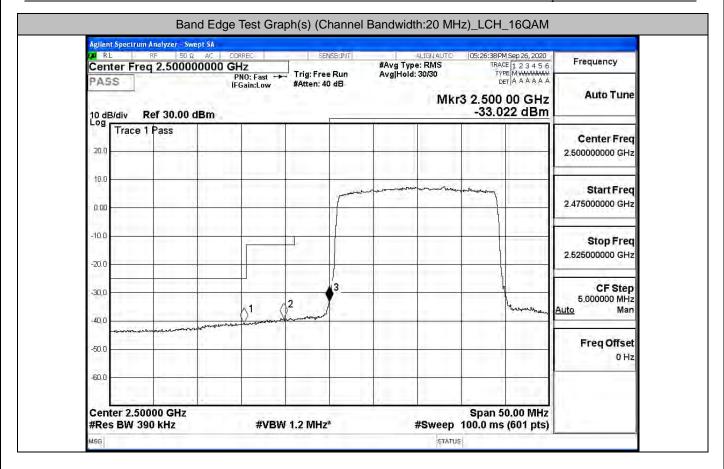


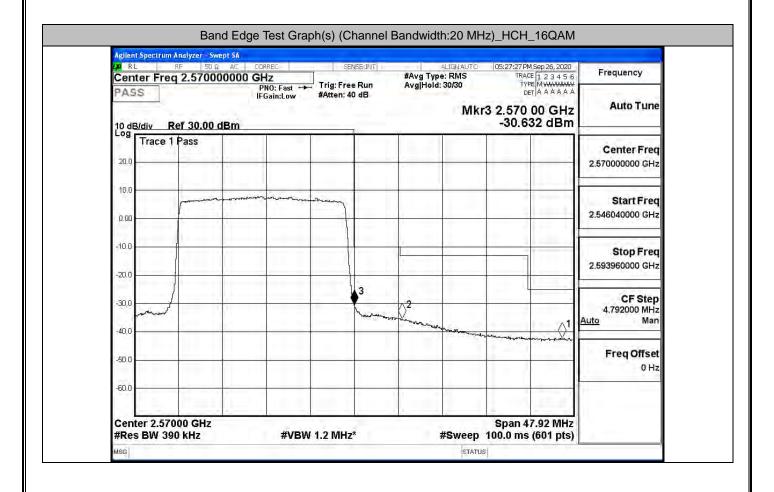






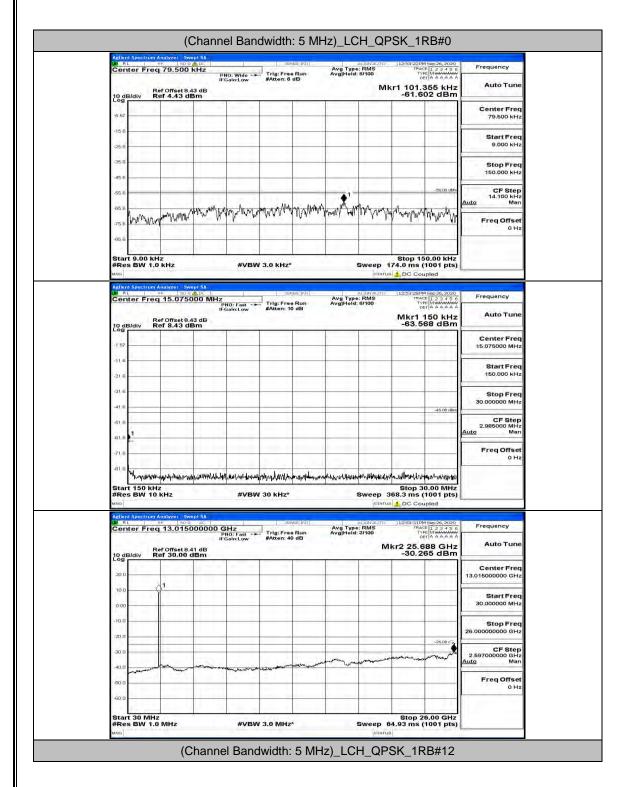






E.5 Conducted Spurious Emission

Channel Bandwidth: 5 MHz

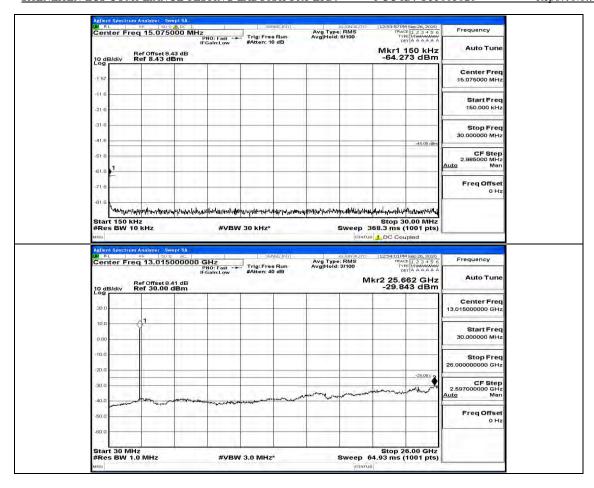


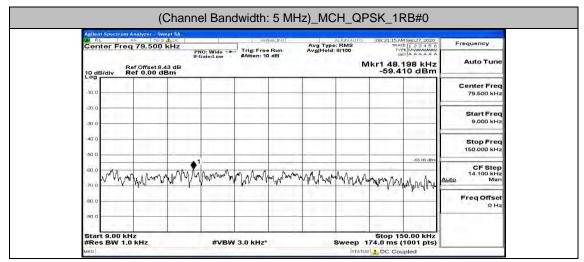
Start 9.00 kHz #Res BW 1.0 kHz

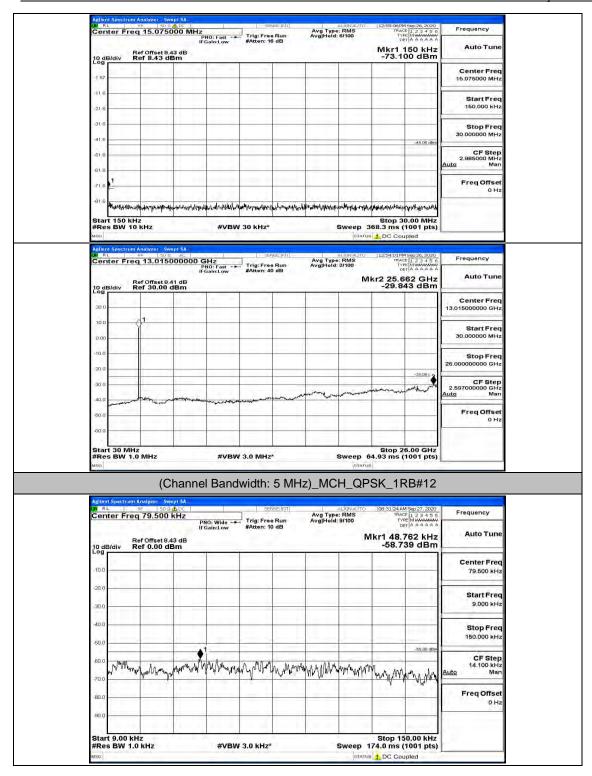
#VBW 3.0 kHz*

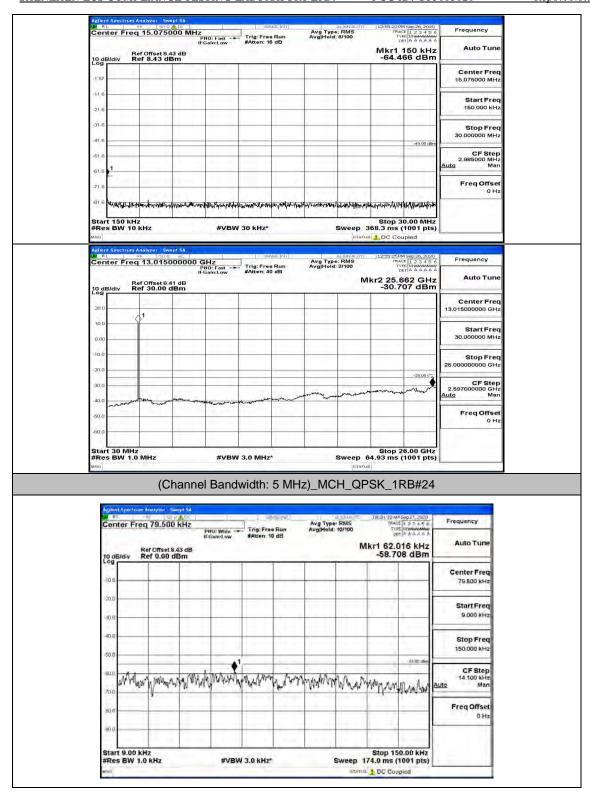
My ware parting the control of

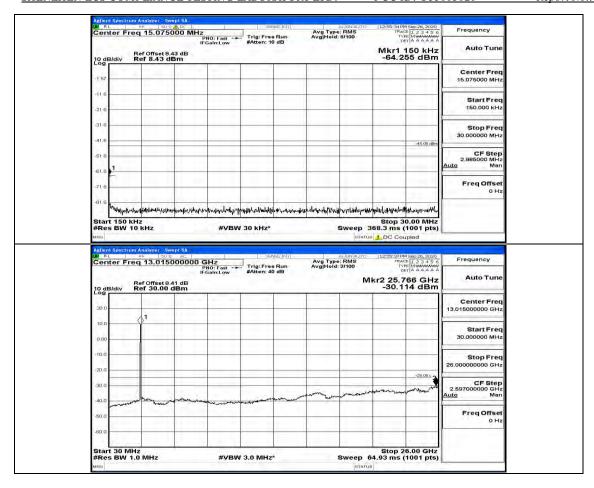
Stop 150.00 kHz Sweep 174.0 ms (1001 pts) Freq Offset 0 Hz

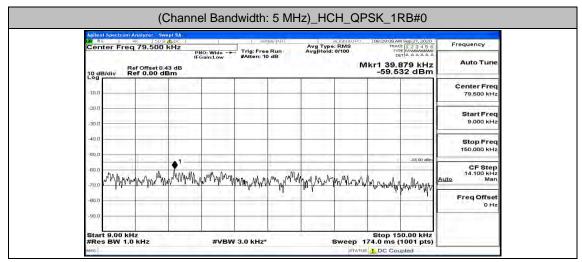


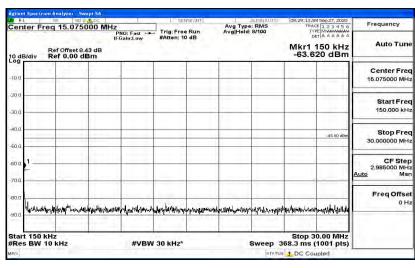


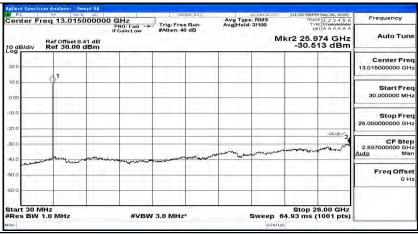




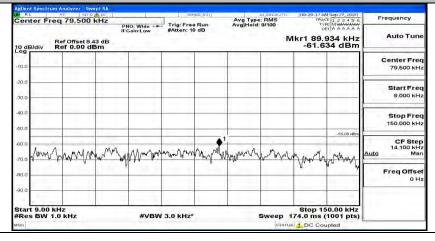


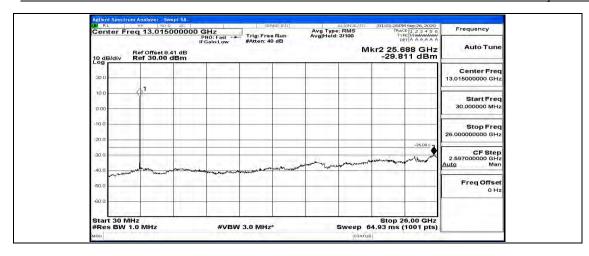


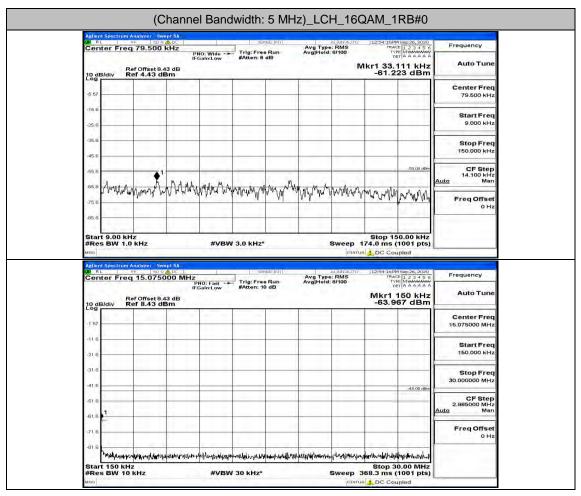




(Channel Bandwidth: 5 MHz)_HCH_QPSK_1RB#12



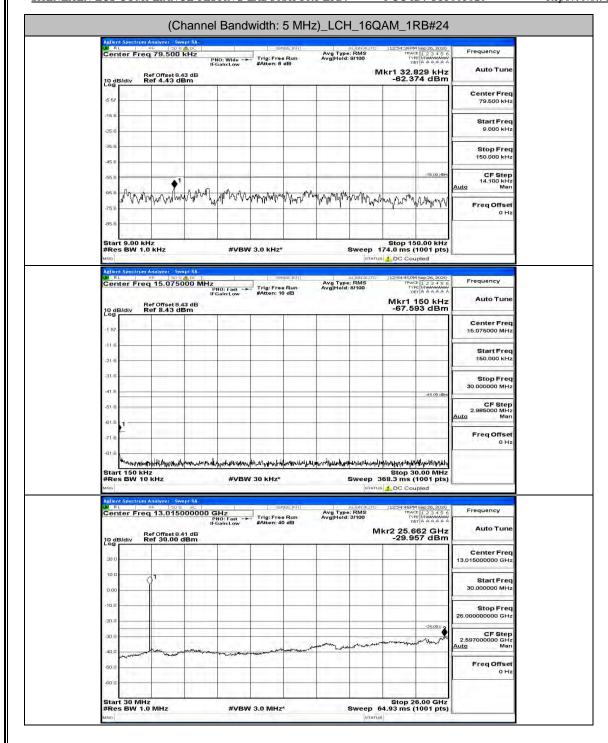




Stop 26.00 GHz Sweep 64.93 ms (1001 pts)

Start 30 MHz #Res BW 1.0 MHz

#VBW 3.0 MHz*



(Channel Bandwidth: 5 MHz)_MCH_16QAM_1RB#0