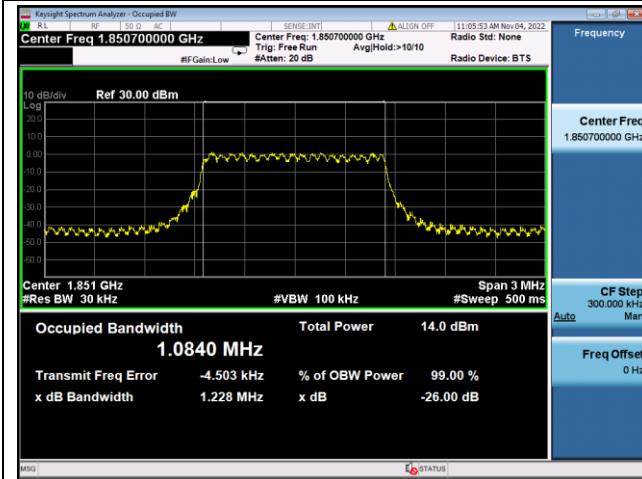


LTE Cat M Appendix-Bandwidth

| LTE Band 2 | | | | | |
|-------------------|------------|----------------|------------------|---------|---------|
| Nominal Bandwidth | Modulation | Test Item | Test result(MHz) | | |
| | | | LCH | MCH | HCH |
| 1.4 MHz | QPSK | OBW | 1.0840 | 1.0789 | 1.0833 |
| | | 26dB bandwidth | 1.228 | 1.229 | 1.226 |
| | 16QAM | OBW | 0.91097 | 0.90915 | 0.90982 |
| | | 26dB bandwidth | 1.061 | 1.074 | 1.054 |
| Nominal Bandwidth | Modulation | Test Item | Test result(MHz) | | |
| | | | LCH | MCH | HCH |
| 3.0 MHz | QPSK | OBW | 1.0815 | 1.0843 | 1.0807 |
| | | 26dB bandwidth | 1.217 | 1.223 | 1.227 |
| | 16QAM | OBW | 0.90884 | 0.90820 | 0.90926 |
| | | 26dB bandwidth | 1.083 | 1.058 | 1.039 |
| Nominal Bandwidth | Modulation | Test Item | Test result(MHz) | | |
| | | | LCH | MCH | HCH |
| 5.0 MHz | QPSK | OBW | 1.0817 | 1.0863 | 1.0796 |
| | | 26dB bandwidth | 1.220 | 1.225 | 1.211 |
| | 16QAM | OBW | 0.91231 | 0.9087 | 0.91036 |
| | | 26dB bandwidth | 1.088 | 1.066 | 1.082 |
| Nominal Bandwidth | Modulation | Test Item | Test result(MHz) | | |
| | | | LCH | MCH | HCH |
| 10.0 MHz | QPSK | OBW | 1.0804 | 1.0856 | 1.0838 |
| | | 26dB bandwidth | 1.259 | 1.240 | 1.218 |
| | 16QAM | OBW | 0.91125 | 0.91231 | 0.91184 |
| | | 26dB bandwidth | 1.107 | 1.133 | 1.096 |
| Nominal Bandwidth | Modulation | Test Item | Test result(MHz) | | |
| | | | LCH | MCH | HCH |
| 15.0 MHz | QPSK | OBW | 1.0838 | 1.0889 | 1.0815 |
| | | 26dB bandwidth | 1.279 | 1.263 | 1.262 |
| | 16QAM | OBW | 0.9099 | 0.91198 | 0.91015 |
| | | 26dB bandwidth | 1.101 | 1.090 | 1.098 |
| Nominal Bandwidth | Modulation | Test Item | Test result(MHz) | | |
| | | | LCH | MCH | HCH |
| 20.0 MHz | QPSK | OBW | 1.0820 | 1.0852 | 1.0799 |
| | | 26dB bandwidth | 1.225 | 1.235 | 1.235 |
| | 16QAM | OBW | 0.91326 | 0.90913 | 0.91358 |
| | | 26dB bandwidth | 1.153 | 1.101 | 1.113 |

LTE Band 2, Nominal Bandwidth: 1.4MHz, OBW & 26dB Bandwidth

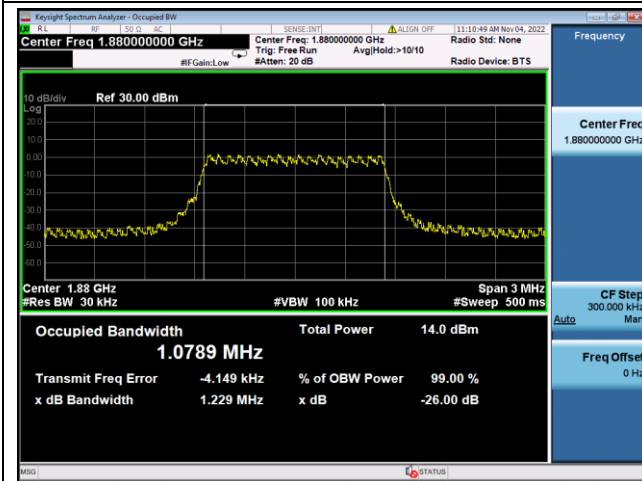
QPSK Low channel



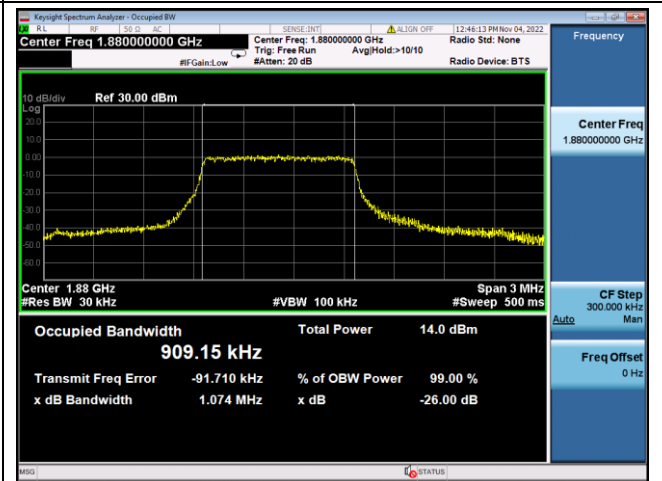
16QAM Low channel



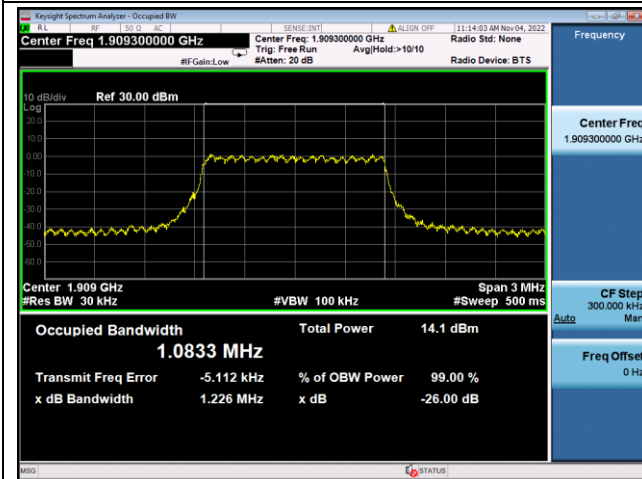
QPSK Middle channel



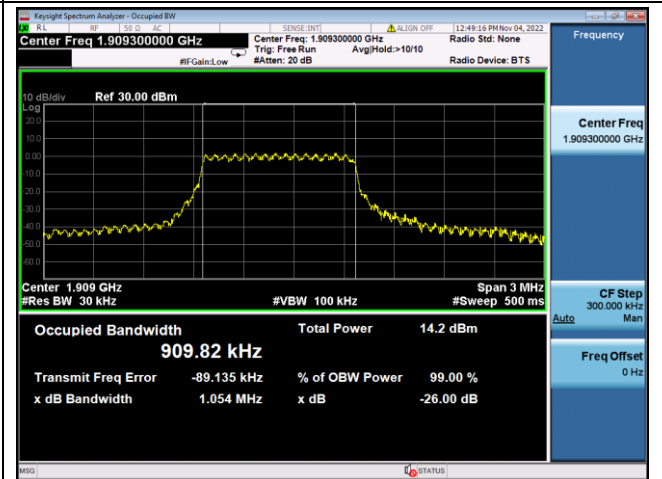
16QAM Middle channel



QPSK High channel

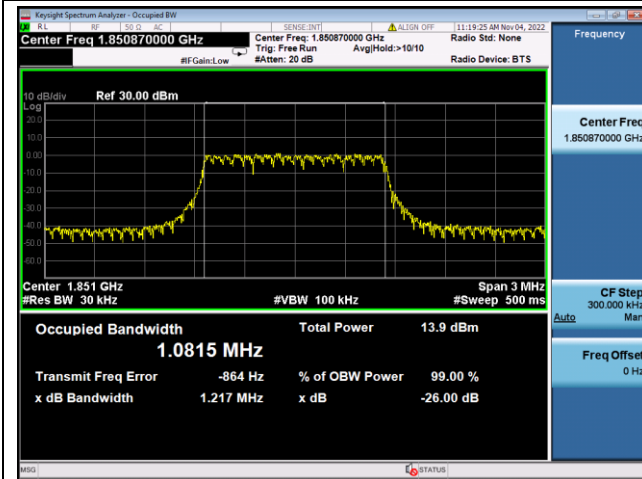


16QAM High channel

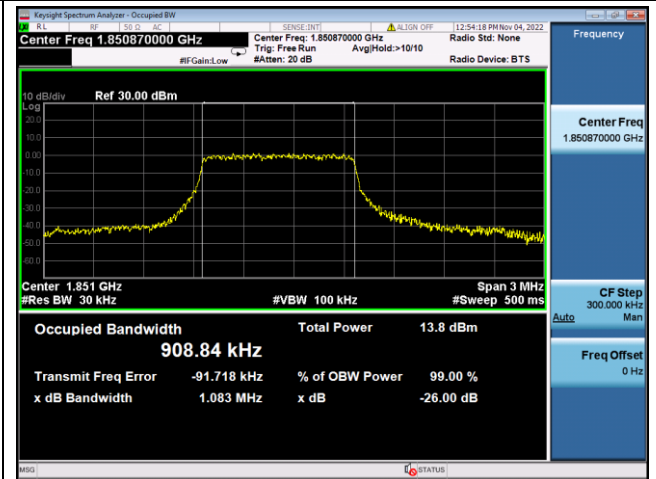


LTE Band 2, Nominal Bandwidth: 3.0MHz, OBW & 26dB Bandwidth

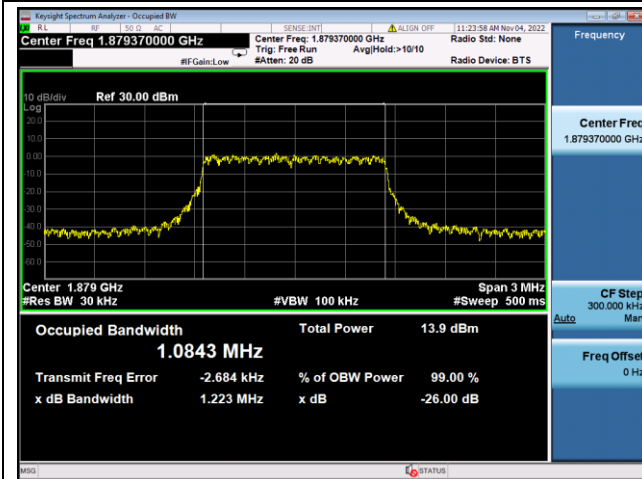
QPSK Low channel



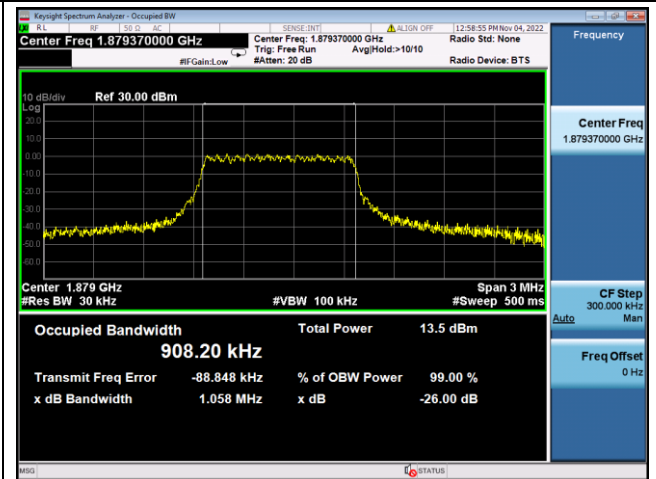
16QAM Low channel



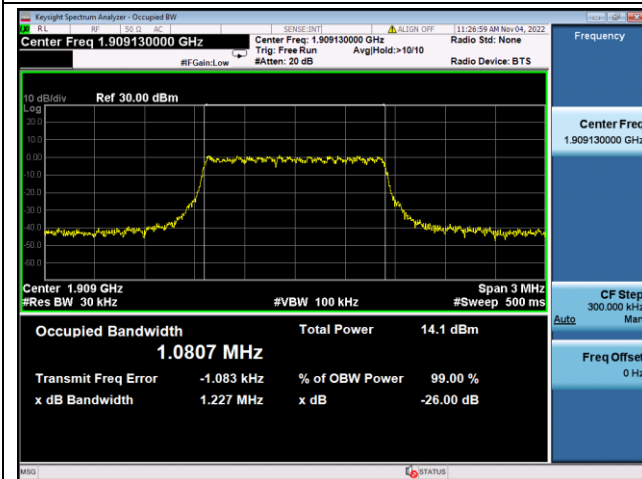
QPSK Middle channel



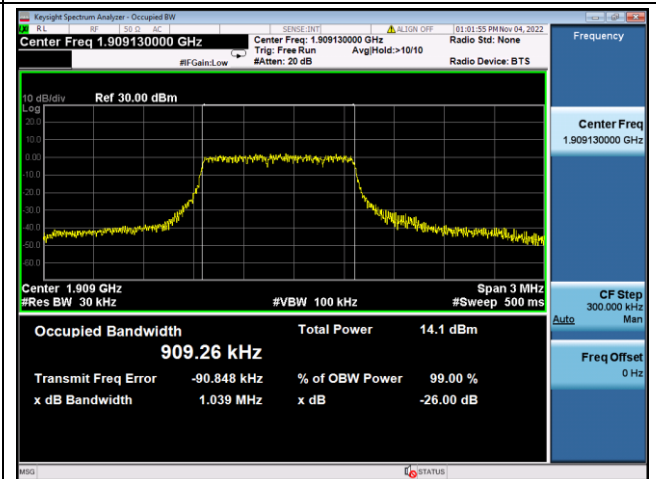
16QAM Middle channel



QPSK High channel

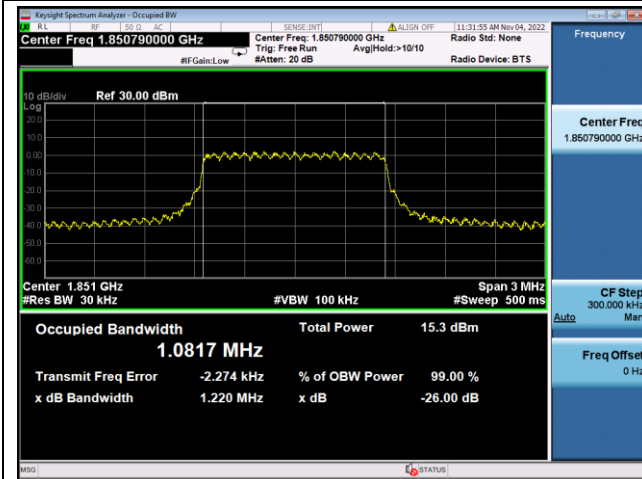


16QAM High channel

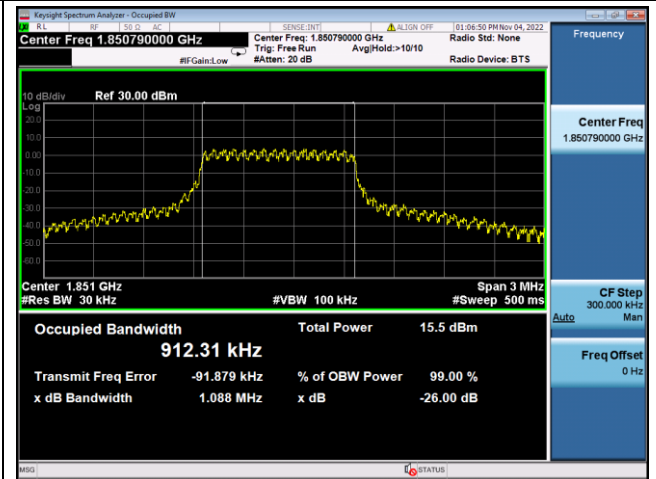


LTE Band 2, Nominal Bandwidth: 5MHz, OBW & 26dB Bandwidth

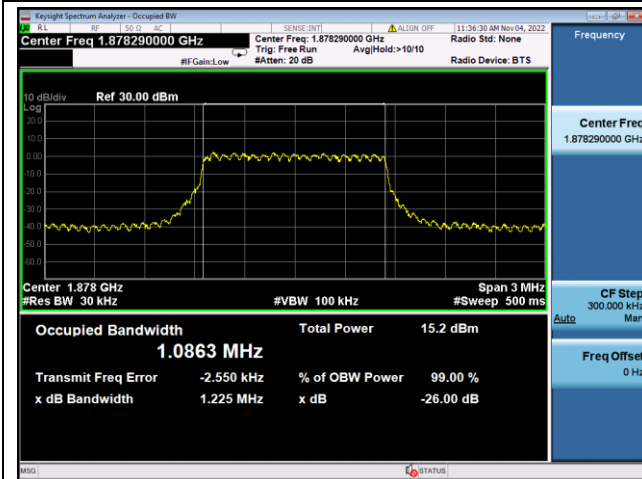
QPSK Low channel



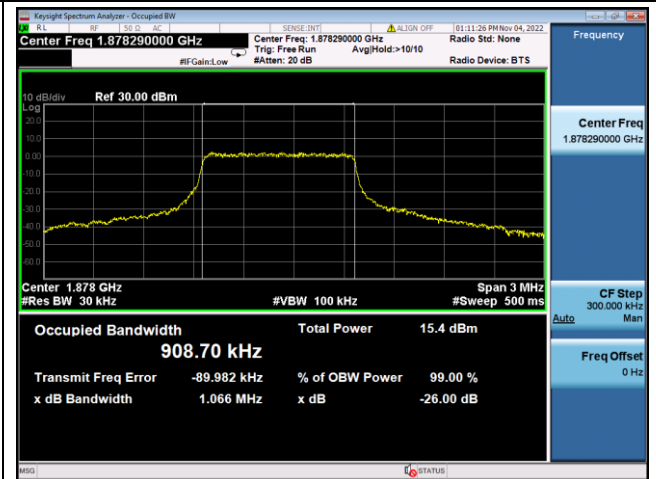
16QAM Low channel



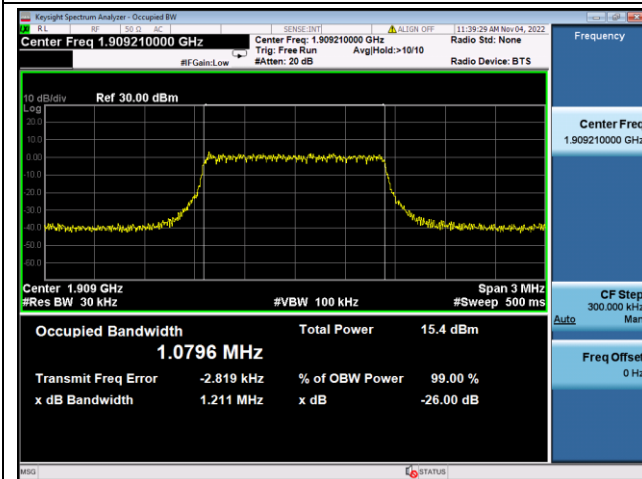
QPSK Middle channel



16QAM Middle channel



QPSK High channel

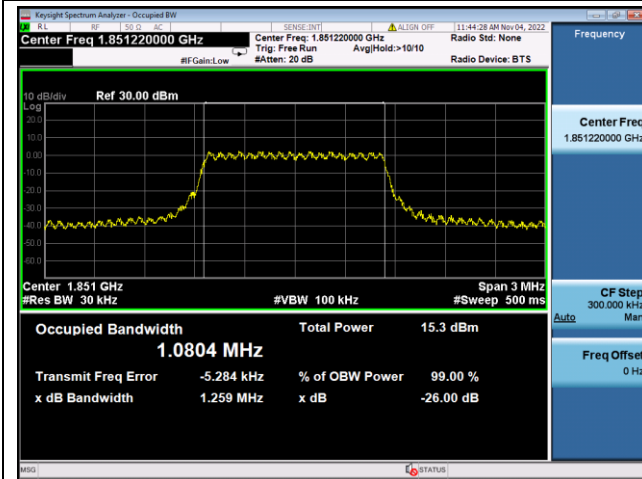


16QAM High channel



LTE Band 2, Nominal Bandwidth: 10MHz, OBW & 26dB Bandwidth

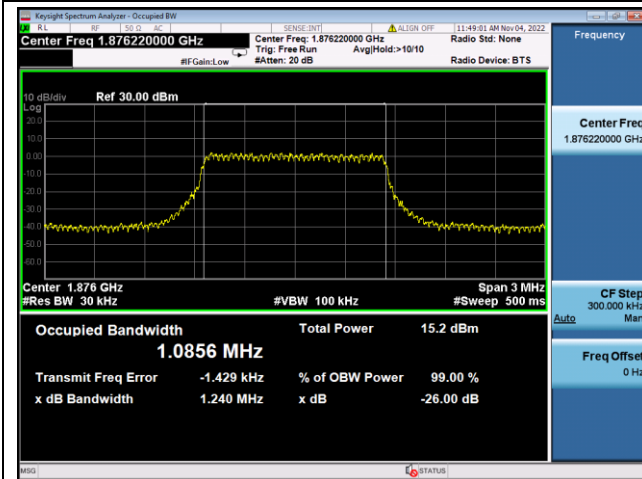
QPSK Low channel



16QAM Low channel



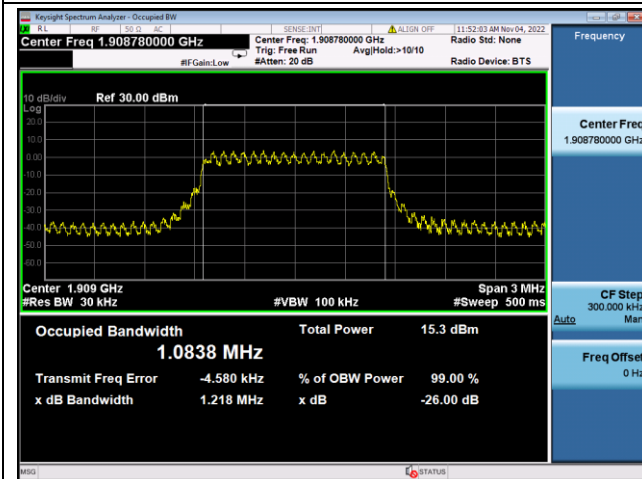
QPSK Middle channel



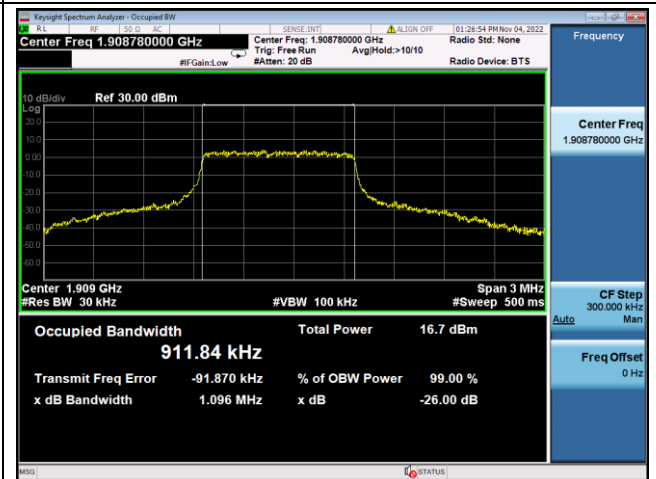
16QAM Middle channel



QPSK High channel

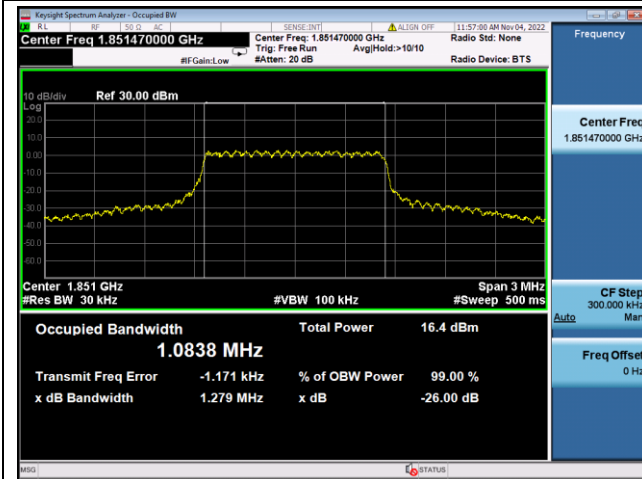


16QAM High channel

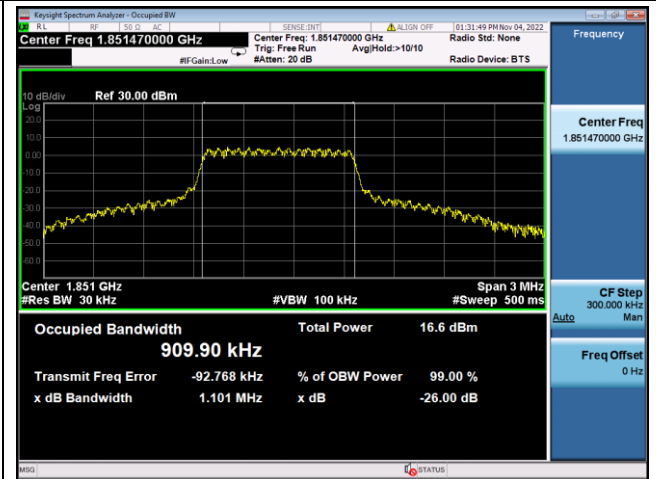


LTE Band 2, Nominal Bandwidth: 15MHz, OBW & 26dB Bandwidth

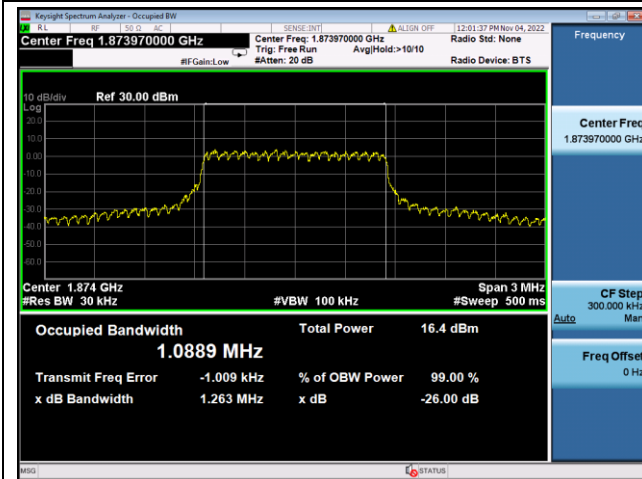
QPSK Low channel



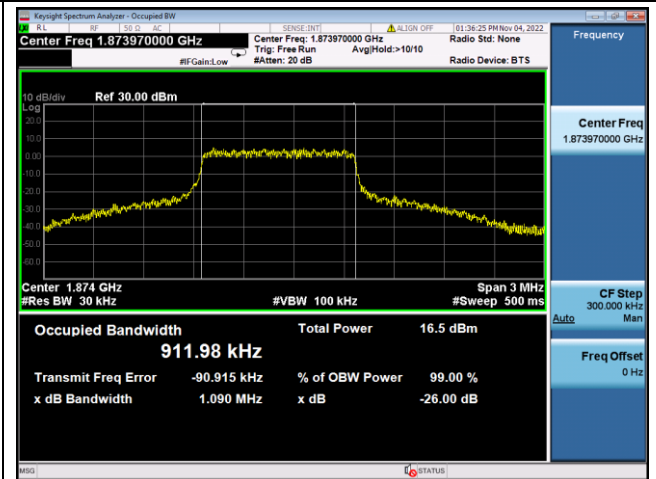
16QAM Low channel



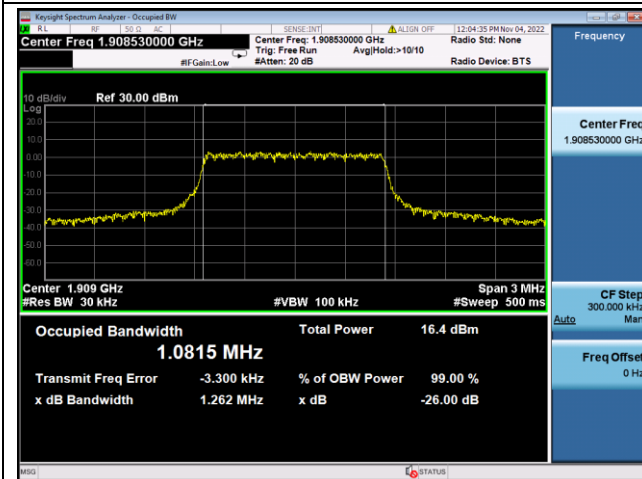
QPSK Middle channel



16QAM Middle channel



QPSK High channel

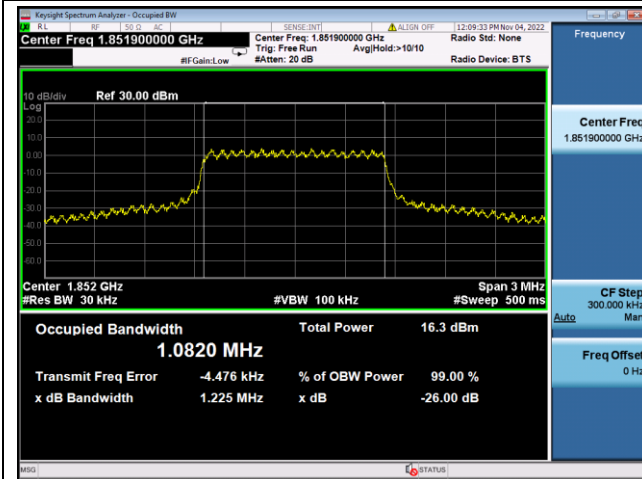


16QAM High channel



LTE Band 2, Nominal Bandwidth: 20MHz, OBW & 26dB Bandwidth

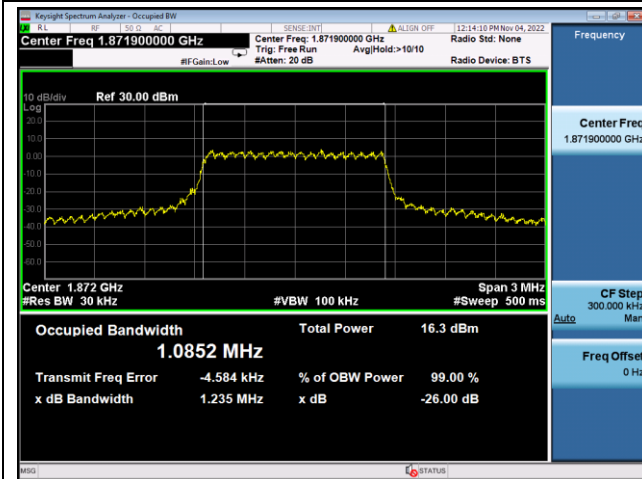
QPSK Low channel



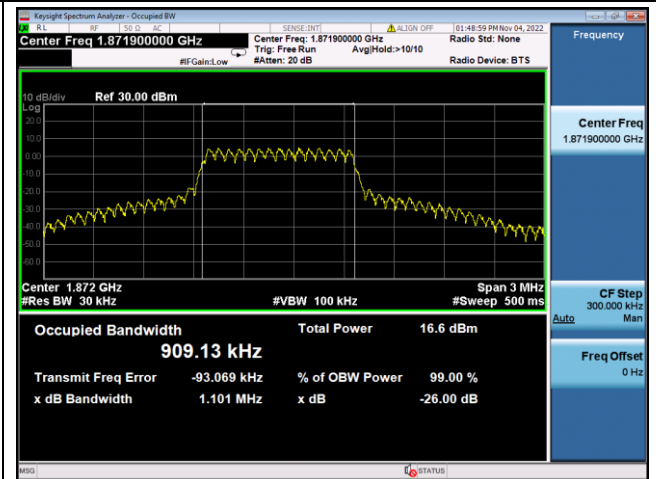
16QAM Low channel



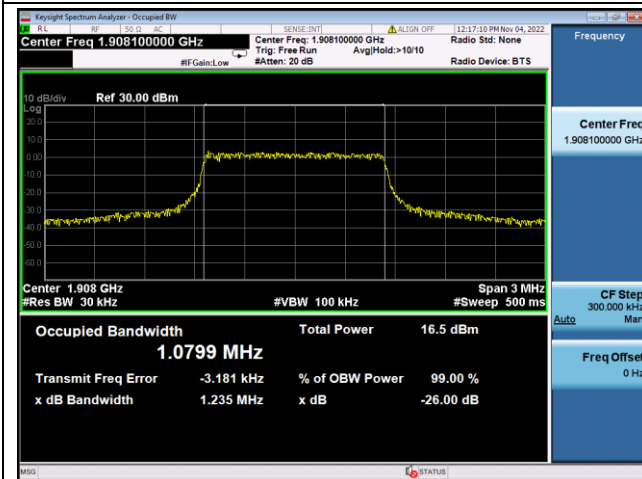
QPSK Middle channel



16QAM Middle channel



QPSK High channel



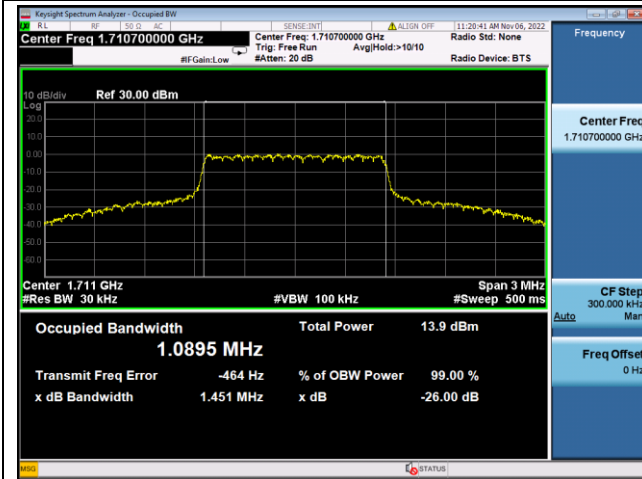
16QAM High channel



| LTE Band 4 | | | | | |
|-------------------|------------|----------------|------------------|---------|---------|
| Nominal Bandwidth | Modulation | Test Item | Test result(MHz) | | |
| | | | LCH | MCH | HCH |
| 1.4 MHz | QPSK | OBW | 1.0895 | 1.0920 | 1.0859 |
| | | 26dB bandwidth | 1.451 | 1.445 | 1.381 |
| | 16QAM | OBW | 0.91697 | 0.91366 | 0.91276 |
| | | 26dB bandwidth | 1.443 | 1.143 | 1.146 |
| Nominal Bandwidth | Modulation | Test Item | Test result(MHz) | | |
| 3.0 MHz | QPSK | OBW | 1.0911 | 1.0926 | 1.0869 |
| | | 26dB bandwidth | 1.453 | 1.756 | 1.368 |
| | 16QAM | OBW | 0.91392 | 0.91576 | 0.90736 |
| | | 26dB bandwidth | 1.152 | 1.168 | 1.099 |
| Nominal Bandwidth | Modulation | Test Item | Test result(MHz) | | |
| 5.0 MHz | QPSK | OBW | 1.1149 | 1.1261 | 1.1053 |
| | | 26dB bandwidth | 2.197 | 2.222 | 2.165 |
| | 16QAM | OBW | 0.92931 | 0.92583 | 0.92341 |
| | | 26dB bandwidth | 1.720 | 1.716 | 1.636 |
| Nominal Bandwidth | Modulation | Test Item | Test result(MHz) | | |
| 10.0 MHz | QPSK | OBW | 1.1195 | 1.1187 | 1.1069 |
| | | 26dB bandwidth | 2.177 | 2.176 | 2.171 |
| | 16QAM | OBW | 1.0176 | 1.0003 | 0.97582 |
| | | 26dB bandwidth | 1.959 | 1.938 | 1.927 |
| Nominal Bandwidth | Modulation | Test Item | Test result(MHz) | | |
| 15.0 MHz | QPSK | OBW | 1.1215 | 1.1085 | 1.1051 |
| | | 26dB bandwidth | 2.066 | 2.175 | 2.178 |
| | 16QAM | OBW | 0.99263 | 0.99560 | 0.98177 |
| | | 26dB bandwidth | 1.983 | 1.981 | 1.945 |
| Nominal Bandwidth | Modulation | Test Item | Test result(MHz) | | |
| 20.0 MHz | QPSK | OBW | 1.1079 | 1.1106 | 1.1058 |
| | | 26dB bandwidth | 2.111 | 2.178 | 2.161 |
| | 16QAM | OBW | 1.0013 | 1.0176 | 0.97688 |
| | | 26dB bandwidth | 1.940 | 1.980 | 1.953 |

LTE Band 4, Nominal Bandwidth: 1.4MHz, OBW & 26dB Bandwidth

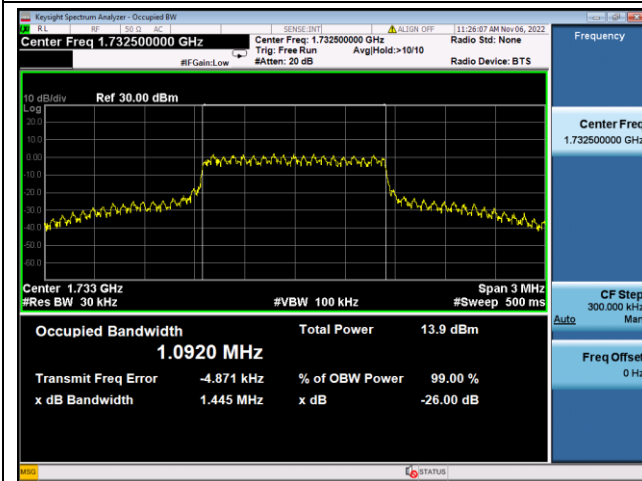
QPSK Low channel



16QAM Low channel



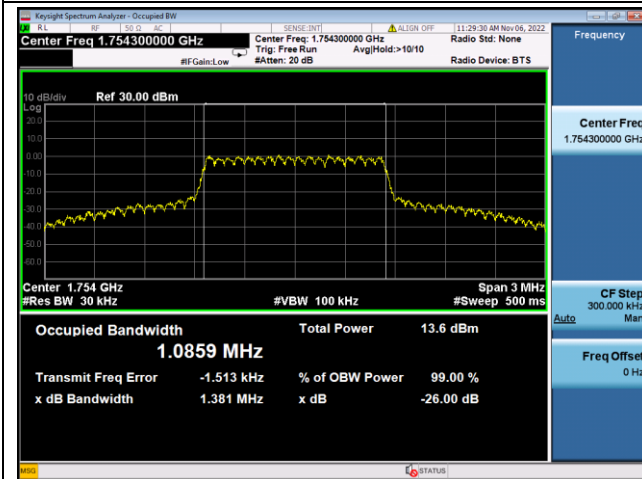
QPSK Middle channel



16QAM Middle channel



QPSK High channel

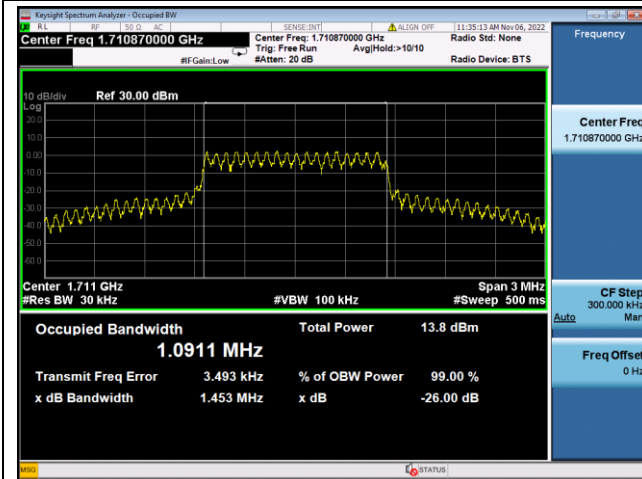


16QAM High channel

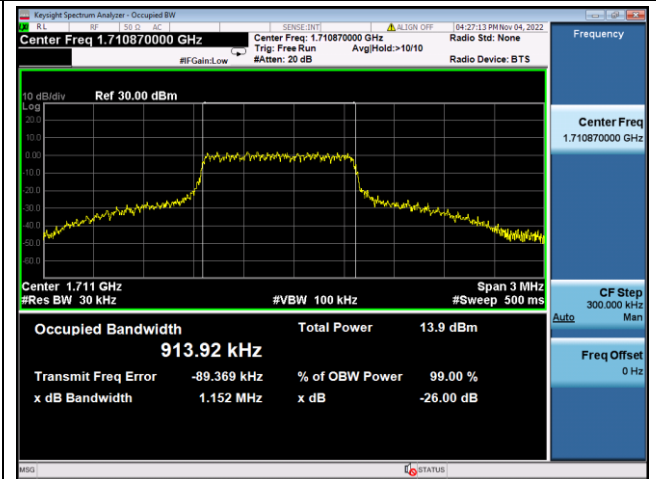


LTE Band 4, Nominal Bandwidth: 3.0MHz, OBW & 26dB Bandwidth

QPSK Low channel



16QAM Low channel



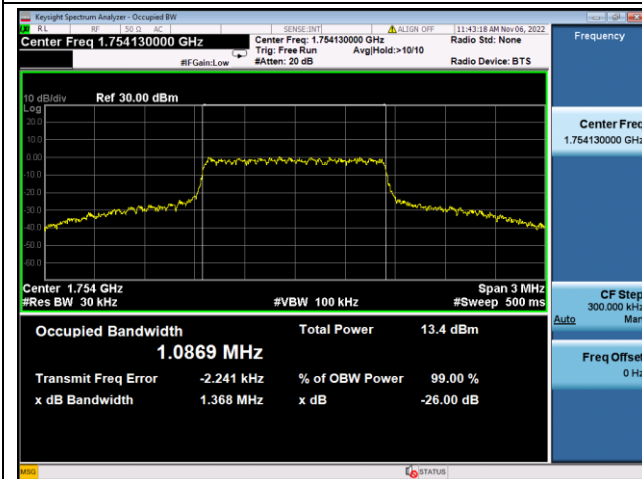
QPSK Middle channel



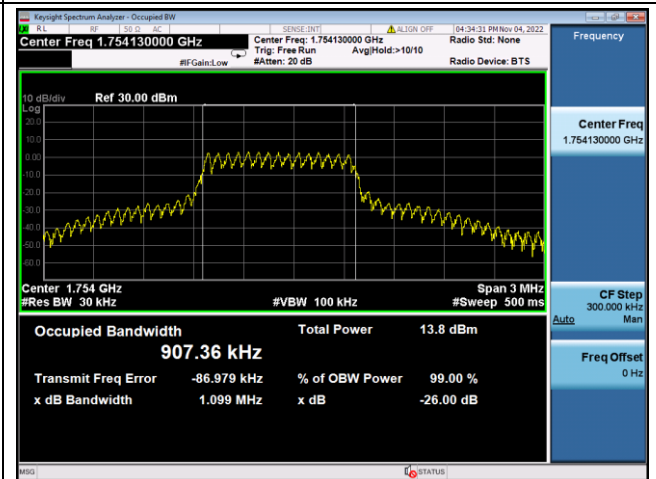
16QAM Middle channel



QPSK High channel

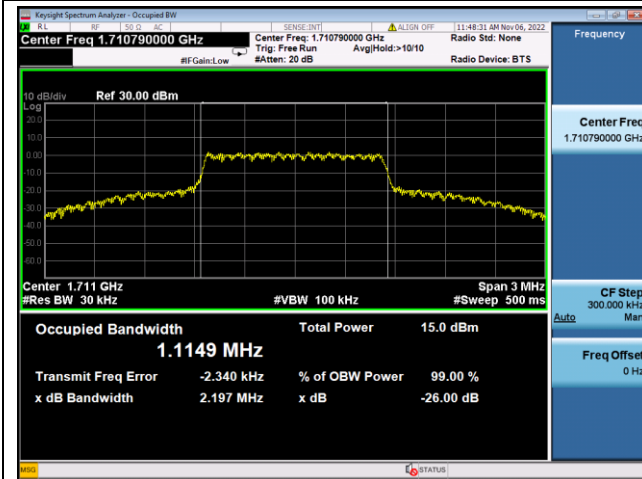


16QAM High channel

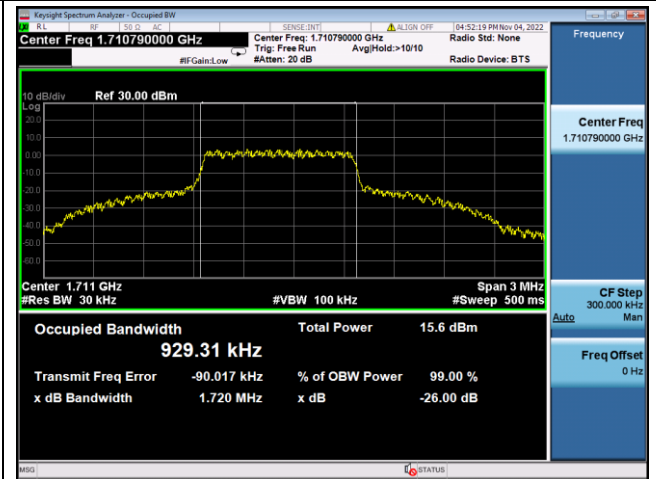


LTE Band 4, Nominal Bandwidth: 5MHz, OBW & 26dB Bandwidth

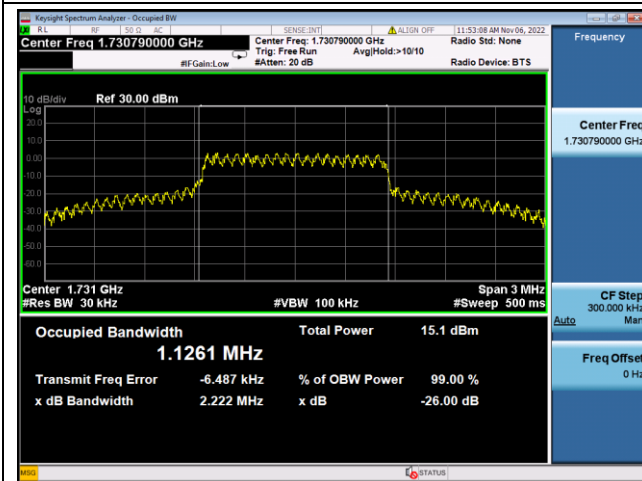
QPSK Low channel



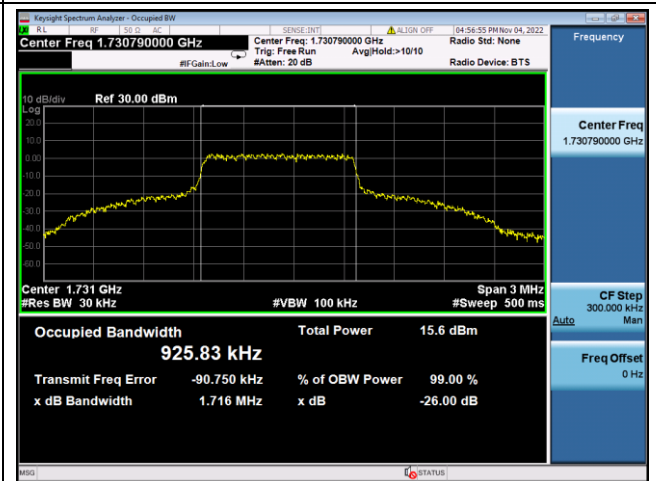
16QAM Low channel



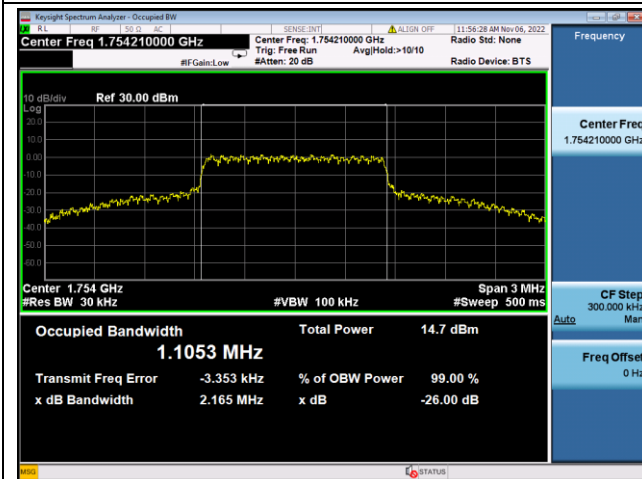
QPSK Middle channel



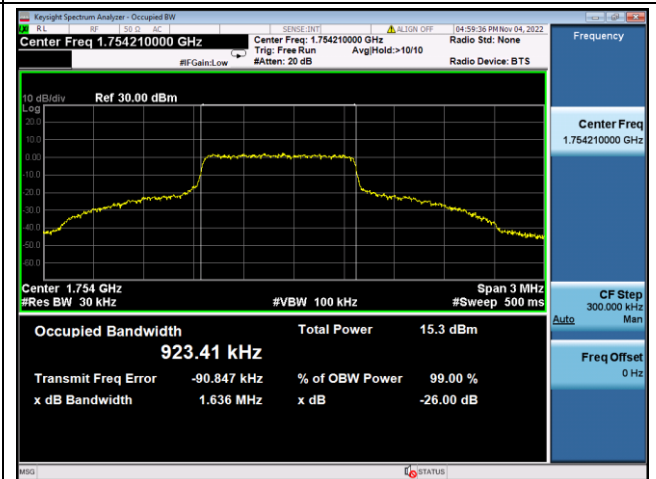
16QAM Middle channel



QPSK High channel

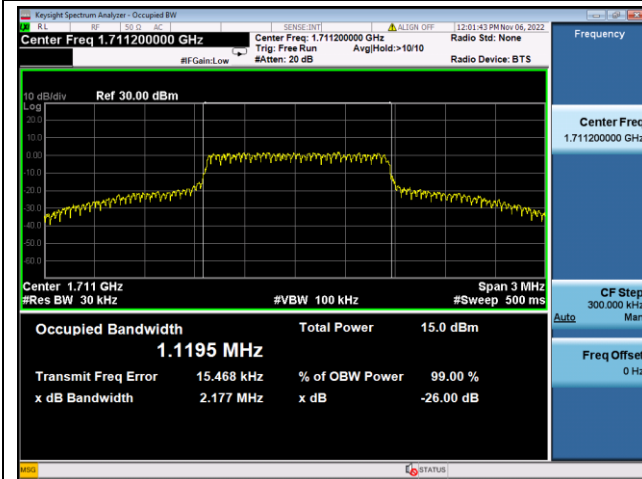


16QAM High channel



LTE Band 4, Nominal Bandwidth: 10MHz, OBW & 26dB Bandwidth

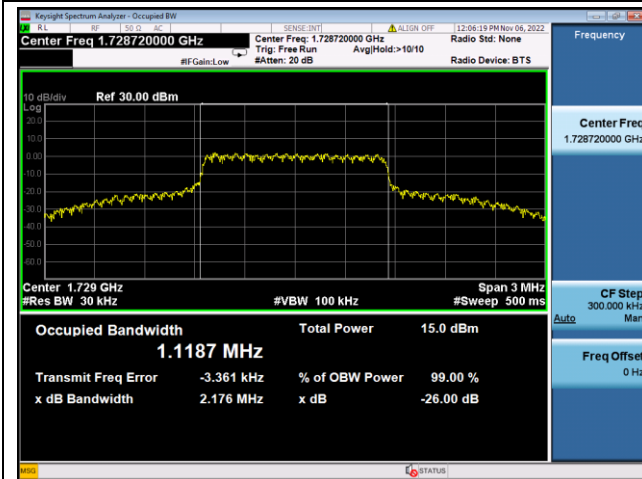
QPSK Low channel



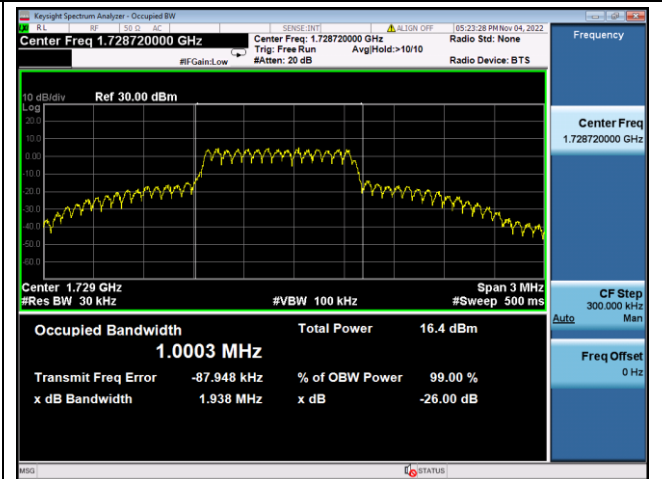
16QAM Low channel



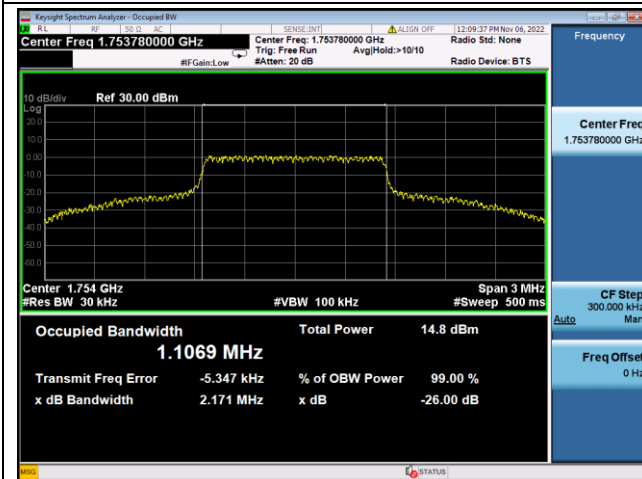
QPSK Middle channel



16QAM Middle channel



QPSK High channel



16QAM High channel

