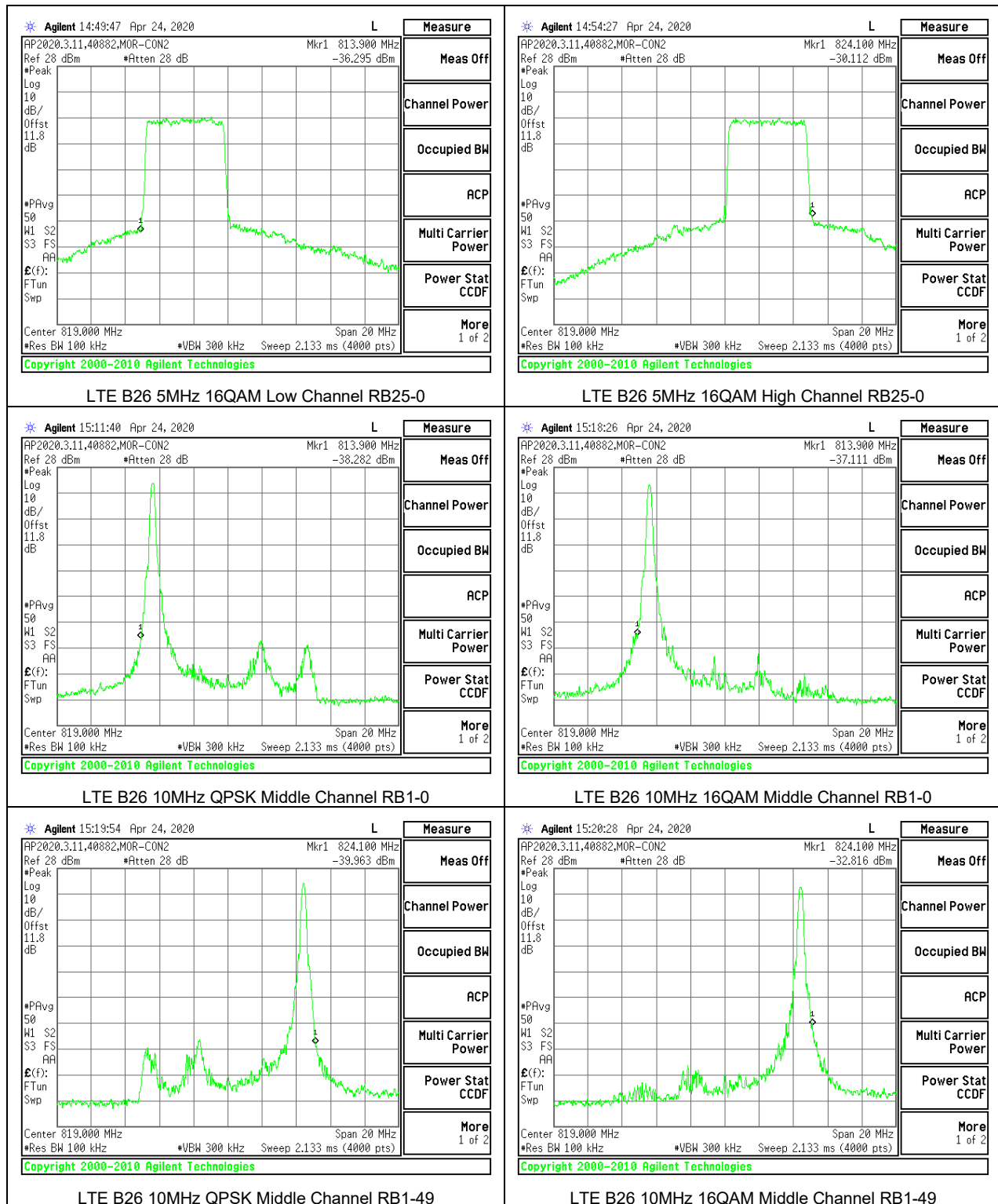
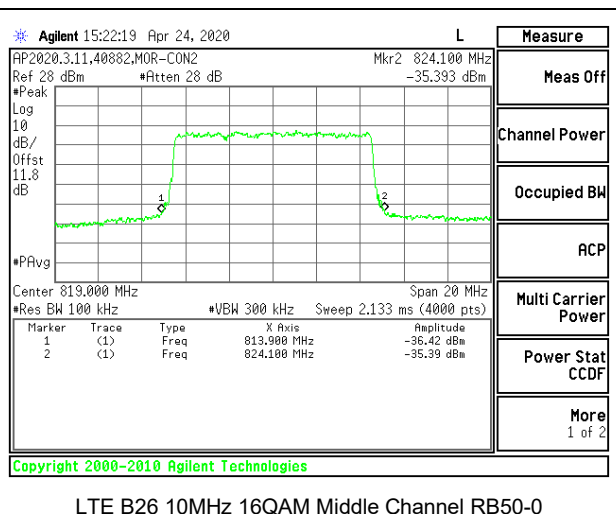
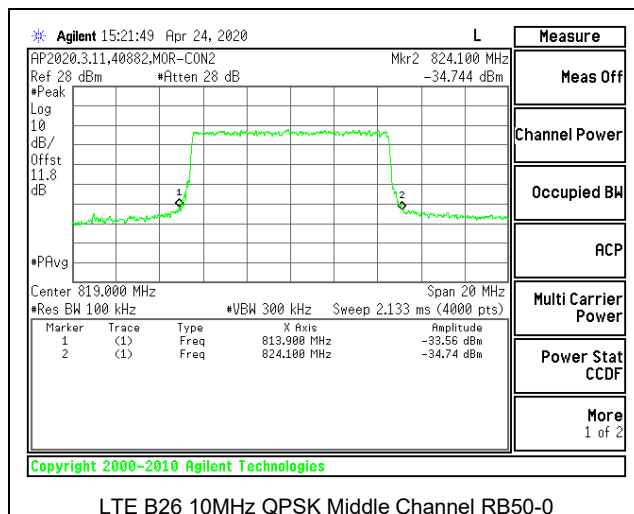






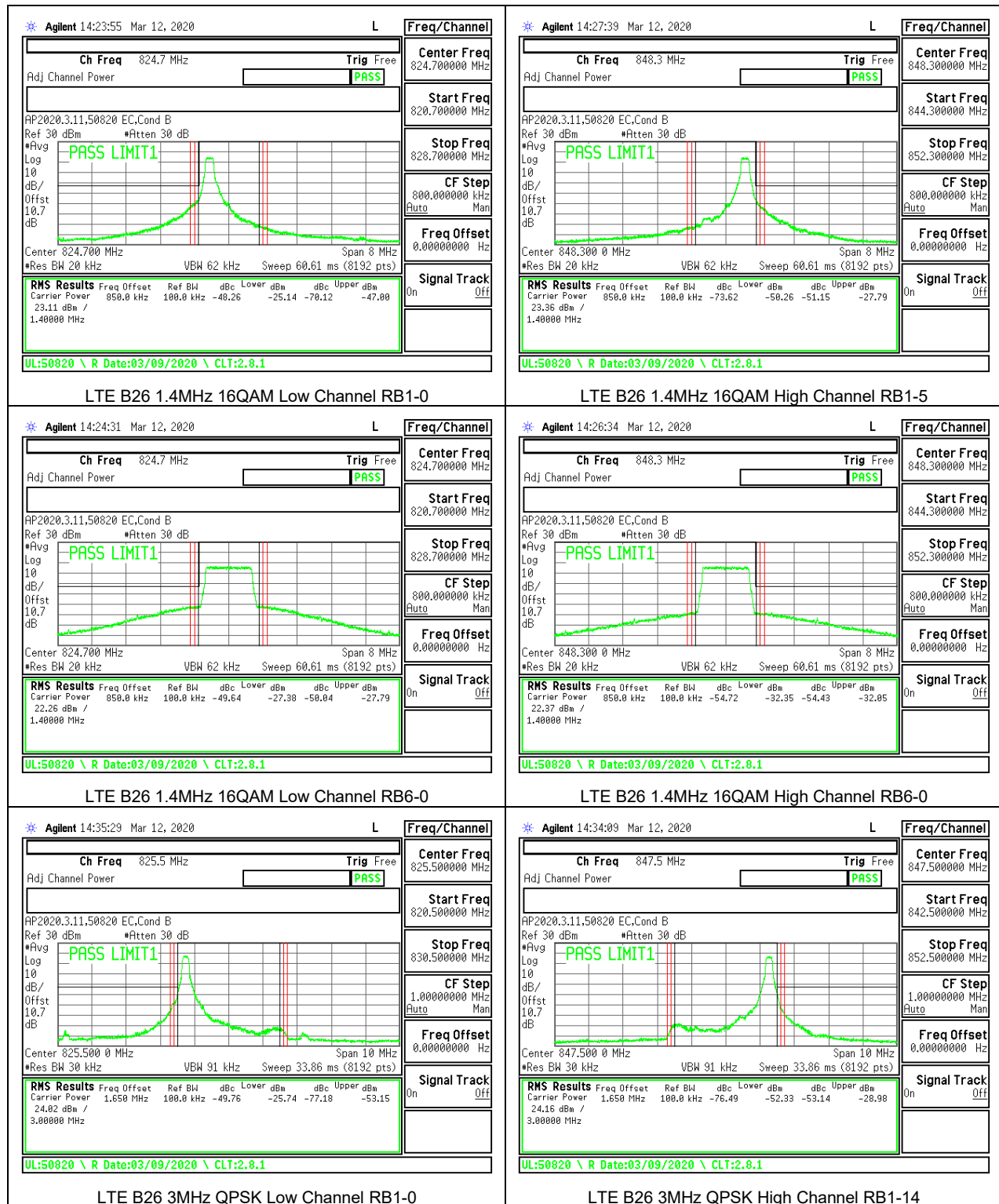
8.2.10. LTE BAND 26 BANDEDGE (FCC PART 22)

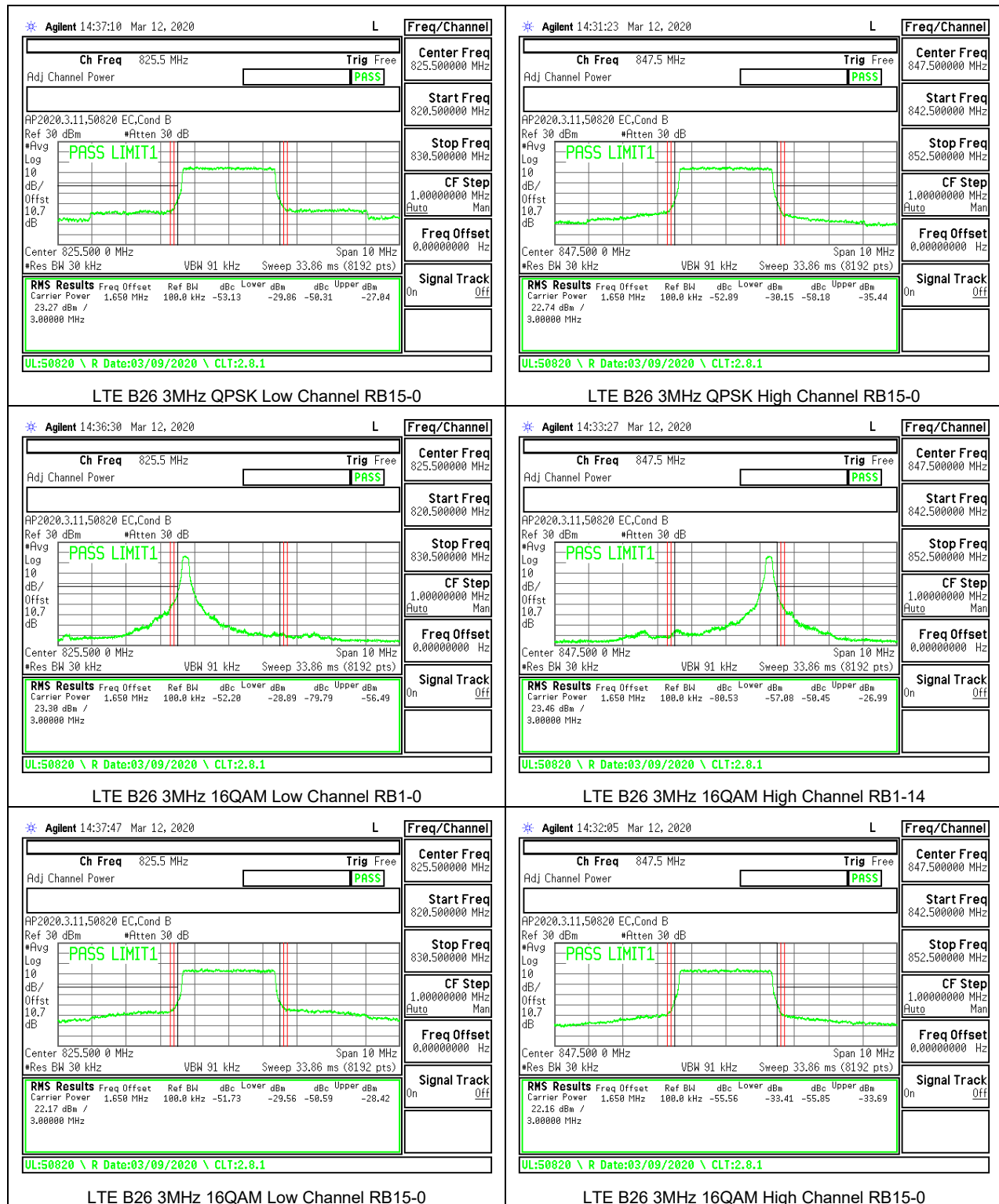
LIMITS

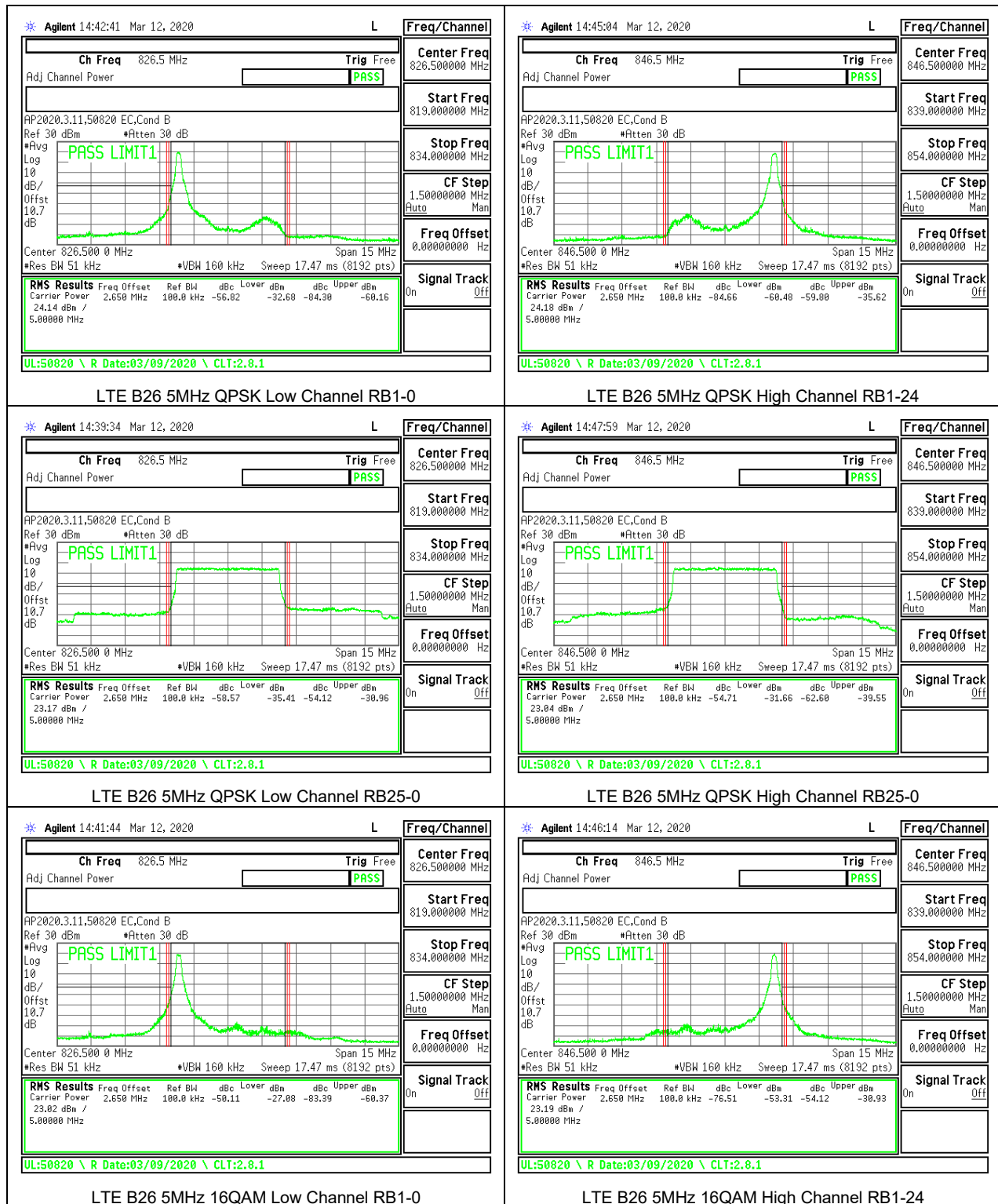
FCC: §22.917

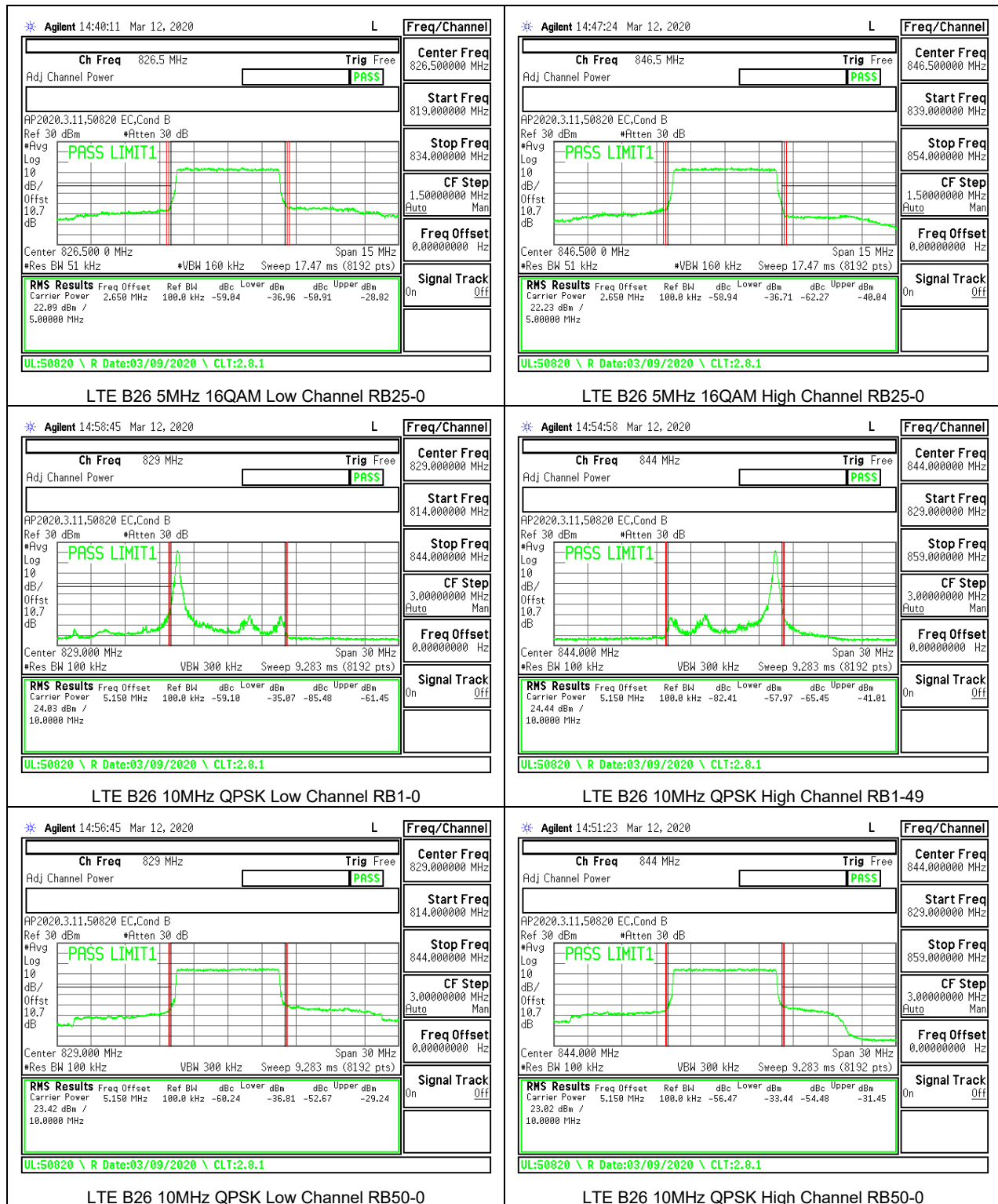
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log (P)$ dB.

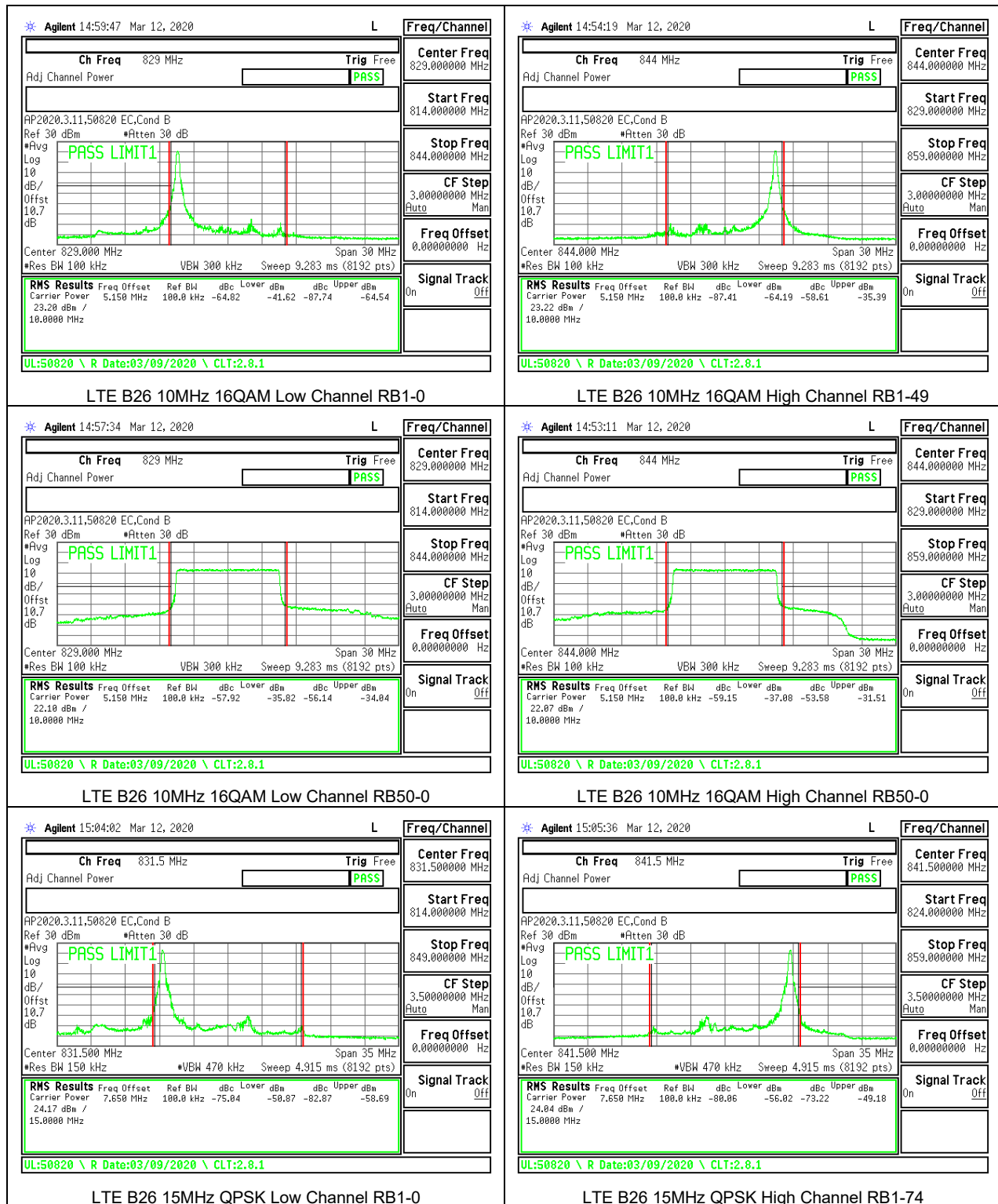


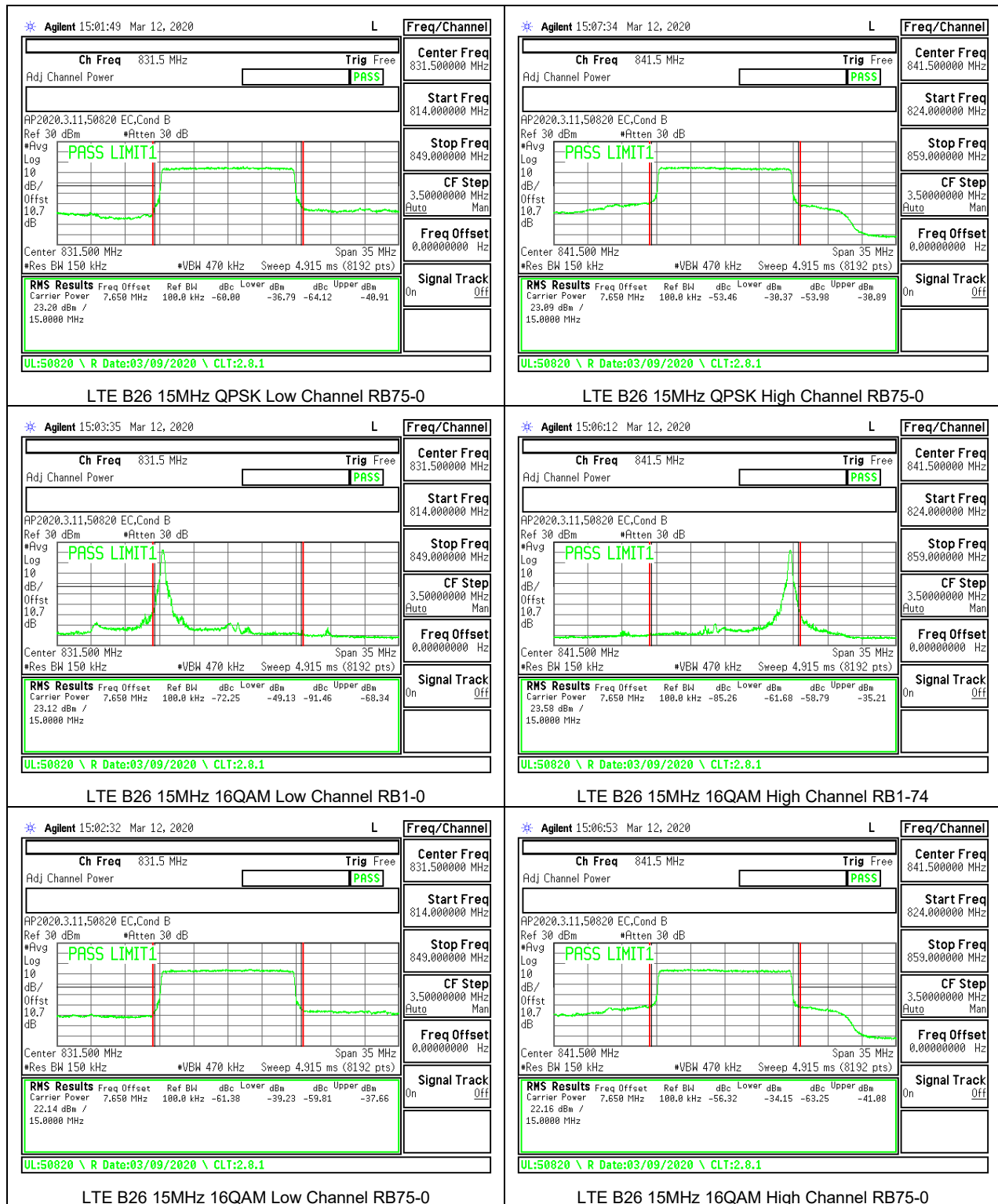












8.2.11. LTE BAND 30 ADJACENT CHANNEL POWER

LIMITS

FCC: §27.53

(a) For operations in the 2305-2320 MHz band and the 2345-2360 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power P (with averaging performed only during periods of transmission) within the licensed band(s) of operation, in watts, by the following amounts:

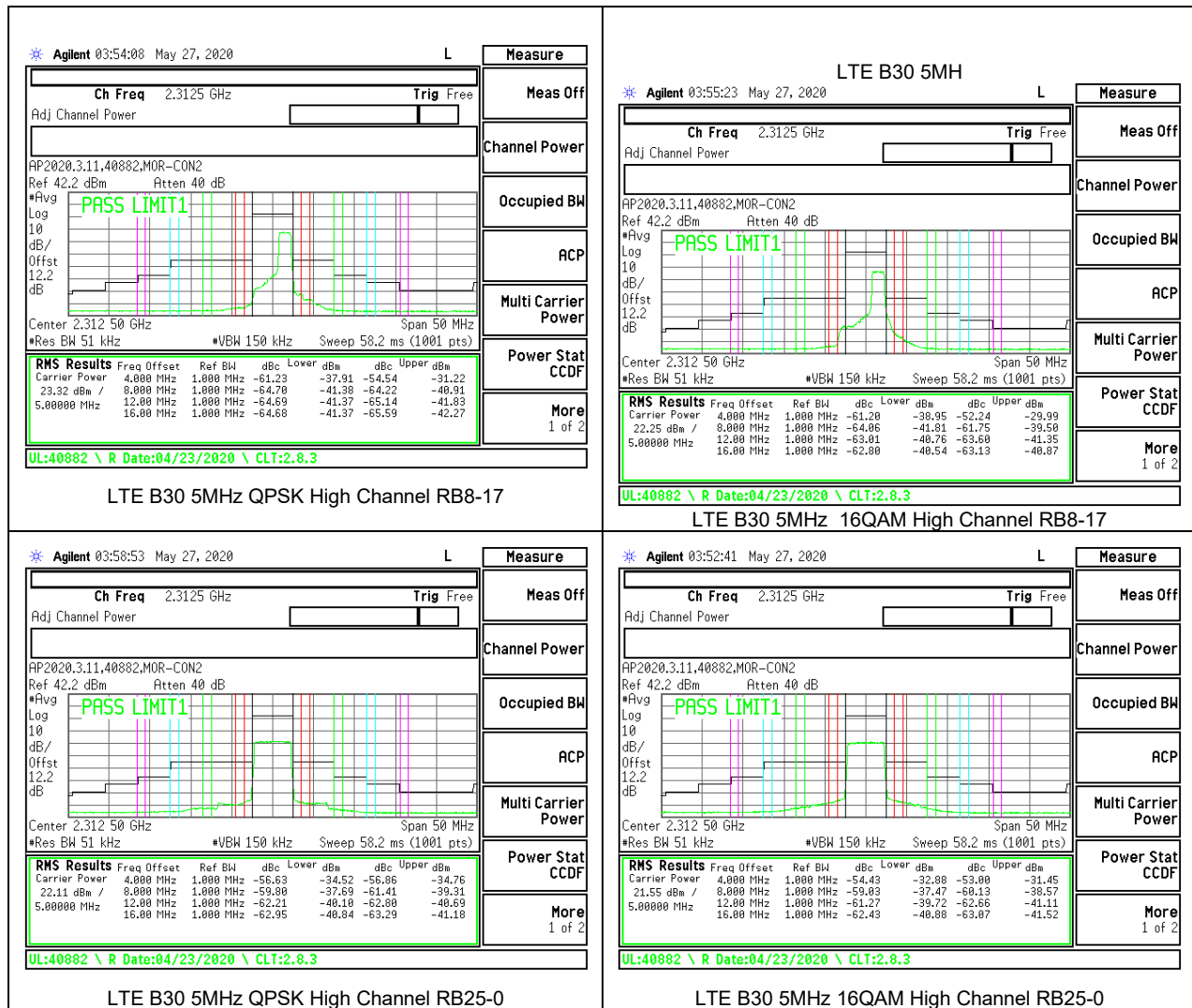
(4) For mobile and portable stations operating in the 2305-2315 MHz and 2350-2360 MHz bands:

(i) By a factor of not less than: $43 + 10 \log (P)$ dB on all frequencies between 2305 and 2320 MHz and on all frequencies between 2345 and 2360 MHz that are outside the licensed band(s) of operation, not less than $55 + 10 \log (P)$ dB on all frequencies between 2320 and 2324 MHz and on all frequencies between 2341 and 2345 MHz, not less than $61 + 10 \log (P)$ dB on all frequencies between 2324 and 2328 MHz and on all frequencies between 2337 and 2341 MHz, and not less than $67 + 10 \log (P)$ dB on all frequencies between 2328 and 2337 MHz;

(ii) By a factor of not less than $43 + 10 \log (P)$ dB on all frequencies between 2300 and 2305 MHz, $55 + 10 \log (P)$ dB on all frequencies between 2296 and 2300 MHz, $61 + 10 \log (P)$ dB on all frequencies between 2292 and 2296 MHz, $67 + 10 \log (P)$ dB on all frequencies between 2288 and 2292 MHz, and $70 + 10 \log (P)$ dB below 2288 MHz;

(iii) By a factor of not less than $43 + 10 \log (P)$ dB on all frequencies between 2360 and 2365 MHz, and not less than $70 + 10 \log (P)$ dB above 2365 MHz.





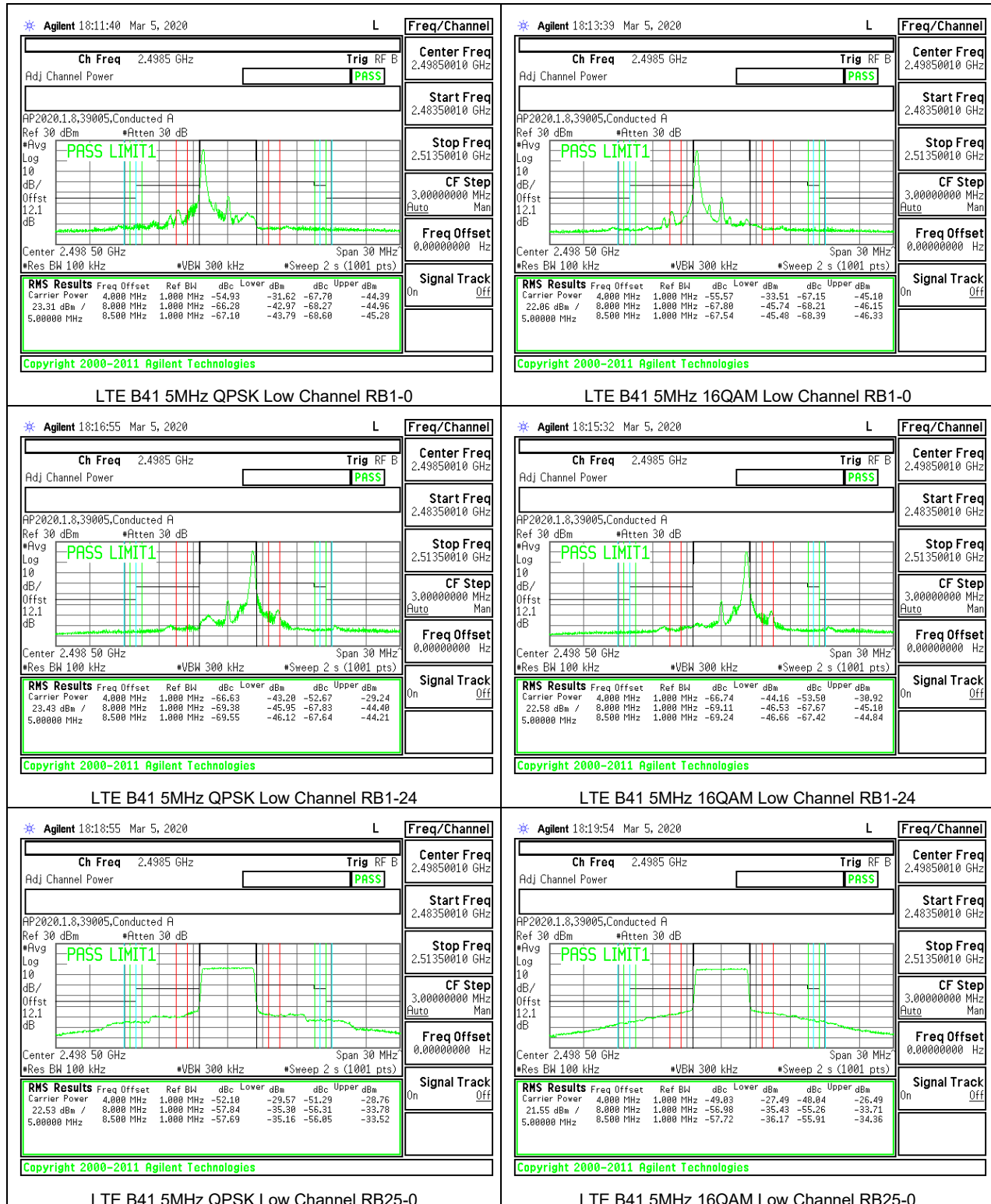


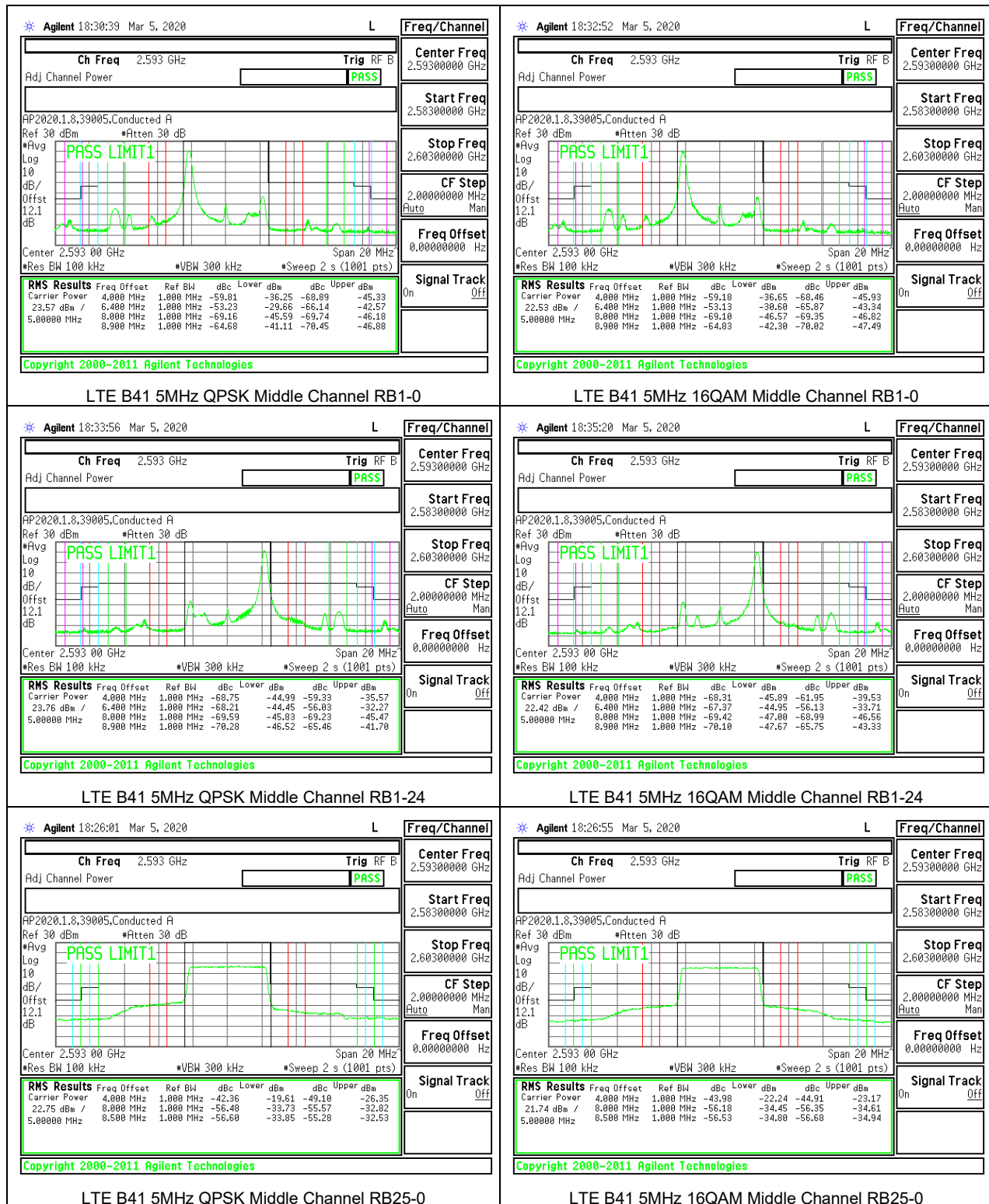
8.2.12. LTE BAND 41 ADJACENT CHANNEL POWER

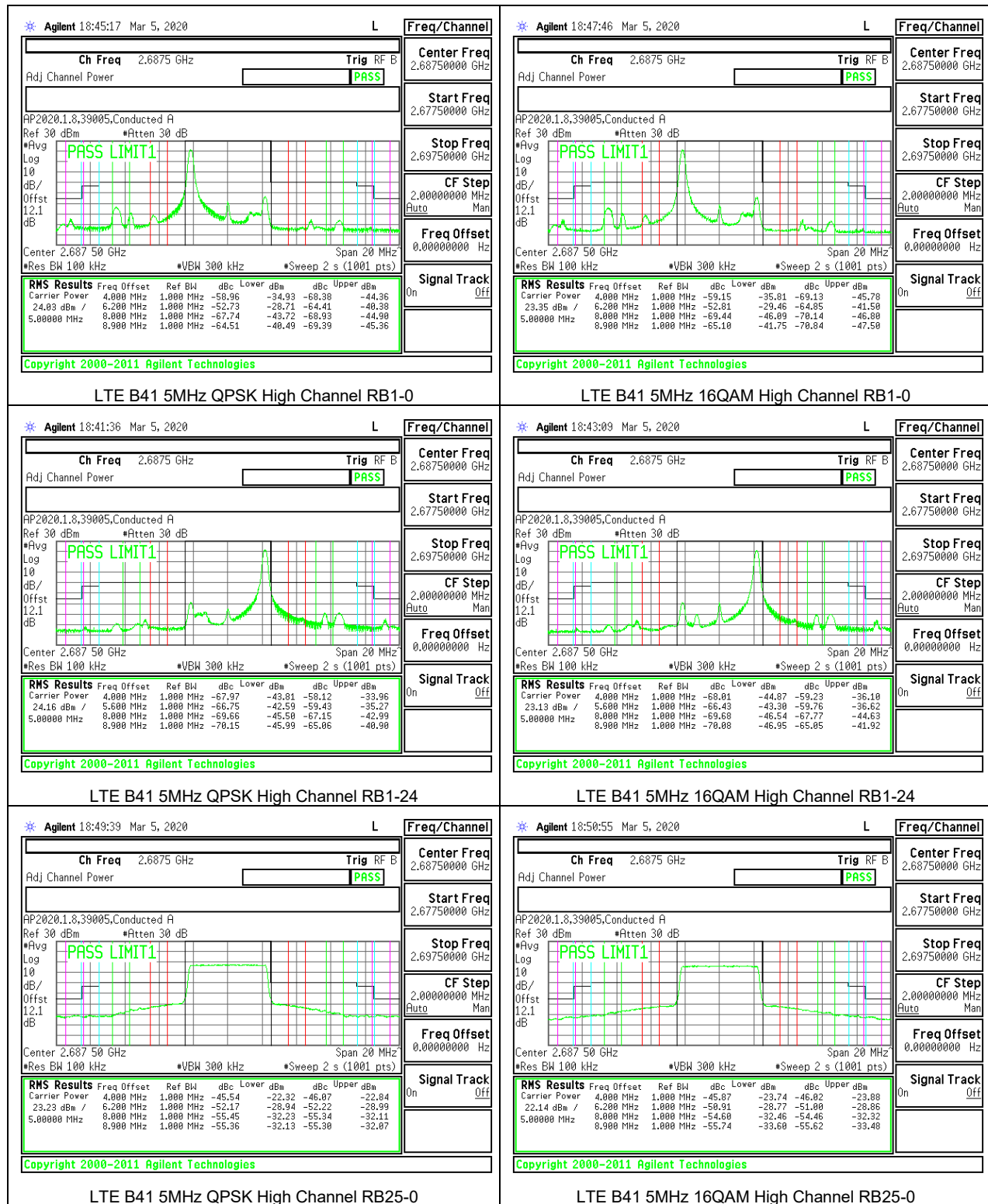
LIMITS

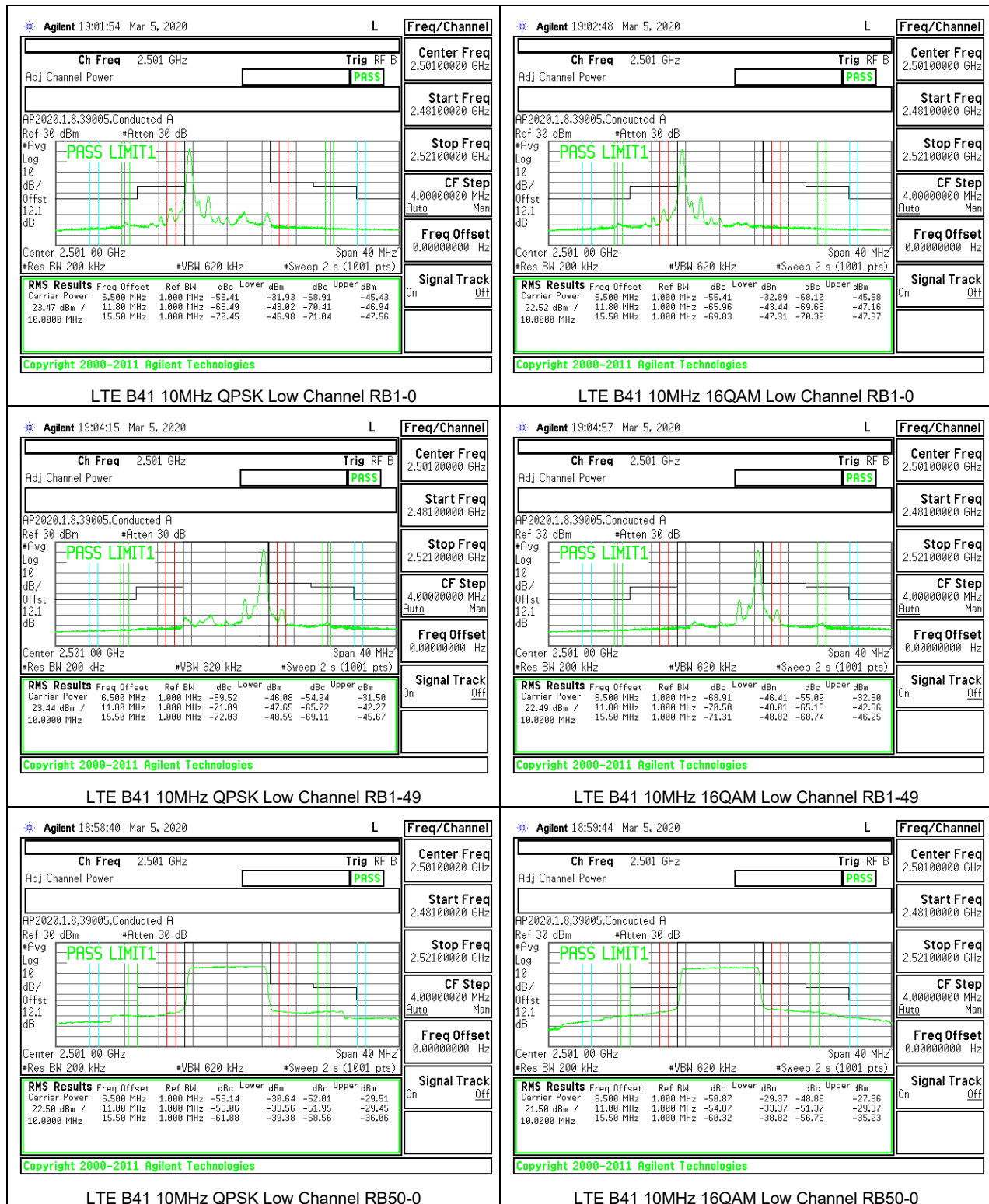
FCC: §27.53

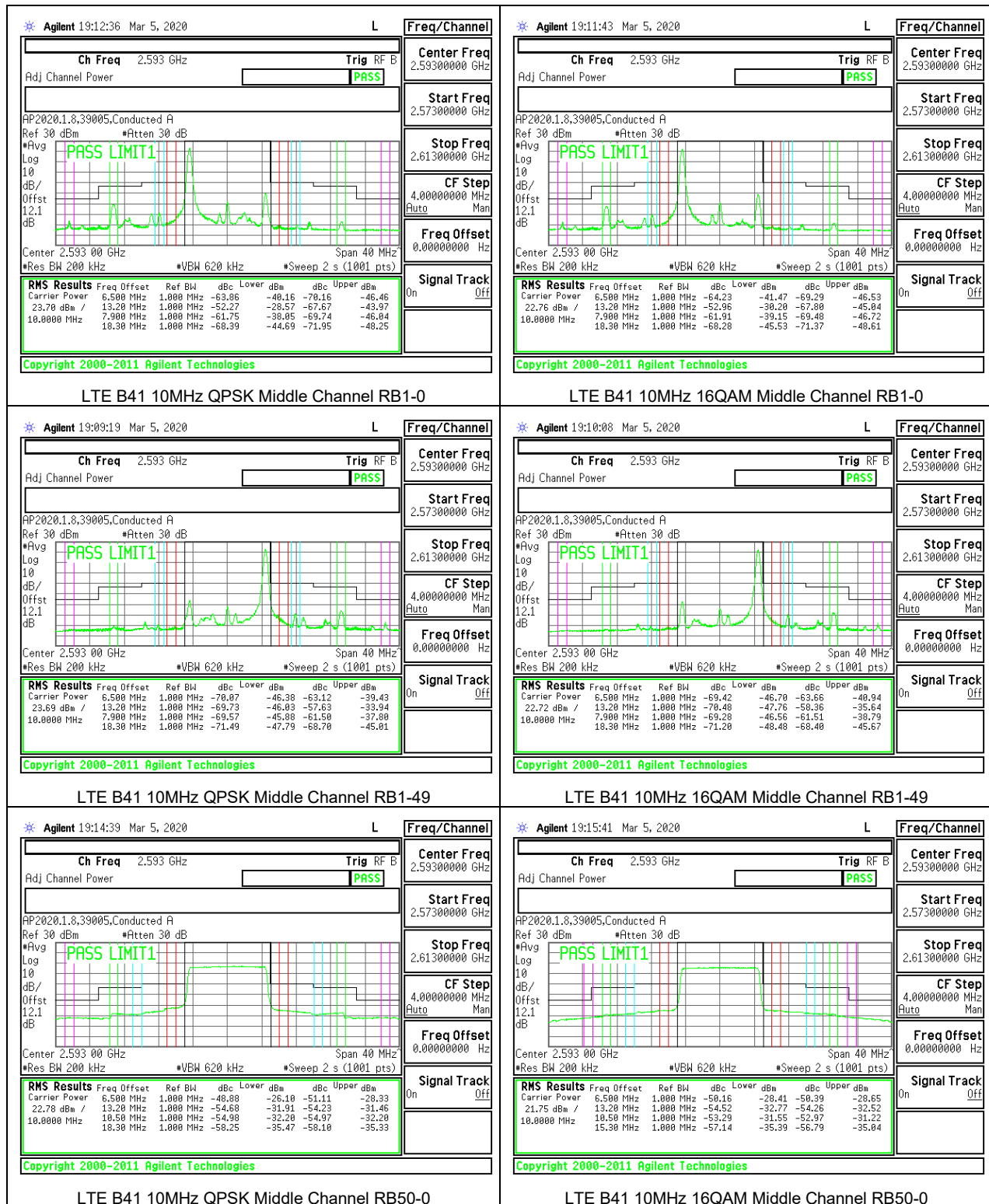
(m)(4) For mobile digital stations, the attenuation factor shall be not less than $40 + 10 \log (P)$ dB on all frequencies between the channel edge and 5 megahertz from the channel edge, $43 + 10 \log (P)$ dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and $55 + 10 \log (P)$ dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less than $43 + 10 \log (P)$ dB on all frequencies between 2490.5 MHz and 2496 MHz and $55 + 10 \log (P)$ dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

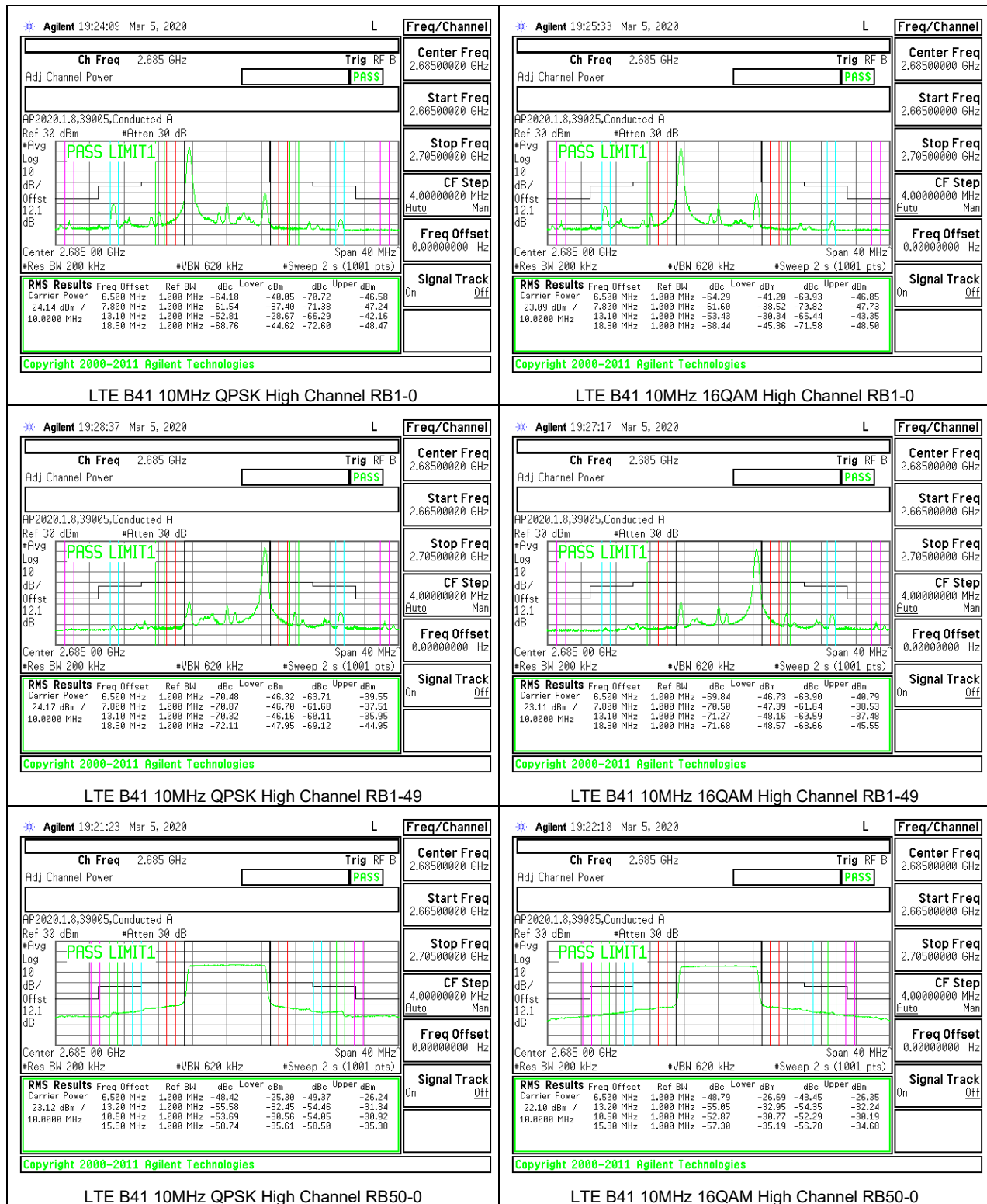


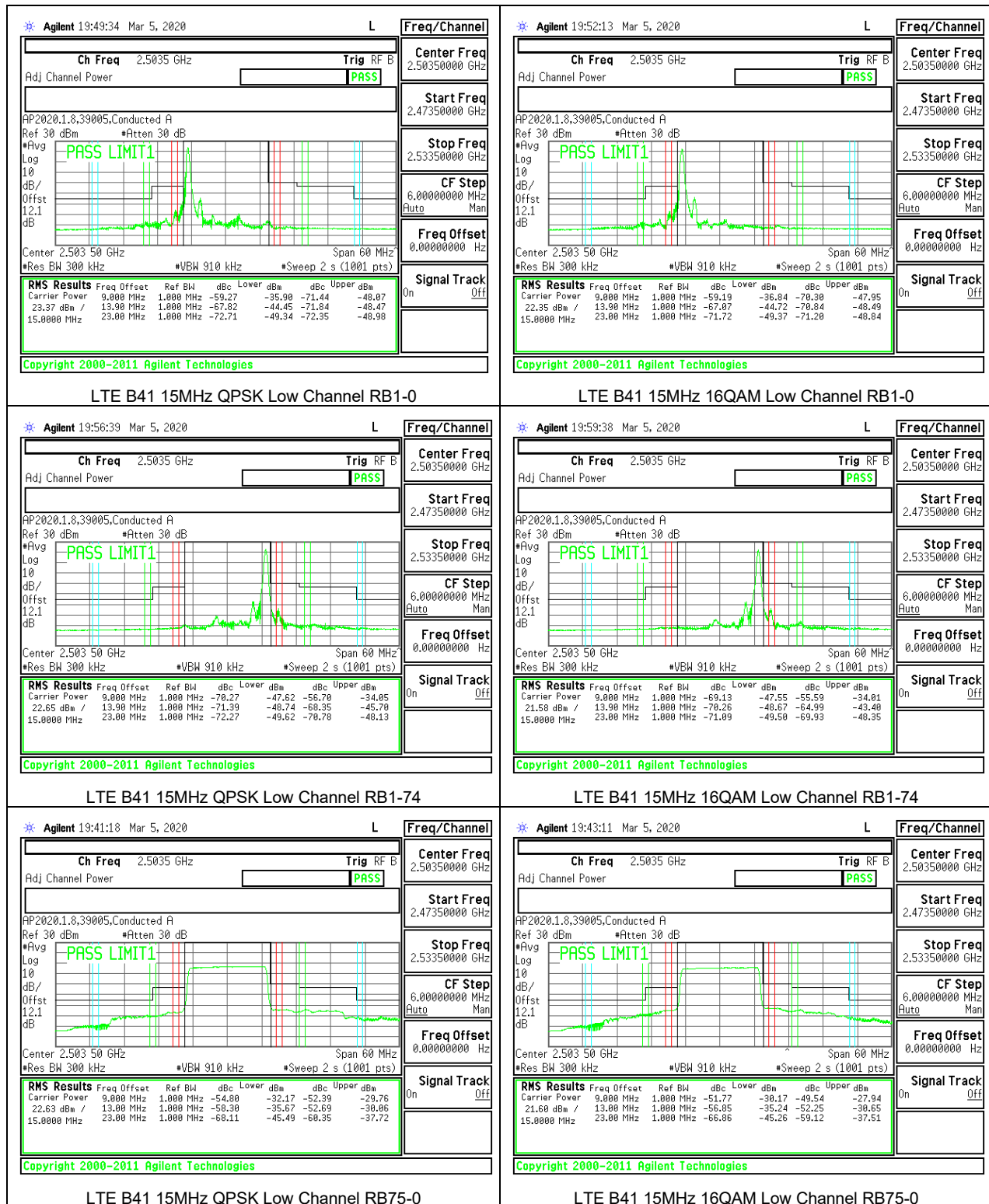


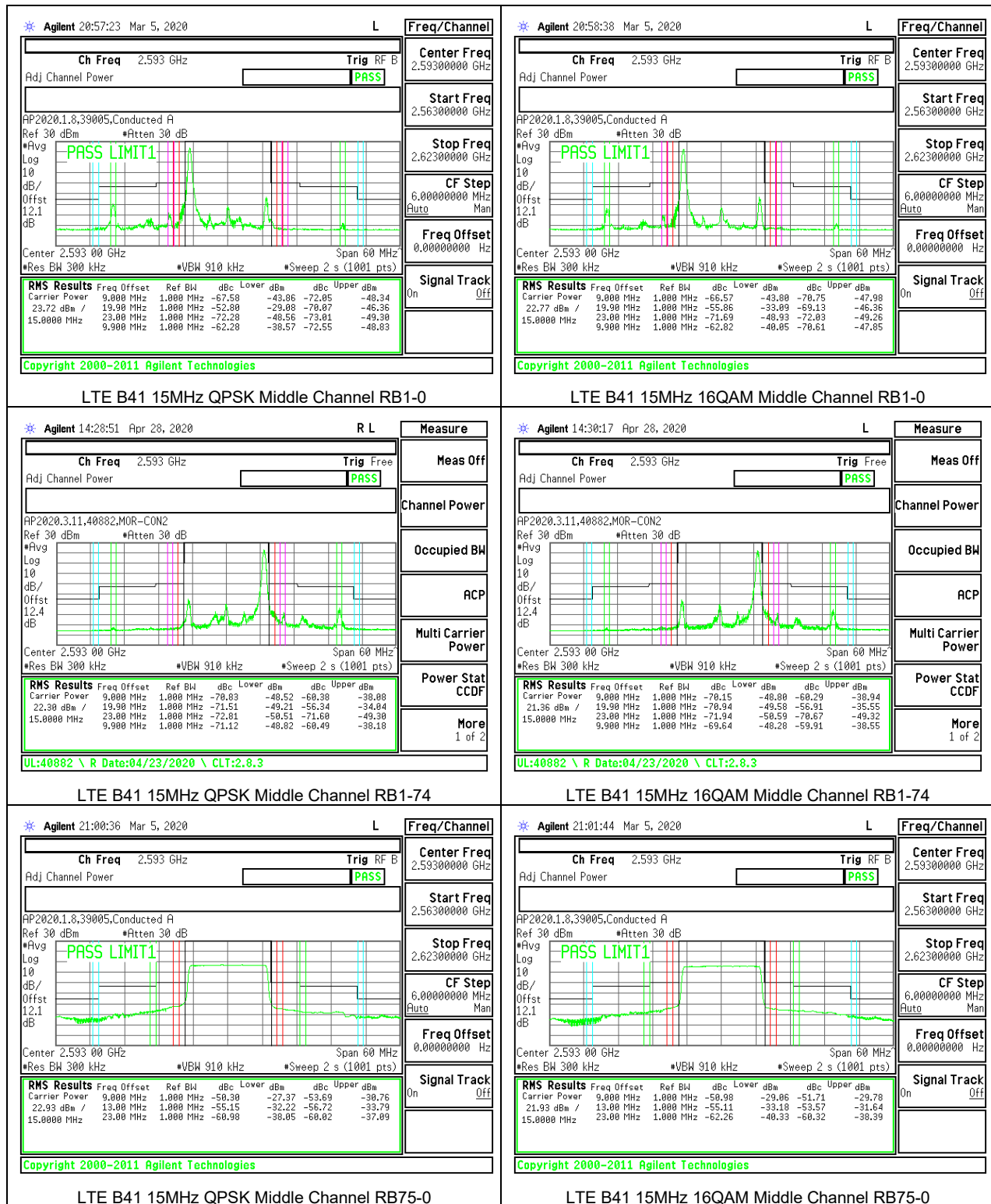


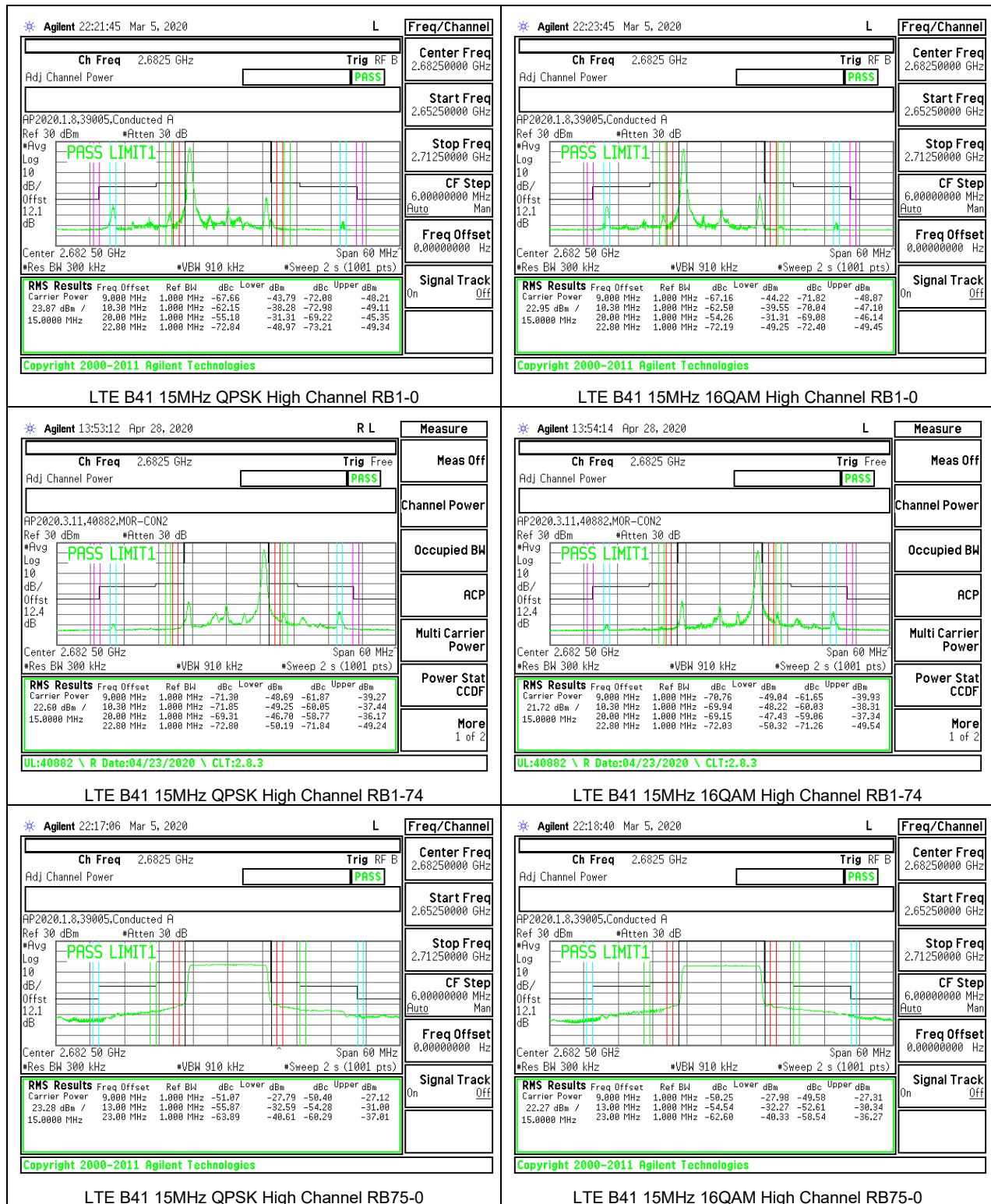


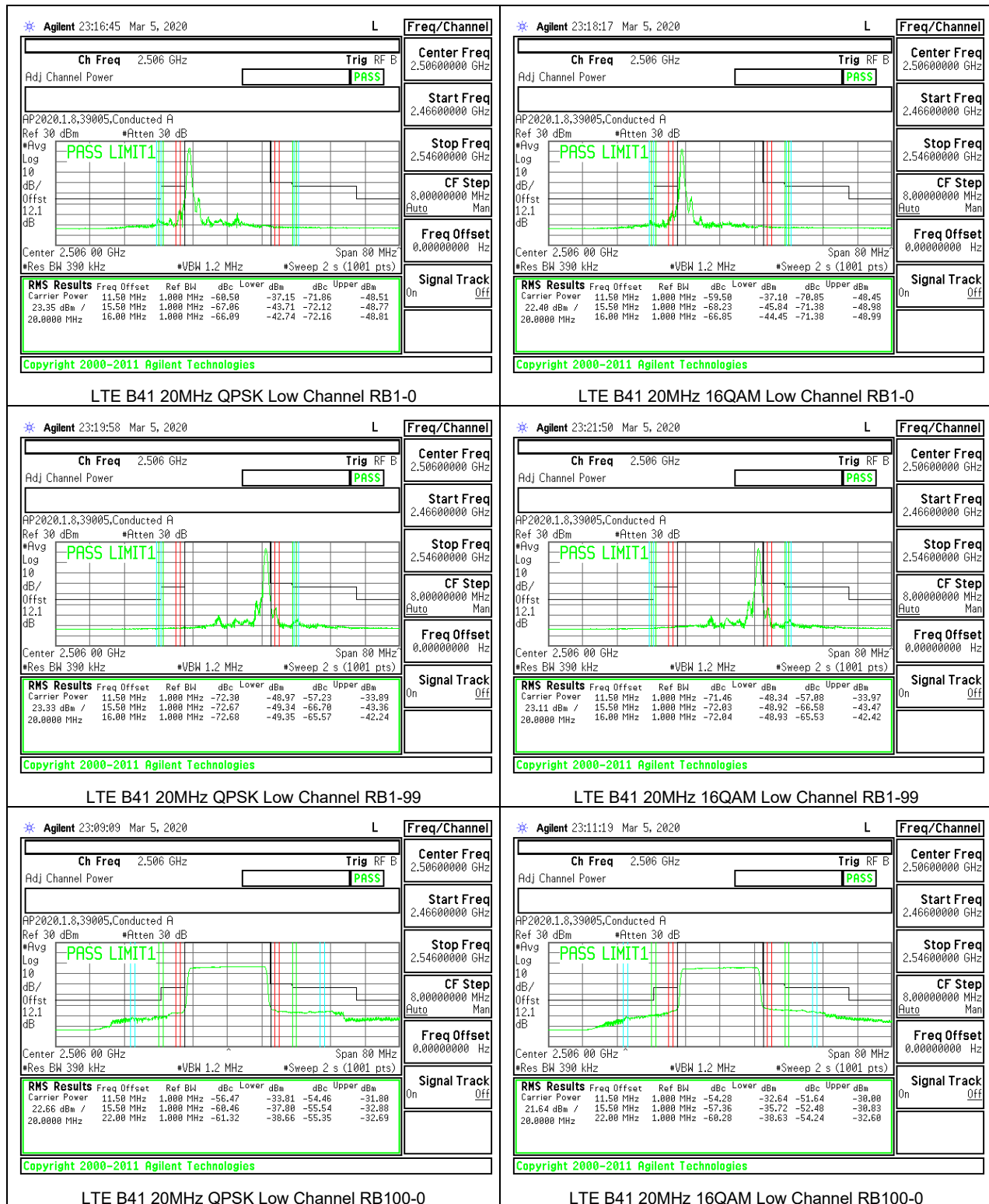


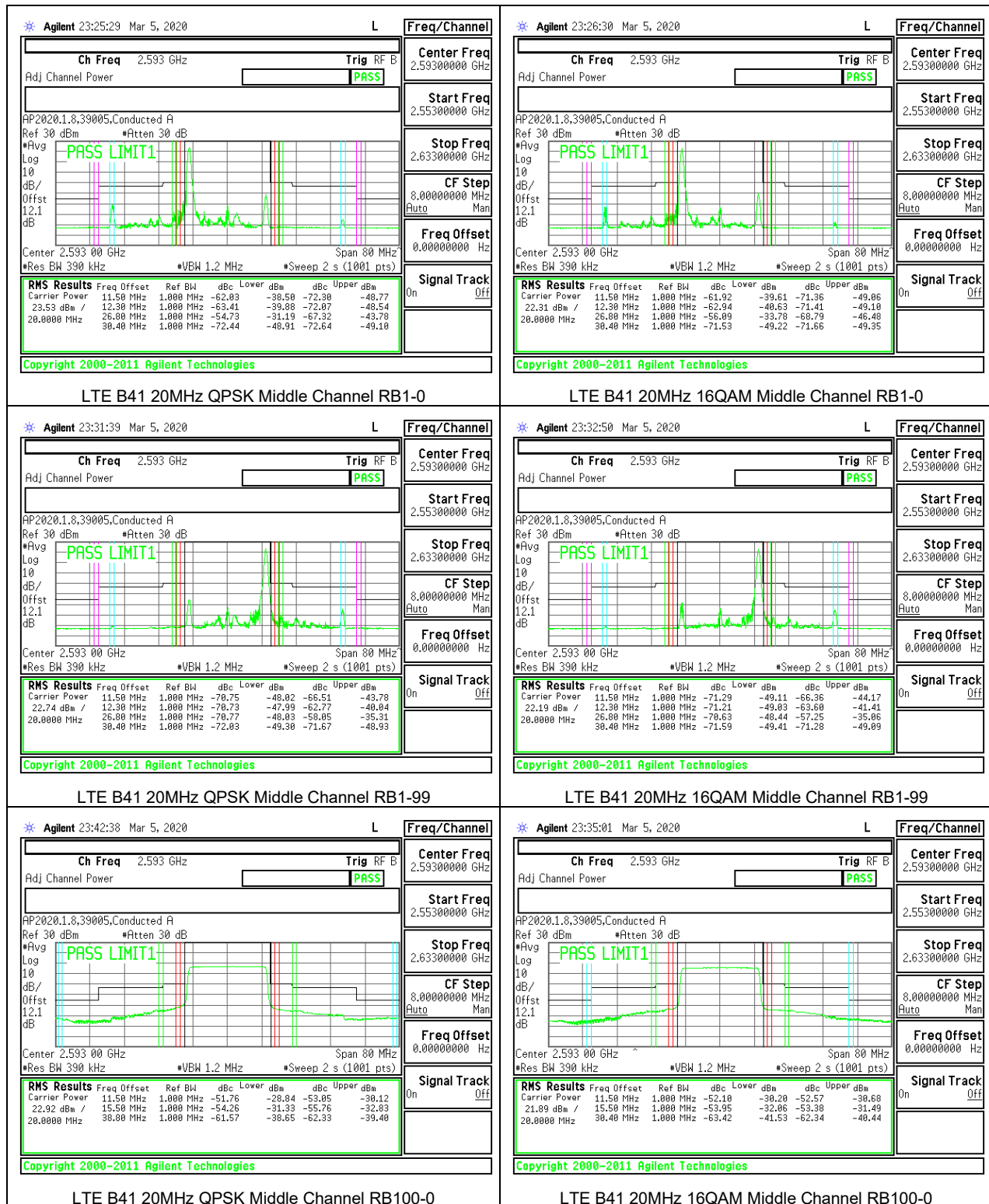


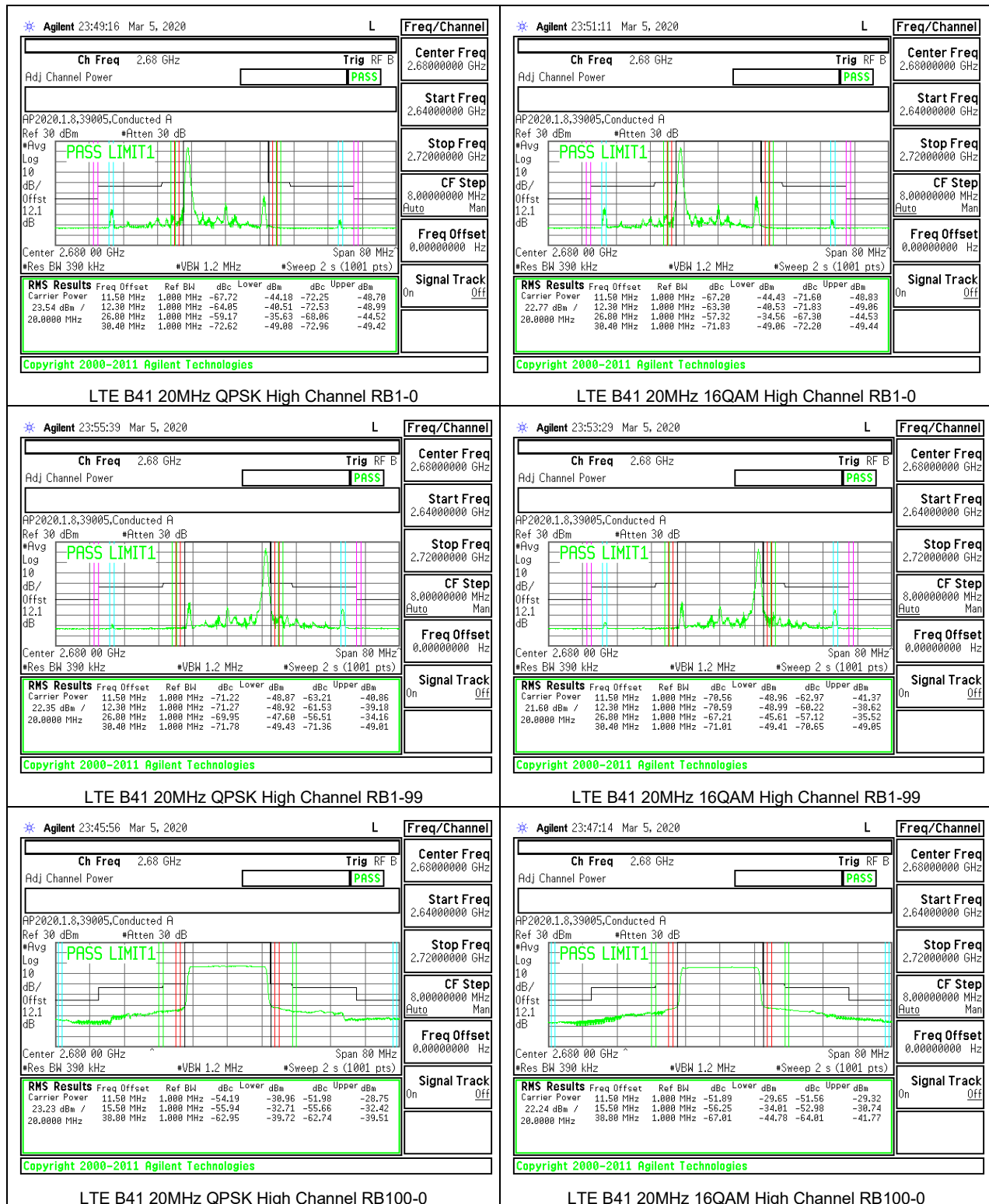










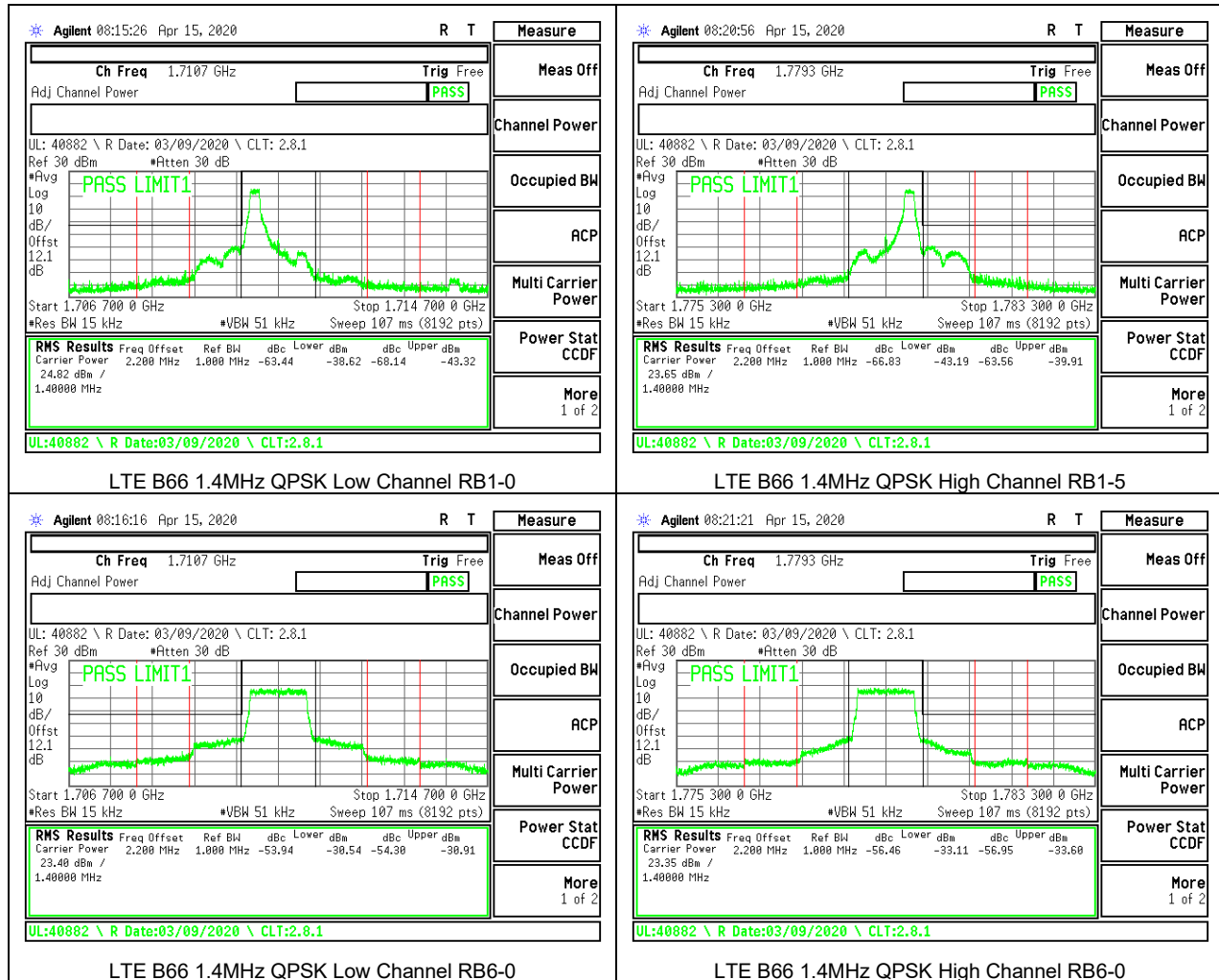


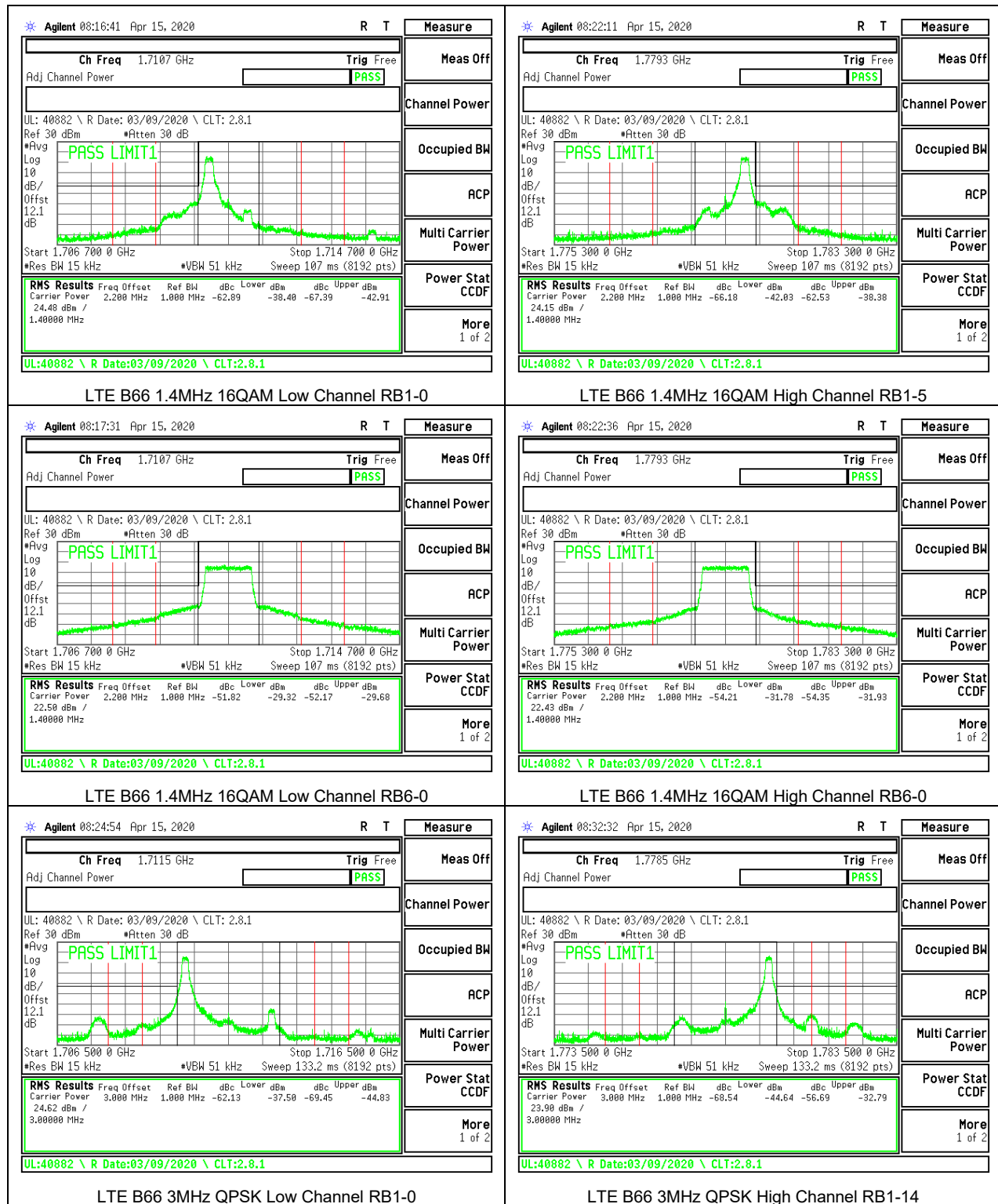
8.2.13. LTE BAND 66 BANDEDGE

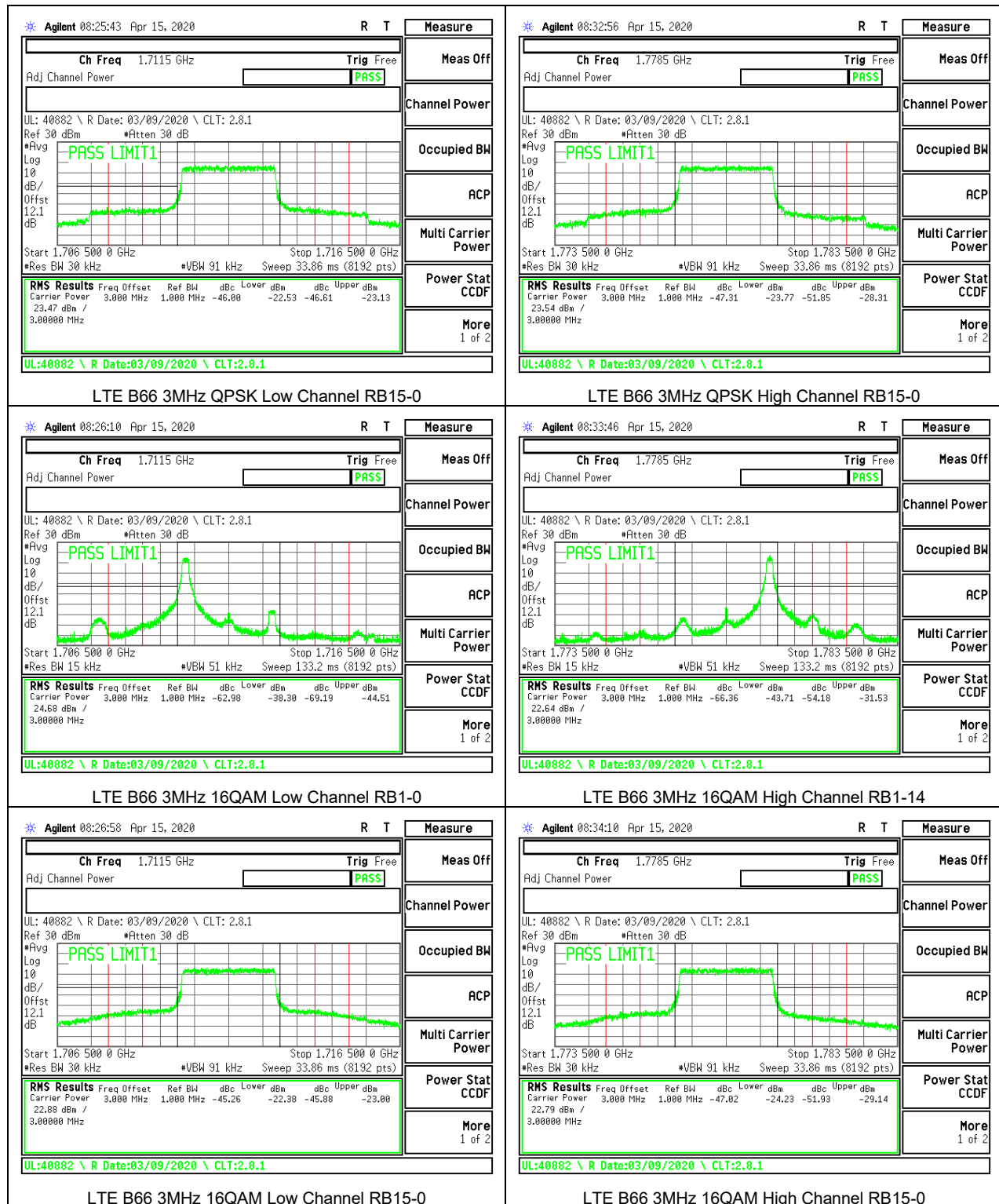
LIMITS

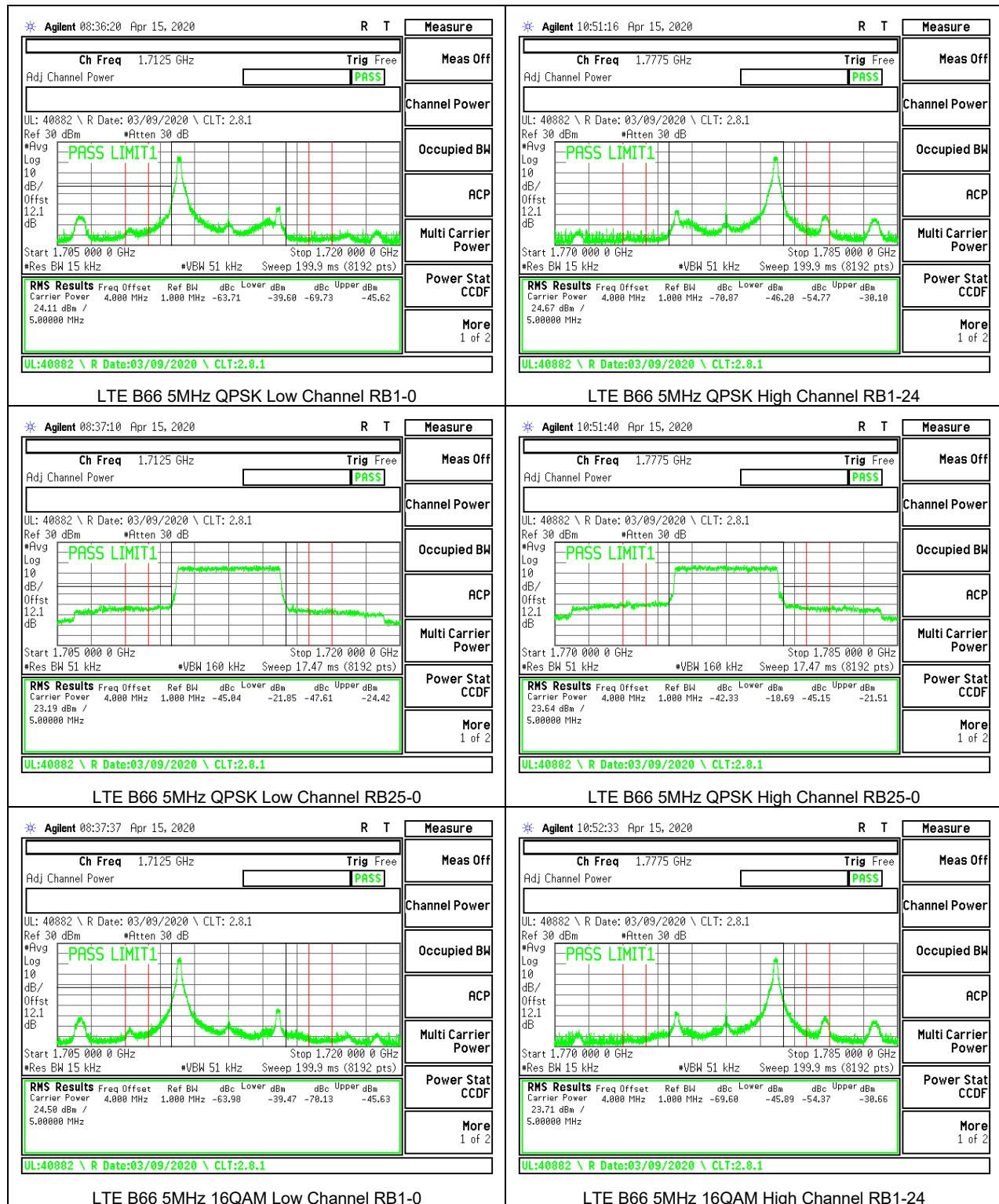
FCC: §27.53(h)

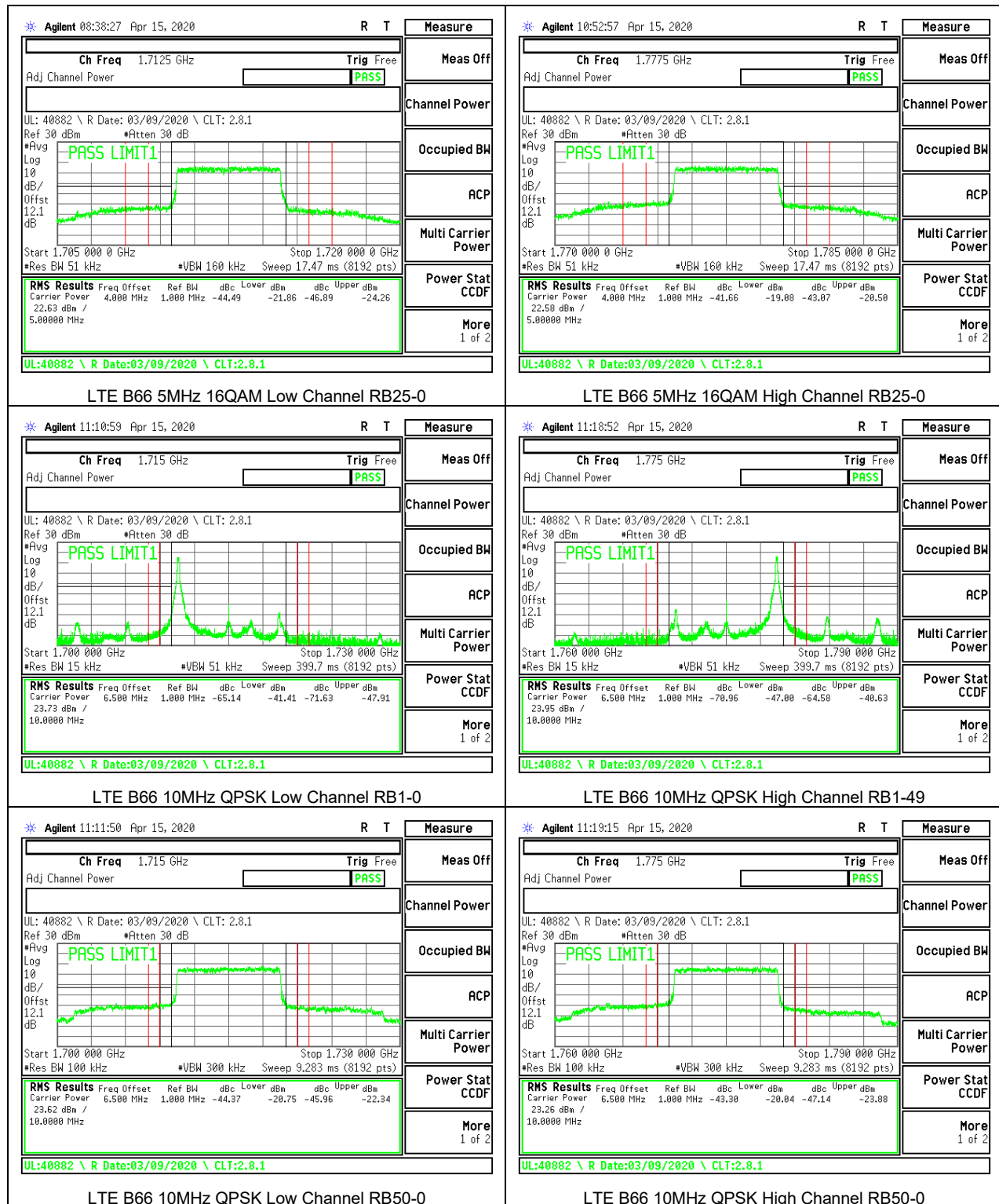
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log (P)$ dB.

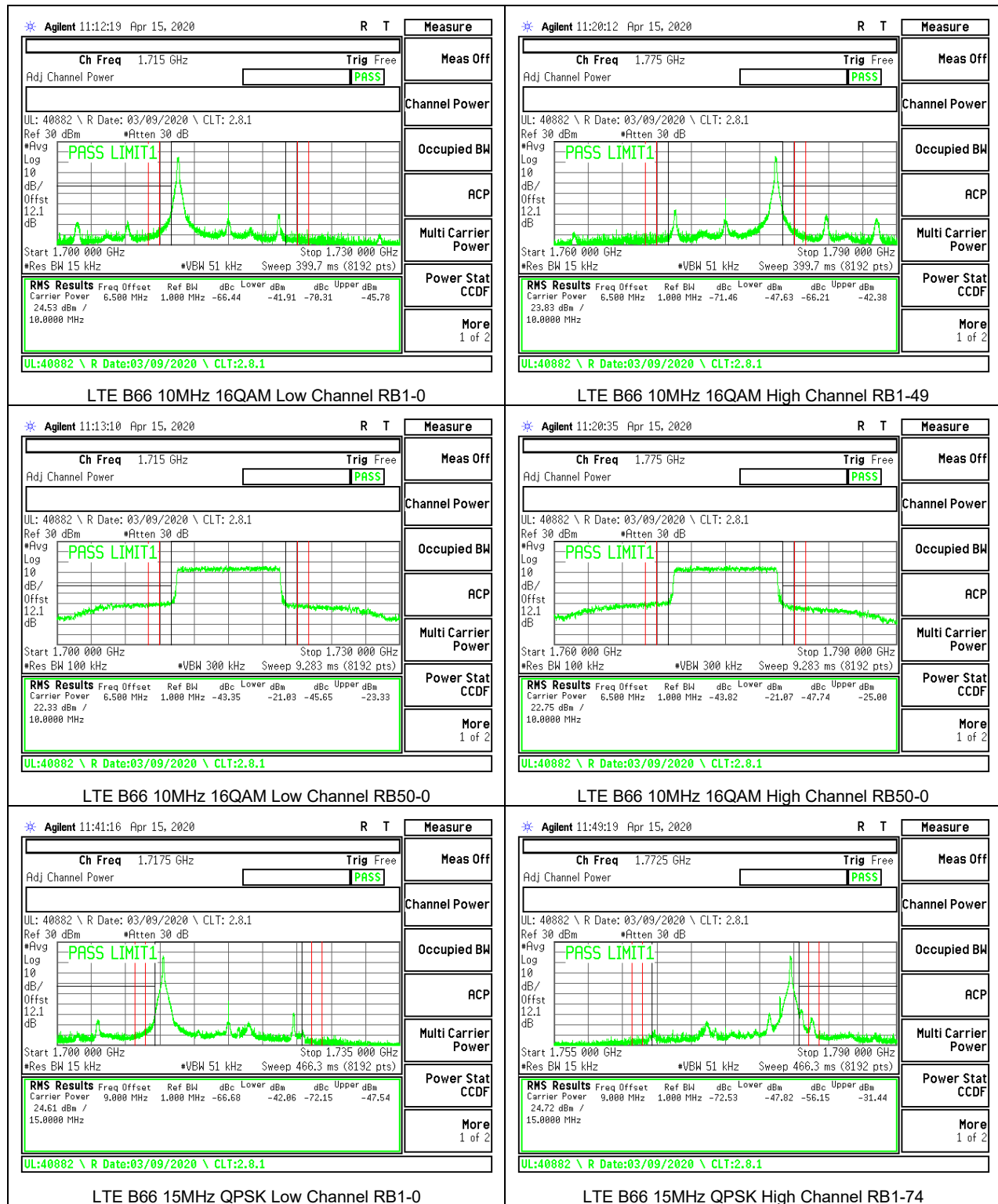


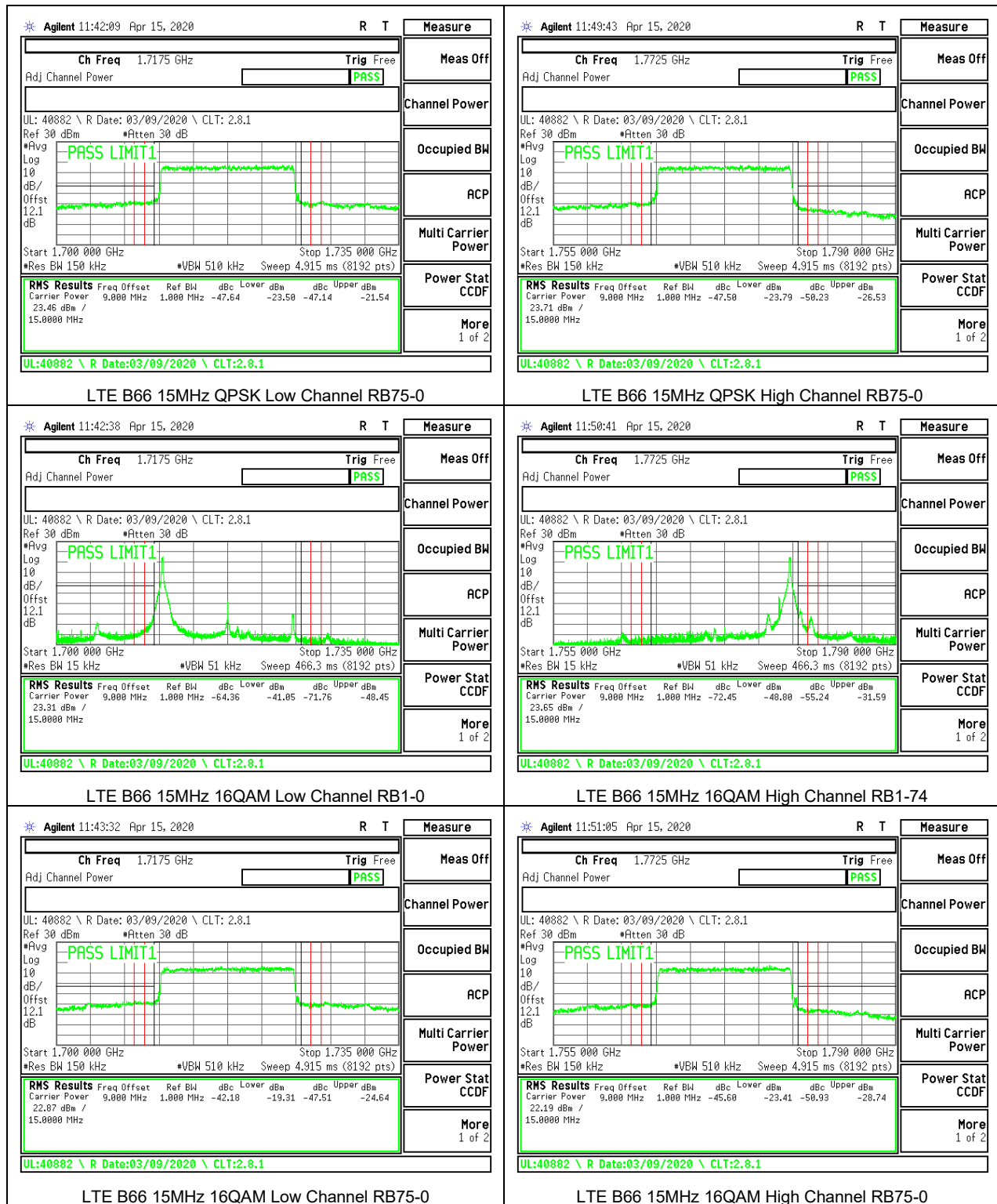


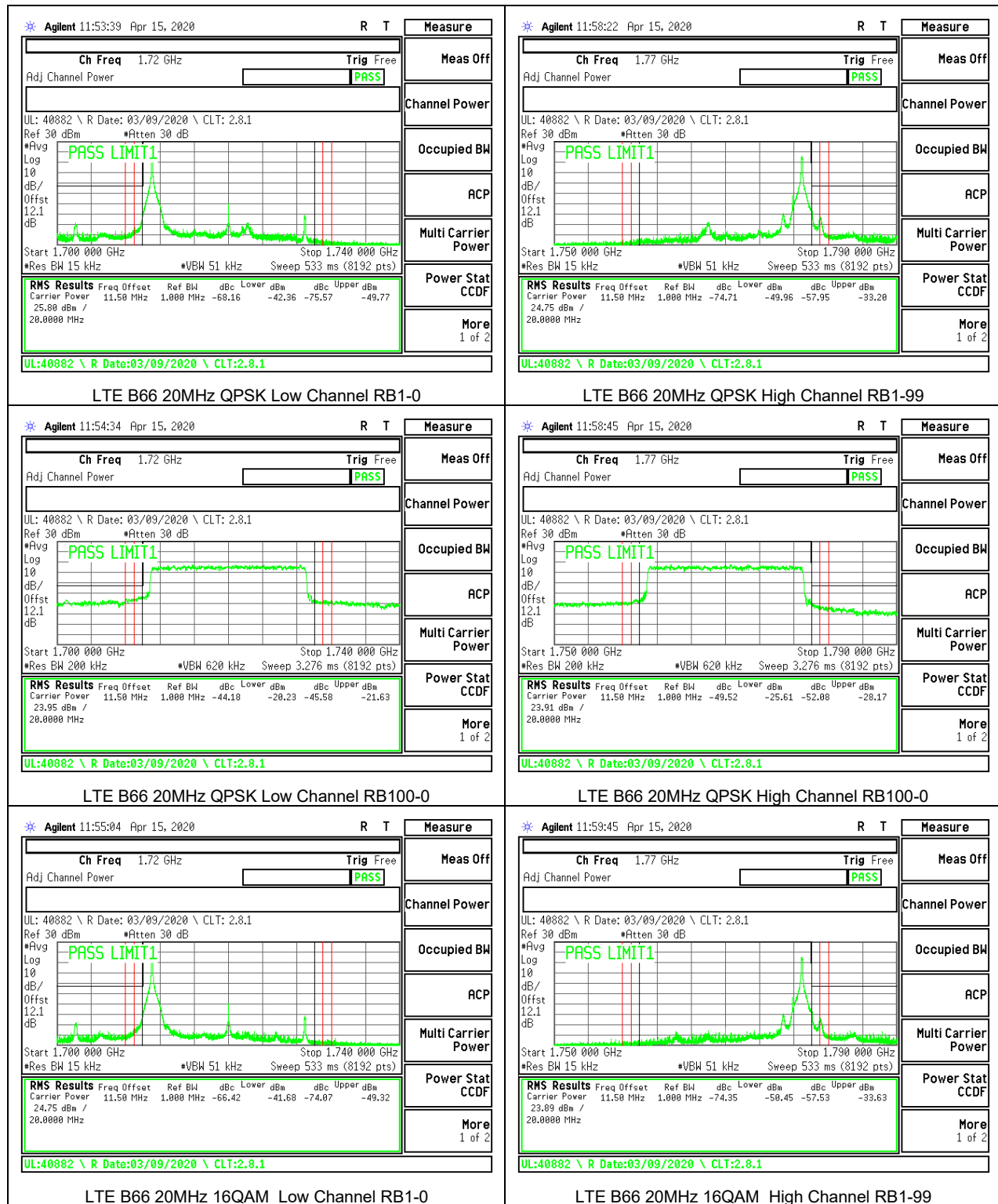


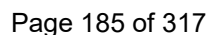












8.3. OUT OF BAND EMISSIONS

TEST PROCEDURE

The RF output of the transmitter was connected to a spectrum analyzer through a calibrated coaxial cable. Sufficient scans were taken to show the out-of-band Emissions, if any, up to 10th harmonic. Multiple sweeps were recorded in maximum hold mode using a peak detector to ensure that the worst-case emissions were caught.

For each out of band emissions measurement:

- Set display line at -13 dBm, -25dBm and -40dBm according to the band Limit
- Set RBW & VBW to 100 kHz for the measurement below 1 GHz, and 1 MHz for the measurement above 1 GHz.
(NOTE: Worst case set RBW/VBW to 1MHz/3MHz)

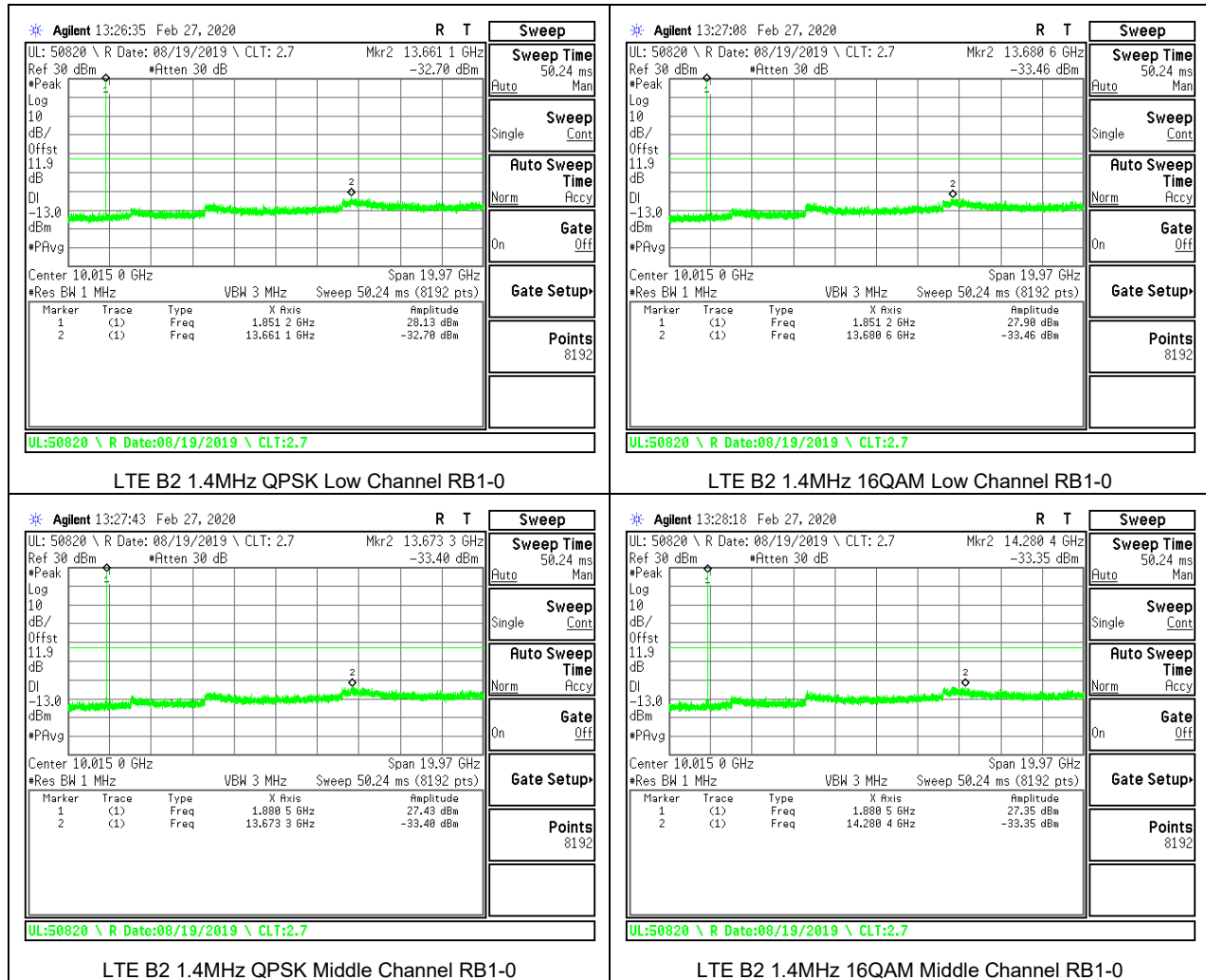
RESULTS

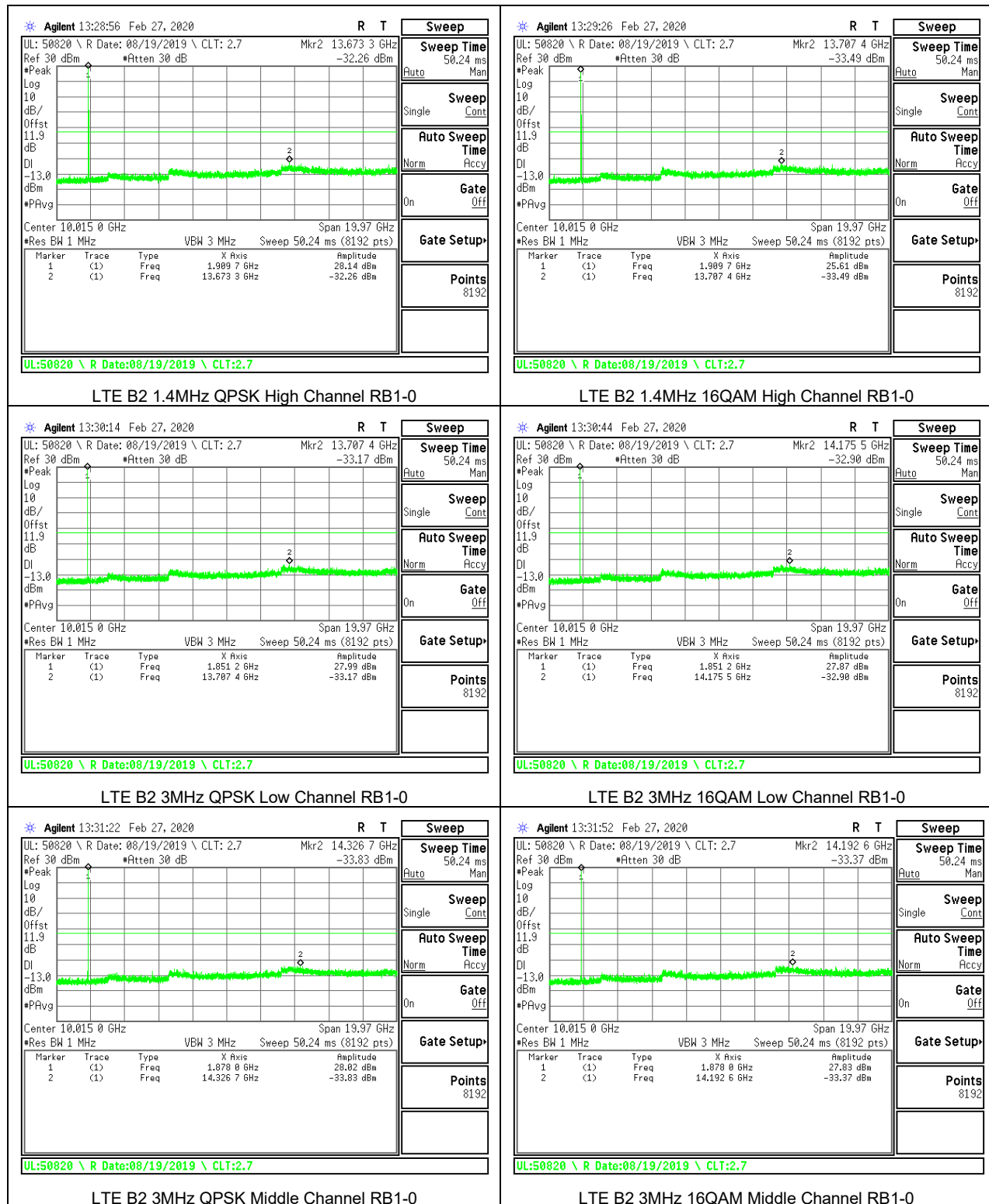
8.3.1. LTE BAND 2

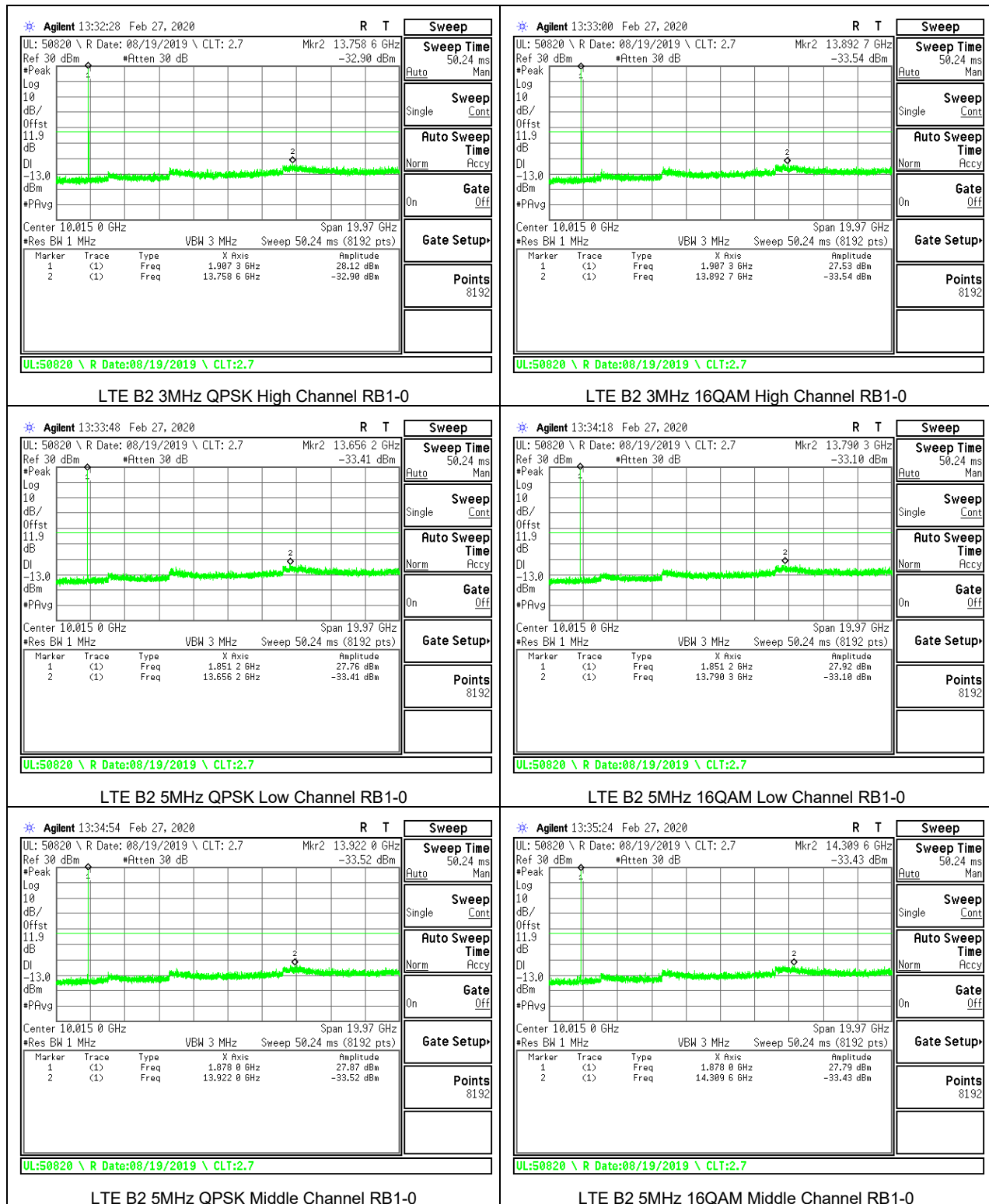
LIMITS

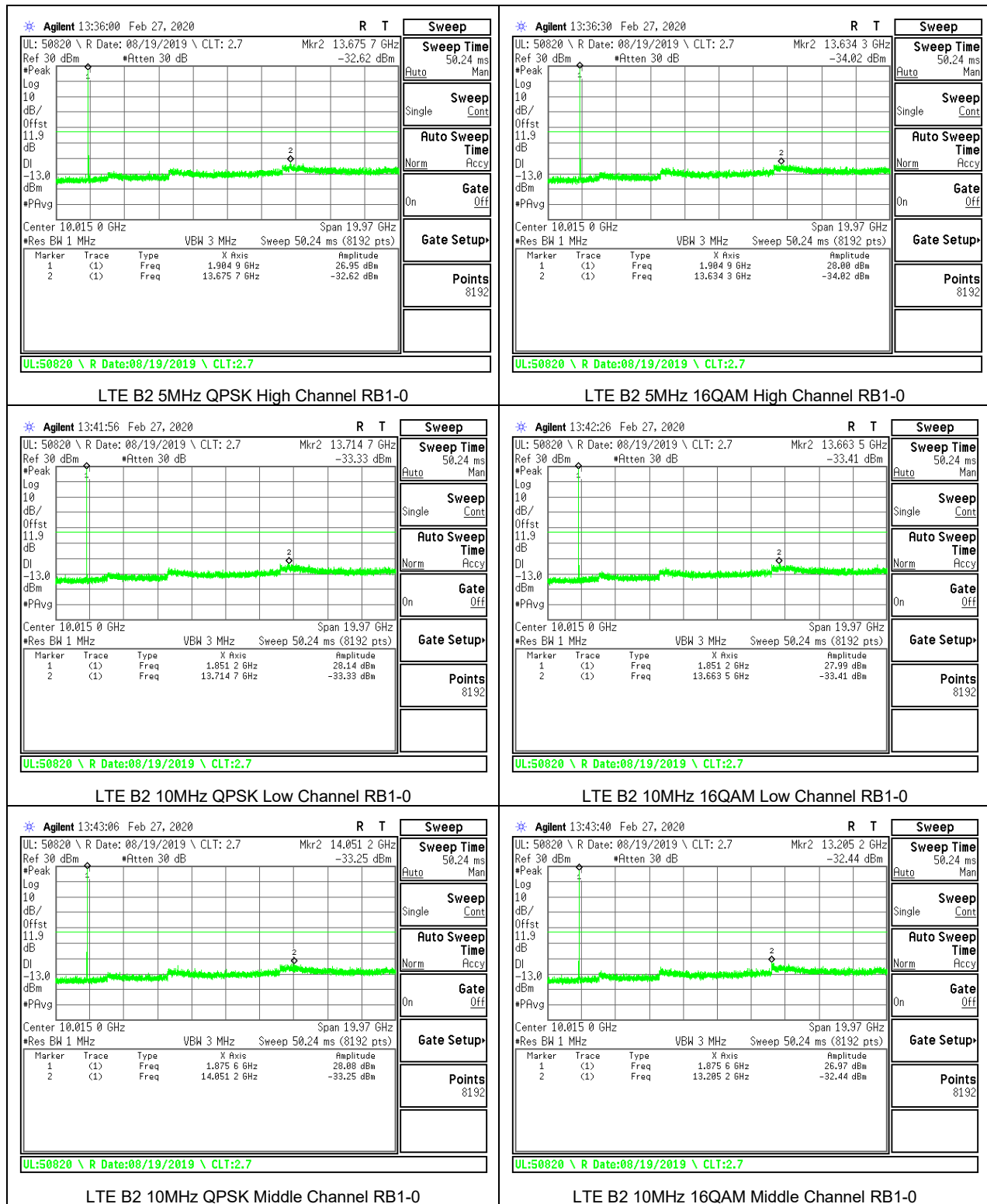
FCC: §24.238

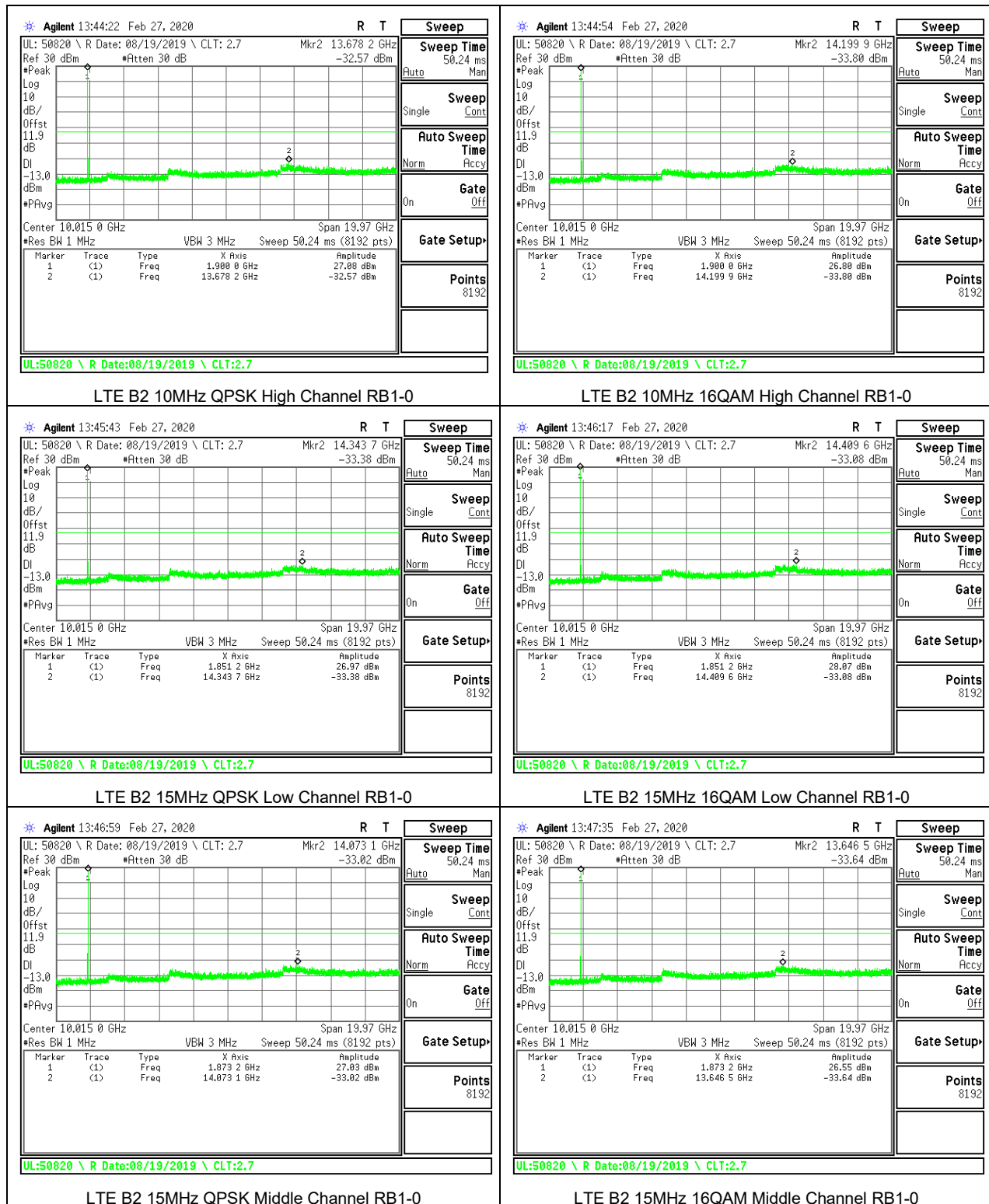
The minimum permissible attenuation level of any spurious emissions is $43 + 10 \log (P)$ dB where transmitting power (P) in Watts.

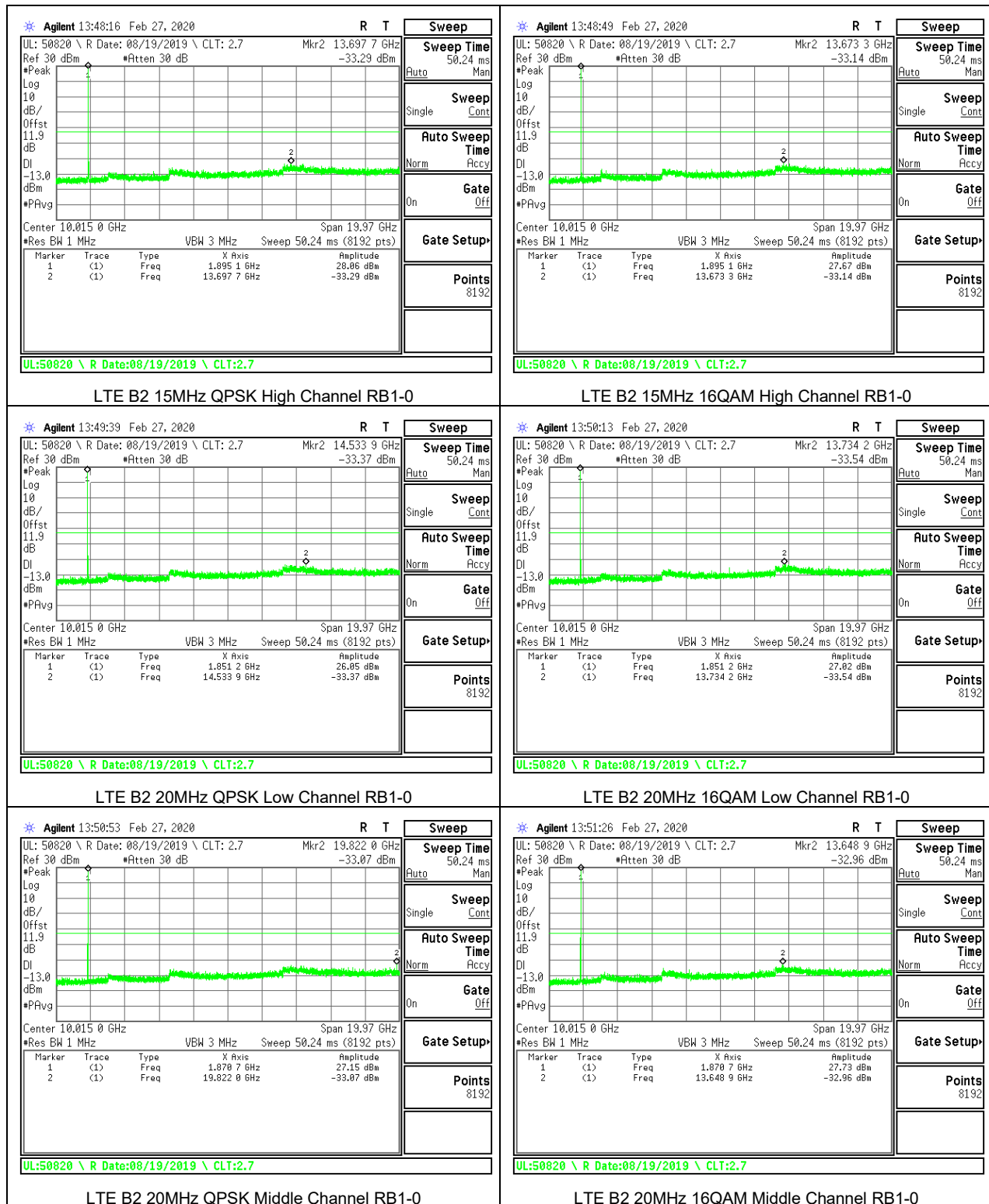


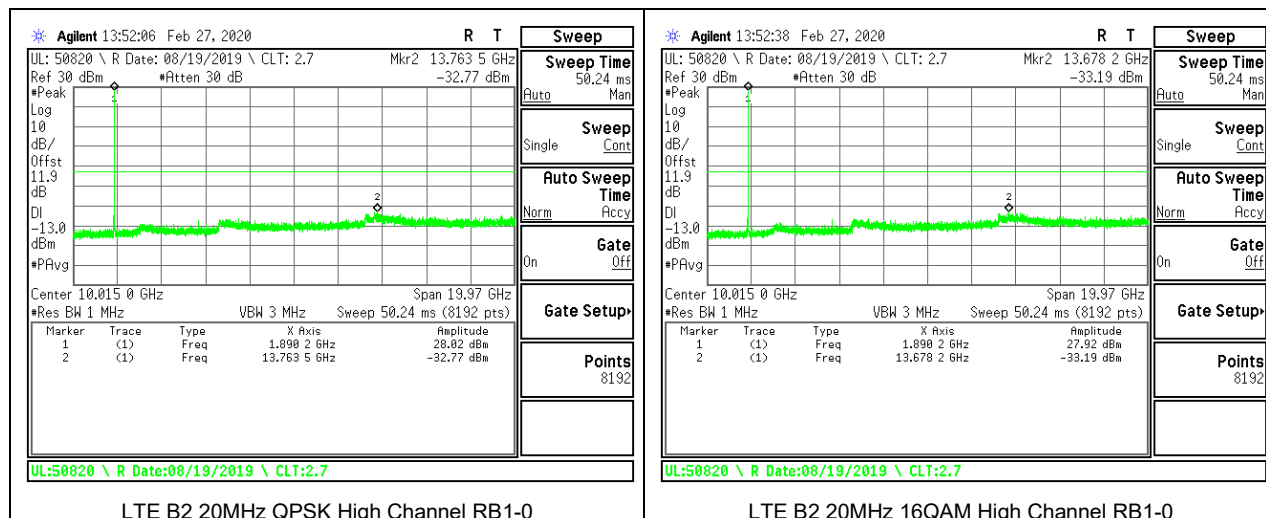










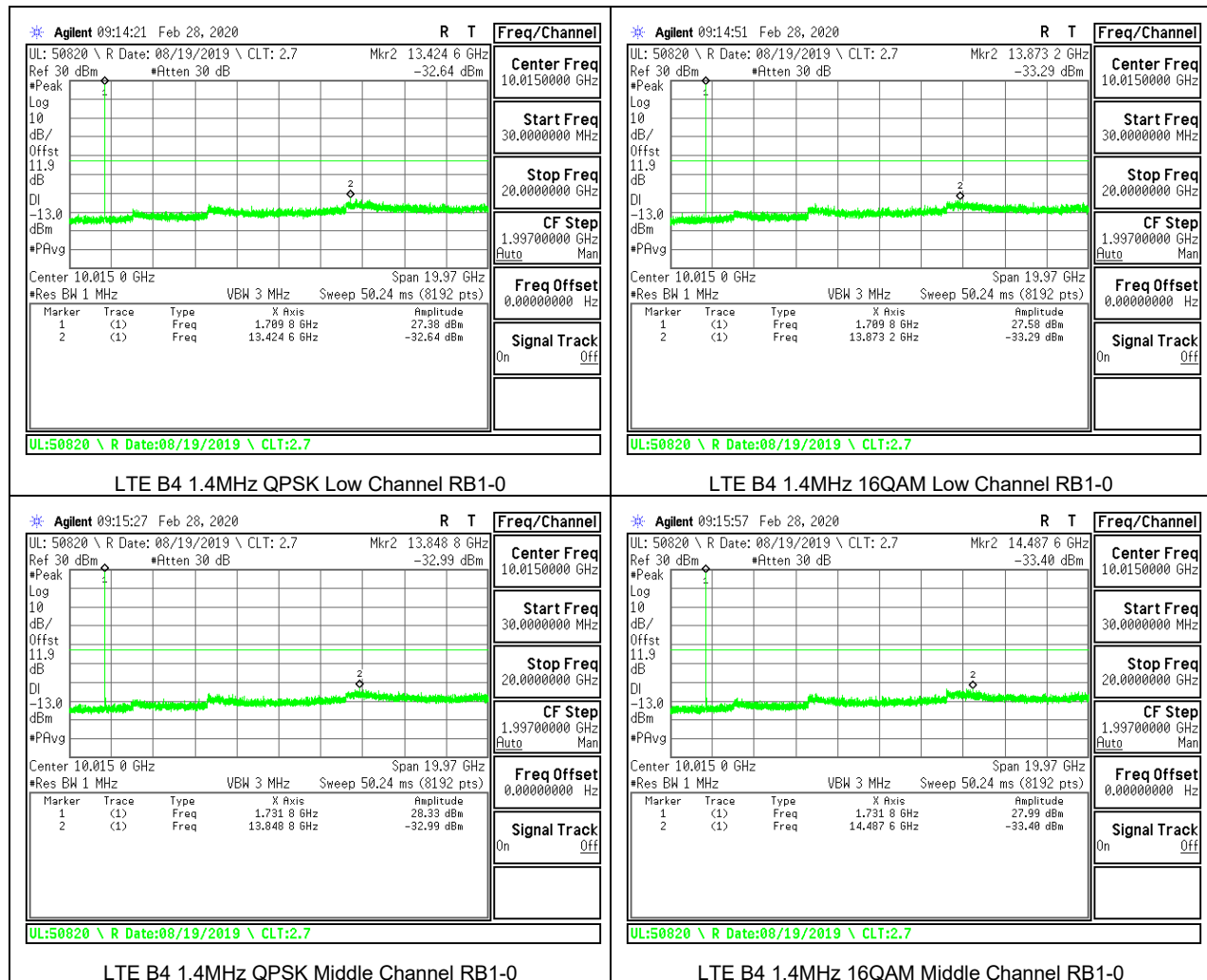


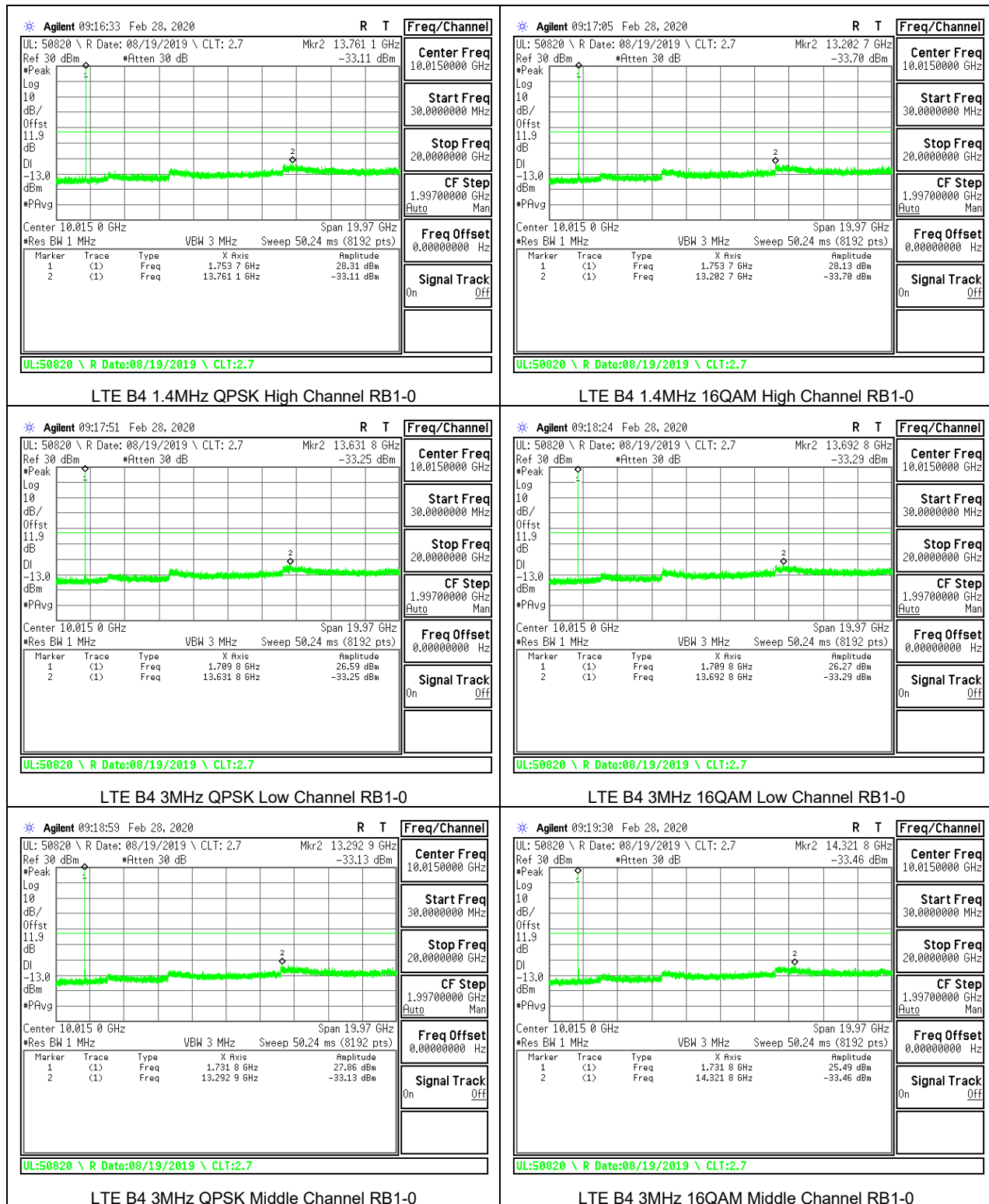
8.3.2. LTE BAND 4

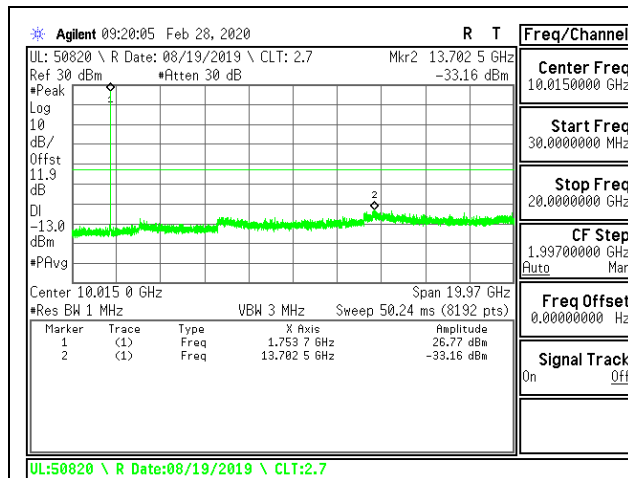
LIMITS

FCC: §27.53 (h)

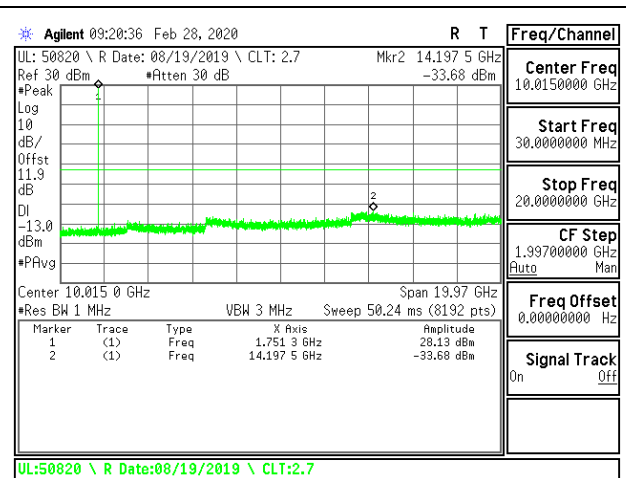
The minimum permissible attenuation level of any spurious emissions is $43 + 10 \log (P)$ dB where transmitting power (P) in Watts.



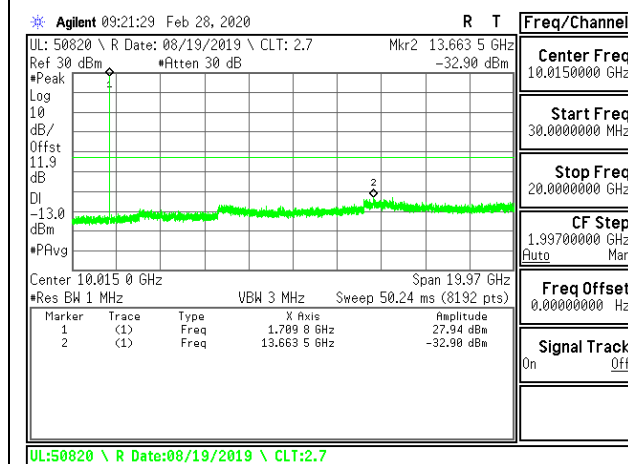




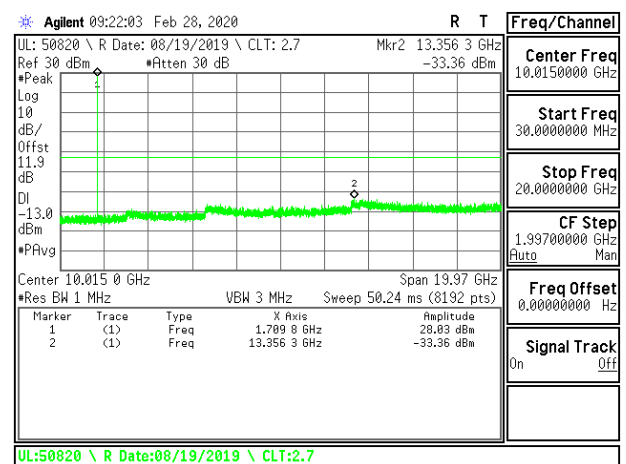
LTE B4 3MHz QPSK High Channel RB1-0



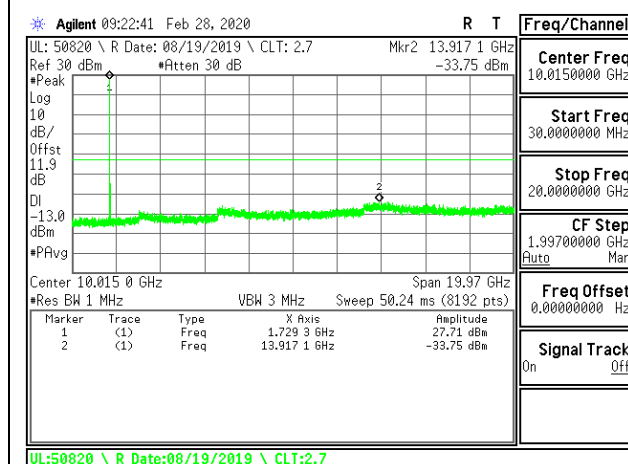
LTE B4 3MHz 16QAM High Channel RB1-0



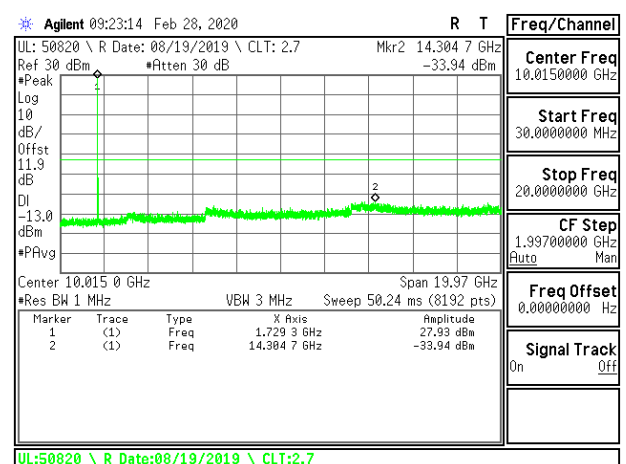
LTE B4 5MHz QPSK Low Channel RB1-0



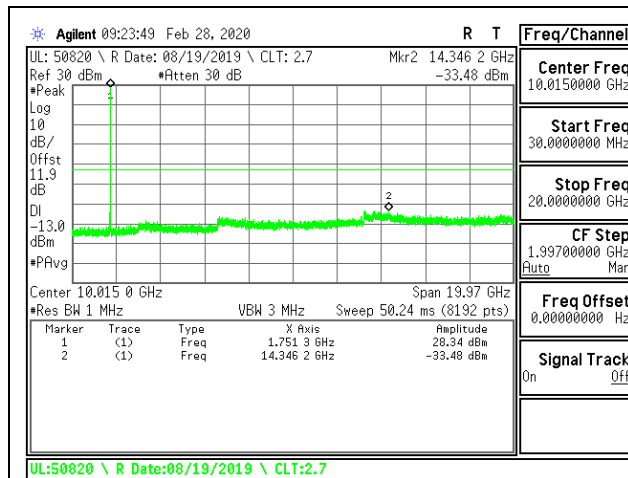
LTE B4 5MHz 16QAM Low Channel RB1-0



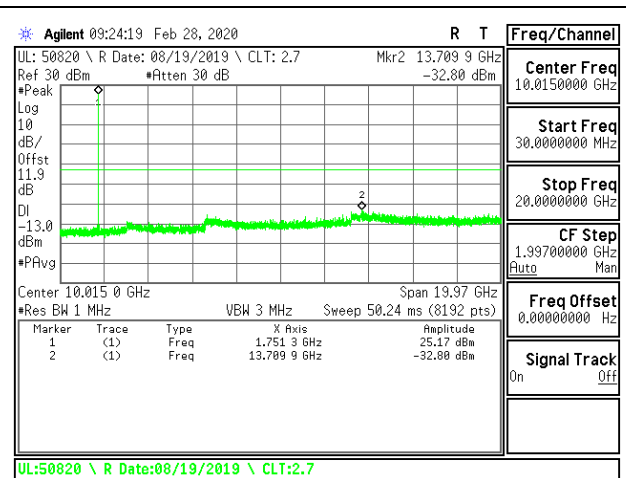
LTE B4 5MHz QPSK Middle Channel RB1-0



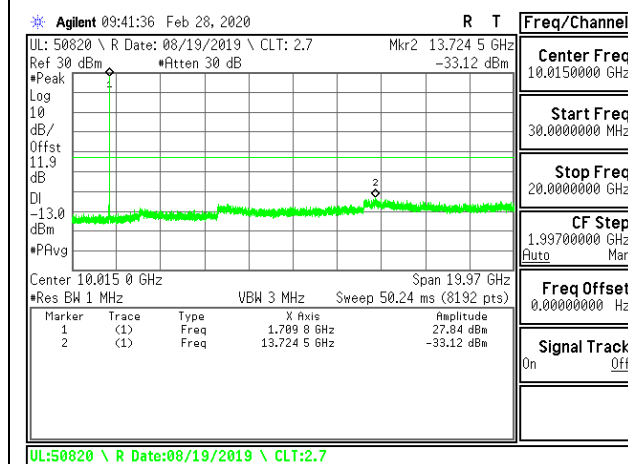
LTE B4 5MHz 16QAM Middle Channel RB1-0



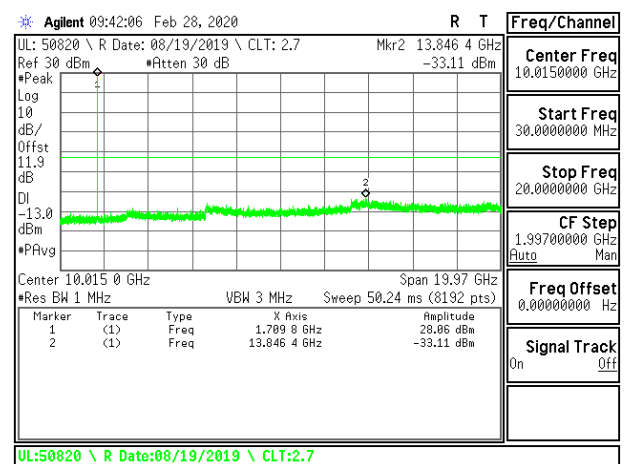
LTE B4 5MHz QPSK High Channel RB1-0



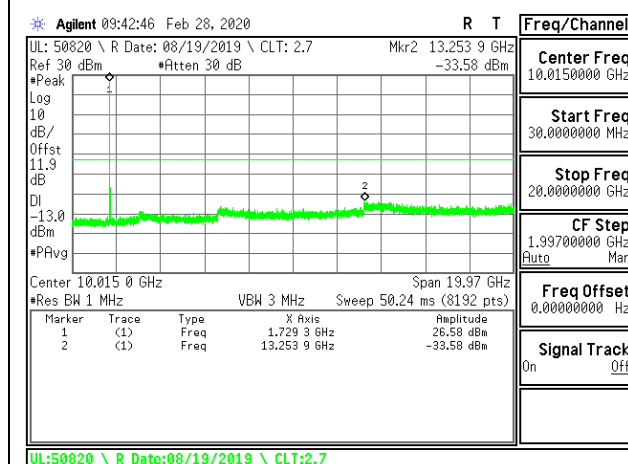
LTE B4 5MHz 16QAM High Channel RB1-0



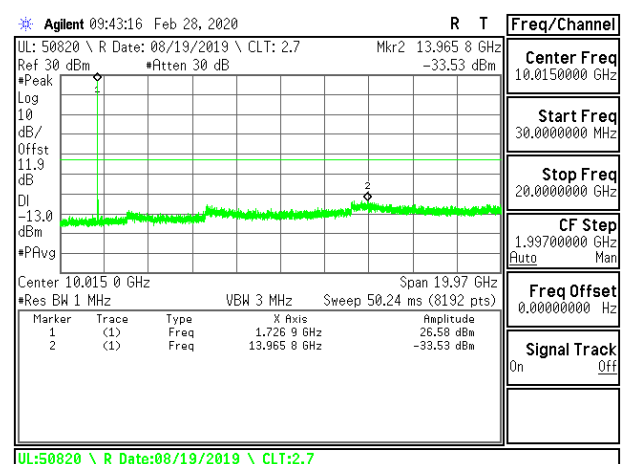
LTE B4 10MHz QPSK Low Channel RB1-0



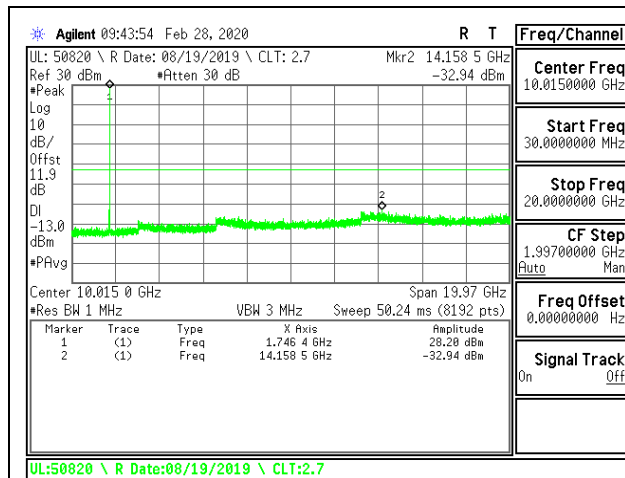
LTE B4 10MHz 16QAM Low Channel RB1-0



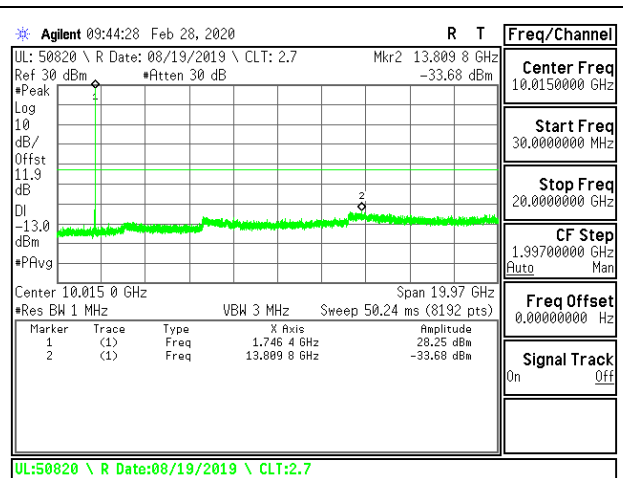
LTE B4 10MHz QPSK Middle Channel RB1-0



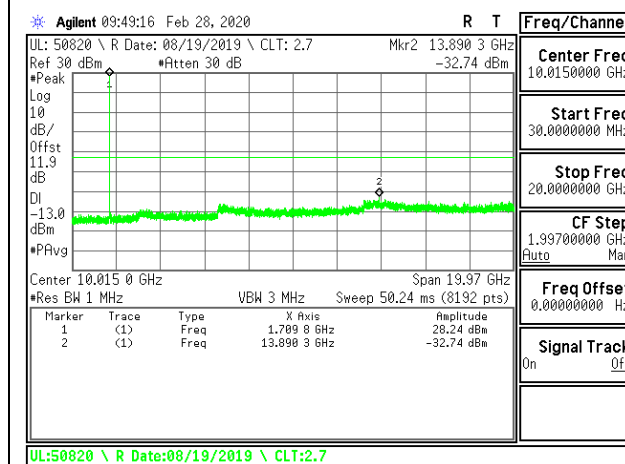
LTE B4 10MHz 16QAM Middle Channel RB1-0



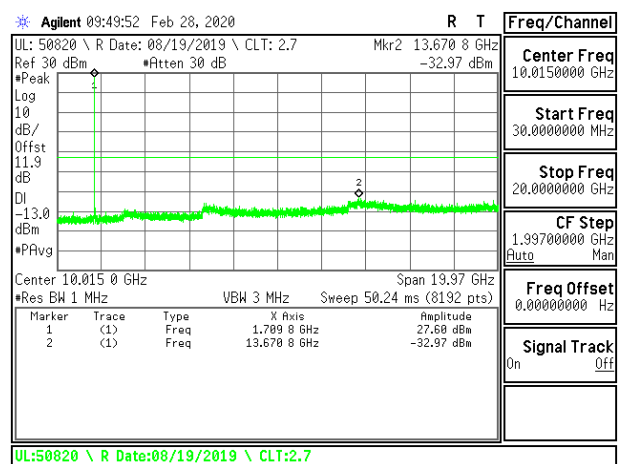
LTE B4 10MHz QPSK High Channel RB1-0



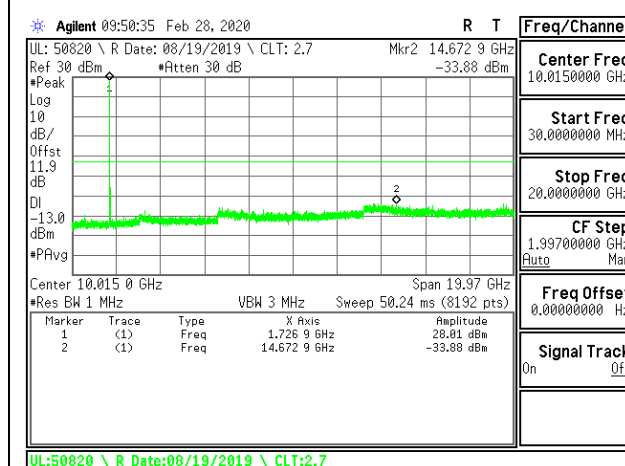
LTE B4 10MHz 16QAM High Channel RB1-0



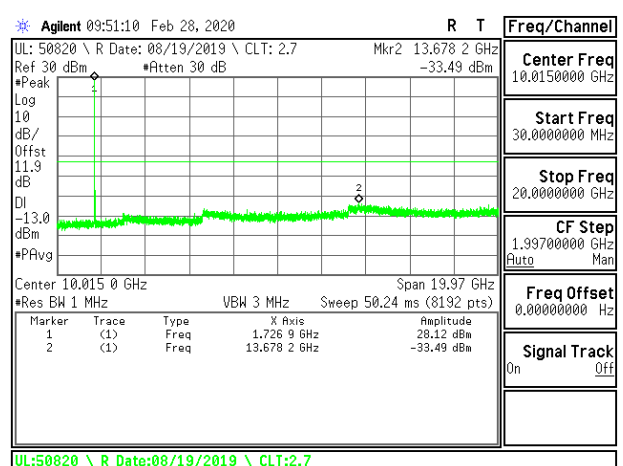
LTE B4 15MHz QPSK Low Channel RB1-0



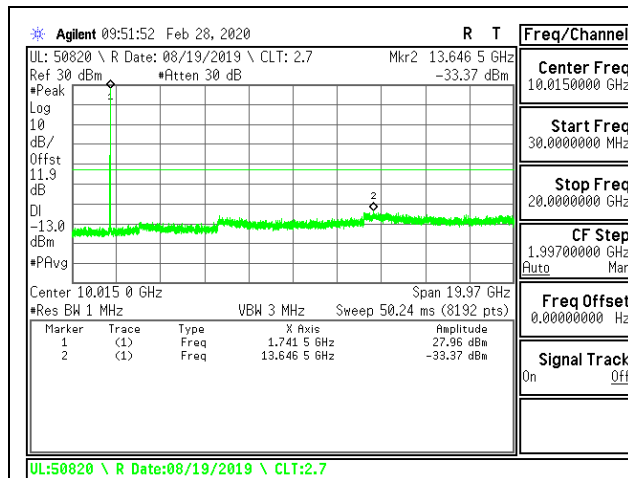
LTE B4 15MHz 16QAM Low Channel RB1-0



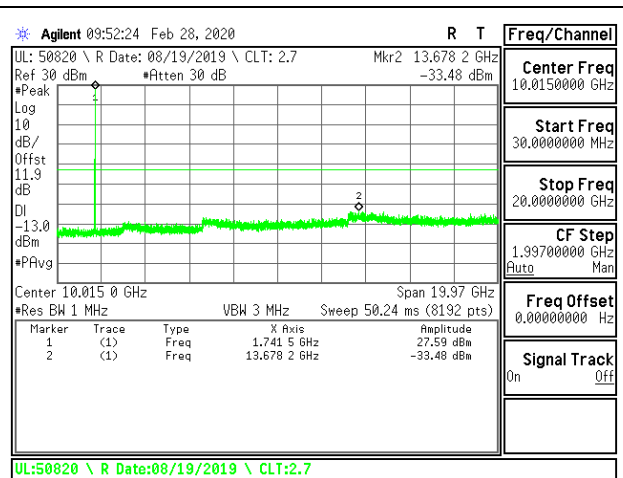
LTE B4 15MHz QPSK Middle Channel RB1-0



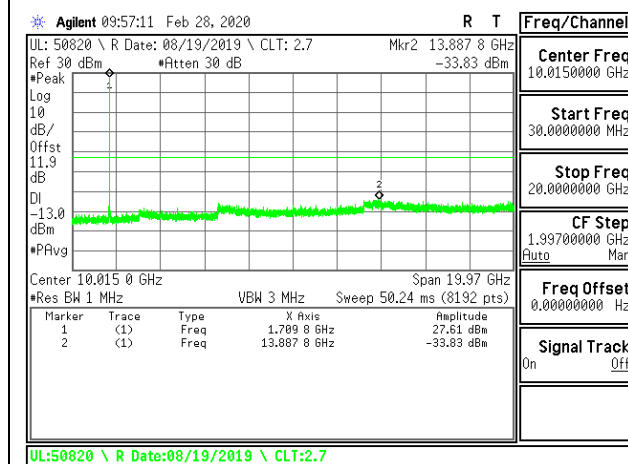
LTE B4 15MHz 16QAM Middle Channel RB1-0



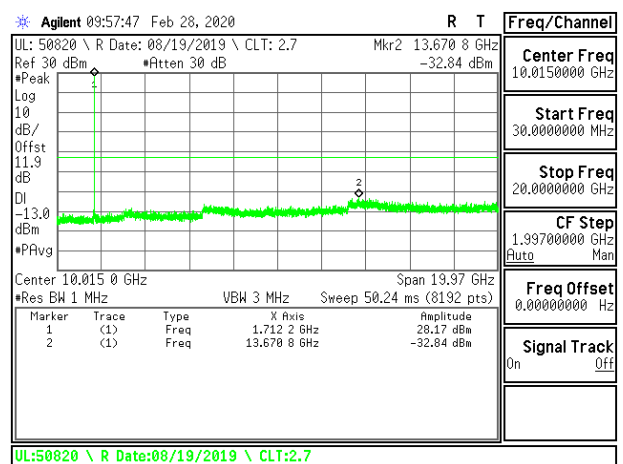
LTE B4 15MHz QPSK High Channel RB1-0



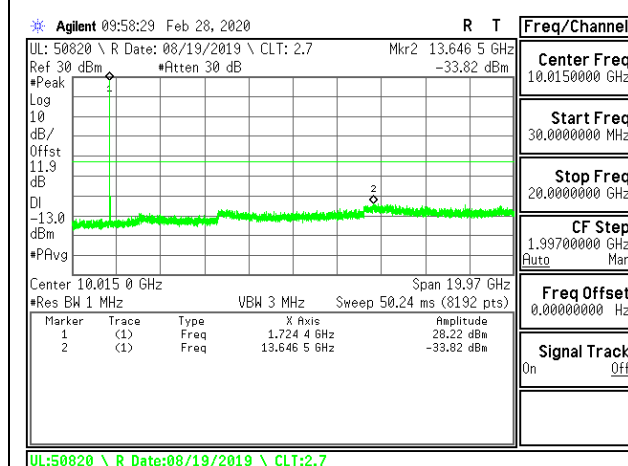
LTE B4 15MHz 16QAM High Channel RB1-0



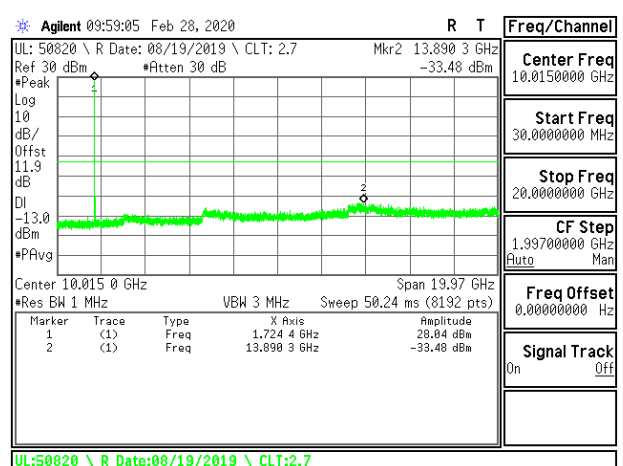
LTE B4 20MHz QPSK Low Channel RB1-0



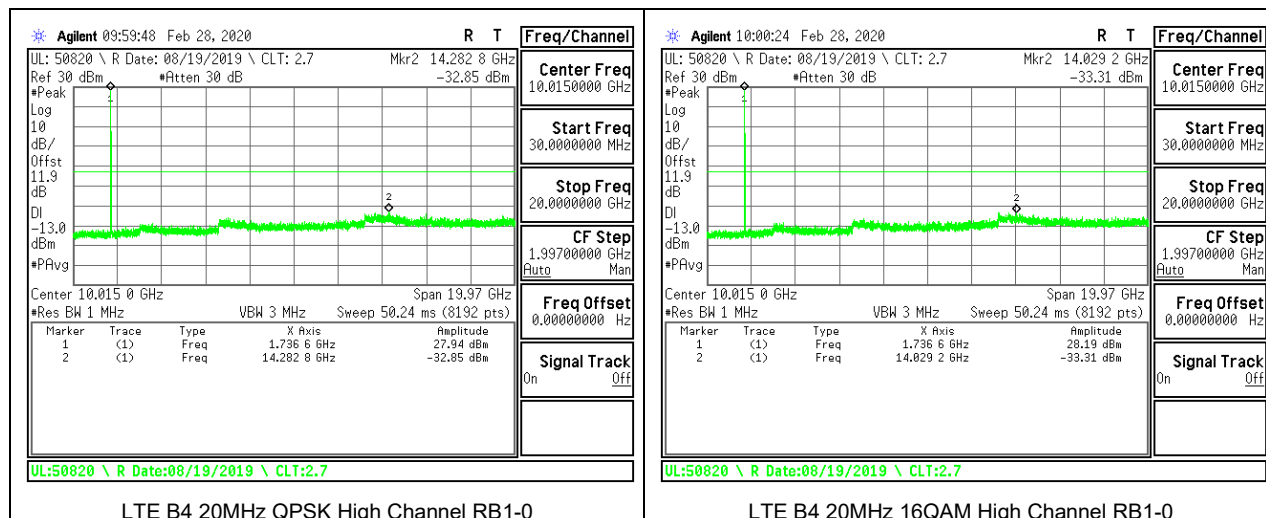
LTE B4 20MHz 16QAM Low Channel RB1-0



LTE B4 20MHz QPSK Middle Channel RB1-0



LTE B4 20MHz 16QAM Middle Channel RB1-0

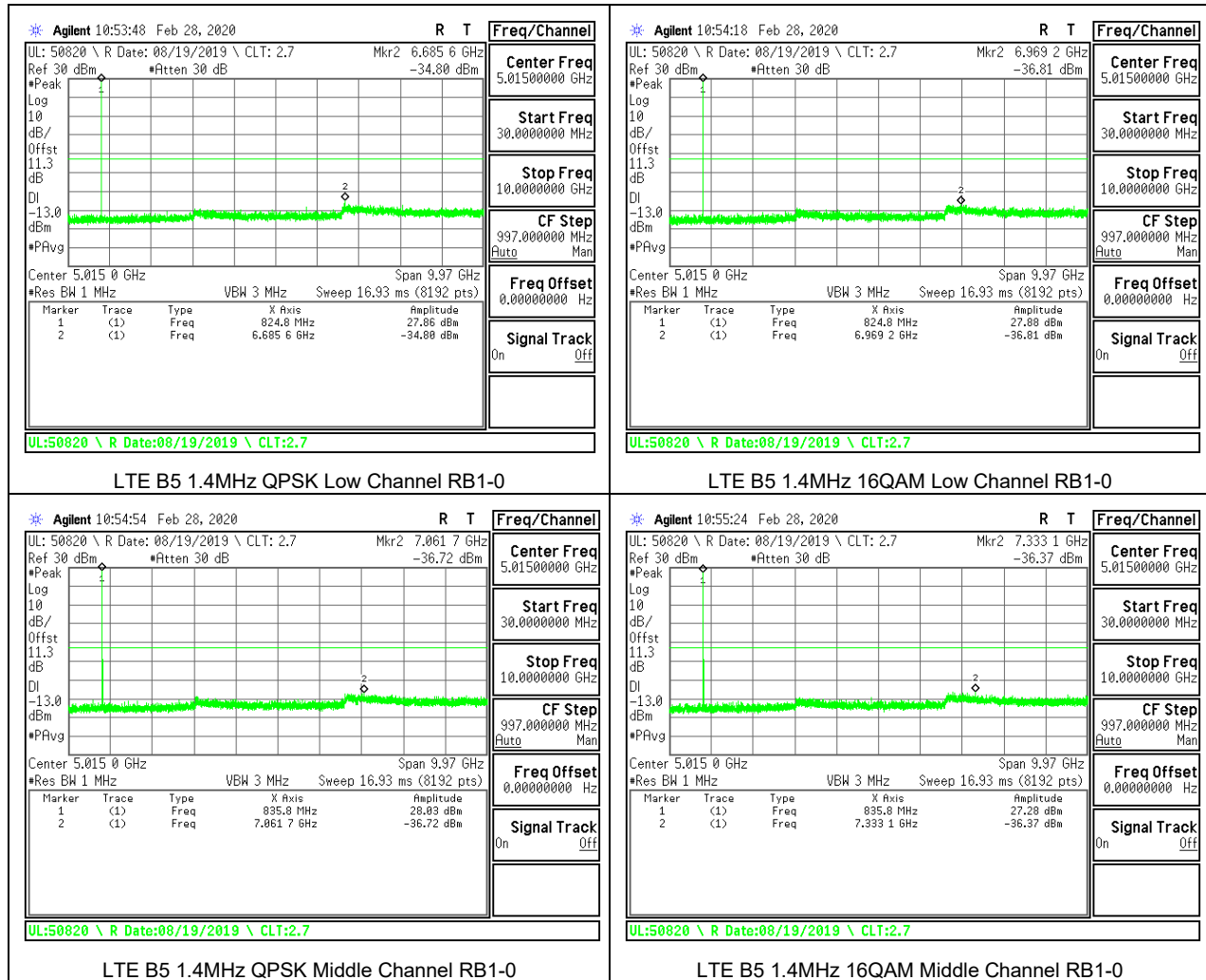


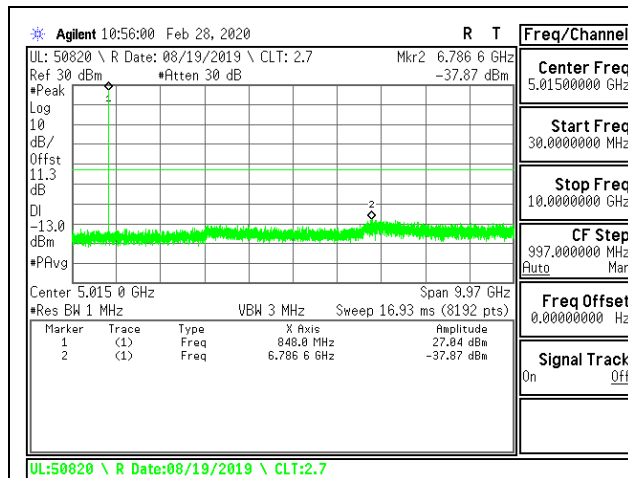
8.3.3. LTE BAND 5

LIMITS

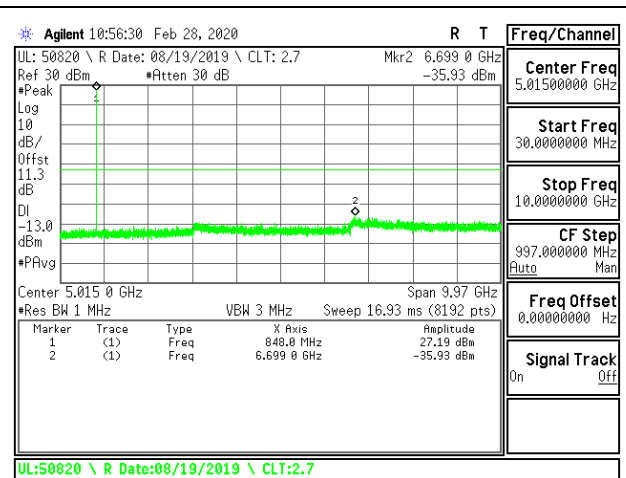
FCC: §22.917

The minimum permissible attenuation level of any spurious emissions is $43 + 10 \log (P)$ dB where transmitting power (P) in Watts.

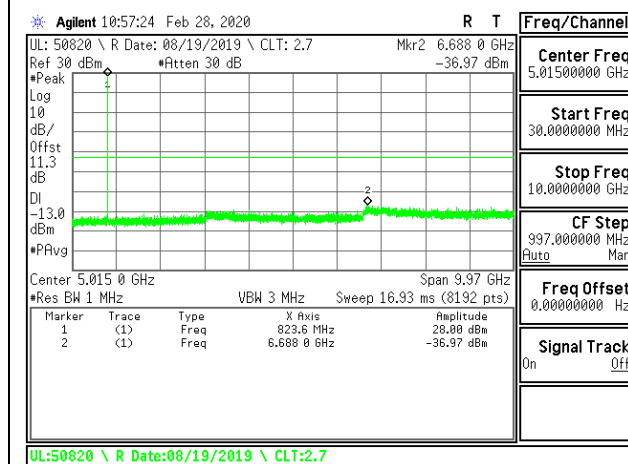




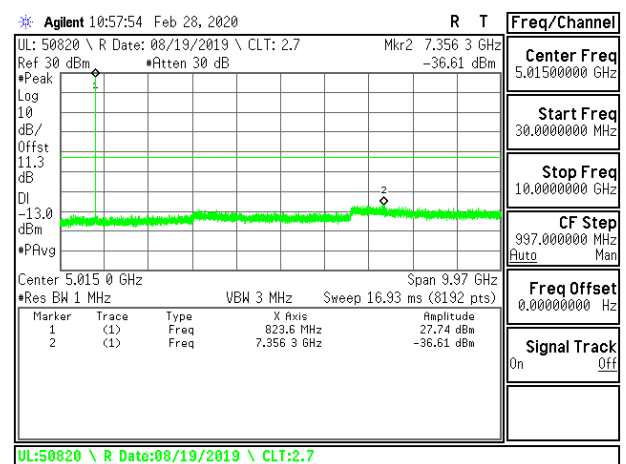
LTE B5 1.4MHz QPSK High Channel RB1-0



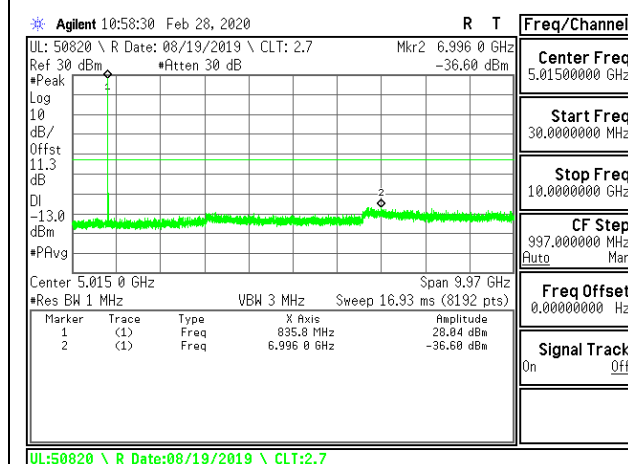
LTE B5 1.4MHz 16QAM High Channel RB1-0



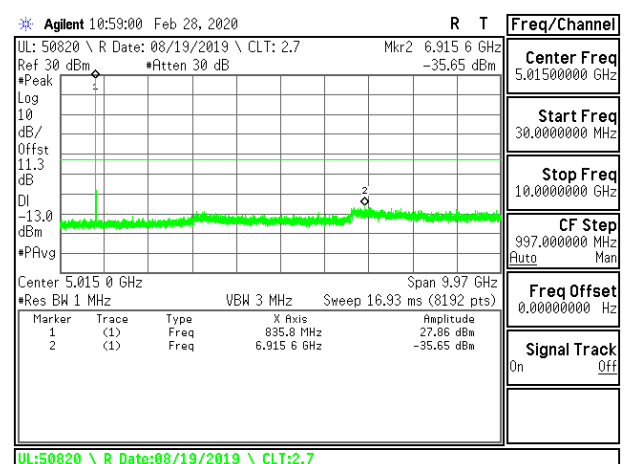
LTE B5 3MHz QPSK Low Channel RB1-0



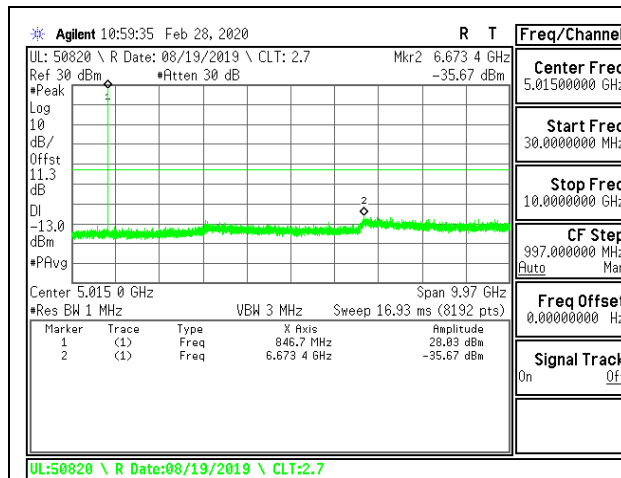
LTE B5 3MHz 16QAM Low Channel RB1-0



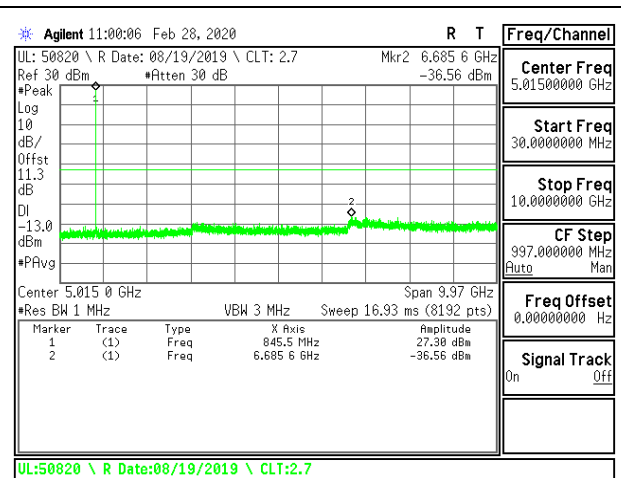
LTE B5 3MHz QPSK Middle Channel RB1-0



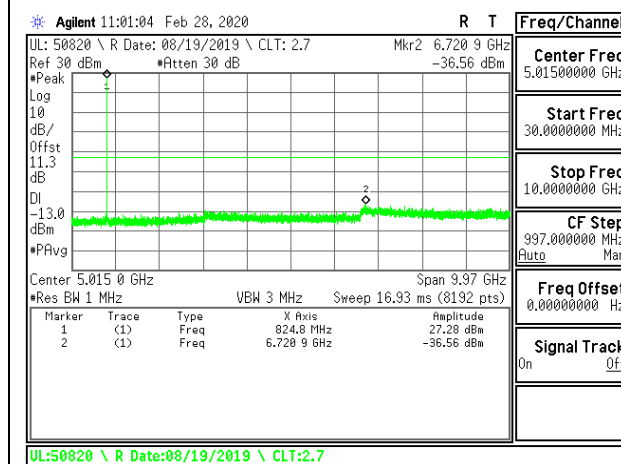
LTE B5 3MHz 16QAM Middle Channel RB1-0



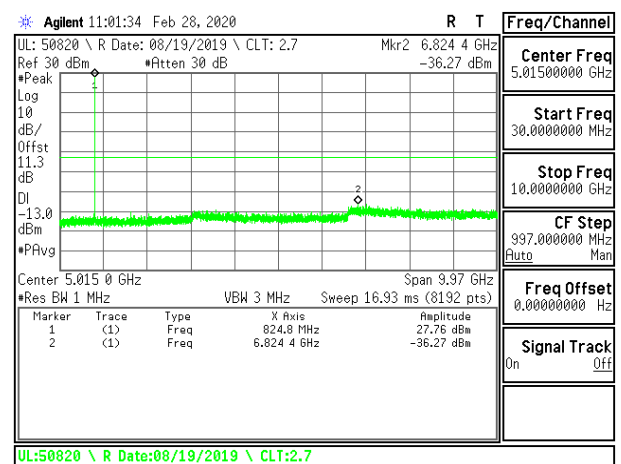
LTE B5 3MHz QPSK High Channel RB1-0



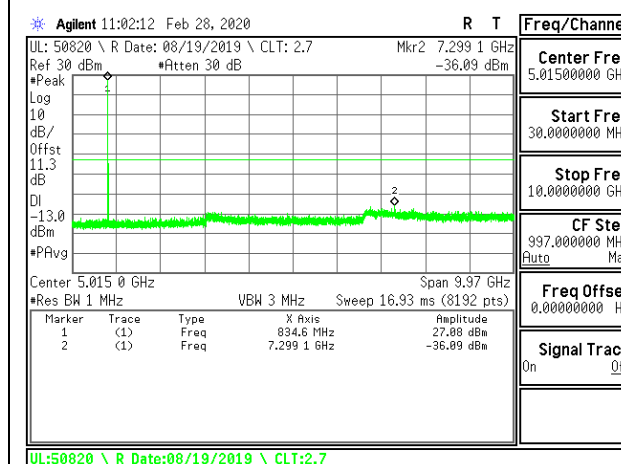
LTE B5 3MHz 16QAM High Channel RB1-0



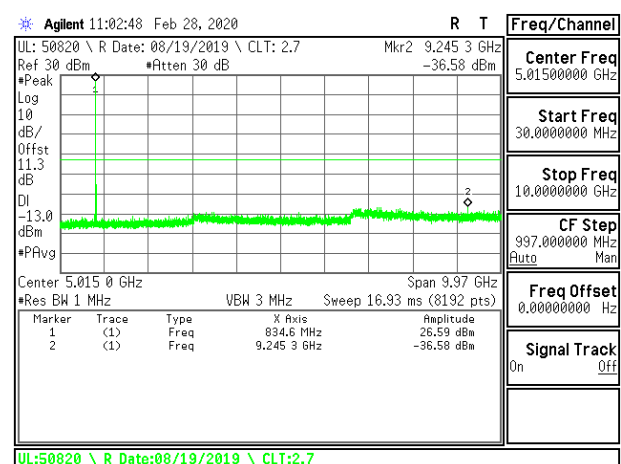
LTE B5 5MHz QPSK Low Channel RB1-0



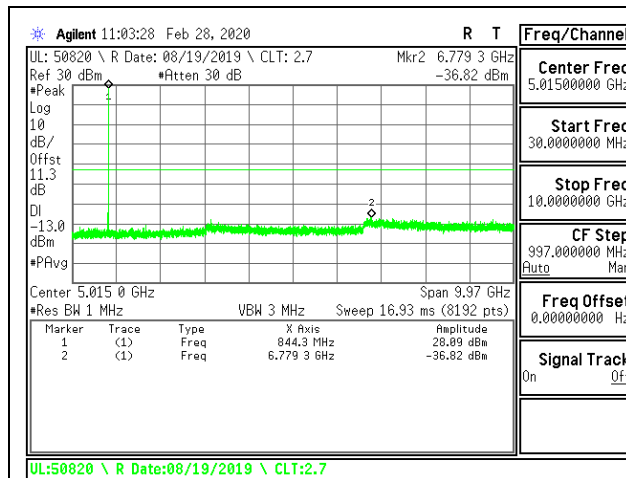
LTE B5 5MHz 16QAM Low Channel RB1-0



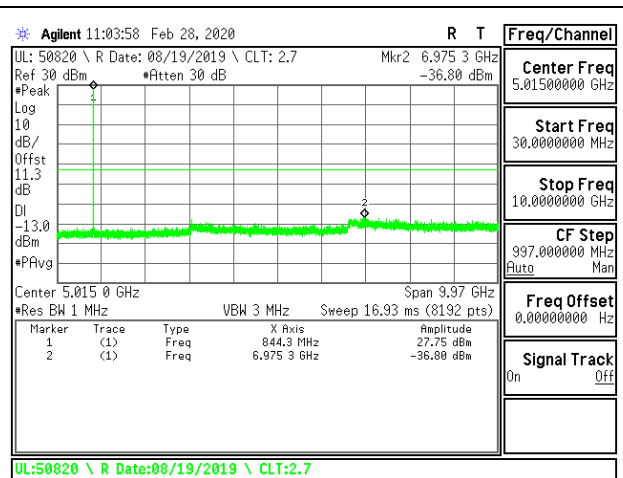
LTE B5 5MHz QPSK Middle Channel RB1-0



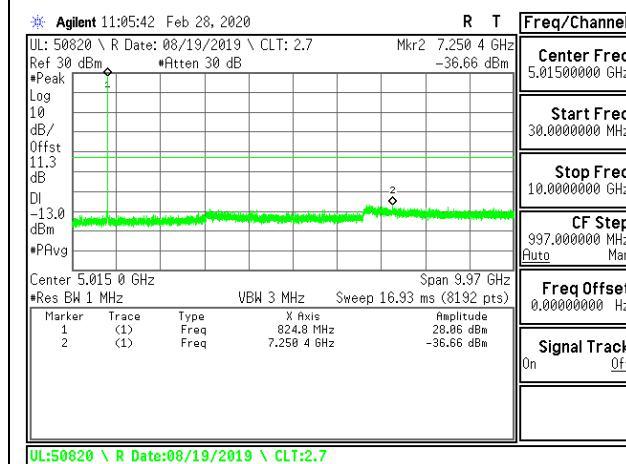
LTE B5 5MHz 16QAM Middle Channel RB1-0



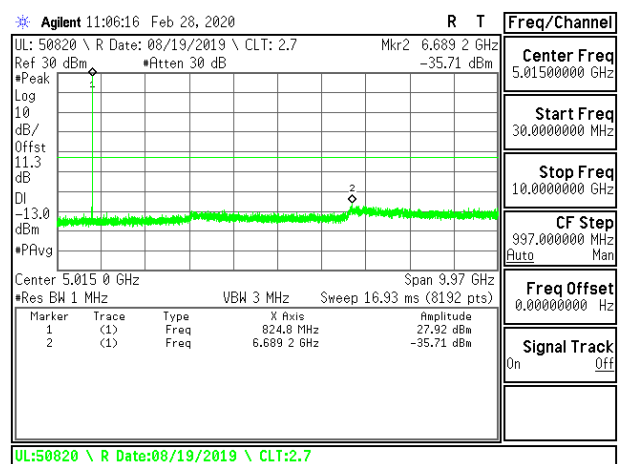
LTE B5 5MHz QPSK High Channel RB1-0



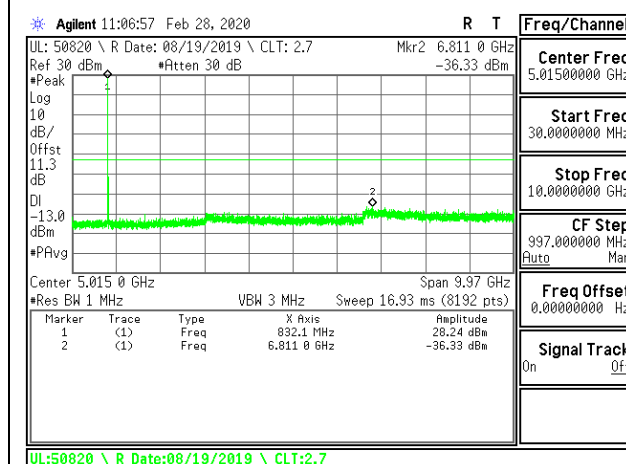
LTE B5 5MHz 16QAM High Channel RB1-0



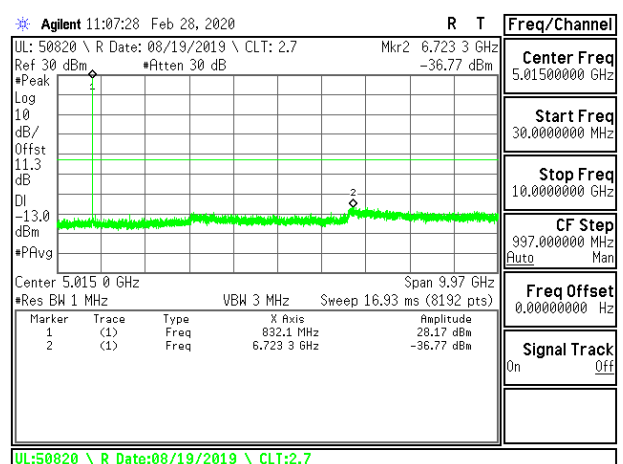
LTE B5 10MHz QPSK Low Channel RB1-0



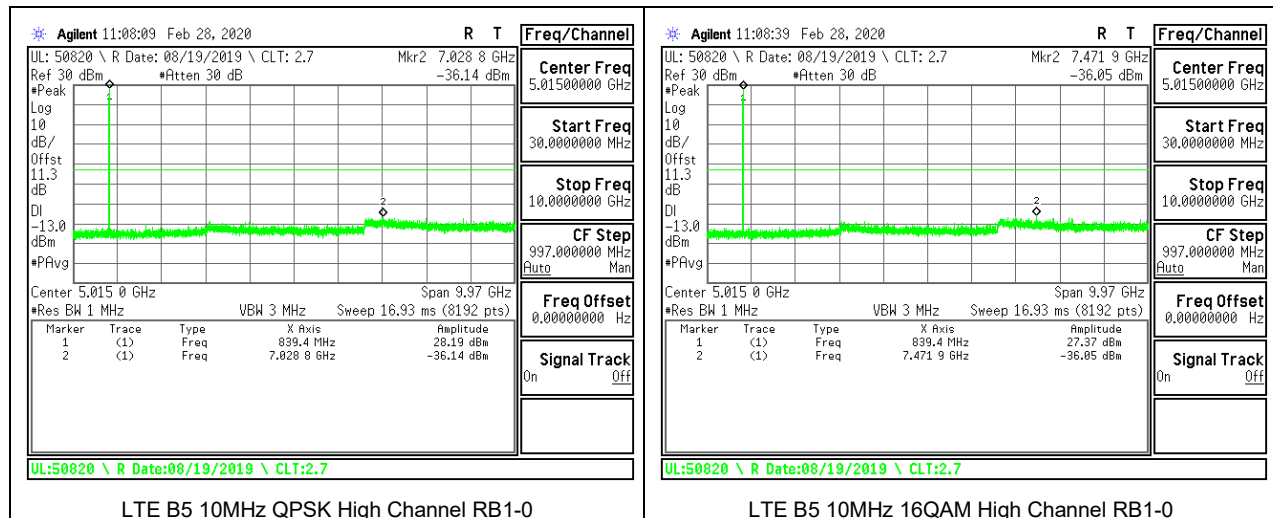
LTE B5 10MHz 16QAM Low Channel RB1-0



LTE B5 10MHz QPSK Middle Channel RB1-0



LTE B5 10MHz 16QAM Middle Channel RB1-0

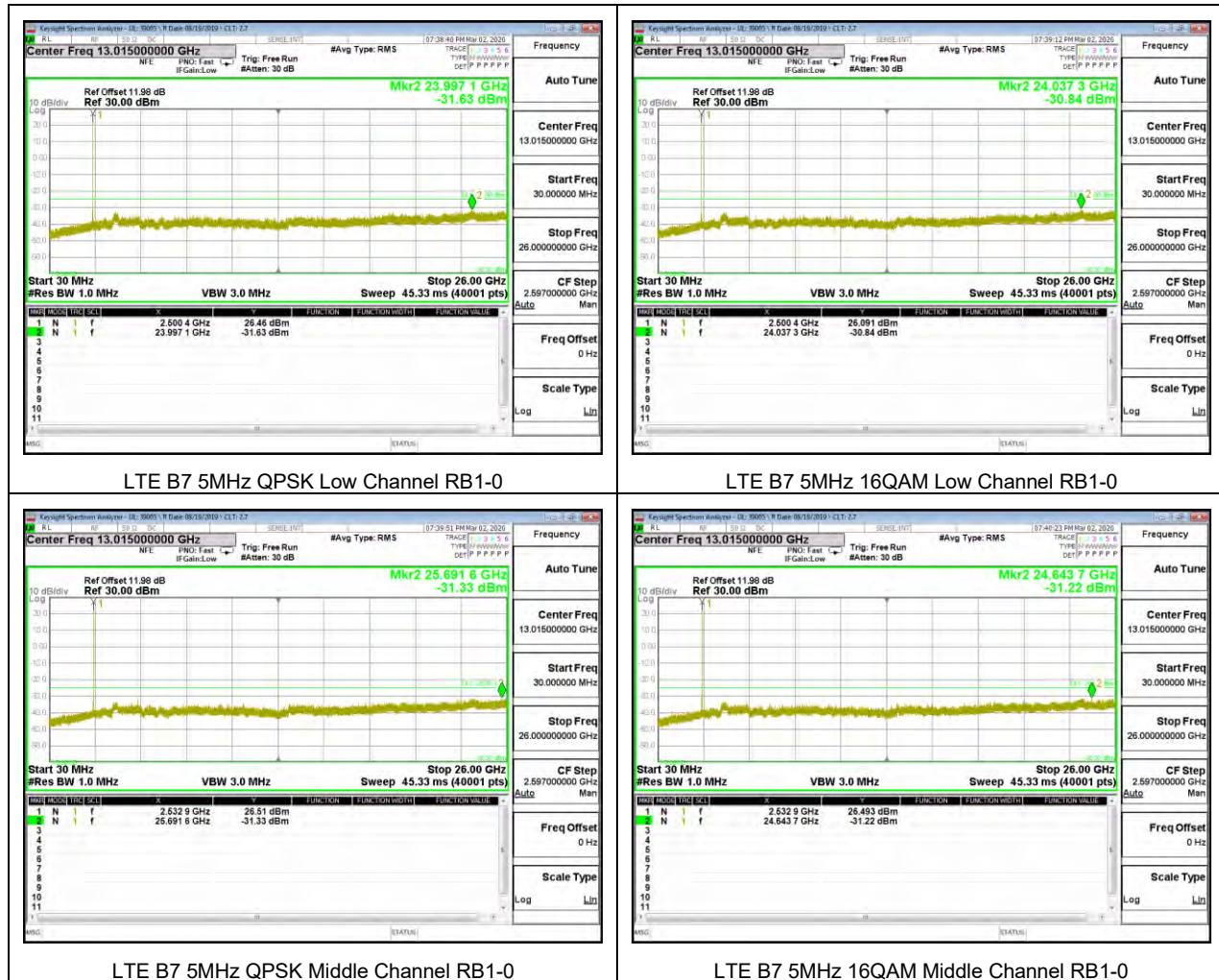


8.3.4. LTE BAND 7

LIMITS

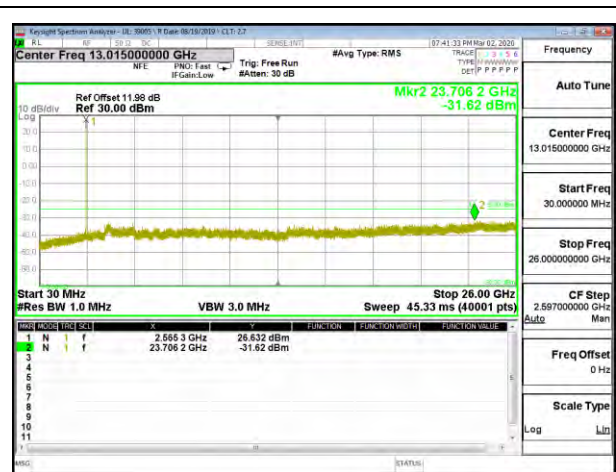
FCC: §27.53 (m)

The minimum permissible attenuation level of any spurious emissions is $55 + 10 \log (P)$ dB where transmitting power (P) in Watts.

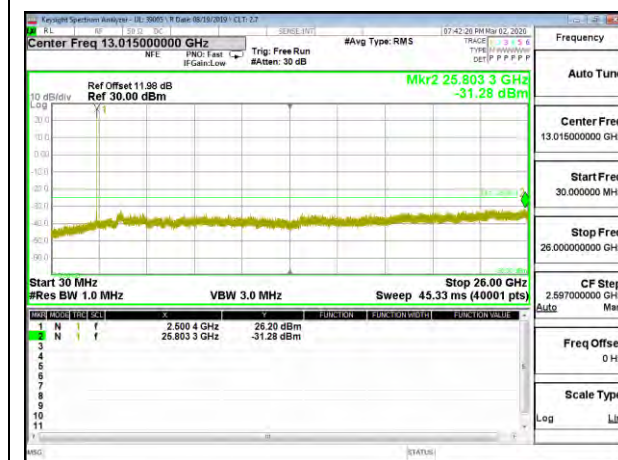




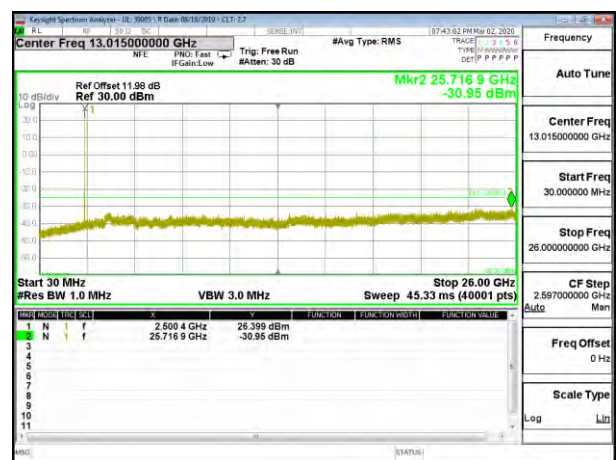
LTE B7 5MHz QPSK High Channel RB1-0



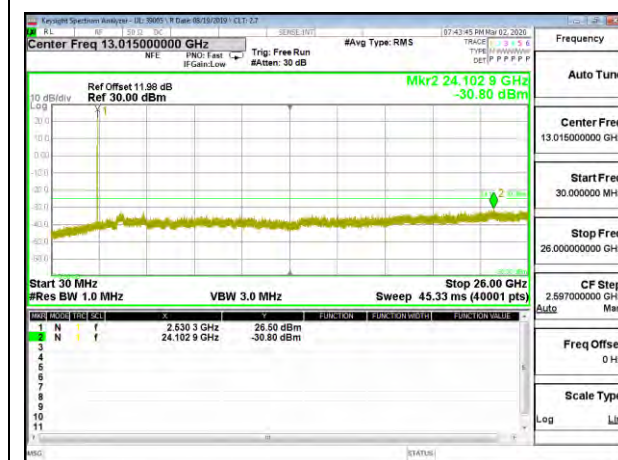
LTE B7 5MHz 16QAM High Channel RB1-0



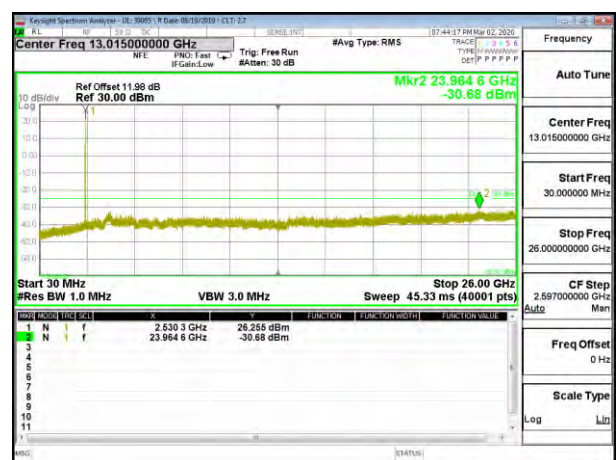
LTE B7 10MHz QPSK Low Channel RB1-0



LTE B7 10MHz 16QAM Low Channel RB1-0



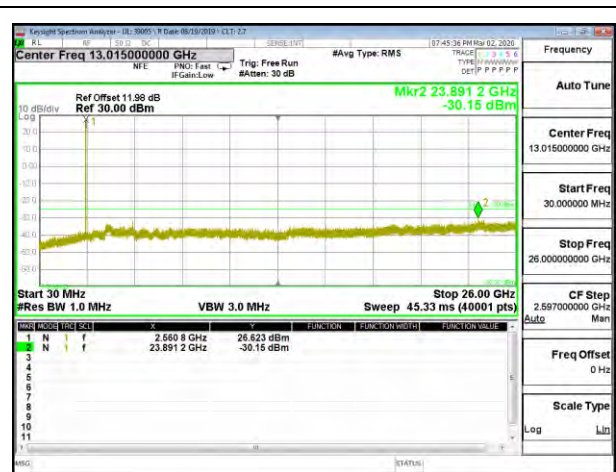
LTE B7 10MHz QPSK Middle Channel RB1-0



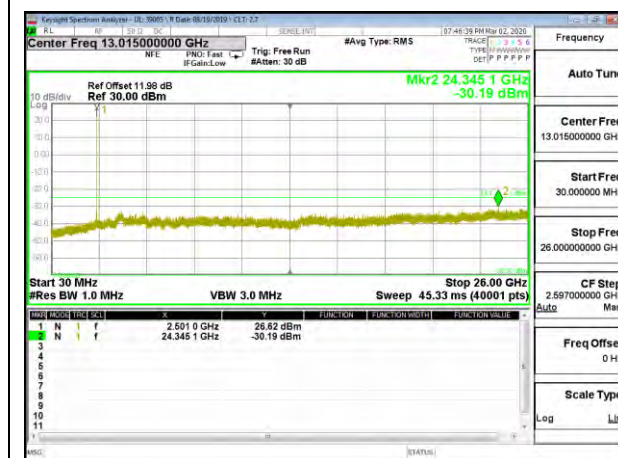
LTE B7 10MHz 16QAM Middle Channel RB1-0



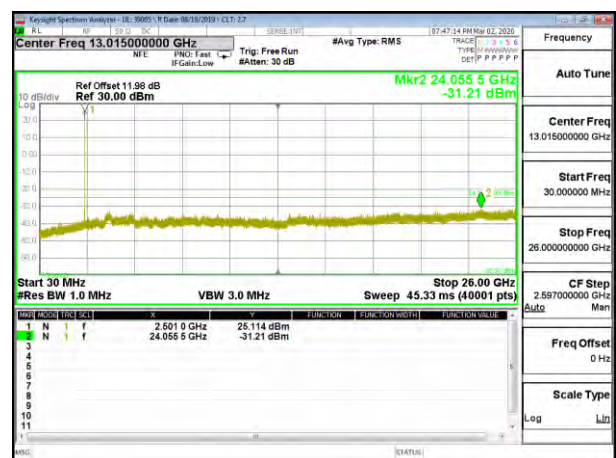
LTE B7 10MHz QPSK High Channel RB1-0



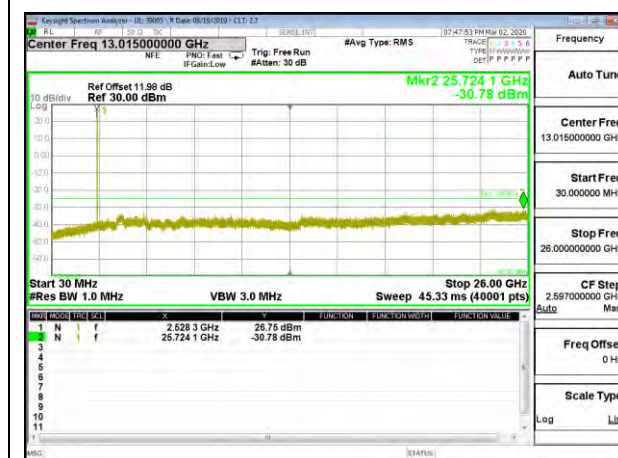
LTE B7 10MHz 16QAM High Channel RB1-0



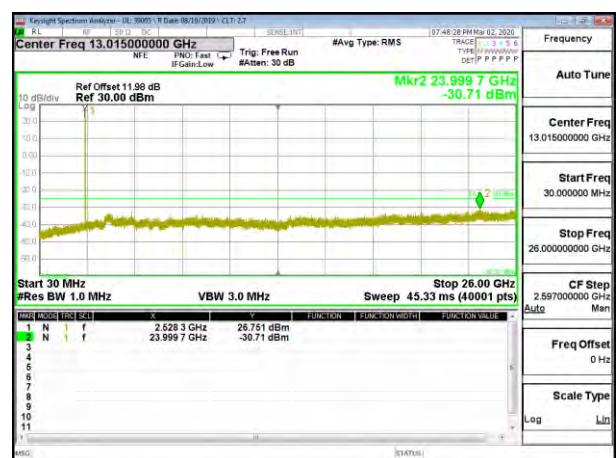
LTE B7 15MHz QPSK Low Channel RB1-0



LTE B7 15MHz 16QAM Low Channel RB1-0



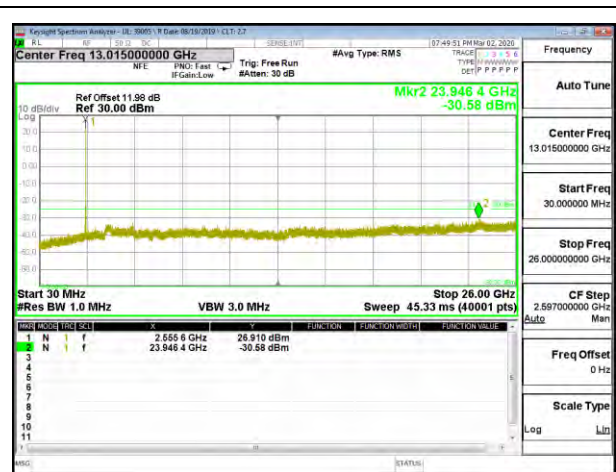
LTE B7 15MHz QPSK Middle Channel RB1-0



LTE B7 15MHz 16QAM Middle Channel RB1-0



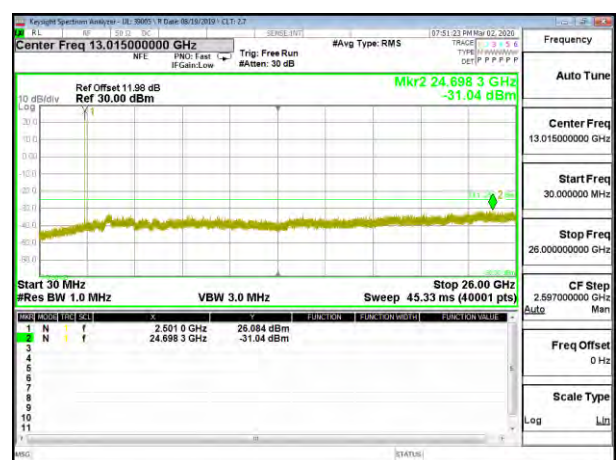
LTE B7 15MHz QPSK High Channel RB1-0



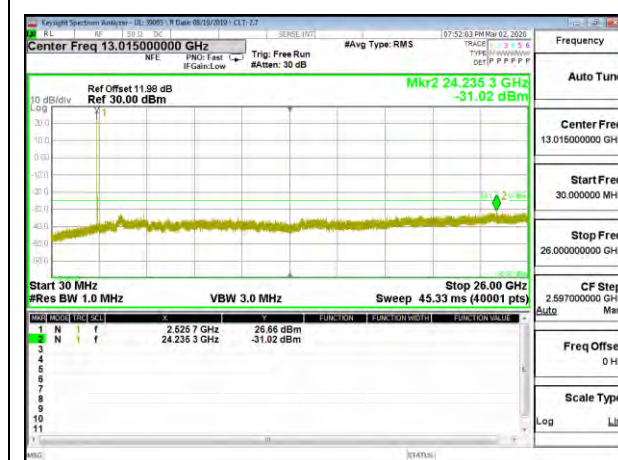
LTE B7 15MHz 16QAM High Channel RB1-0



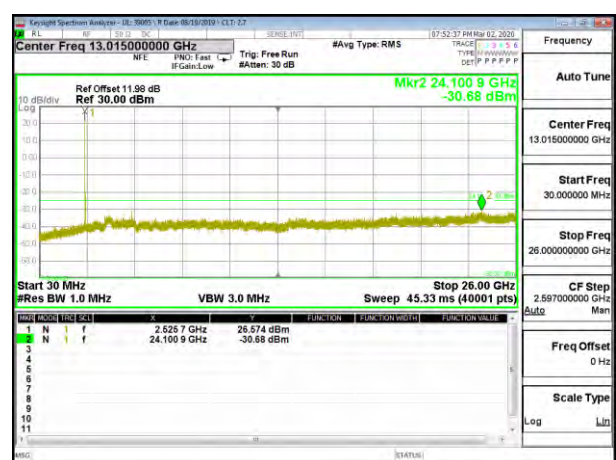
LTE B7 20MHz QPSK Low Channel RB1-0



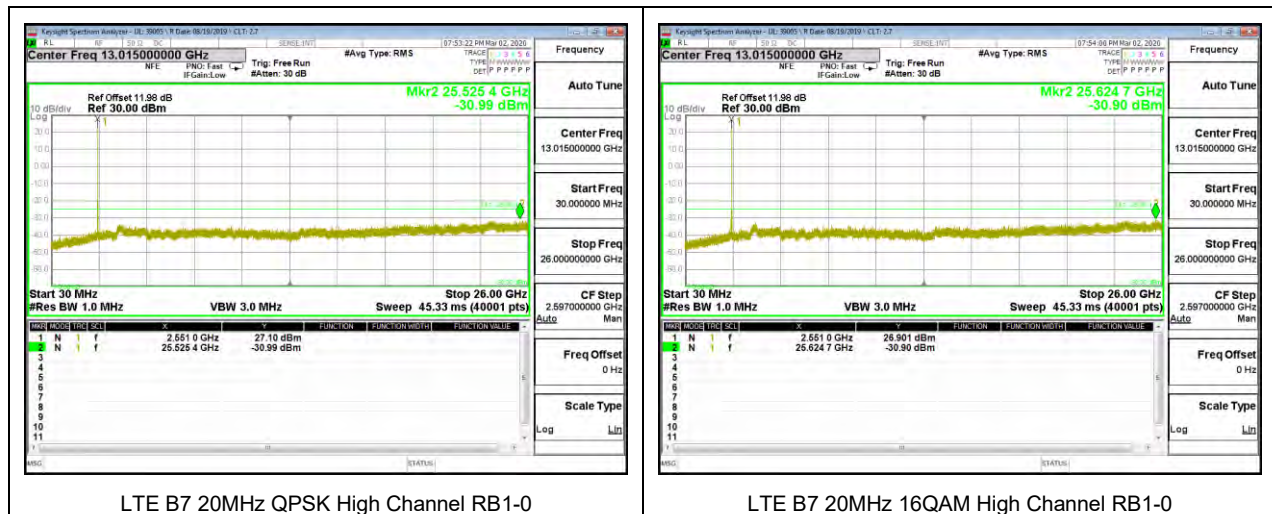
LTE B7 20MHz 16QAM Low Channel RB1-0



LTE B7 20MHz QPSK Middle Channel RB1-0



LTE B7 20MHz 16QAM Middle Channel RB1-0

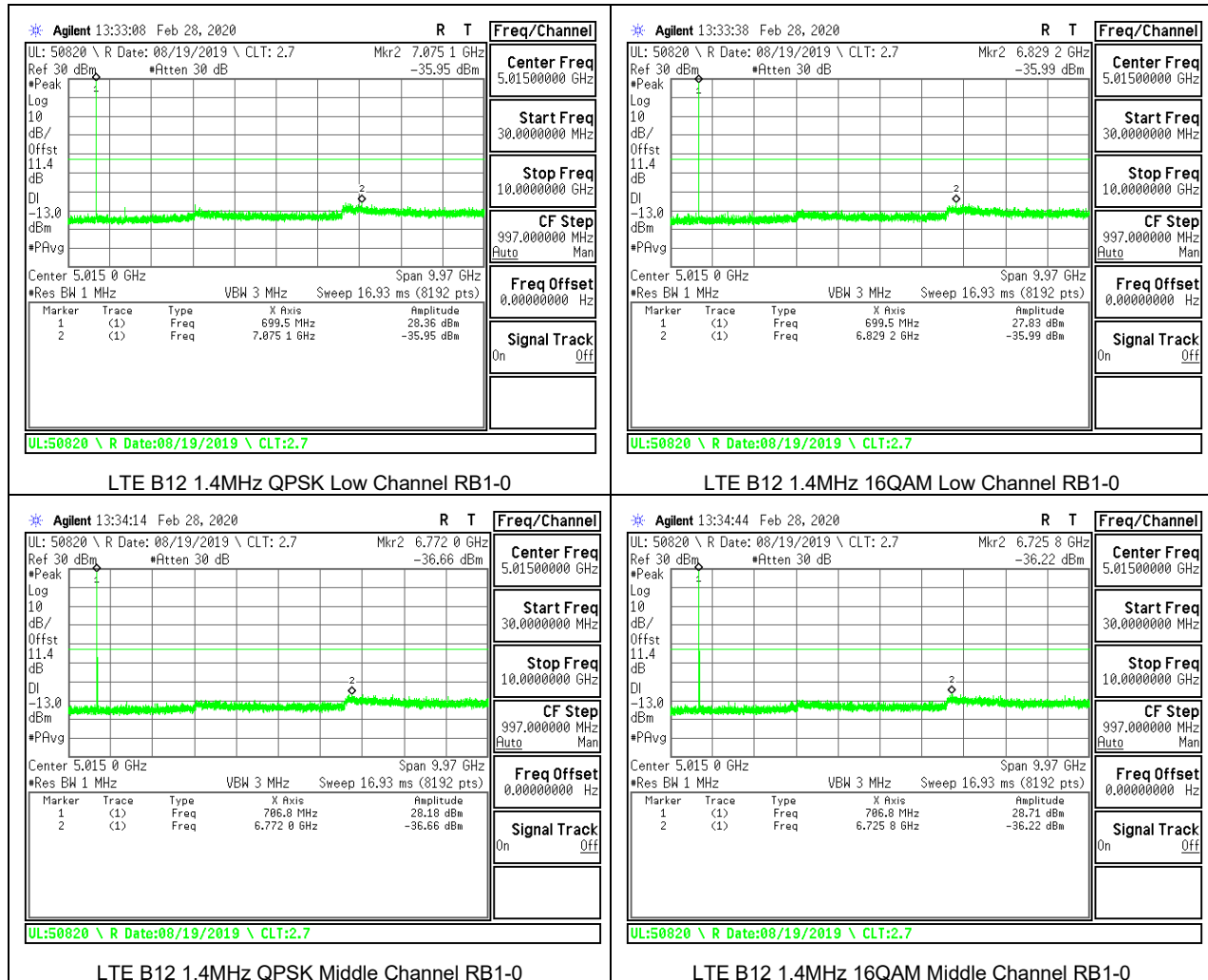


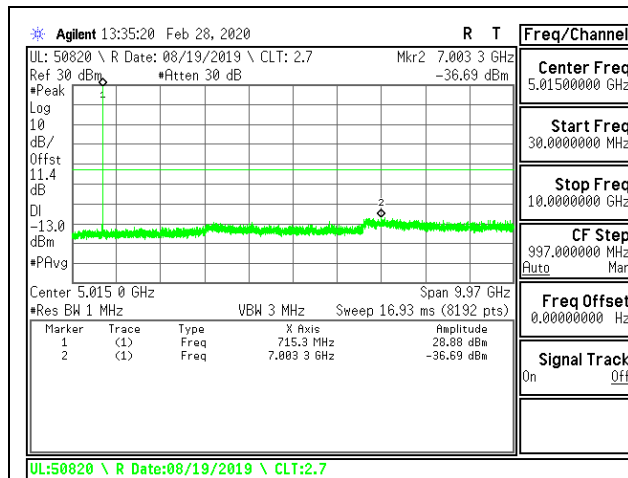
8.3.5. LTE BAND 12

LIMITS

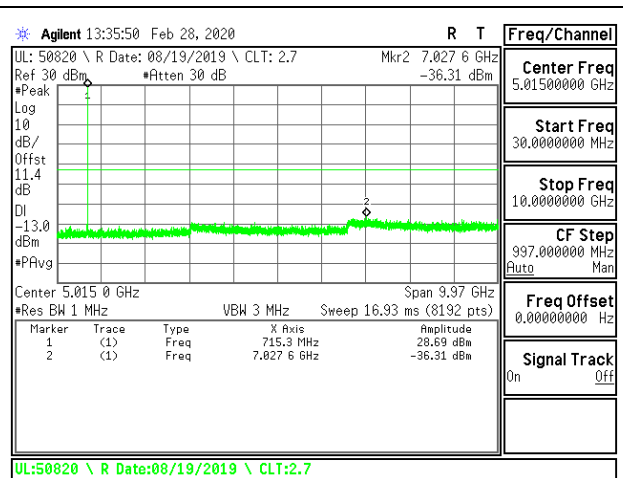
FCC: §27.53 (g)

The minimum permissible attenuation level of any spurious emissions is $43 + 10 \log (P)$ dB where transmitting power (P) in Watts.

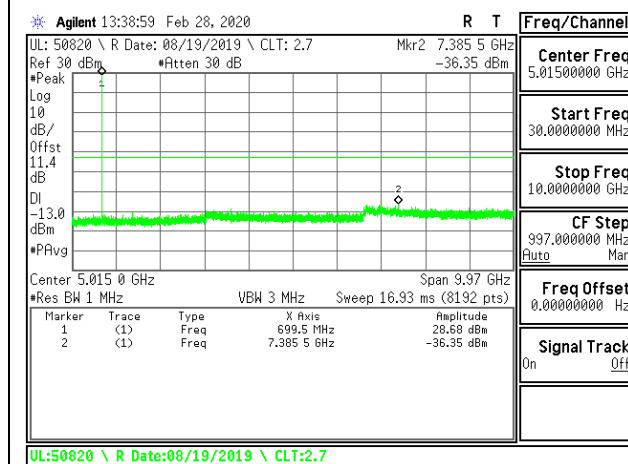




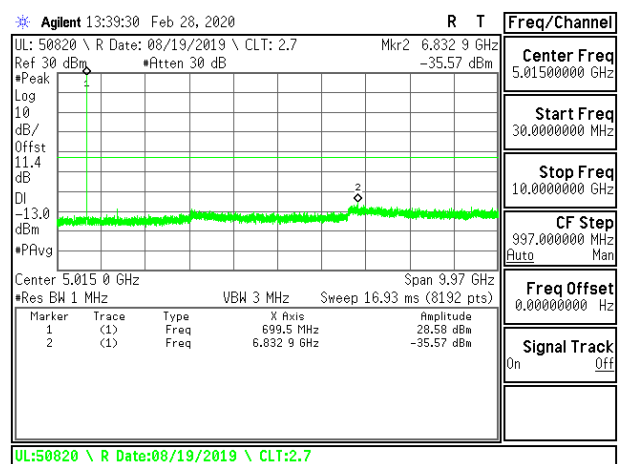
LTE B12 1.4MHz QPSK High Channel RB1-0



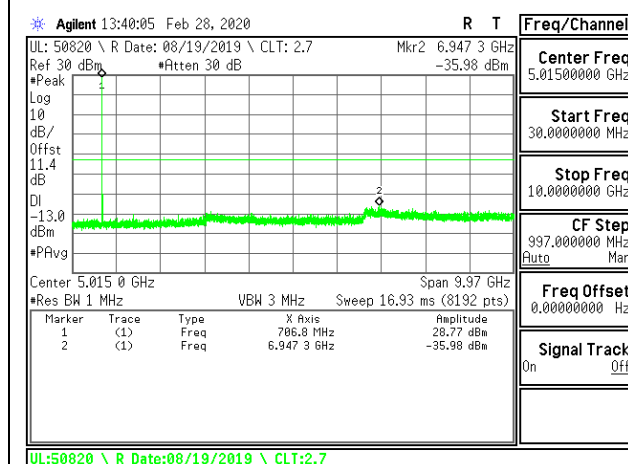
LTE B12 1.4MHz 16QAM High Channel RB1-0



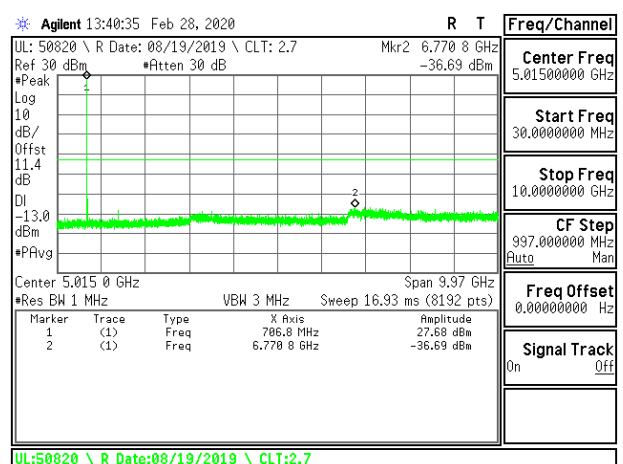
LTE B12 3MHz QPSK Low Channel RB1-0



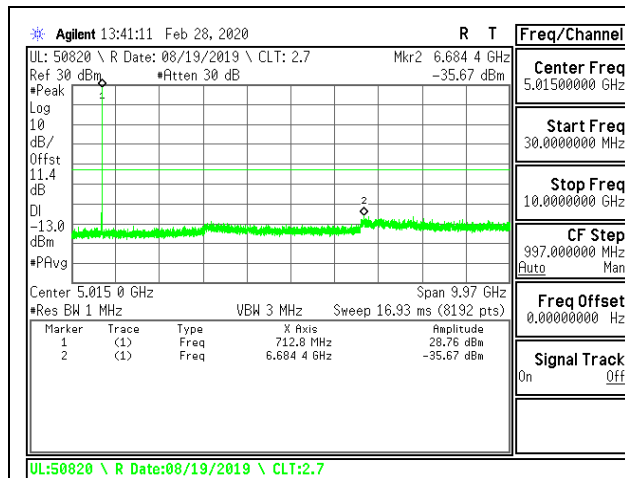
LTE B12 3MHz 16QAM Low Channel RB1-0



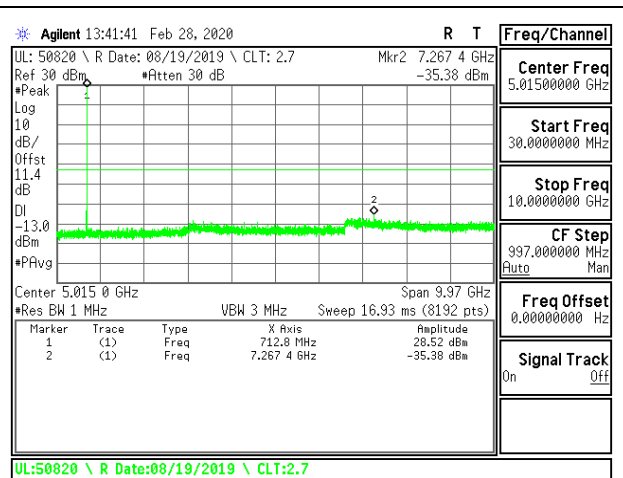
LTE B12 3MHz QPSK Middle Channel RB1-0



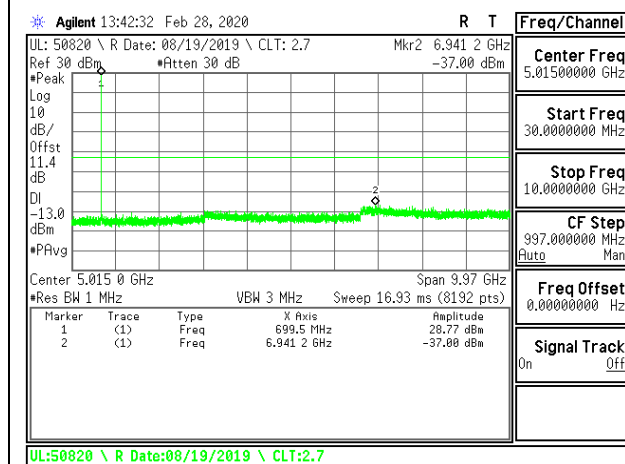
LTE B12 3MHz 16QAM Middle Channel RB1-0



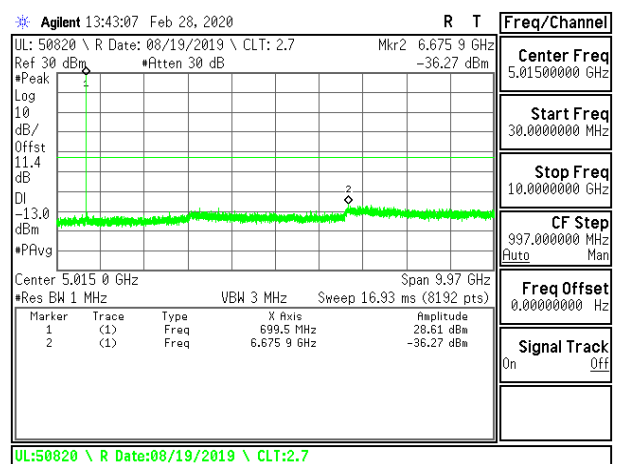
LTE B12 3MHz QPSK High Channel RB1-0



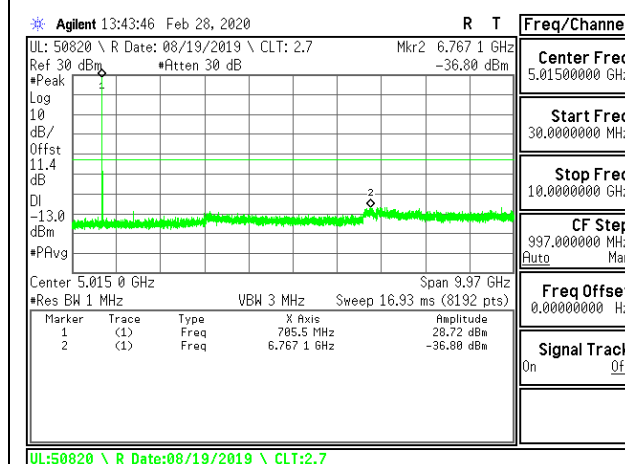
LTE B12 3MHz 16QAM High Channel RB1-0



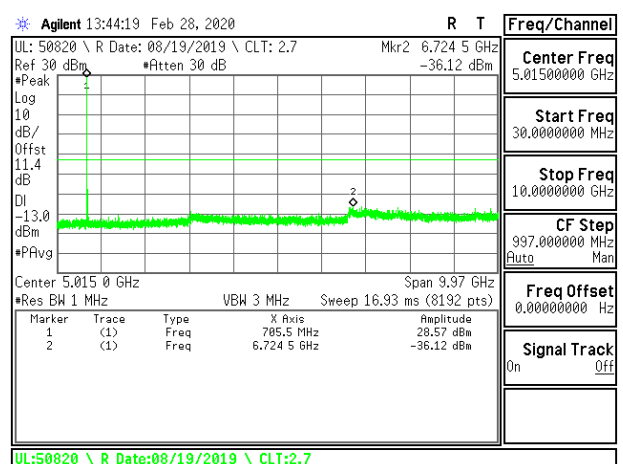
LTE B12 5MHz QPSK Low Channel RB1-0



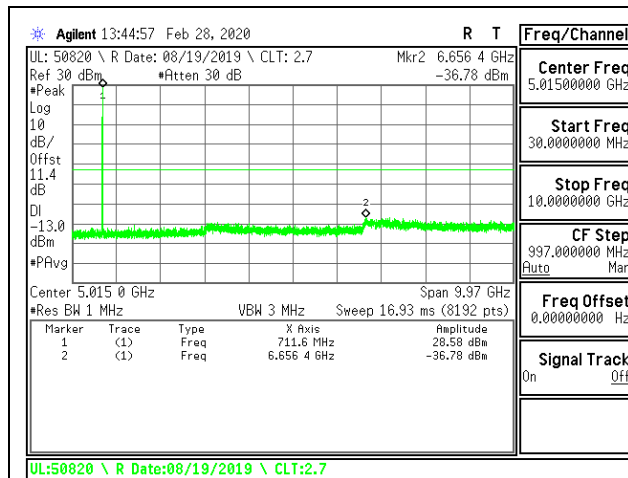
LTE B12 5MHz 16QAM Low Channel RB1-0



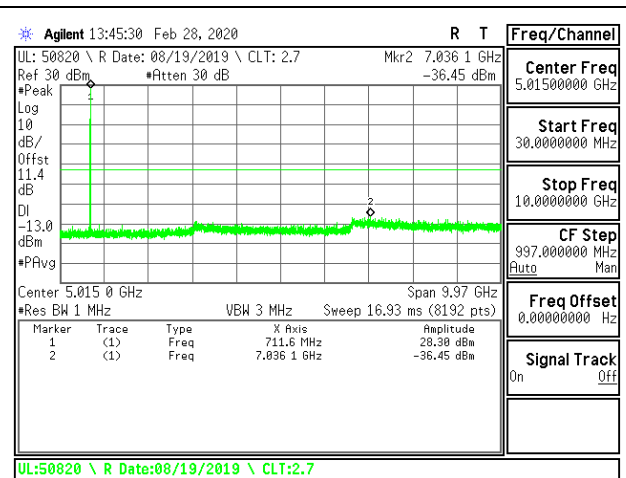
LTE B12 5MHz QPSK Middle Channel RB1-0



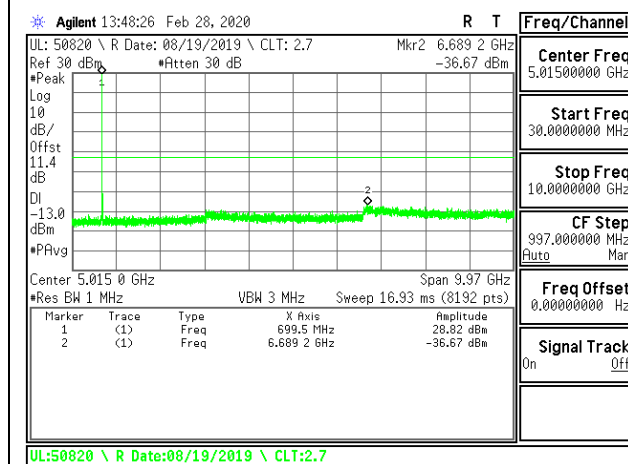
LTE B12 5MHz 16QAM Middle Channel RB1-0



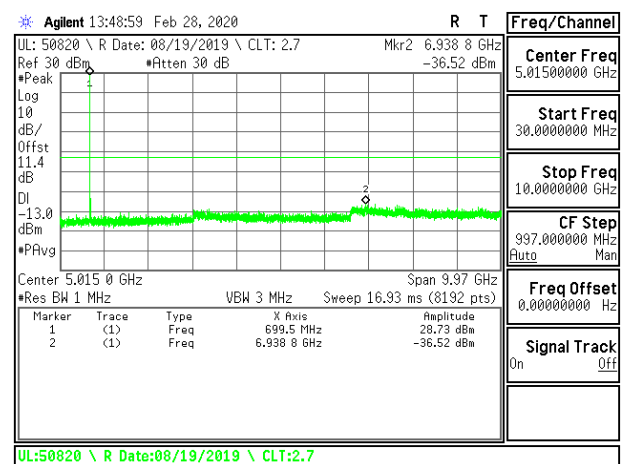
LTE B12 5MHz QPSK High Channel RB1-0



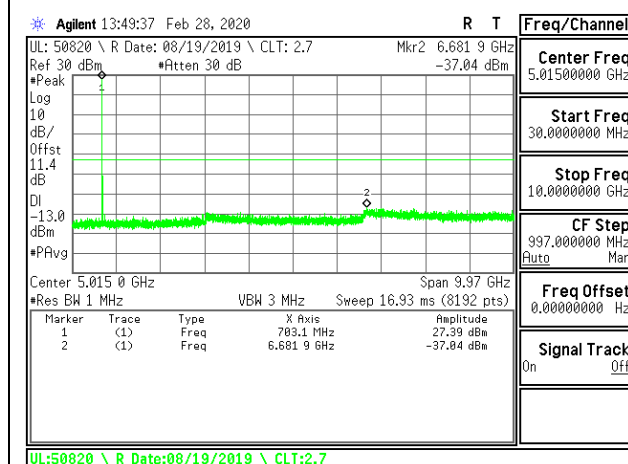
LTE B12 5MHz 16QAM High Channel RB1-0



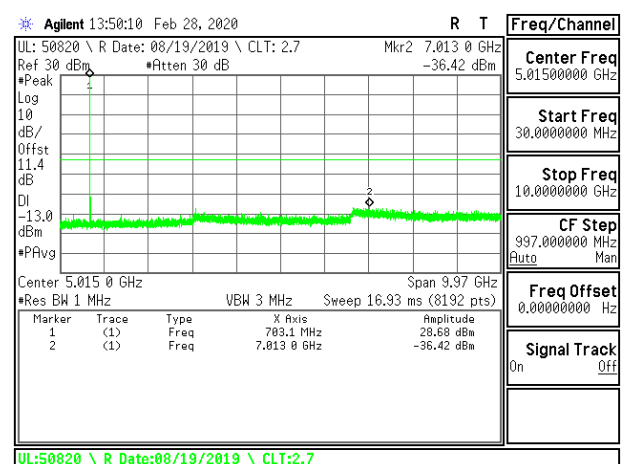
LTE B12 10MHz QPSK Low Channel RB1-0



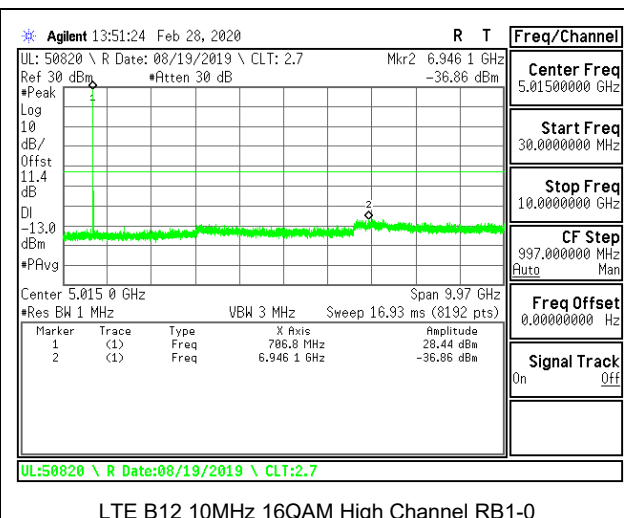
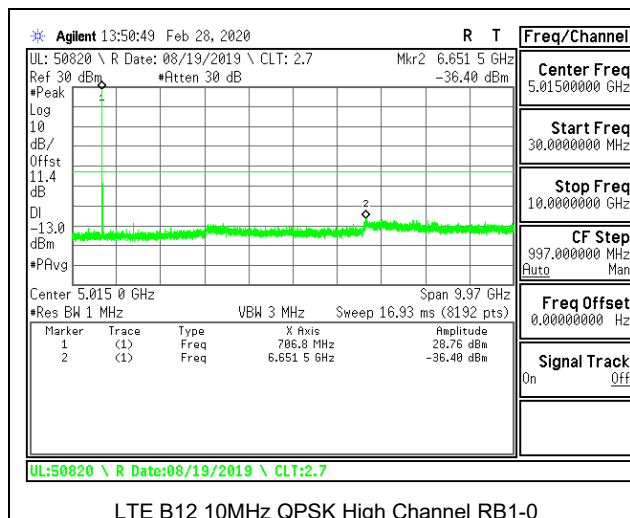
LTE B12 10MHz 16QAM Low Channel RB1-0



LTE B12 10MHz QPSK Middle Channel RB1-0



LTE B12 10MHz 16QAM Middle Channel RB1-0



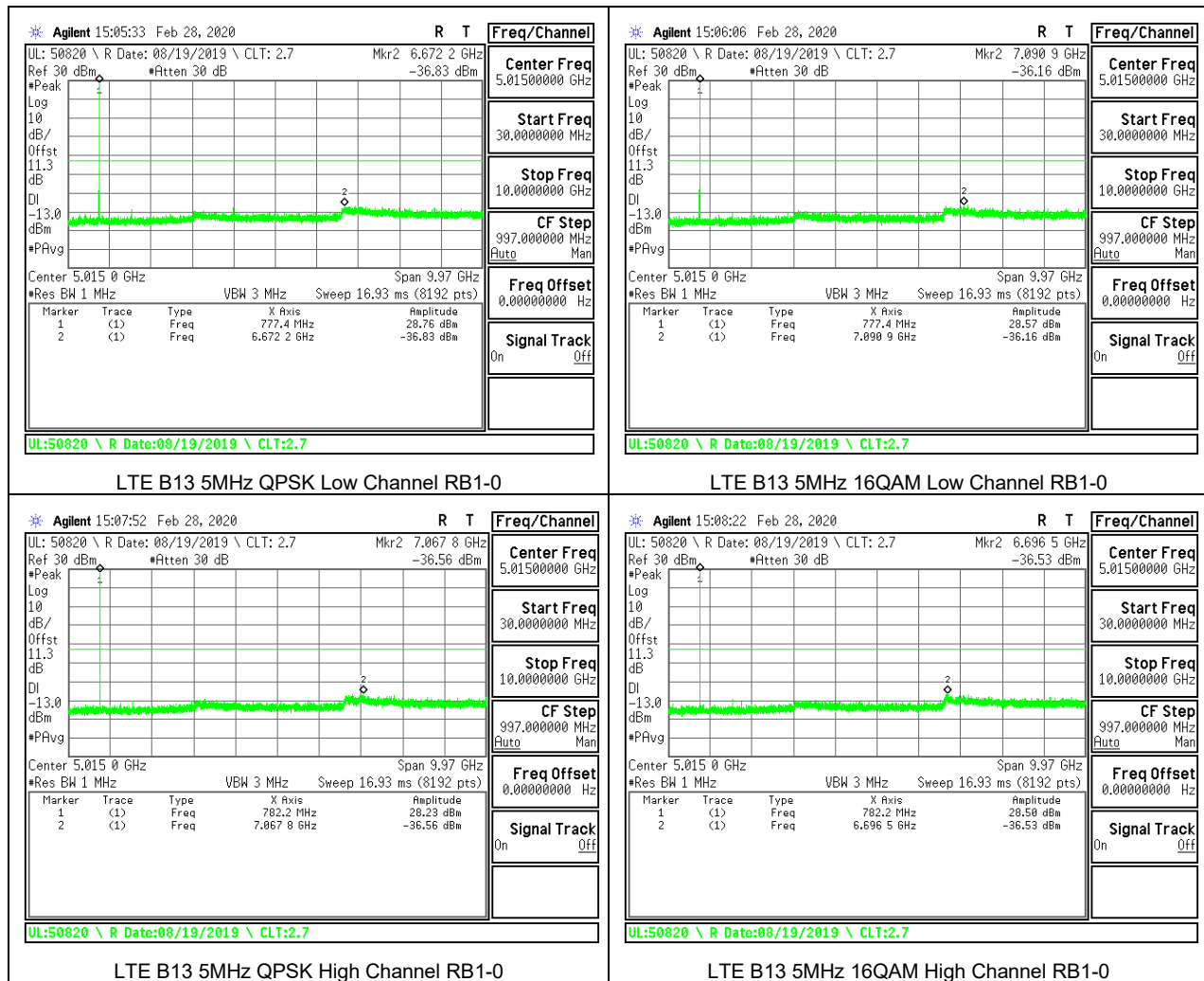
8.3.6. LTE BAND 13

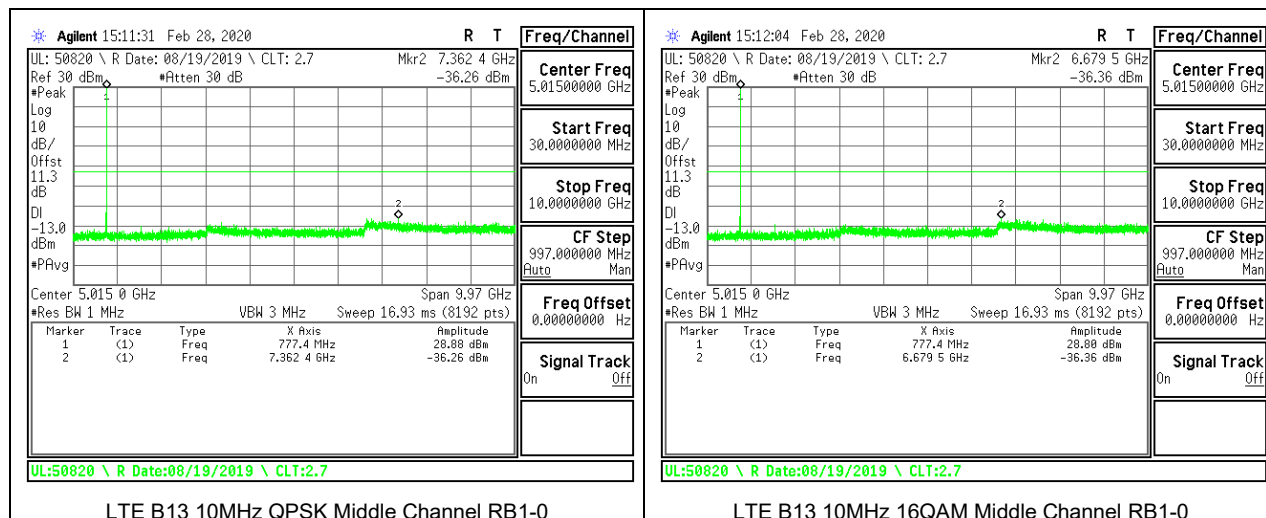
LIMITS

FCC: §27.53 (c), (f)

The minimum permissible attenuation level of any spurious emissions is $43 + 10 \log(P)$ dB where transmitting power (P) in Watts. The band 1559-1610 MHz shall be limited to -70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and -80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth.

Note: Radiated data in section 9.1.6 confirms a compliance for the emissions in GPS 1559-1610 MHz band were wideband emissions therefore the -40 dBm/MHz limit was used.





Note: Radiated data in section 9.1.6 confirms a compliance with narrowband limits for GPS1559-1610 MHz band.

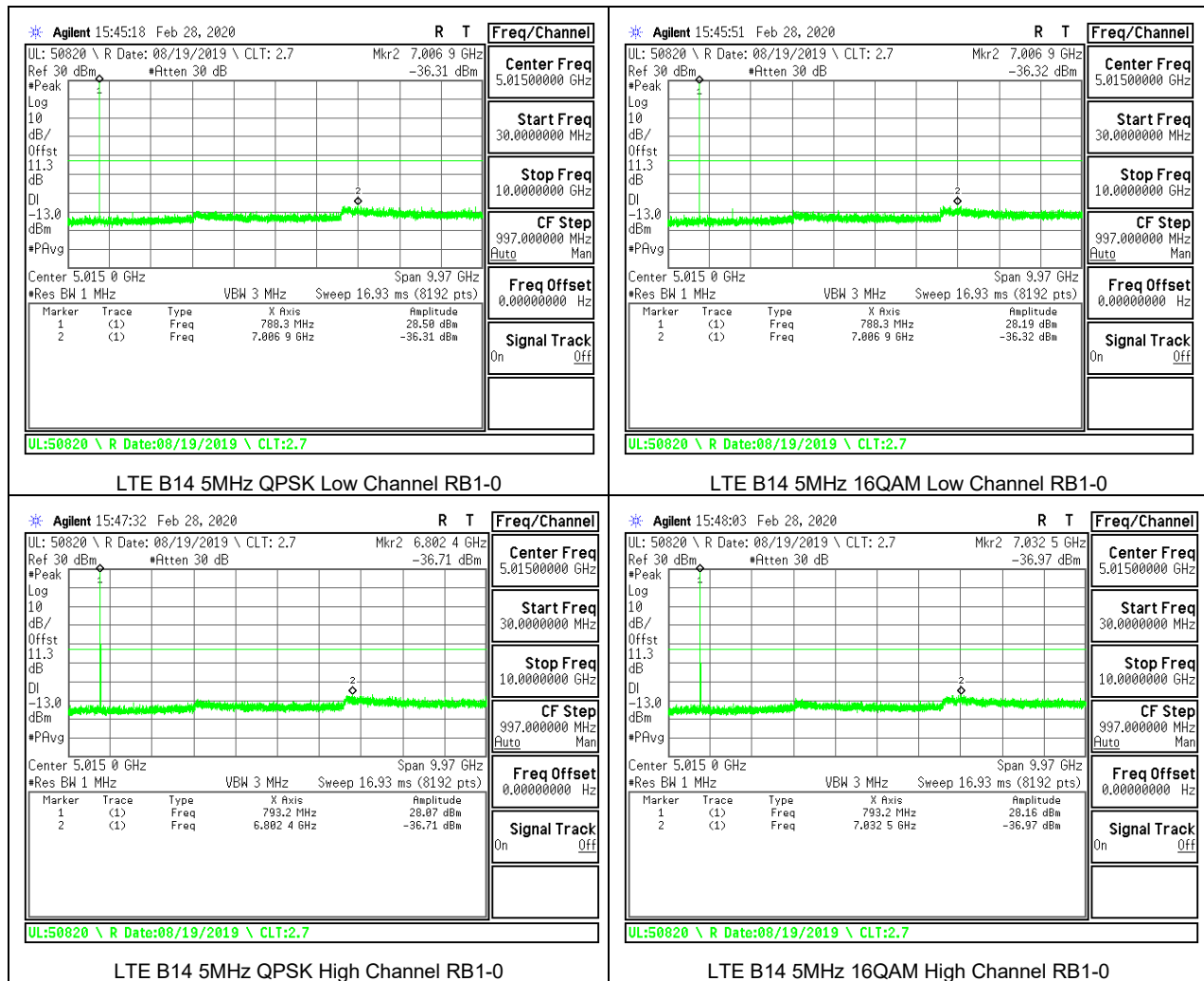
8.3.7. LTE BAND 14

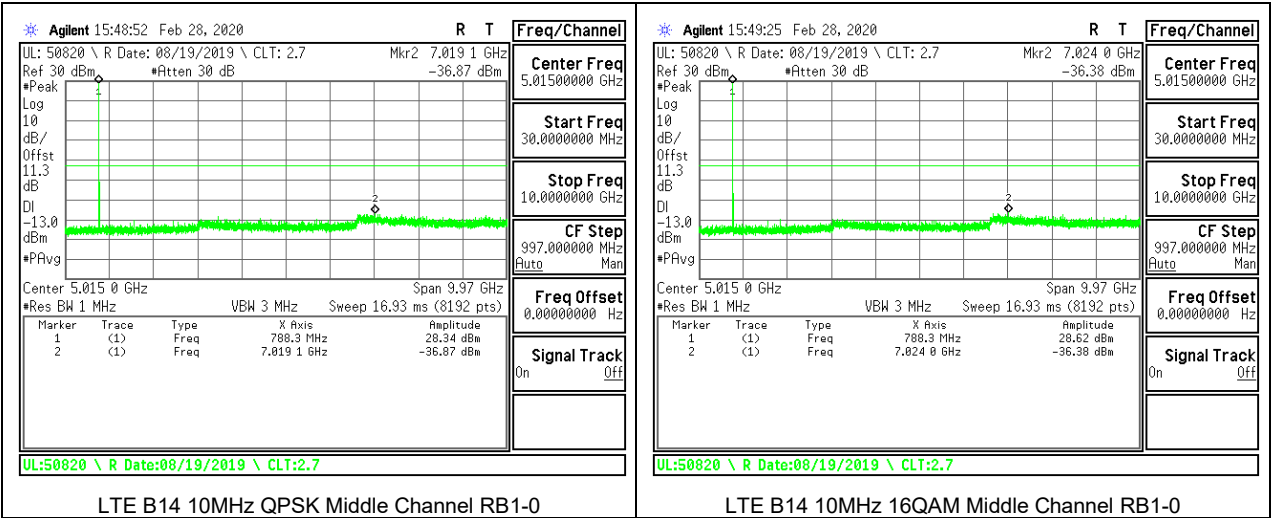
LIMITS

FCC: §90.543 (e), (f)

The minimum permissible attenuation level of any spurious emissions is $43 + 10 \log (P)$ dB where transmitting power (P) in Watts. The band 1559-1610 MHz shall be limited to -70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and -80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth.

Note: Radiated data in section 9.1.7 confirms a compliance for the emissions in GPS 1559-1610 MHz band were wideband emissions therefore the -40 dBm/MHz limit was used.





Note: Radiated data in section 9.1.7 confirms a compliance with narrowband limits for GPS1559-1610 MHz band.

8.3.8. LTE BAND 25

LIMITS

FCC: §24.238

The minimum permissible attenuation level of any spurious emissions is $43 + 10 \log (P)$ dB where transmitting power (P) in Watts.

