

4.5 Emission Mask Measurement

4.5.1 Limits of Emission Mask Measurement

For LTE Band 14:

According to FCC part 90.543 (e), For operations in the 758-768 MHz and the 788-798 MHz bands, the power of any emission outside the licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, in accordance with the following:

- (1) On all frequencies between 769-775 MHz and 799-805 MHz, by a factor not less than $65 + 10 \log (P)$ dB in a 6.25 kHz band segment, for mobile and portable stations.
- (2) On any frequency between 775-788 MHz, above 805 MHz, and below 758 MHz, by at least $43 + 10 \log (P)$ dB.

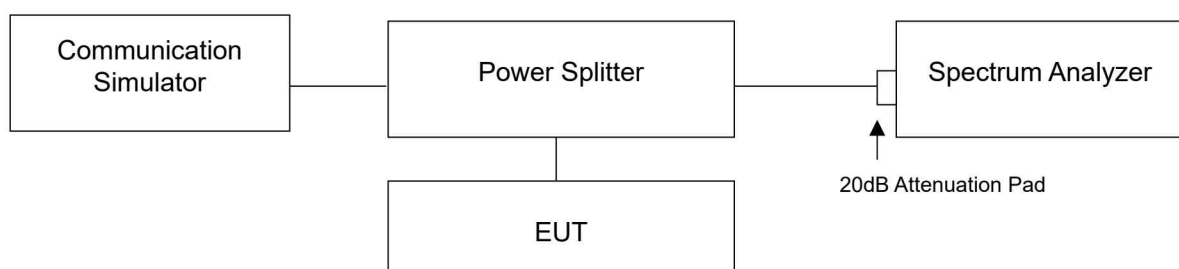
For LTE Band 26:

According to FCC part 90.691 shall be tested the emission mask. For any frequency removed from the EA licensee's frequency block by up to and including 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least $116 \log_{10}(f/6.1)$ decibels or $50 + 10 \log_{10}(P)$ decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 12.5 kHz.

For any frequency removed from the EA licensee's frequency block greater than 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least $43 + 10 \log_{10}(P)$ decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 37.5 kHz.

For § 90.691(a), RBW=300 Hz for offset less than 37.5 kHz from channel edge and RBW=100 kHz for offsets greater than 37.5 kHz is allowed, tested in accordance with FCC KDB 971168 D02 section VIII.

4.5.2 Test Setup



4.5.3 Test Procedures

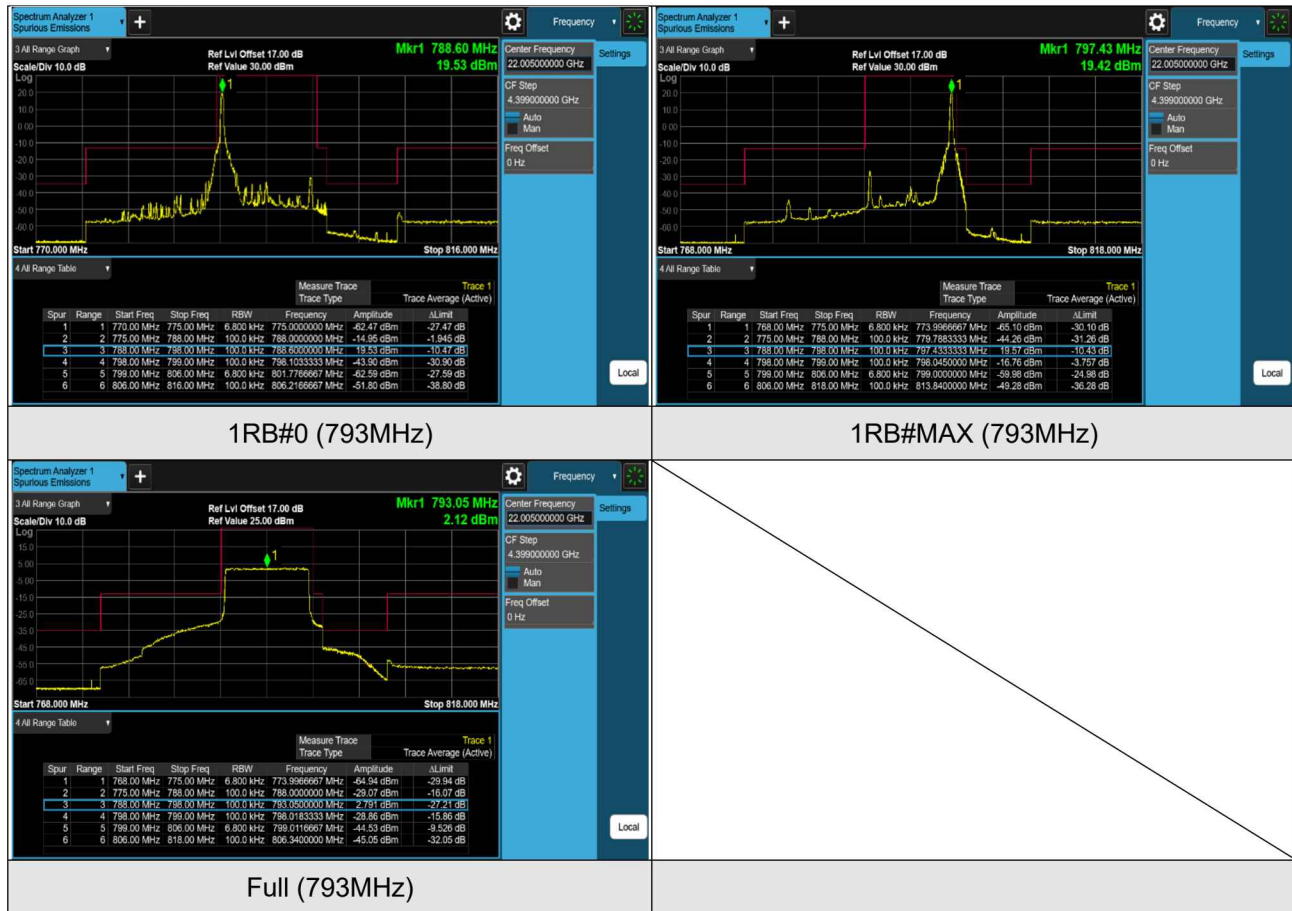
- a. The measurement used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer.
- b. Record the test plot.

4.5.4 Test Results

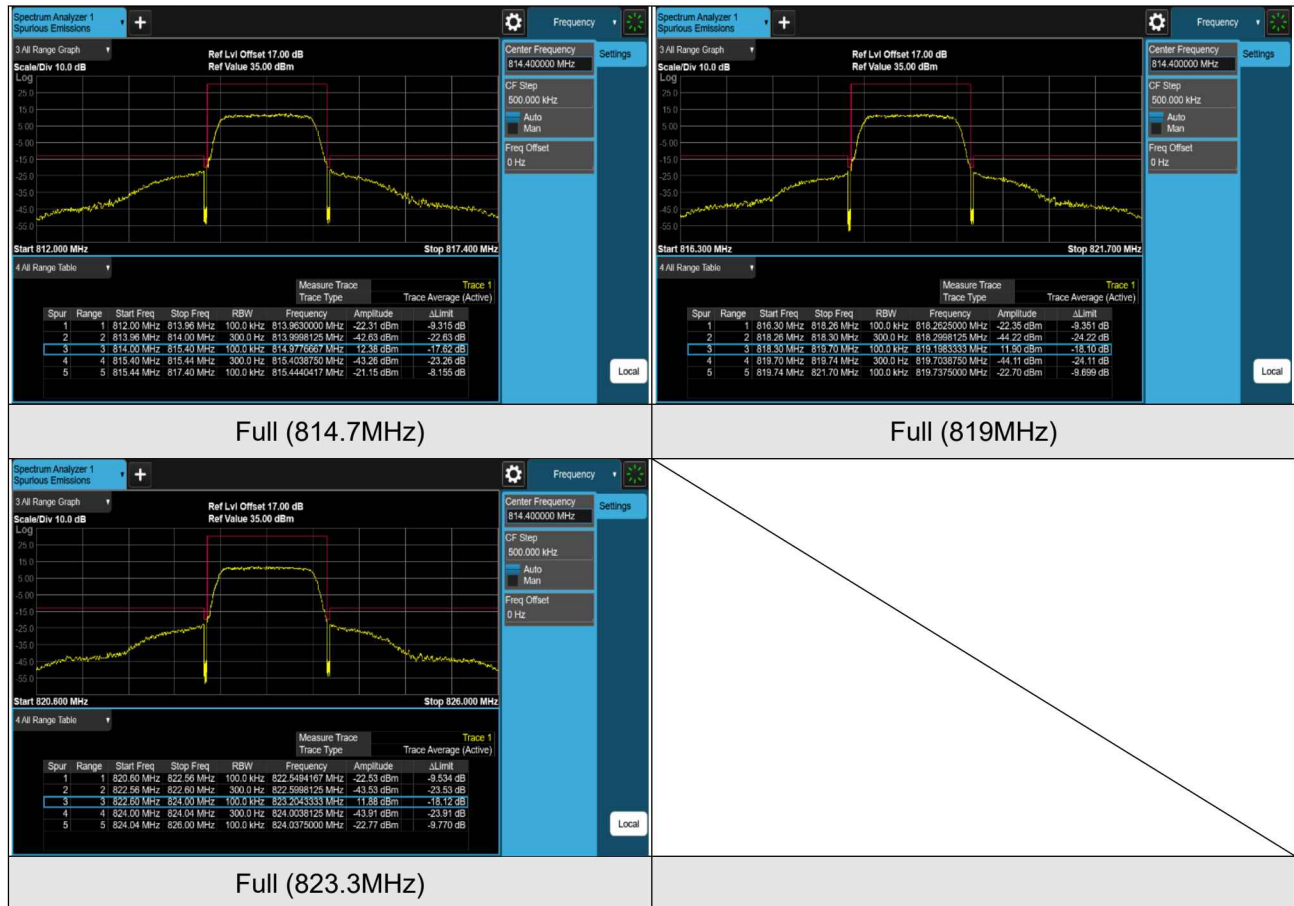
LTE Band 14 (Channel Bandwidth 5MHz)

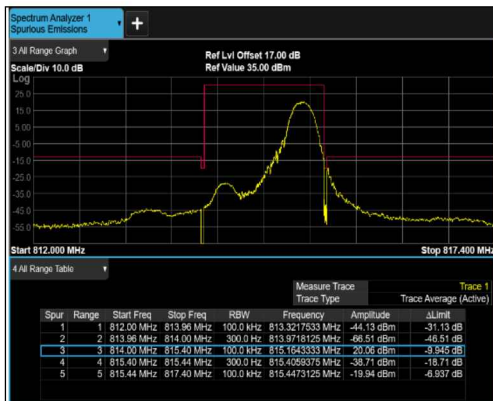


LTE Band 14 (Channel Bandwidth 10MHz)

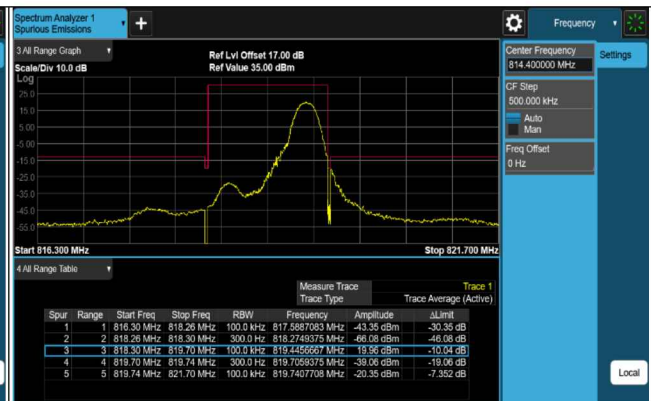


LTE Band 26 (Channel Bandwidth 1.4MHz)

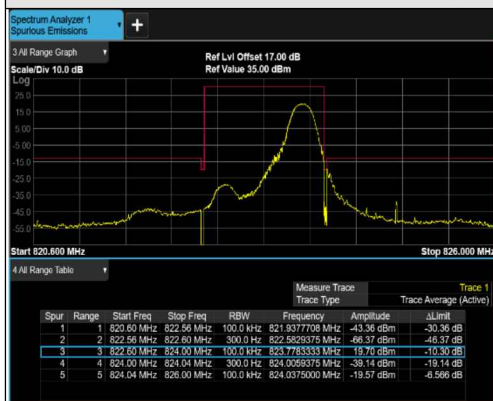




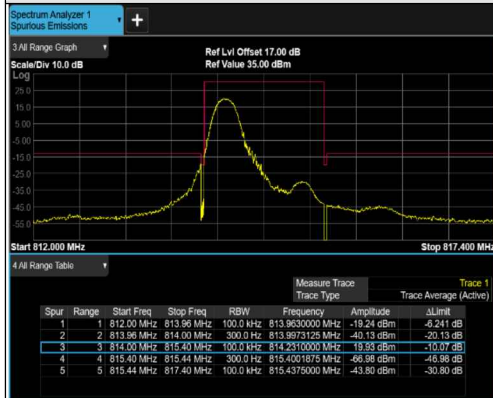
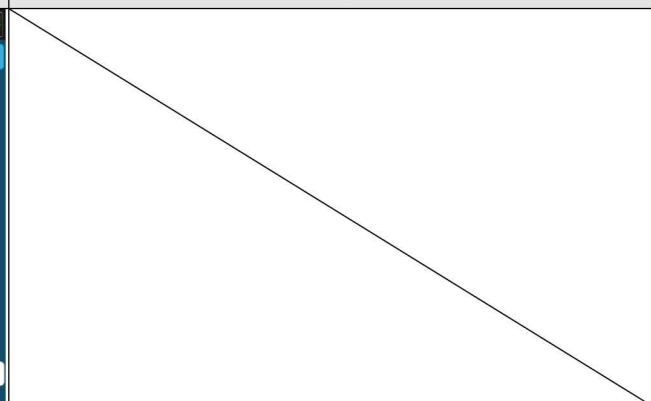
1RB#MAX (814.7MHz)



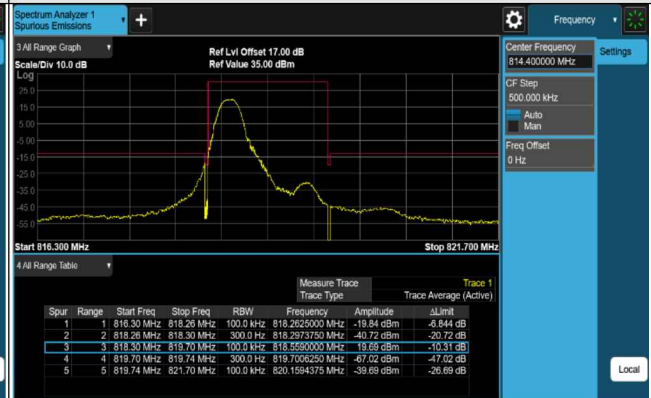
1RB#MAX (819MHz)



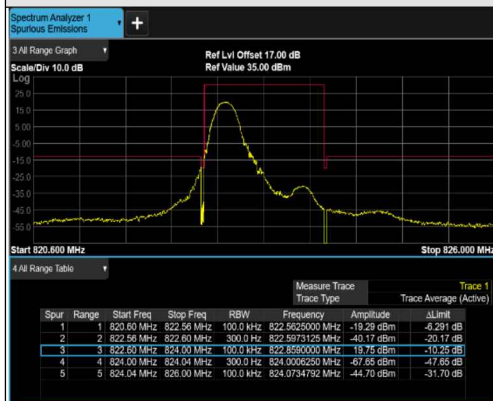
1RB#MAX (823.3MHz)



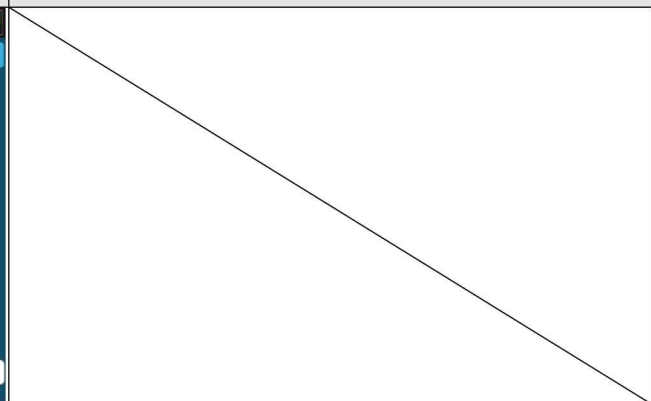
1RB#0 (814.7MHz)



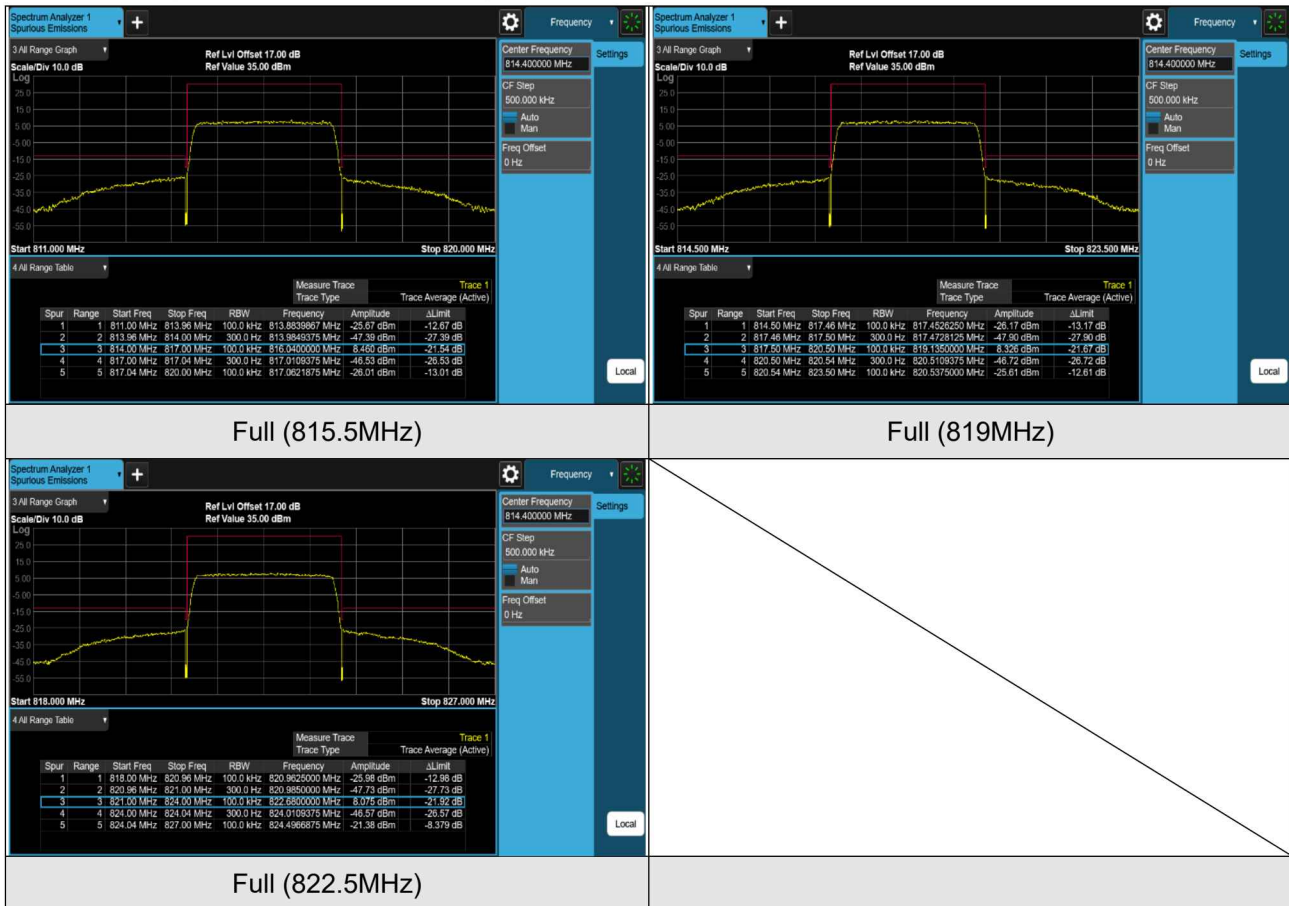
1RB#0 (819MHz)

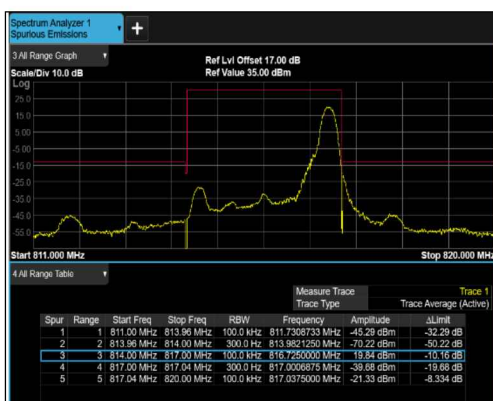


1RB#0 (823.3MHz)

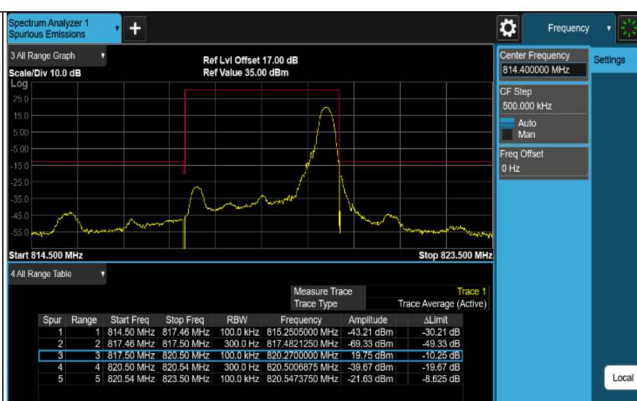


LTE Band 26 (Channel Bandwidth 3MHz)

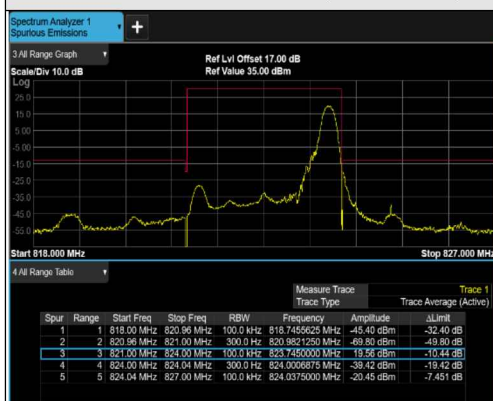




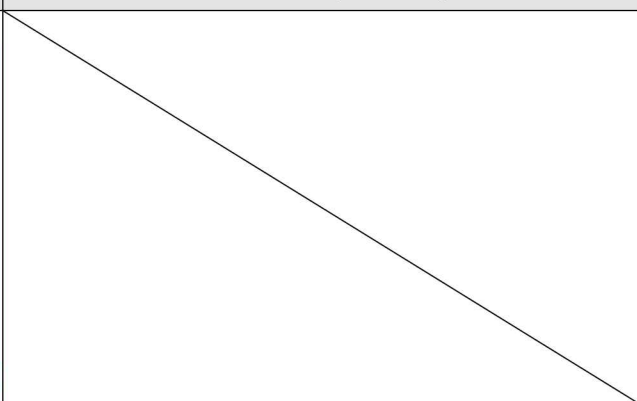
1RB#MAX (815.5MHz)



1RB#MAX (819MHz)



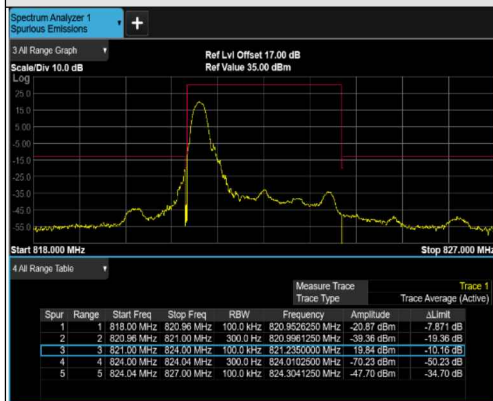
1RB#MAX (822.5MHz)



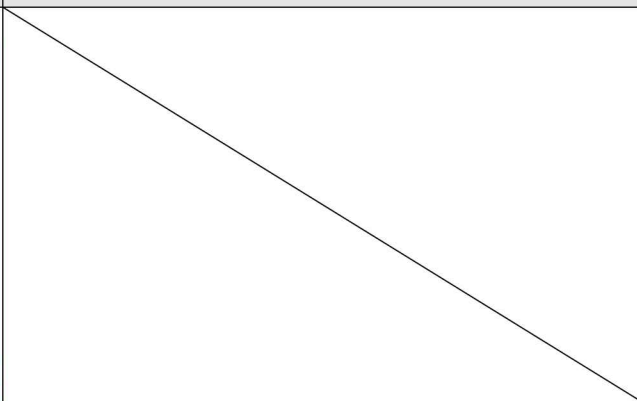
1RB#0 (815.5MHz)



1RB#0 (819MHz)

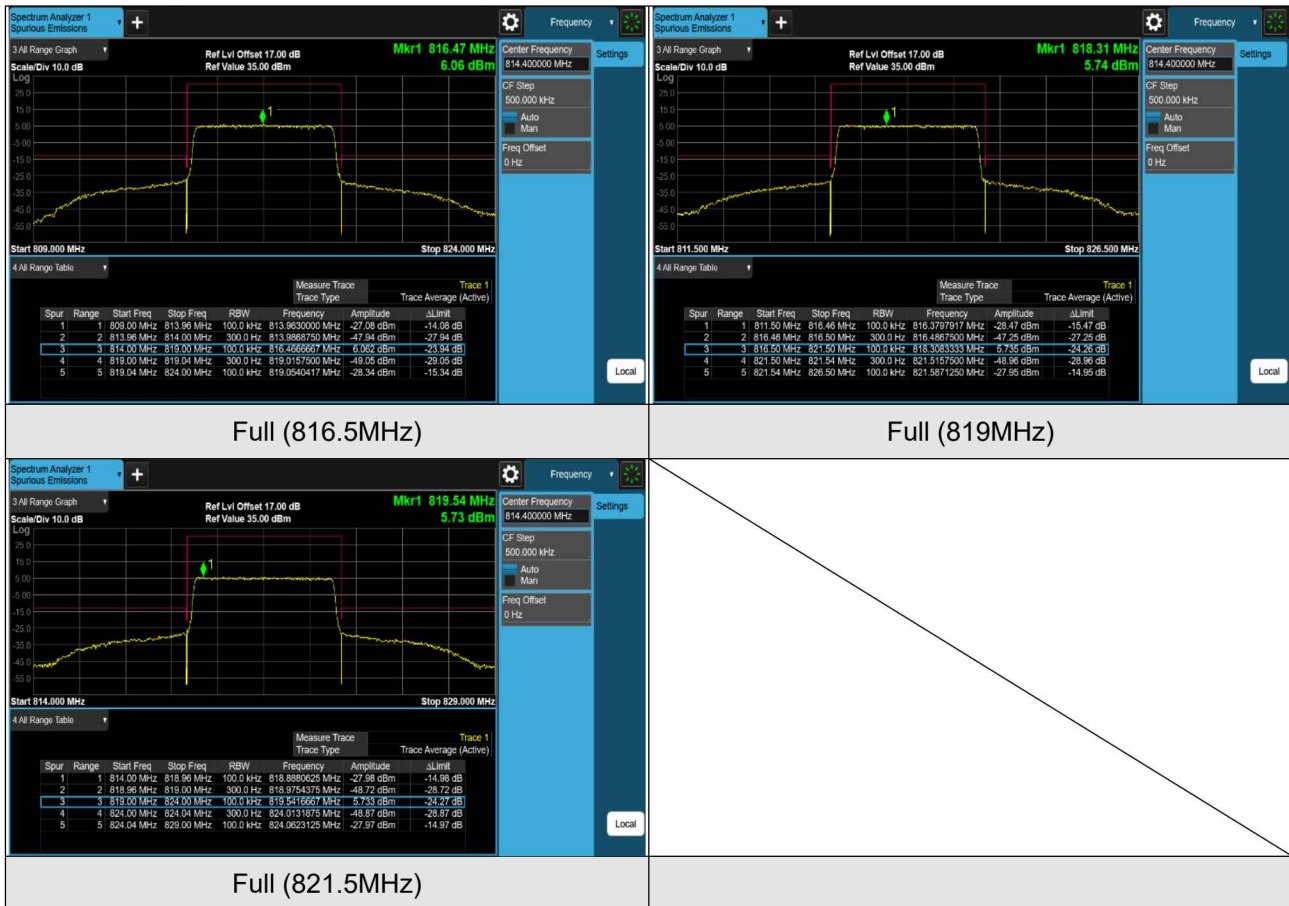


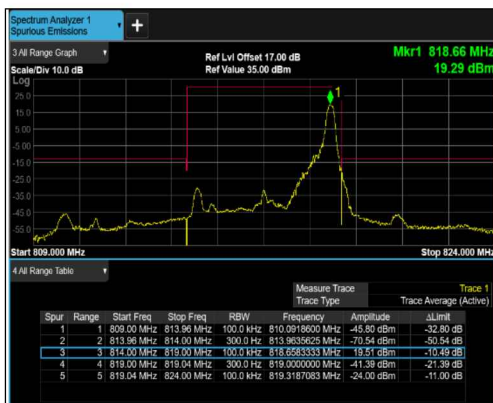
1RB#0 (822.5MHz)



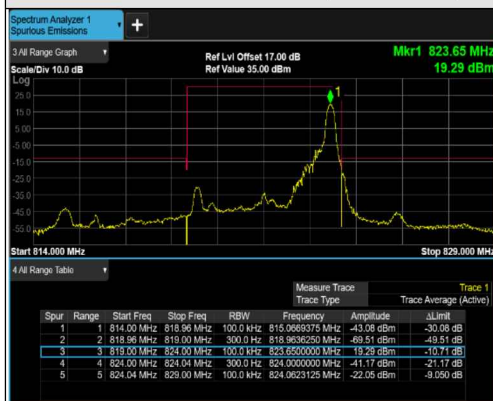
1RB#0 (819MHz)

LTE Band 26 (Channel Bandwidth 5MHz)

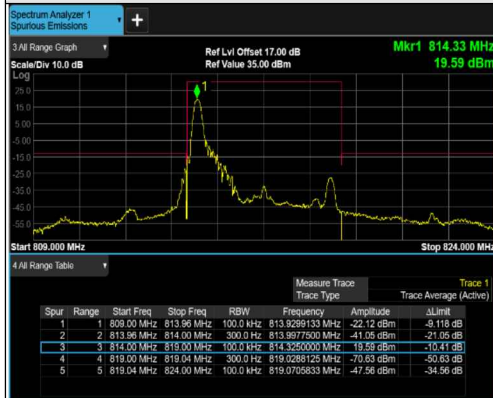




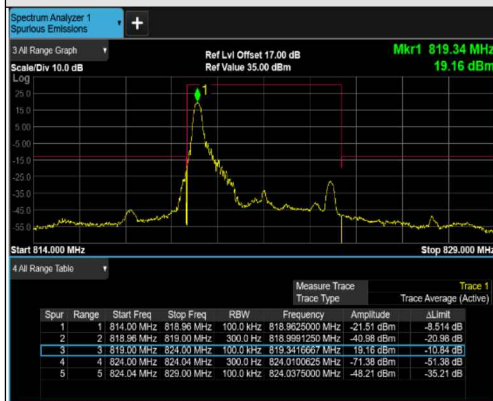
1RB#MAX (816.5MHz)



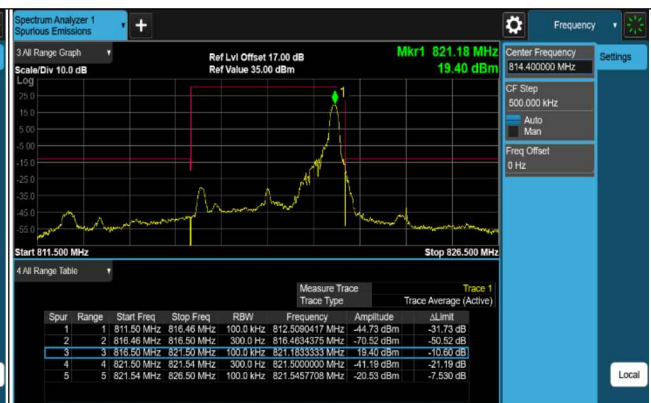
1RB#MAX (821.5MHz)



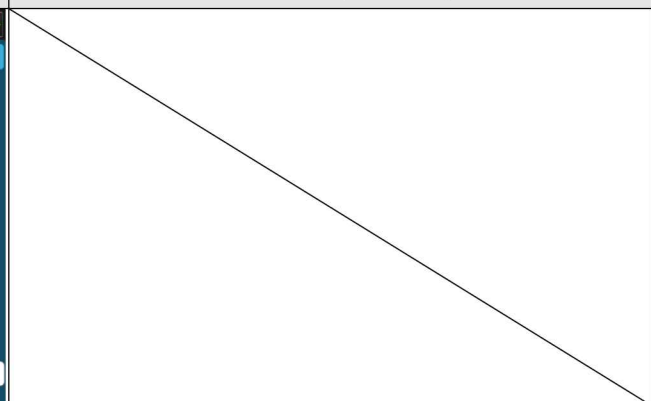
1RB#0 (816.5MHz)



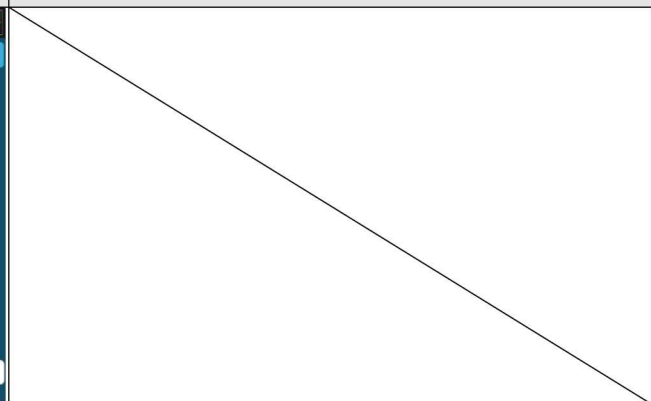
1RB#0 (821.5MHz)



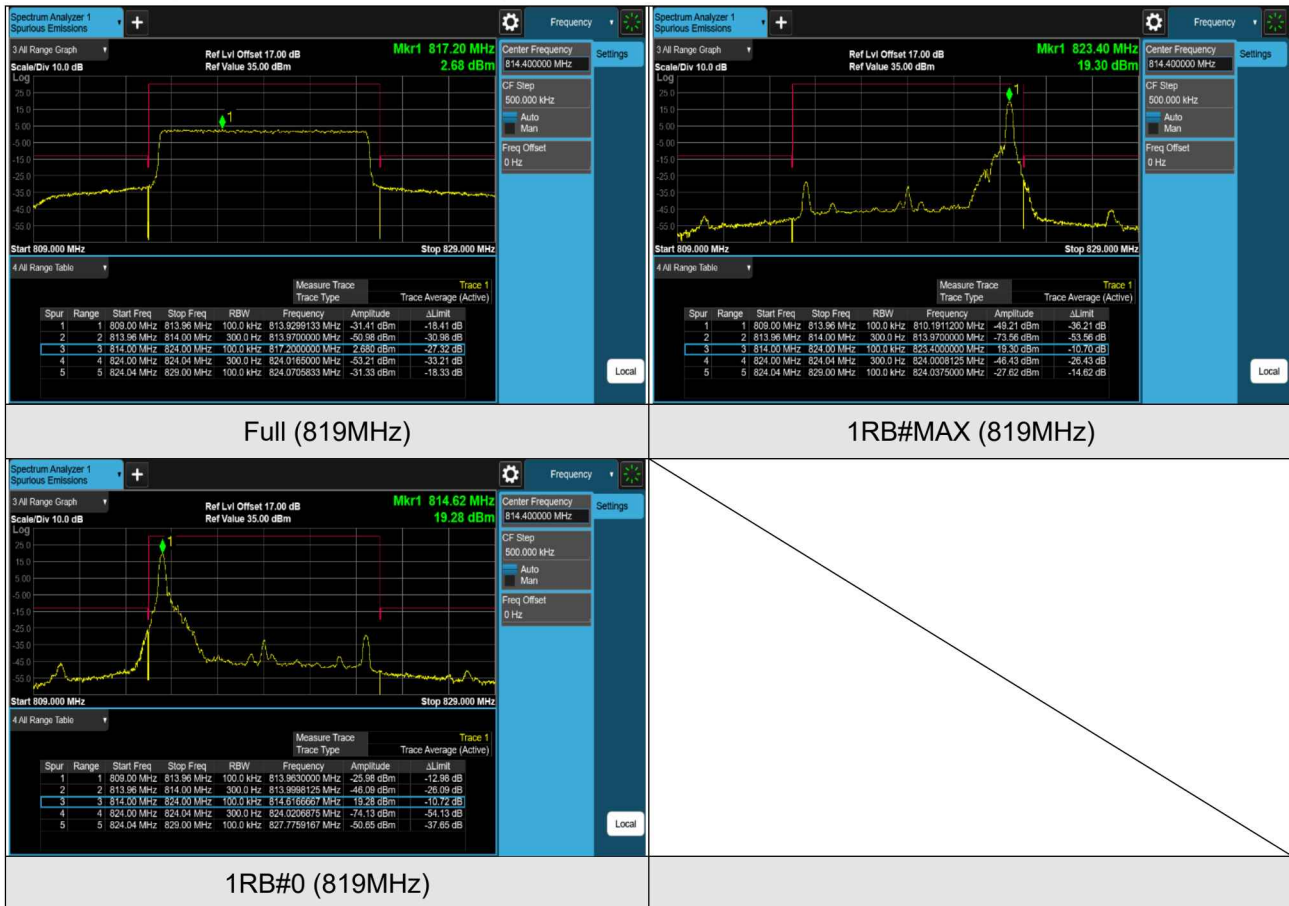
1RB#MAX (819MHz)



1RB#0 (819MHz)



LTE Band 26 (Channel Bandwidth 10MHz)



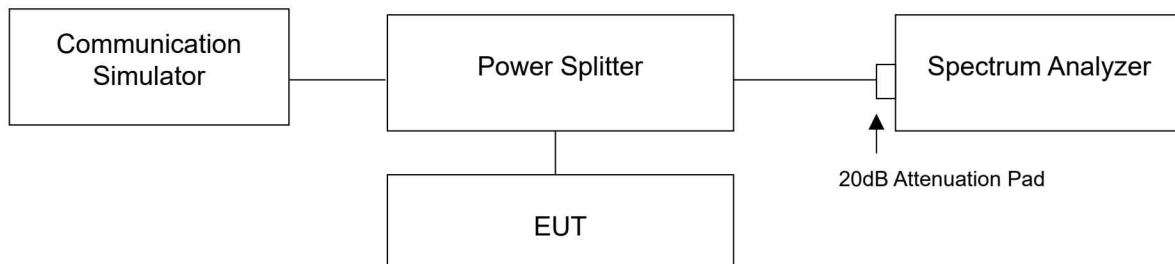
4.6 Conducted Spurious Emissions

4.6.1 Limits of Conducted Spurious Emissions Measurement

The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least $43 + 10 \log_{10}(P)$ dB. The limit of emission equal to -13dBm .

For operations in the 758-775 MHz and 788-805 MHz bands, all emissions including harmonics in the band 1559-1610 MHz shall be limited to -70 dBW/MHz . The limit of emissions is equal to -40 dBm .

4.6.2 Test Setup

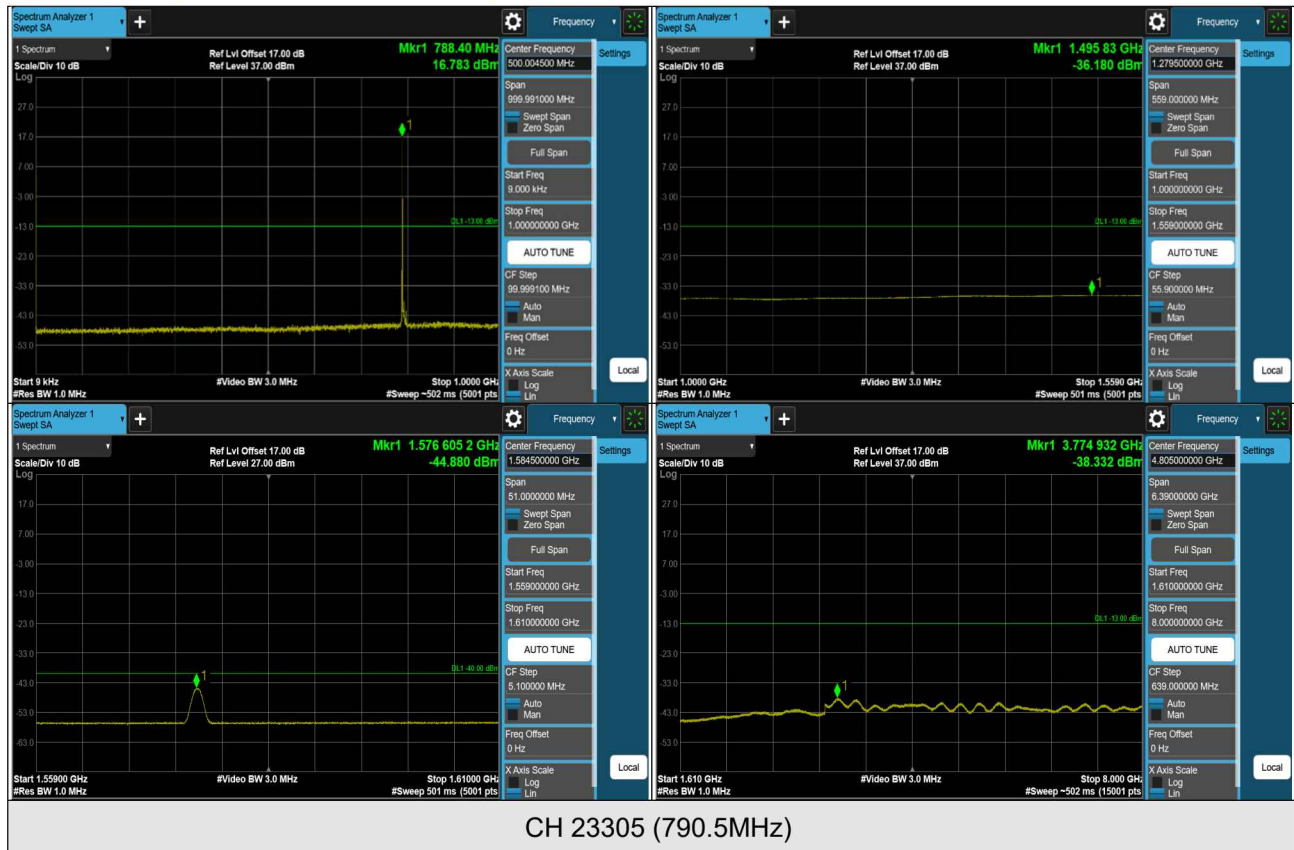


4.6.3 Test Procedure

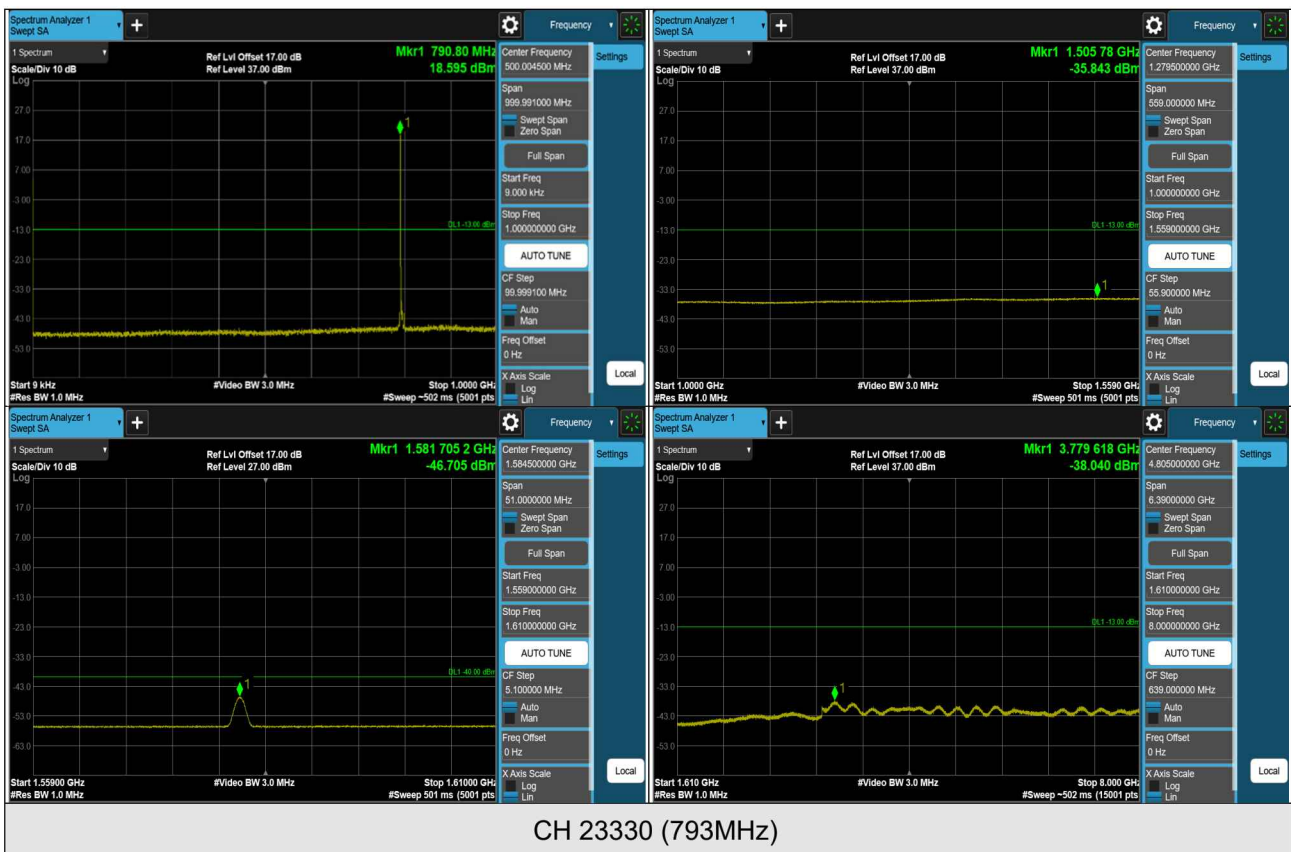
- a. All measurements were done at low, middle and high channels operational frequency range.
- a. Measuring frequency range is from 9kHz to 8GHz / 9GHz. 20dB attenuation pad is connected with spectrum. RBW=1MHz and VBW=3MHz are used for conducted emission measurement.

4.6.4 Test Results

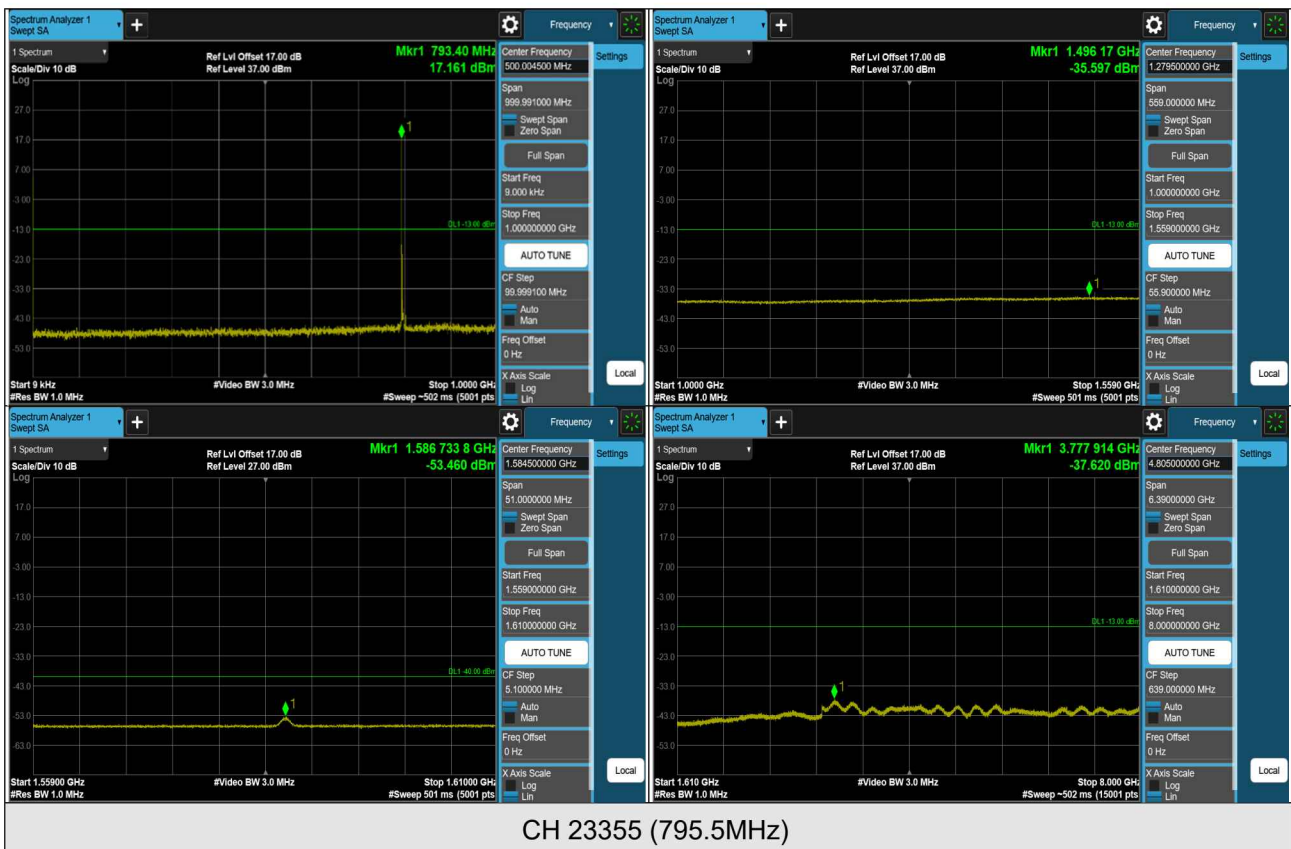
LTE Band 14 (Channel Bandwidth 5MHz)



*The 9kHz signal over the limit is from Spectrum.

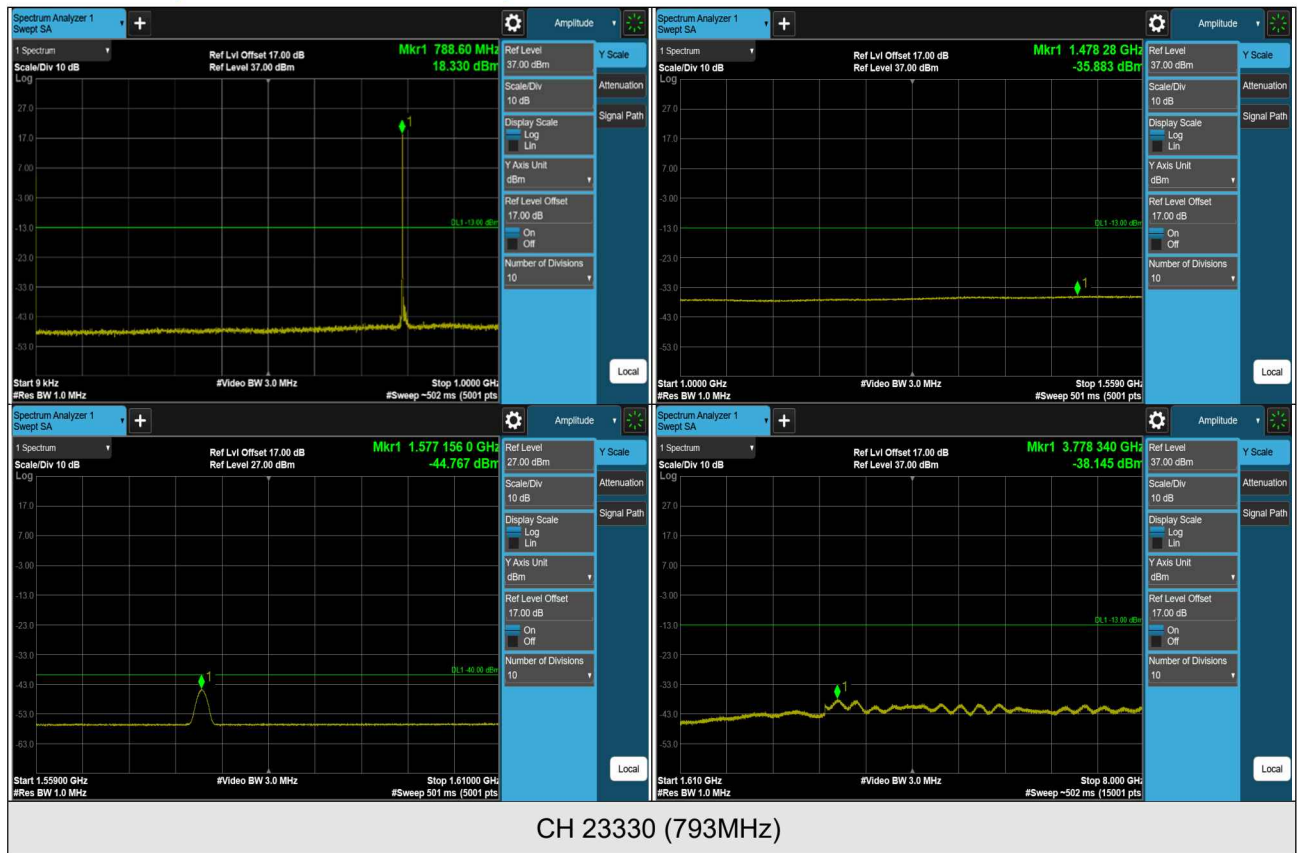


*The 9kHz signal over the limit is from Spectrum.



*The 9kHz signal over the limit is from Spectrum.

LTE Band 14 (Channel Bandwidth 10MHz)



*The 9kHz signal over the limit is from Spectrum.