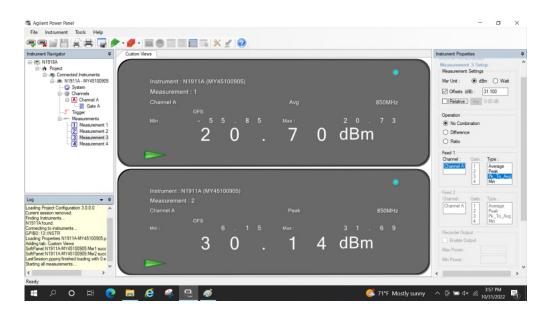
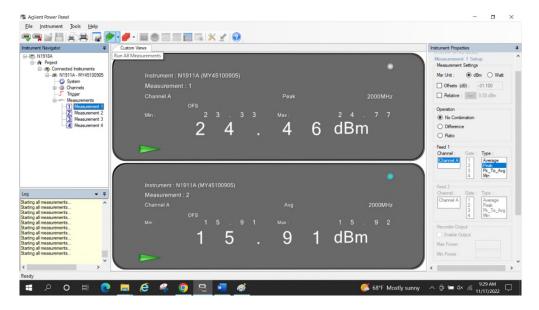


LTE Band 25\_Downlink\_5MHz Bandwidth\_Mid Channel



LTE Band 25\_Uplink\_5MHz Bandwidth\_Mid Channel





Downlink: LTE Band 4 20MHz BW High Ch & LTE Band 12 10MHz BW High Ch

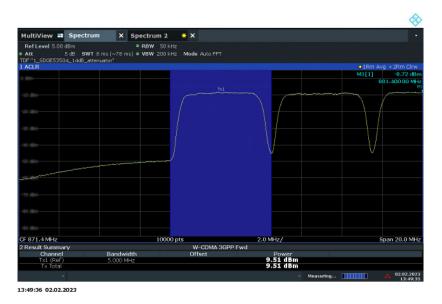


Uplink: LTE Band 4 15MHz BW Low Ch & LTE Band 12 10MHz BW Low Ch

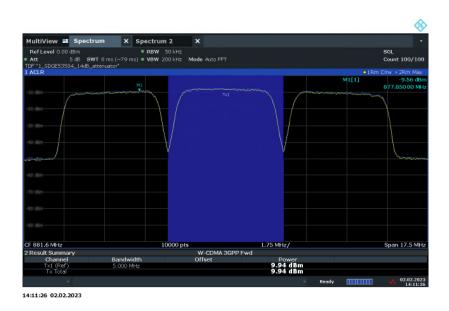
Product Service

FCC ID: NU: YETQ44-1M34CNU and CU: YETQ41-RECU IC: NU: 9892A-Q441M34CNU and CU: 9892A-Q41RECU

# 2.3.11 Test Results (Composite Conducted Power per channel)

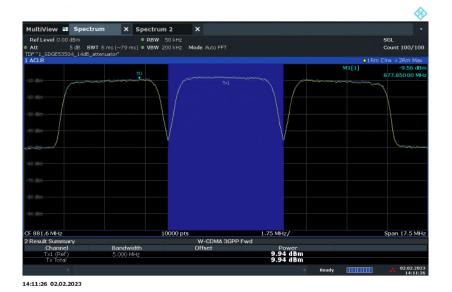


WCDMA Band 5 15MHz bandwidth DL Low channel Output power / channel

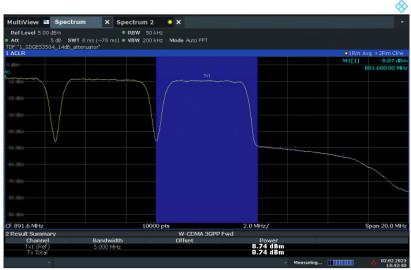


WCDMA Band 5 15MHz bandwidth DL Mid channel Output power / channel





# WCDMA Band 5 15MHz bandwidth DL Mid channel Output power / channel



13:42:41 02.02.2023



### 2.4 Intermodulation Product

# 2.4.1 Specification Reference

FCC 47 CFR Part 20. Clause 20.21(e)(9)(i)(G) KDB935210 D04, Clause 7.4

### 2.4.2 Standard Applicable

FCC 47 CFR Part 20. Clause 20.21(e)(9)(i)(G) Intermodulation Limits:

The transmitted intermodulation products of a consumer booster at its uplink and downlink ports shall not exceed the power level of -19 dBm for the supported bands of operation. Compliance with intermodulation limits will use boosters operating at maximum gain and maximum rated output power, with two continuous wave (CW) input signals spaced 600 kHz apart and centered in the pass band of the booster, and with a 3 kHz measurement bandwidth..

## 2.4.3 Equipment Under Test and Modification State

Serial No: 370920000139 (NU)and 371929000156 (CU) / Test Configuration A and B

## 2.4.4 Date of Test/Initial of test personnel who performed the test

August 09, 12, 13, September 04 and October 15, 2019/XYZ

## 2.4.5 Test Equipment Used

The major items of test equipment used for the above tests are identified in Section 3.1.

### 2.4.6 Environmental Conditions

Test performed at TÜV SÜD America Inc. Mira Mesa facility.

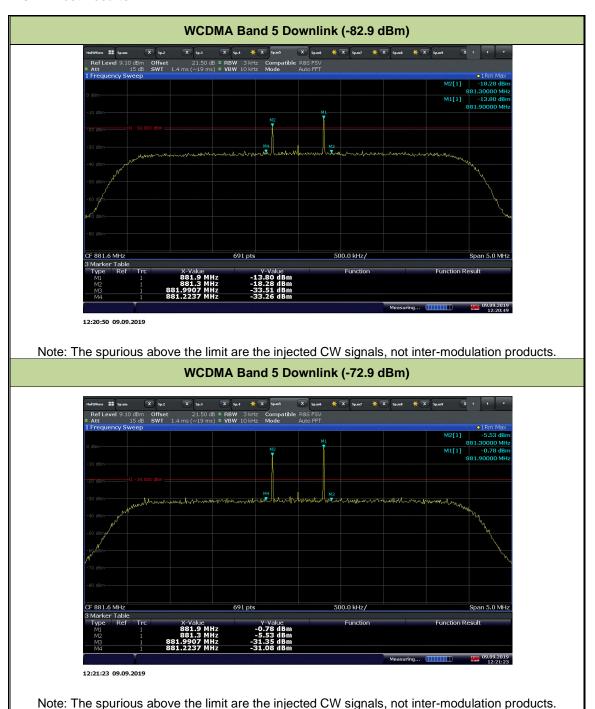
Ambient Temperature 24.5 - 26.3°C Relative Humidity 45.0 - 53.3% ATM Pressure 98.8 - 99.0kPa

### 2.4.7 Additional Observations

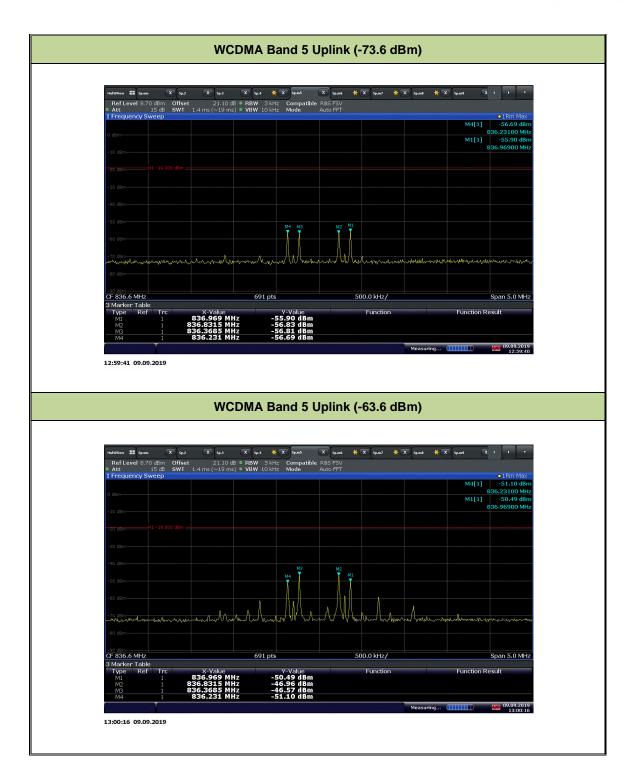
- This is conducted Test. Test procedure is per Section 7.4 of KDB935210 (D04 Provider Specific Booster Measurements v02r03). Appropriate offset (line losses) applied.
- The EUT operated in Test Mode with the gain set to the maximum gain and a minimum bandwidth setting (5MHz).
- Setup the EUT according to Figure 5 of Section 7.4 of KDB935210.
- Evaluations are conducted at CU and NU antenna ports.
- Operational uplink and downlink bands for WCDMA Band 5 and LTE Band 4, 12, 13, 25 were tested.



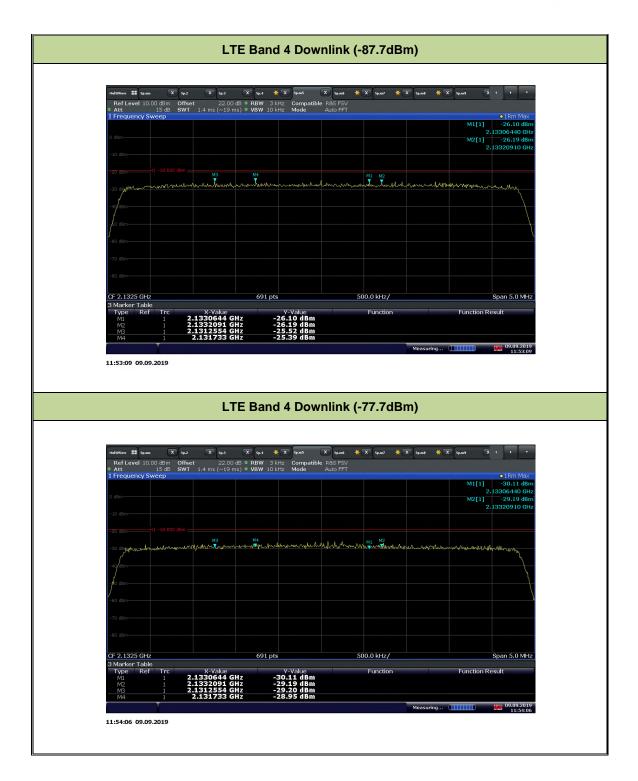
# 2.4.8 Test Results



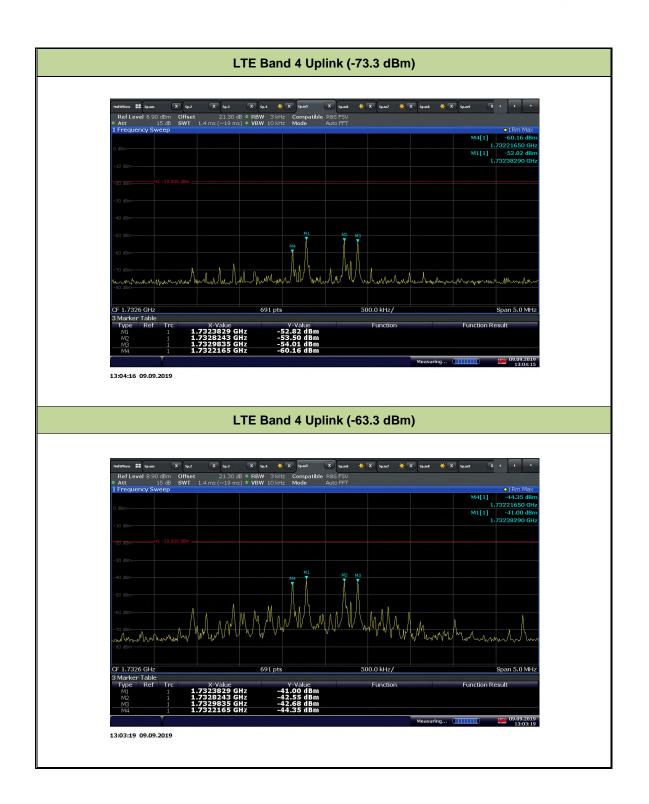




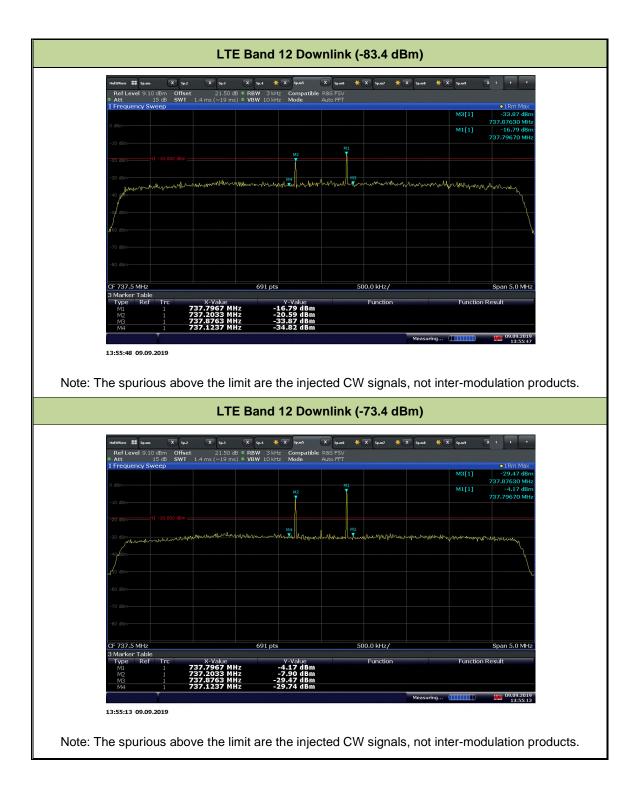




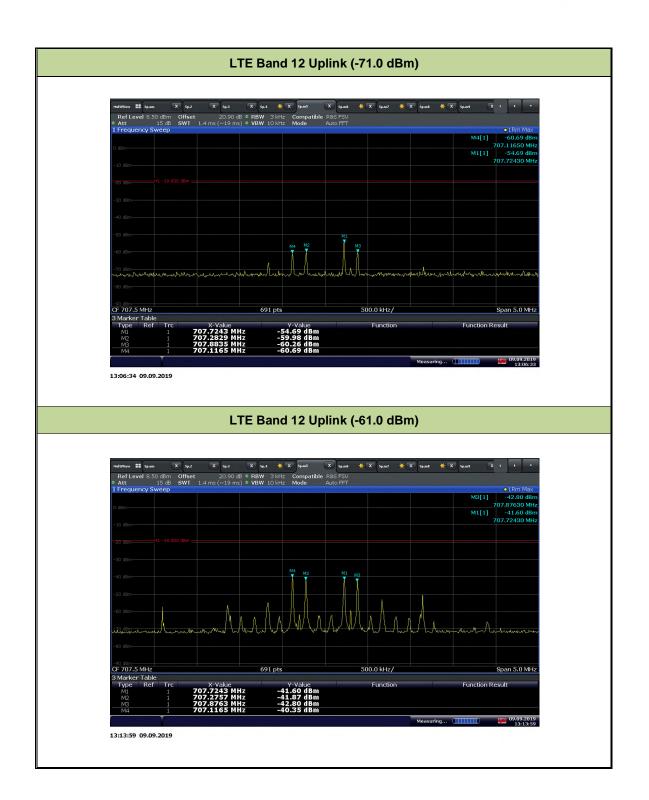




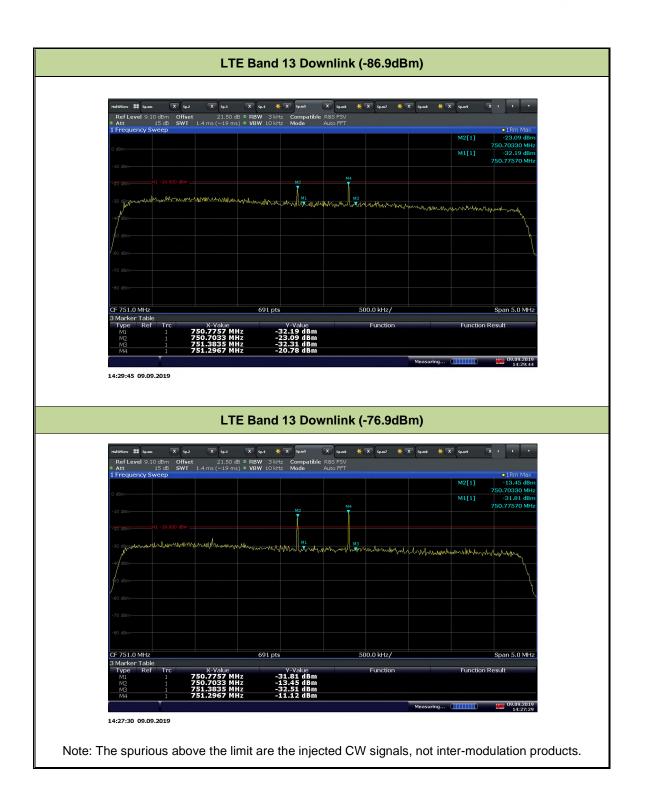




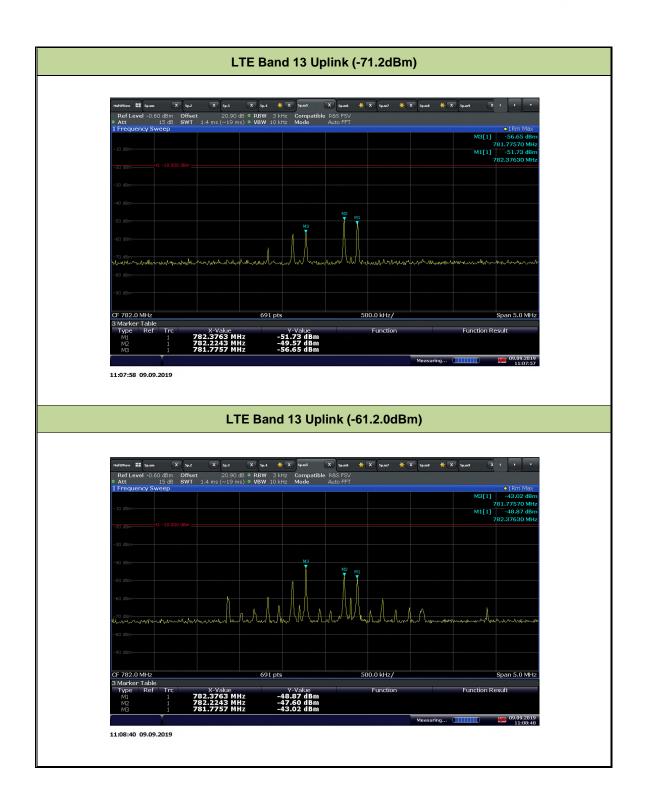




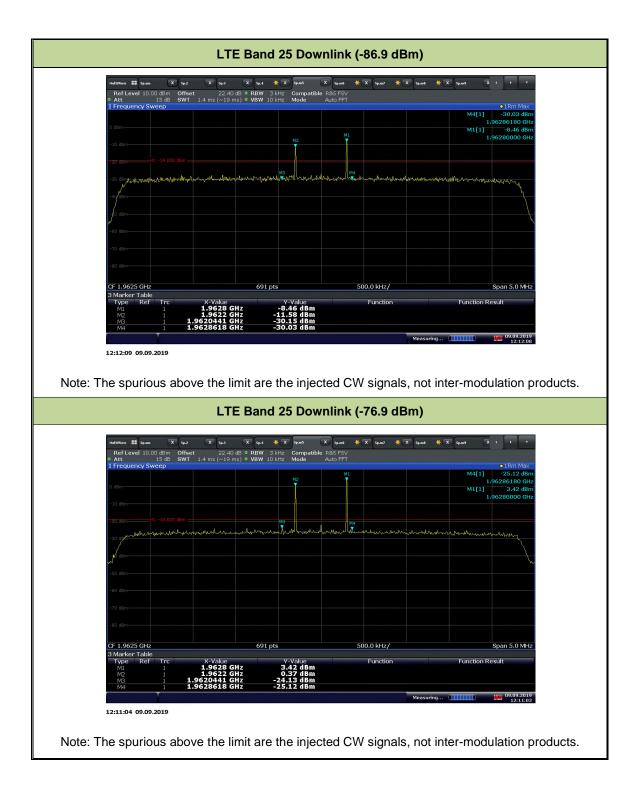




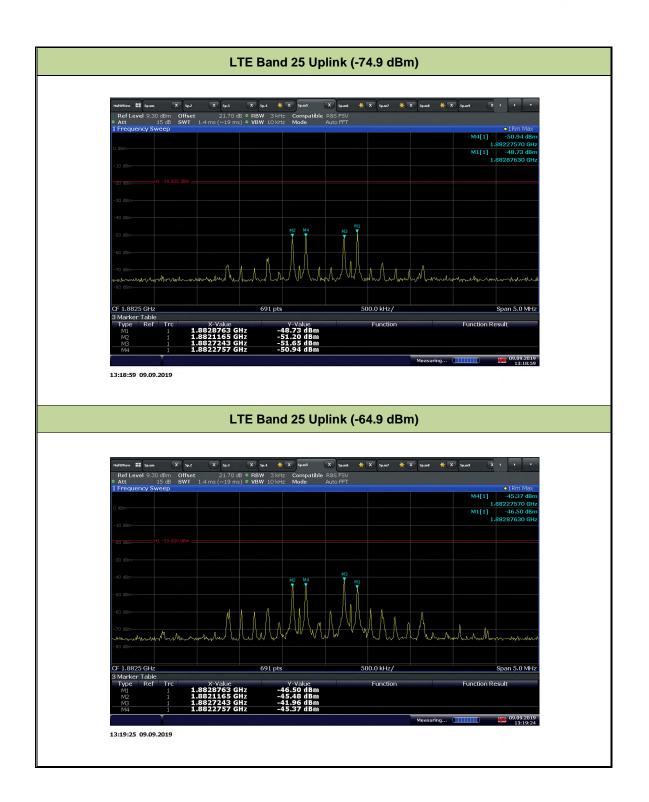














## 2.5 Out Of Band Emissions

### 2.5.1 Specification Reference

FCC 47 CFR Part 20. Clause 20.21(e)(9)(i)(F) RSS 131 8.5 KDB935210 D04, Clause 7.5

### 2.5.2 Standard Applicable

FCC 47 CFR Part 20. Clause 20.21(e)(9)(i)(F) Out of Band Emissions Limits:

Booster out of band emissions (OOBE) shall meet the FCC's mobile emission limits for the supported bands of operation. Compliance to OOBE limits will utilize high peak-to-average CMRS signal types.

# 2.5.3 Equipment Under Test and Modification State

Serial No: 370920000139 (NU)and 371929000156 (CU) / Test Configuration A and B

### 2.5.4 Date of Test/Initial of test personnel who performed the test

August 09, 13, 15 and October 15, 2019/XYZ

### 2.5.5 Test Equipment Used

The major items of test equipment used for the above tests are identified in Section 3.1.

## 2.5.6 Environmental Conditions

Test performed at TÜV SÜD America Inc. Mira Mesa facility.

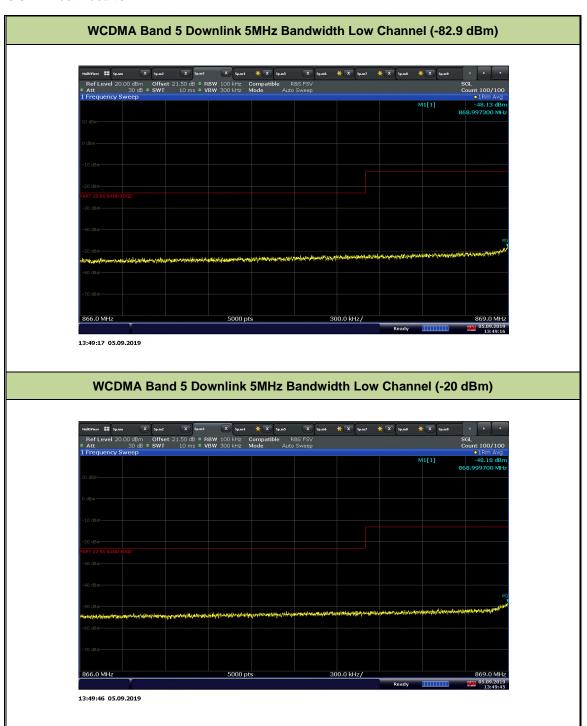
Ambient Temperature 25.8 - 26.0°C Relative Humidity 51.1 - 53.3% ATM Pressure 98.8 - 99.0kPa

#### 2.5.7 Additional Observations

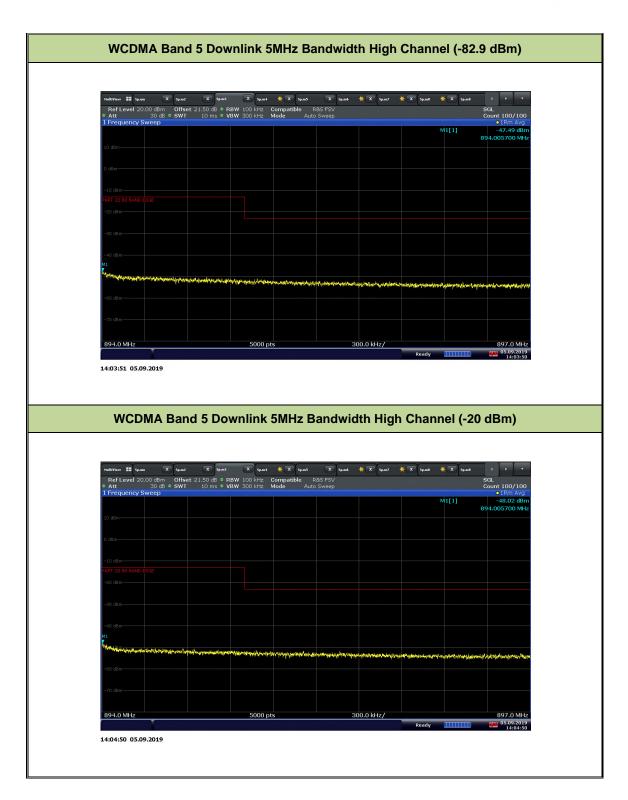
- This is conducted Test.
- Test procedure is per Section 7.5 of KDB935210 (D04 Provider Specific Booster Measurements v02r03). Appropriate offset (line losses) applied.
- The EUT operated in Test Mode, with the gain set to the maximum and a 5MHz bandwidth setting.
- The out of band emissions with Maximum Transmitter Input Level (-20dBm for Downlink and 0dBm for Uplink) injected was also verified.
- Evaluations are conducted at CU and NU antenna ports.
- Operational uplink and downlink bands for WCDMA Band 5 and LTE Band 4, 12, 13, 25 were tested.
- Signal: 5MHz WCDMA or LTE.



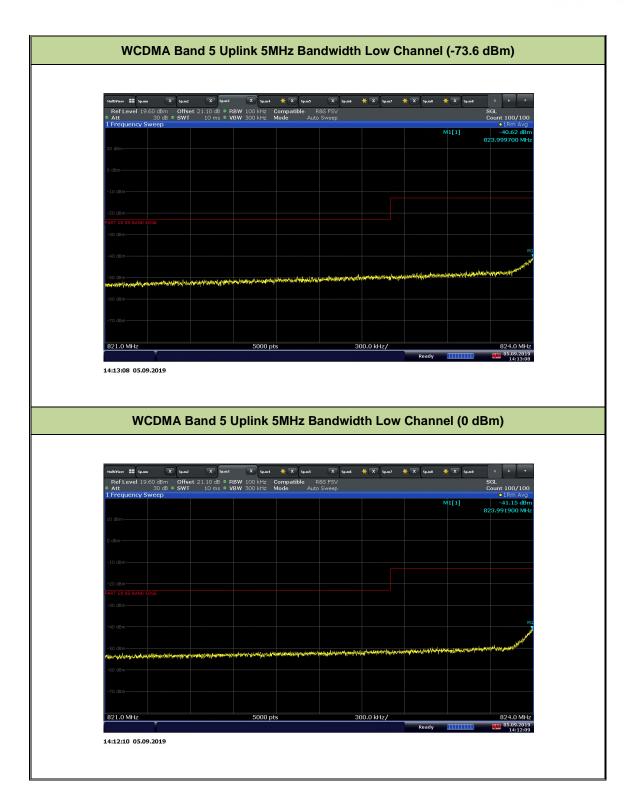
# 2.5.8 Test Results



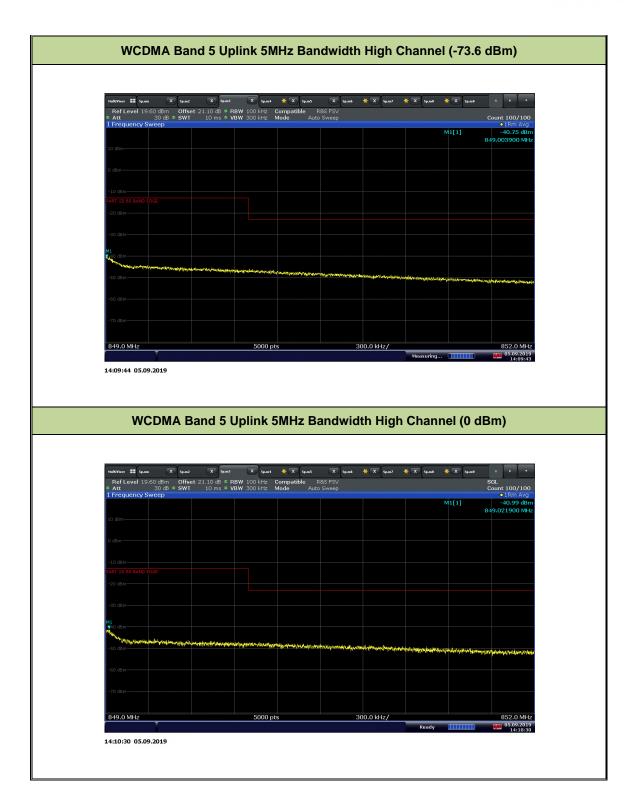




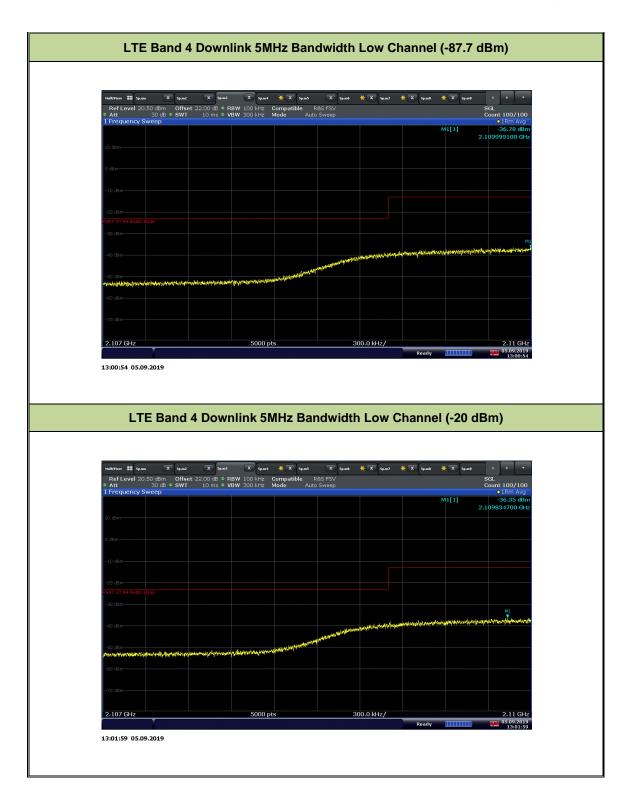




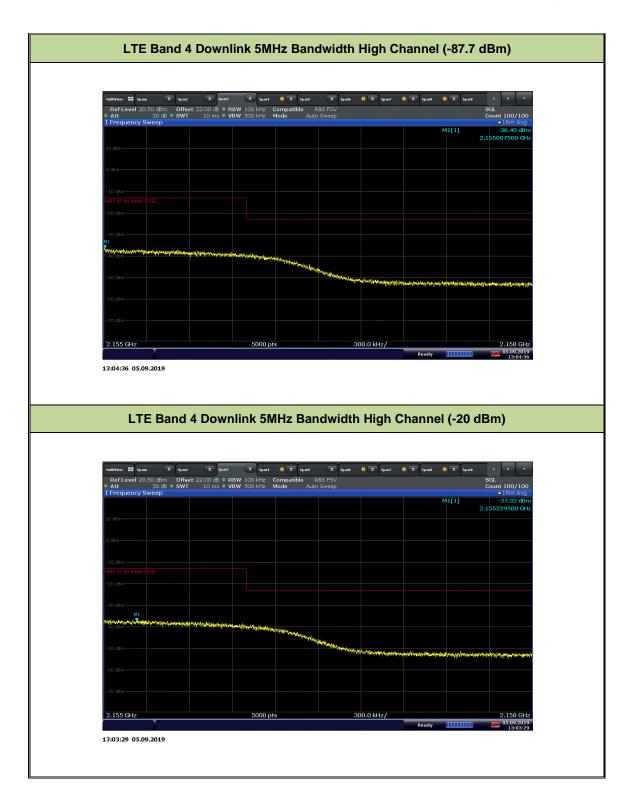




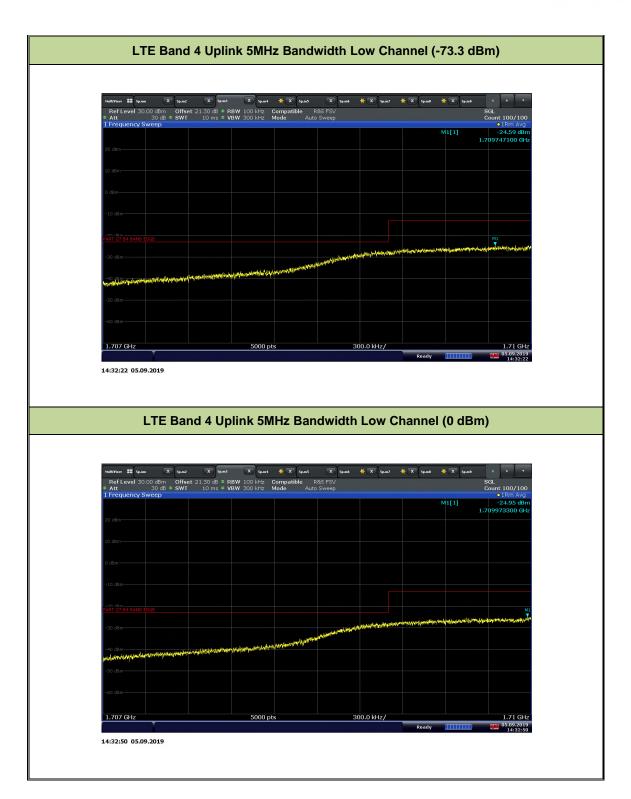




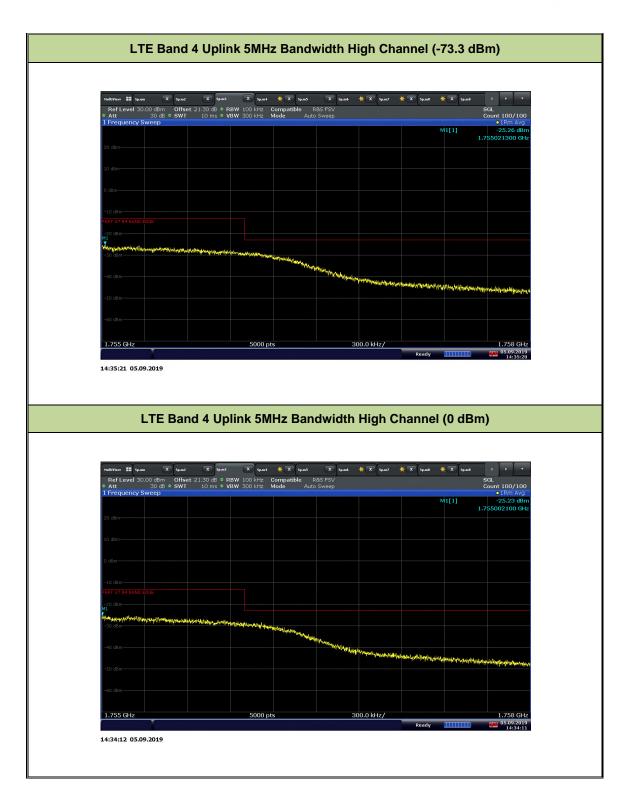




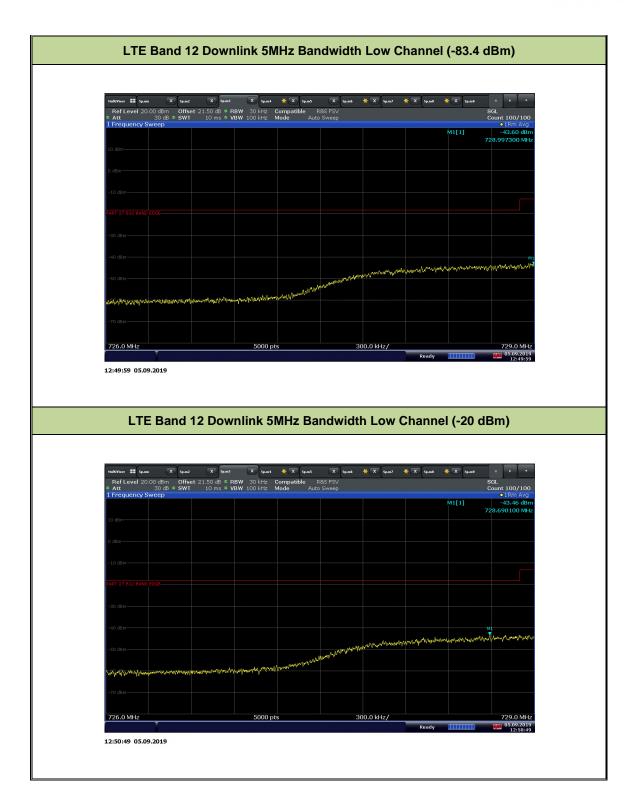




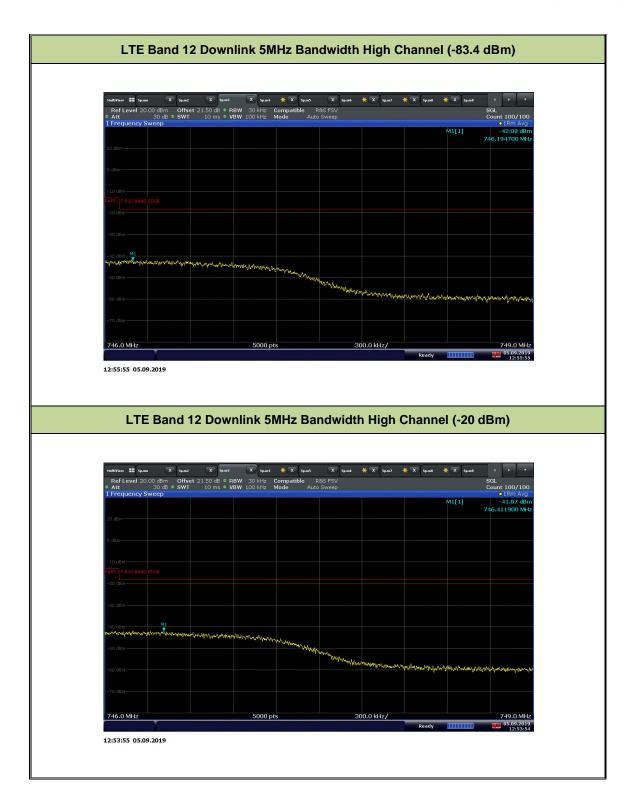




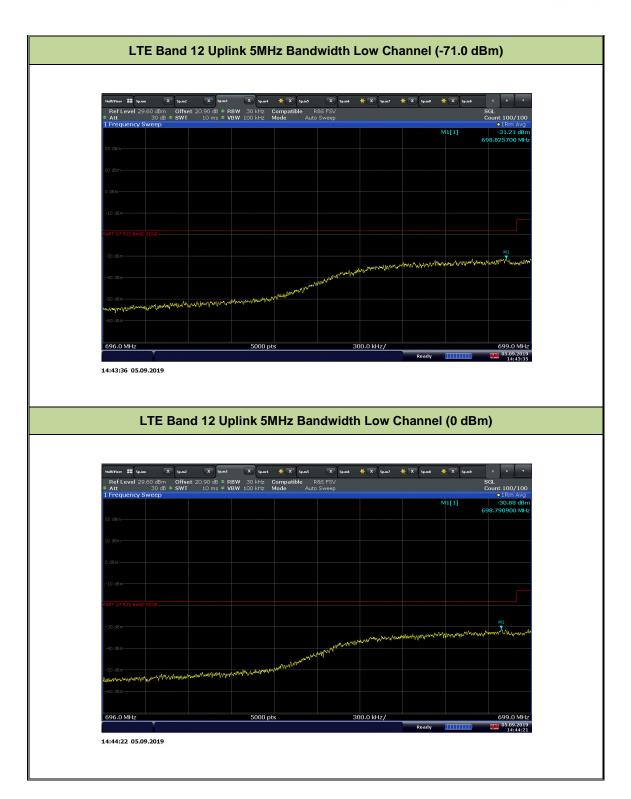




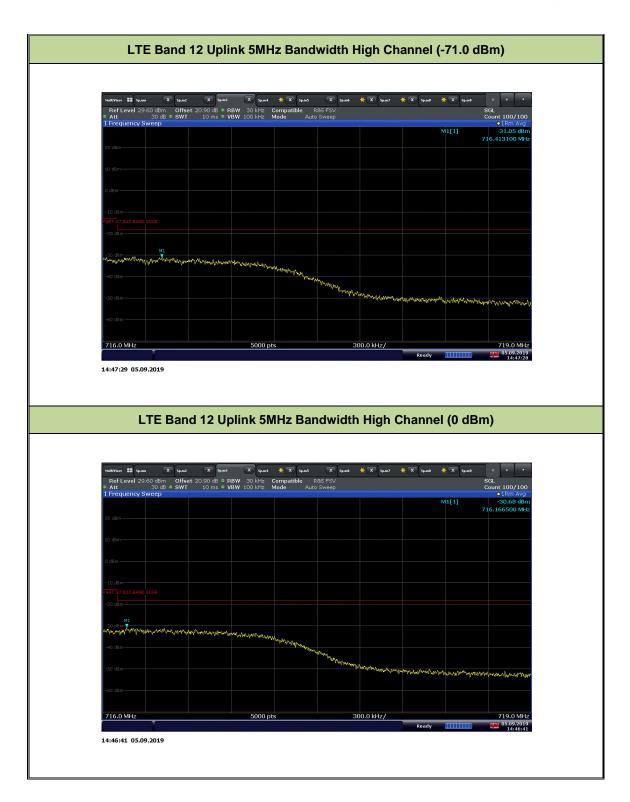




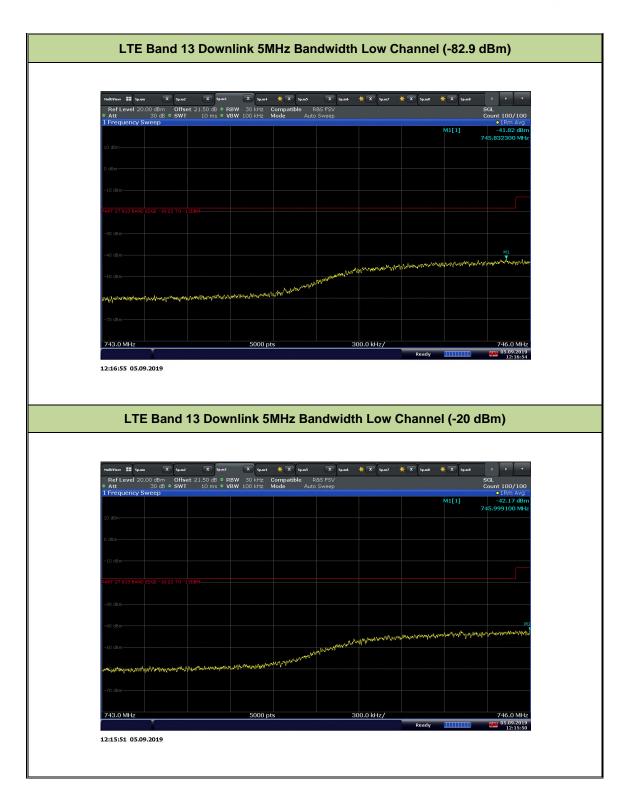




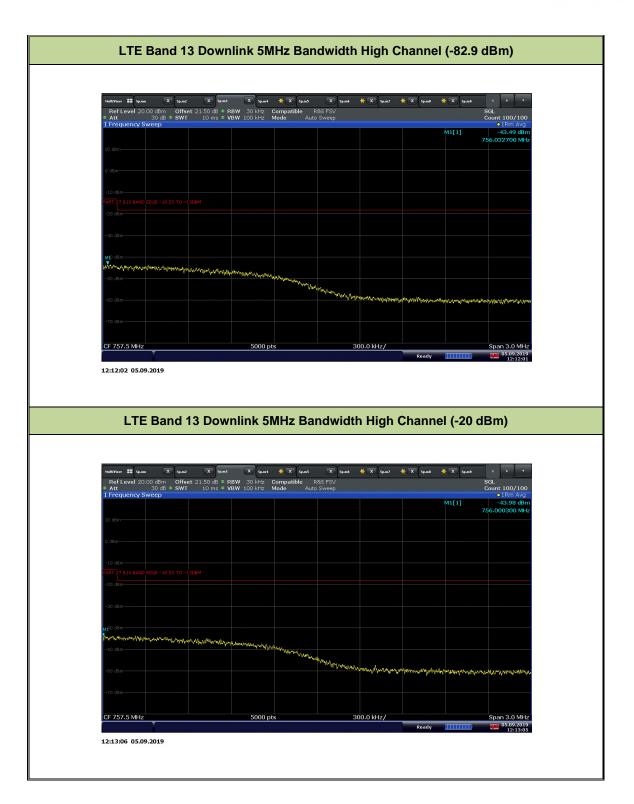




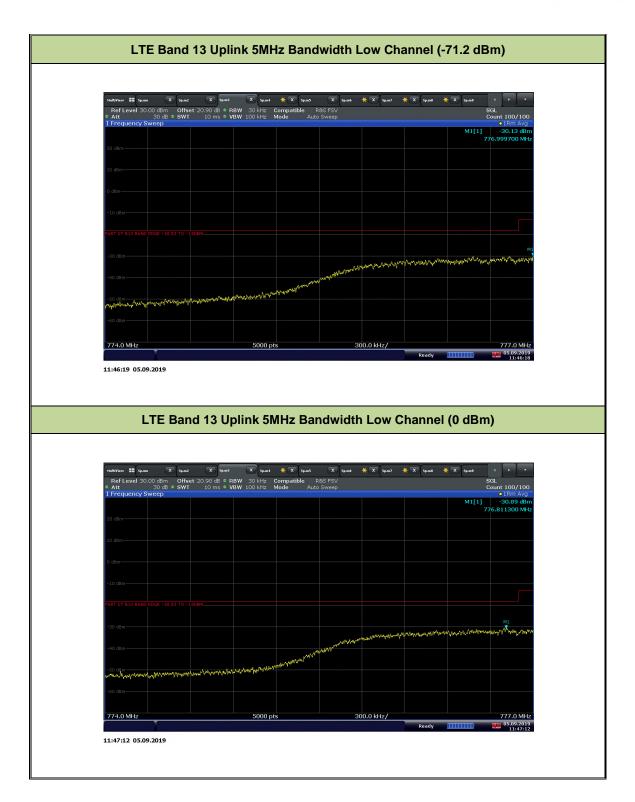




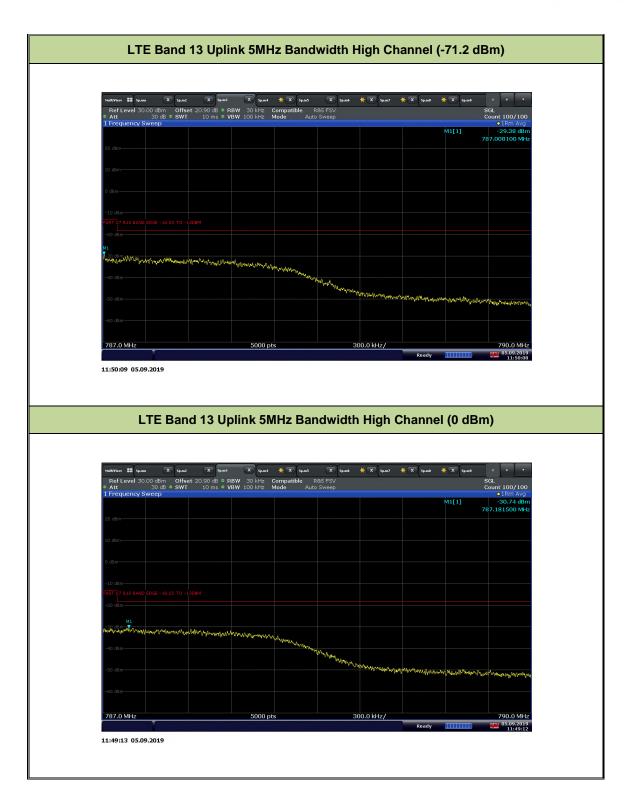




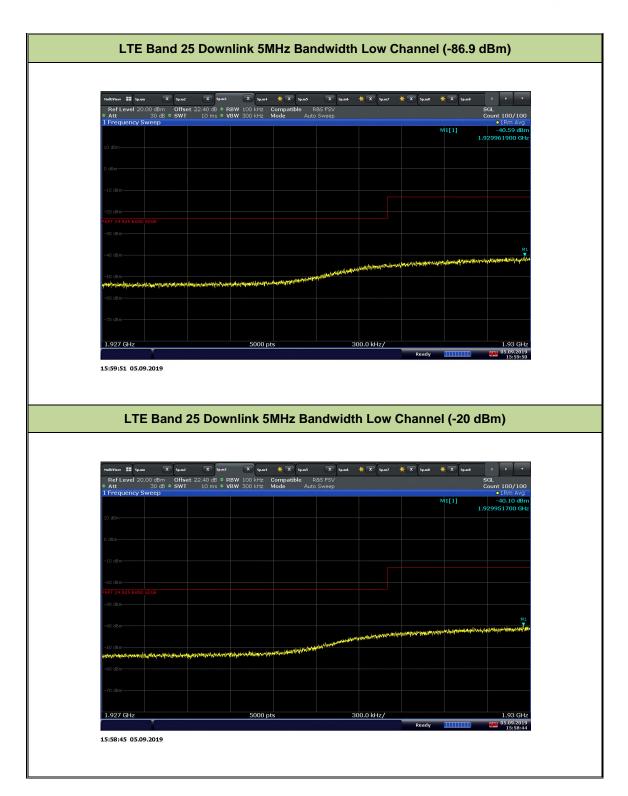




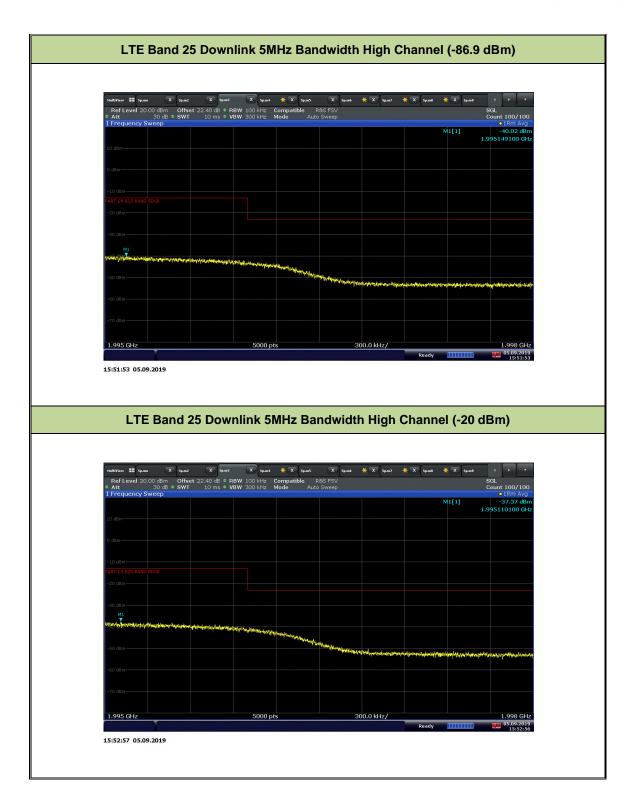




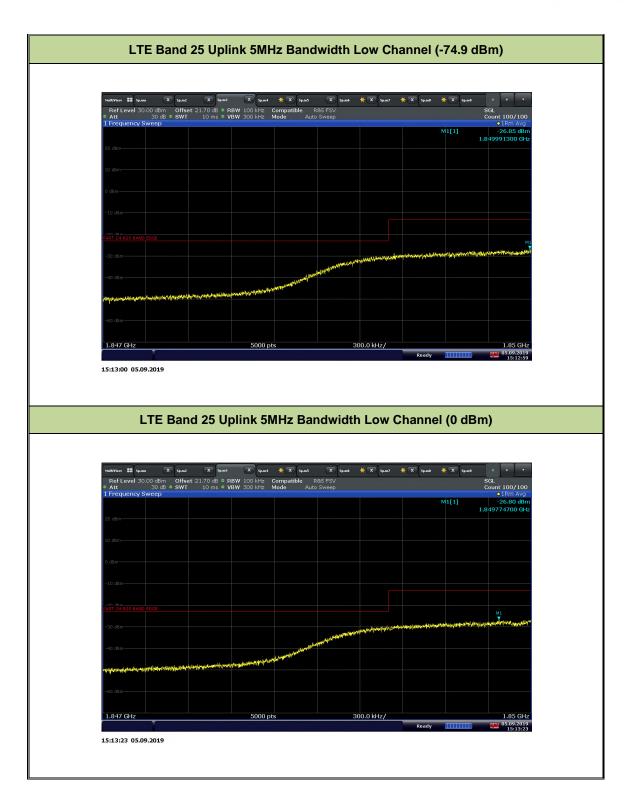




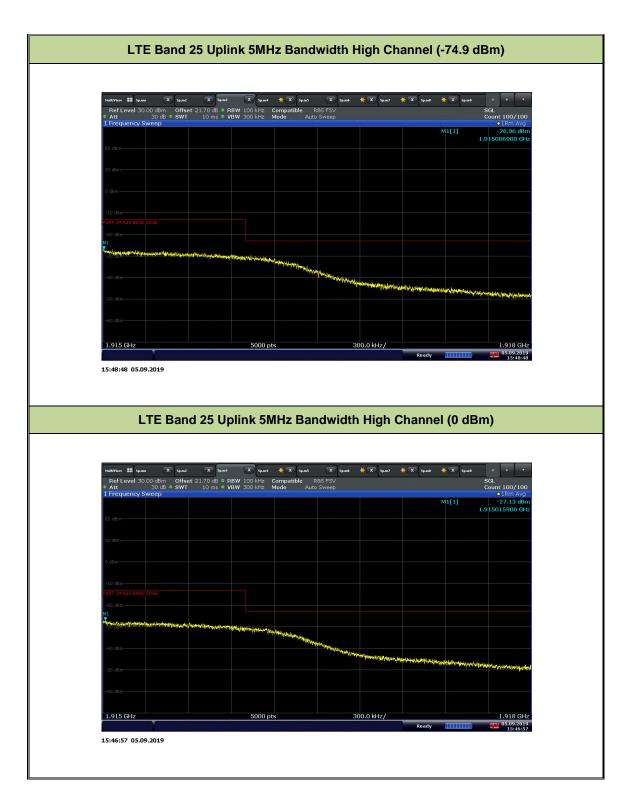














# 2.6 Conducted Spurious Emissions

#### 2.6.1 Specification Reference

FCC 47 CFR Part 20. Clause 20.21(e)(9)(i)(F) RSS 131 8.5

## 2.6.2 Standard Applicable

FCC 47 CFR Part 24, Clause 24.238(a)

Out of band emissions. 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.

FCC 47 CFR Part 27, Clause 27.53:

- (h) AWS emission limits (1) General protection levels. Except as otherwise specified below, for operatios in the 1695-1710 MHz, 1710-1755 MHz, 1755-1780 MHz, 1915-1920 MHz, 1995-2000 MHz, 2000-2020 MHz, 2110-2155 MHz, 2155-2180 MHz, and 2180-2200 MHz bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least 43 + 10 log10 (P) dB.
- (g) For operations in the 600 MHz band and the 698–746 MHz band, the power of any emission outside a 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, by at least 43 + 10 log (P) dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.
- (c) For operations in the 746–758 MHz band and the 776–788 MHz band, 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 any frequency outside the 746–758 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least 43 + 10 log (P) dB;
- (2) On any frequency outside the 776–788 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least 43 + 10 log (P) dB;
- (3) On all frequencies between 763–775 MHz and 793–805 MHz, by a factor not less than 76 + 10 log (P) dB in a 6.25 kHz band segment, for base and fixed stations;
- (f) For operations in the 746–758 MHz, 775–788 MHz, and 805–806 MHz bands, emissions in 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. For the purpose of equipment authorization, a transmitter shall be tested with an antenna that is representative of the type that will be used with the equipment in normal operation.



- (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:
- (1) For base and fixed stations' operations in the 2305–2320 MHz band and the 2345–2360 MHz band:
- (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, and not less than 75 + 10 log (P) dB on all frequencies between 2320 and 2345 MHz;
- (ii) By a factor of not less than 43 + 10 log (P) dB on all frequencies between 2300 and 2305 MHz, 70 + 10 log (P) dB on all frequencies between 2287.5 and 2300 MHz, 72 + 10 log (P) dB on all frequencies between 2285 and 2287.5 MHz, and 75 + 10 log (P) dB below 2285 MHz;
- (iii) By a factor of not less than 43 + 10 log (P) dB on all frequencies between 2360 and 2362.5 MHz, 55 + 10 log (P) dB on all frequencies between 2362.5 and 2365 MHz, 70 + 10 log (P) dB on all frequencies between 2365 and 2367.5 MHz, 72 + 10 log (P) dB on all frequencies between 2367.5 and 2370 MHz, and 75 + 10 log (P) dB above 2370 MHz.

## RSS-139, Clause 6.6:

(i) In the first 1.0 MHz bands immediatel outside and adjacent to the equipment's smallest opreating frequency block, which can contain the equipment's occupied bandwidth, the emission power per any 1% of the emission bandwidth shall be attenuated below the transmitter output power P (dBW), by at least 43 + 10 log<sub>10</sub> p (watts) dB.

### RSS-130:

## 4.7.1 General unwanted emissions limits

The unwanted emissions in any 100 kHz bandwidth on any frequency outside the low frequency edge and the high frequency edge of each frequency block range(s), shall be attenuated below the transmitter power, P (dBW), by at least 43 + 10 log10 p (watts), dB. However, in the 100 kHz band immediately outside of the equipment's frequency block range, a resolution bandwidth of 30 kHz may be employed.

#### 4.7.2 Additional unwanted emissions limits

In addition to the limit outlined in section 4.7.1 above, equipment operating in the frequency bands 746-756 MHz and 777-787 MHz shall also comply with the following restrictions:

- a) The power of any unwanted emissions in any 6.25 kHz bandwidth for all frequencies between 763-775 MHz and 793-806 MHz shall be attenuated below the transmitter power, P (dBW), by at least:
- (i) 76 + 10 log10 p (watts), dB, for base and fixed equipment, and
- (ii) 65 + 10 log10 p (watts), dB, for mobile and portable equipment.
- b) The e.i.r.p. in the band 1559-1610 MHz shall not exceed -70 dBW/MHz for wideband signal and -80 dBW for discrete emission with bandwidth less than 700 Hz.



# RSS-195, Clause 5.6.1:

The power of any emission outside the frequency range(s) in which the equipment operates shall be attenuated below the transmitter power, P(dBW), by the amount indicated in Table 1 and graphically represented in Figure 1, where p is the transmitter output power measured in watts.

Table 1 – Unwanted Emissions for Base Stations, Fixed Station and High-Power Fixed Subscriber Equipment	
Frequency (MHz)	Attenuation (dB)
<2200	43 + 10 log <sub>10</sub> (p)
2200 - 2285	75 + 10 log <sub>10</sub> (p)
2285 – 2287.5	72 + 10 log <sub>10</sub> (p)
2287.5 - 2300	70 + 10 log <sub>10</sub> (p)
2300 - 2305	43 + 10 log <sub>10</sub> (p)
2305 - 2320	43 + 10 log <sub>10</sub> (p) <sup>Note</sup>
2320 -2345	75 + 10 log <sub>10</sub> (p)
2345 -2360	43 + 10 log <sub>10</sub> (p) <sup>Note</sup>
2360 – 2362.5	43 + 10 log <sub>10</sub> (p)
2362.5 - 2365	55 + 10 log <sub>10</sub> (p)
2365 – 2367.5	70 + 10 log <sub>10</sub> (p)
2367.5 - 2370	72 + 10 log <sub>10</sub> (p)
2370 - 2395	75 + 10 log <sub>10</sub> (p)
>2395	43 + 10 log <sub>10</sub> (p)

**Note:** Measured at the edges of the highest and lowest frequency range(s) in which the equipment is designed to operate. See Section 5.2 for the permitted frequency ranges for the various equipment types.

# 2.6.3 Equipment Under Test and Modification State

Serial No: 110222000051 and 481222000175 / Test Configuration A and B

## 2.6.4 Date of Test/Initial of test personnel who performed the test

December 28, 2022 / MAR

## 2.6.5 Test Equipment Used

The major items of test equipment used for the above tests are identified in Section 3.1.

## 2.6.6 Environmental Conditions

Test performed at TÜV SÜD America Inc. Mira Mesa facility.

Ambient Temperature 22.7 °C Relative Humidity 50.7 % ATM Pressure 101.1kPa



## 2.6.7 Additional Observations

- This is a conducted test. Test guidance is per Section 6.1 of KDB971168 (D01 Power Meas License Digital Systems v03r01).
- The transducer factor (TDF) used is from the external attenuators and cables used.
- A resolution bandwidth of 100 kHz was used for WCDMA Band 5 and 1MHz was used for LTE Band 25.
- The limit is set to -13dBm.
- Detector is peak and trace is set to max hold as the worst case setting.
- All low, middle and high channels for all bandwidths were verified and only middle channel presented in this test report as representative configuration.
- Plots with 20dB attenuation (to prevent overloading the front end of the SA) were also verified with lesser attenuation to validate conformance with noise floor requirements.



# 2.6.8 Test Results

