

## Report On

### Application for Grant of Equipment Authorization of the Nextivity Inc. Cel-Fi Quatra EVO Cellphone Signal Booster

In accordance with:  
FCC CFR 47 Part 20  
RSS-131

Prepared for:  
Nextivity Inc.  
16550 West Bernardo Drive, Bldg 5, Suite 550,  
San Diego, CA 92127, USA

Issue Date: April 2023  
Document Number: 72186161A | Issue: 01



| RESPONSIBLE FOR      | NAME                  | TITLE                                           | DATE       | SIGNATURE |
|----------------------|-----------------------|-------------------------------------------------|------------|-----------|
| Prepared By          | Ferdinand S. Custodio | Senior RADIO Test Engineer / Wireless Team Lead | 04/28/2023 |           |
| Authorized Signatory | Omar Castillo         | Senior EMC / Wireless Test Engineer             | 04/28/2023 |           |

Signatures in this approval box have checked this document in line with the requirements of TÜV SÜD Product Service document control rules.

#### EXECUTIVE SUMMARY

Report and test data representing the EUT are verified and the EUT itself found to be in compliance with FCC CFR 47 Part 20 and RSS-131 for ISSED



A2LA Cert. No. 2955.13

#### DISCLAIMER AND COPYRIGHT

This report has been prepared by TÜV SÜD America with all reasonable skill and care. The document is confidential to the potential Client and TÜV SÜD America. No part of this document may be reproduced without the prior written approval of TÜV SÜD America. © 2019 TÜV SÜD America.

#### ACCREDITATION

Our A2LA Accreditation does not cover opinions and interpretations and any expressed are outside the scope of our A2LA Accreditation.

TÜV SÜD America, Inc.  
10040 Mesa Rim Road  
San Diego, CA 92121-2912

TÜV SÜD America, Inc.  
Rancho Bernardo Facility  
16936 Via Del Campo  
San Diego, CA 92127

Phone: 858 678 1400  
[www.tuv-sud-america.com](http://www.tuv-sud-america.com)



FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
 IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

## Contents

|          |                                                                              |            |
|----------|------------------------------------------------------------------------------|------------|
| <b>1</b> | <b>Report Summary .....</b>                                                  | <b>2</b>   |
| 1.1      | Report Modification Record.....                                              | 2          |
| 1.2      | Introduction.....                                                            | 2          |
| 1.3      | Brief Summary of Results .....                                               | 4          |
| 1.4      | Product Information .....                                                    | 6          |
| 1.5      | Deviations from the Standard.....                                            | 14         |
| 1.6      | EUT Modification Record .....                                                | 14         |
| 1.7      | Test Methods.....                                                            | 14         |
| 1.8      | Test Location .....                                                          | 15         |
| 1.9      | Test Facility Registration.....                                              | 15         |
| <b>2</b> | <b>Test Details .....</b>                                                    | <b>17</b>  |
| 2.1      | Authorized Frequency Band Verification.....                                  | 17         |
| 2.2      | Authorized CMRS Provider .....                                               | 26         |
| 2.3      | Maximum Power Measurement and Booster Gain Computation.....                  | 49         |
| 2.4      | Intermodulation Product .....                                                | 69         |
| 2.5      | Out Of Band Emissions .....                                                  | 80         |
| 2.6      | Conducted Spurious Emissions .....                                           | 101        |
| 2.7      | Noise Limit.....                                                             | 143        |
| 2.8      | Uplink Inactivity .....                                                      | 148        |
| 2.9      | Variable Booster Gain .....                                                  | 153        |
| 2.10     | Occupied Bandwidth .....                                                     | 161        |
| 2.11     | Oscillation Detection.....                                                   | 194        |
| 2.12     | Field Strength of Spurious Radiation .....                                   | 212        |
| 2.13     | Out of Band Gain Limit.....                                                  | 239        |
| 2.14     | Frequency Stability.....                                                     | 246        |
| <b>3</b> | <b>Test Equipment Used.....</b>                                              | <b>262</b> |
| 3.1      | List of absolute measuring and other principal items of test equipment ..... | 262        |
| <b>4</b> | <b>Measurement Uncertainty .....</b>                                         | <b>263</b> |
| 4.1      | Conducted Antenna Port Measurement.....                                      | 263        |
| <b>5</b> | <b>Accreditation, Disclaimers and Copyright.....</b>                         | <b>264</b> |



FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
 IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

# 1 Report Summary

## 1.1 Report Modification Record

Alterations and additions to this report will be issued to the holders of each copy in the form of a complete document.

| Issue | Description of Change | Date of Issue |
|-------|-----------------------|---------------|
| 1     | Initial Release       | 04/28/2023    |

## 1.2 Introduction

|                               |                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Objective                     | The EUT is a family model of Quatra 4000 series signal boosters. All testing presented in this test report are from Cel-Fi Q4K-CBRS (FCC ID YETQ44-1M34CNU and YETQ41-RECU / IC: 9298A-Q441M34CNU and 9298A-Q41RECU). The EUT is a depopulated version of Cel-Fi Q4K-CBRS with less Band support (the EUT does not support B30, B71 and B48). The EUT NU also has only two antenna ports compared to four of the Cel-Fi Q4K-CBRS. |
| Manufacturer                  | Nextivity Inc.<br>16550 West Bernardo Drive, Bldg 5, Suite 550,<br>San Diego, CA 92127, USA                                                                                                                                                                                                                                                                                                                                       |
| Applicant Contact Information | CK Li<br>Sr. Principal Engineer, Regulatory<br>CLi@NextivityInc.com<br>(858) 485-9442                                                                                                                                                                                                                                                                                                                                             |
| FCC ID                        | NU: YETQ42-Z1CNU and CU: YETQ41-BXCU                                                                                                                                                                                                                                                                                                                                                                                              |
| ISED Certification Number:    | NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU                                                                                                                                                                                                                                                                                                                                                                                          |
| Model Number(s)               | NU: Q42-Z1CNU; CU: Q41-BXCU                                                                                                                                                                                                                                                                                                                                                                                                       |
| Test Specification/Issue/Date | <ul style="list-style-type: none"> <li>FCC CFR 47 Part 20 (October 1, 2022).</li> <li>RSS-131 – Zone Enhancers (Issue 4, December 2022).</li> </ul>                                                                                                                                                                                                                                                                               |
| Start of Test                 | November 06, 2022                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Finish of Test                | February 02, 2023                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Name of Engineer(s)           | Ferdinand S. Custodio<br>Miguel Angel Rabago Garcia                                                                                                                                                                                                                                                                                                                                                                               |



Product Service

FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

Related Document(s)

- Product Spec for RFQ\_Highlander\_v1.1.pdf
- 72176539C Nextivity Phantom Bride Consumer FCC Part 20 RSS-131 Test Report.pdf Issued by TÜV SÜD America Inc, 10040 Mesa Rim Road, San Diego, CA 92121-2912 February 2023
- KDB935210 (D04 Provider Specific Booster Measurements v02r03) Provider-Specific Consumer Signal Booster Compliance Measurements Guidance.
- Supporting documents for EUT certification are separate exhibits.



FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
 IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

### 1.3 Brief Summary of Results

A brief summary of the tests carried out in accordance with FCC CFR 47 Part 20 with cross-reference to the corresponding requirements of KDB935210 D04 and ISSED RSS-131 is shown below.

| Section | Spec Clause                                                                                                                                                                                                                                       |               |                                            | Test Description                                                     | Results                              |
|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|--------------------------------------------|----------------------------------------------------------------------|--------------------------------------|
|         | FCC Part                                                                                                                                                                                                                                          | KDB935210 D04 | RSS                                        |                                                                      |                                      |
| 2.1     | 20.21 (e)(3) Frequency Bands                                                                                                                                                                                                                      | 7.1.1         | -                                          | Authorized Frequency Band Verification                               | Compliant                            |
| 2.2     | 20.21 (e)(3) Frequency Bands<br>20.21 (e)(4) Self-Monitoring                                                                                                                                                                                      | 7.1.2         | -                                          | Test Authorized CMRS provider test                                   | Compliant                            |
| 2.3     | 20.21(e)(9)(i)(D) Power Limits<br>20.21(e)(9)(i)(B) Bidirectional Capability<br>20.21(e)(9)(i)(C)(2) Booster Gain Limits                                                                                                                          | 7.2<br>7.3    | RSS-131 Clause 6.1.2<br>RSS-131 Clause 8.3 | Maximum Power measurement procedure<br>Maximum Booster Gain Computer | Compliant                            |
| 2.4     | 20.21(e)(9)(i)(G) Intermodulation Limit                                                                                                                                                                                                           | 7.4           | RSS-131 Clause 8.6                         | Intermodulation Product                                              | Compliant                            |
| 2.5     | 20.21(e)(9)(i)(F) Out of Band Emission Limit                                                                                                                                                                                                      | 7.5           | RSS-131 Clause 8.5                         | Out-of-Band Emissions                                                | Compliant                            |
| 2.6     | 20.21(e)(9)(i)(F) Out of Band Emission Limit<br>2.1051 Measurements required: Spurious emissions at antenna terminals.<br>22.917 (a) Emission limitations for cellular equipment.<br>24.238 (a) Emission limitations for Broadband PCS equipment. | 7.6           | RSS-13 8.5                                 | Conducted Spurious Emissions                                         | Compliant                            |
| 2.7     | 20.21(e)(9)(i)(A) Noise Limits<br>20.21(e)(9)(i)(I) Transmit Power Off Mode                                                                                                                                                                       | 7.7           | RSS-131 Clause 8.1<br>RSS-131 Clause 8.7   | Noise Limits                                                         | Compliant                            |
| 2.8     | 20.21(e)(9)(i)(J) Uplink Inactivity                                                                                                                                                                                                               | 7.8           | RSS-131 Clause 8.8                         | Uplink inactivity                                                    | Compliant                            |
| 2.9     | 20.21(e)(9)(i)(C)(1) Booster Gain Limits<br>20.21(e)(9)(i)(I) Transmit Power Off Mode                                                                                                                                                             | 7.9           | RSS-131 Clause 8.2<br>RSS-131 Clause 8.7   | Variable Booster Gain                                                | Compliant                            |
| 2.10    | 2.1049 Measurements required: Occupied bandwidth.<br>22.917 (b) Emission limitations for cellular equipment.<br>24.238 (b) Emission limitations for Broadband PCS equipment.                                                                      | 7.10          | RSS-Gen 6.7                                | Occupied Bandwidth                                                   | Compliant                            |
| 2.11    | 20.21(e)(9)(ii)(A) Anti-Oscillation                                                                                                                                                                                                               | 7.11          | RSS-131 Clause 6.1.1                       | Oscillation Detection                                                | Compliant                            |
| -       | 20.21(e)(9)(i)(C)(2)(iii) Automatic Feedback Cancellation                                                                                                                                                                                         | 7.12          | -                                          | Mobile Booster Automatic Feedback Cancellation                       | N/A;<br>Applicable to Mobile Booster |



FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
 IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

|      |                                                                                                                                                                                                                                                                      |      |                                                                                                              |                             |           |
|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|--------------------------------------------------------------------------------------------------------------|-----------------------------|-----------|
| 2.12 | 2.1053 Measurements required: Field strength of spurious radiation.<br>22.917 (a) Emission limitations for cellular equipment.<br>24.238 (a) Emission limitations for Broadband PCS equipment.<br>27.53 (h)(1) / 27.53 (g) / 27.53 (c)(1), (2), (5) Emission limits. | 7.13 | RSS 132 Clause 5.5<br>RSS 133 Clause 6.5<br>RSS 139 Clause 6.6<br>RSS 130 Clause 4.7<br>RSS 195 Clause 5.6.1 | Radiated Spurious Emissions | Compliant |
| -    | 20.21(e)(9)(i)(B) Bidirectional Capability<br>20.21(e)(3) Frequency Band                                                                                                                                                                                             | 7.14 | -                                                                                                            | Spectrum Block Filtering    | N/A***    |
| 2.13 | 20.21(e)(9)(i)(E) Out of Band Gain Limit                                                                                                                                                                                                                             | 7.15 | RSS-131 Clause 8.4                                                                                           | Out of Band Gain            | Compliant |
| 2.14 | 2.1055 Measurements required: Frequency stability.<br>22.355 Frequency tolerance<br>24.235 Frequency stability.<br>27.54 Frequency stability.                                                                                                                        | 7.16 | RSS 132 Clause 5.3<br>RSS 133 Clause 6.3<br>RSS 139 Clause 6.4<br>RSS 130 Clause 4.5<br>RSS 195 Clause 5.4   | Frequency Stability         | Compliant |

FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
 IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

## 1.4 Product Information

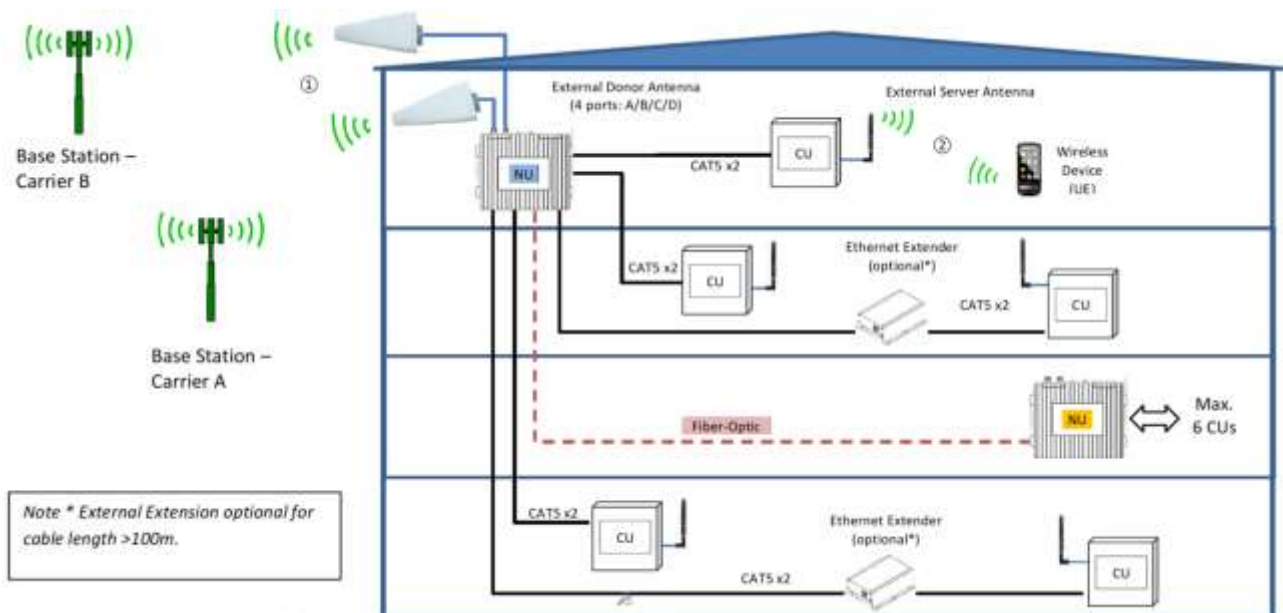
### 1.4.1 Technical Description

The Equipment Under Test (EUT) was a Nextivity Inc., Cel-Fi Quatra EVOCellphone Signal Booster. The EUT is a WCDMA/LTE "Provider-Specific" Signal Booster to improve voice and data cellular performance in large enterprise environments. The EUT is capable to support up to Four (4) carriers (via separated donor antenna ports). The EUT consists of two separate units: the Network Unit (NU), and the Coverage Unit (CU). The NU comprises a transmitter and receiver which communicate with the cell tower and the CU. CU comprises a transmitter and receiver which communicate with the User Equipment (e.g. Cellphone) and the NU. Figure below illustrates the typical application. The system operates with the need to install external antennas.

Users place the NU in an area with the strongest signal from the carrier networks. The CUs are then either placed in the center of the home or office, or in the area where the best signal quality is most needed. The NU and CU are placed at varying distances apart and are communicated via Ethernet cables.

One NU can connect upto Six (6) CUs via Ethernet Cat 5e cables. Second NU can be connected (via Fiber-optic cable) to the main NU to increase total 12 CUs in a system. The NU transmits and receives Cellular signals ① from the base station and operates similar to a cellular handset. The CU transmits and receives signals ② with the cellular handset and operates on frequencies similar to the cellular base station.

NU includes an FCC certified Cellular modem. With the use of the modem, it allows the system to access internet and for product registration, software updates, capturing and displaying details metrics of the system.





FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
 IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

|                            |                                                                                   |   |    |   |                                                                                     |    |   |  |
|----------------------------|-----------------------------------------------------------------------------------|---|----|---|-------------------------------------------------------------------------------------|----|---|--|
| Up to 2 bands on each port |  |   |    |   |  |    |   |  |
| Ant Port                   | 1                                                                                 |   |    |   | 2                                                                                   |    |   |  |
| Operator #                 | A                                                                                 |   |    |   | B                                                                                   |    |   |  |
| Max support BW             | 30 MHz                                                                            |   |    |   | 30 MHz                                                                              |    |   |  |
| Band                       | 12                                                                                | 5 | 25 | 4 | 13                                                                                  | 25 | 4 |  |
| Band Combination           | ✓                                                                                 | ✓ | ✓  | ✓ | ✓                                                                                   | ✓  | ✓ |  |
|                            | ✓                                                                                 | ✓ | ✓  | ✓ | ✓                                                                                   | ✓  | ✓ |  |
|                            | ✓                                                                                 | ✓ | ✓  | ✓ | ✓                                                                                   | ✓  | ✓ |  |
|                            | ✓                                                                                 | ✓ | ✓  | ✓ | ✓                                                                                   | ✓  | ✓ |  |
|                            | ✓                                                                                 | ✓ | ✓  | ✓ | ✓                                                                                   | ✓  | ✓ |  |

### 1.4.2 EUT Specification

|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EUT Description | Cellphone Signal Booster                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Trade Name      | Cel-Fi™                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Model Name      | Cel-Fi Quatra EVO                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Model Number(s) | NU: Q42-Z1CNU; CU: Q41-BXCU                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Rated Voltage   | NU: 120 VAC 60Hz<br>CU: 54V DC (powered from NU via 2 Ethernet cables)                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Mode Verified   | WCDMA Band 5 and LTE Band 4, 12, 13 and 25                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Frequency Bands | <div>WCDMA Band 5:               <div>UL: 824 - 849MHz</div> <div>DL: 869 - 894MHz</div> </div> <div>LTE Band 4:               <div>UL: 1710 - 1755MHz</div> <div>DL: 2110 - 2155MHz</div> </div> <div>LTE Band 12:               <div>UL: 699 - 716MHz</div> <div>DL: 729 - 746MHz</div> </div> <div>LTE Band 13:               <div>UL: 777 - 787MHz</div> <div>DL: 746 - 756MHz</div> </div> <div>LTE Band 25:               <div>UL: 1850 - 1915MHz</div> <div>DL: 1930 - 1995MHz</div> </div> |

#### Rated Power

| Signal Bandwidth (MHz) | WCDMA Band 5           |                        | LTE Band 4, 25 |          | LTE Band 12, 13 |                          |
|------------------------|------------------------|------------------------|----------------|----------|-----------------|--------------------------|
|                        | DL (dBm)               | UL (dBm)               | DL (dBm)       | UL (dBm) | DL (dBm)        | UL (dBm)                 |
| 5                      | (WCDMA) 13<br>(LTE) 16 | (WCDMA) 22<br>(LTE) 20 | Max. 16        | 22       | Max. 16         | 22 (B12, 13)<br>19 (B30) |
| 10                     |                        |                        |                |          |                 |                          |
| 15                     |                        |                        |                |          | N/A             |                          |



Product Service

FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

|                                         |                                                                                                                                   |    |     |     |  |     |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|----|-----|-----|--|-----|
|                                         | <table><tr><td>20</td><td>N/A</td><td></td><td></td><td>N/A</td></tr></table>                                                     | 20 | N/A |     |  | N/A |
| 20                                      | N/A                                                                                                                               |    |     | N/A |  |     |
| Capability                              | WCDMA (Band 5), LTE (Band 4, 12, 13 and 25)                                                                                       |    |     |     |  |     |
| Channel Bandwidth                       | WCDMA Band 5: 5MHz<br>LTE Band 4, 25: 5MHz, 10MHz, 15MHz and 20MHz<br>LTE Band 12, 13: 5MHz and 10MHz                             |    |     |     |  |     |
| Primary Unit (EUT)                      | <input type="checkbox"/> Production<br><input checked="" type="checkbox"/> Pre-Production<br><input type="checkbox"/> Engineering |    |     |     |  |     |
| Manufacturer Declared Temperature Range | 0°C to 40°C                                                                                                                       |    |     |     |  |     |
| Antenna Type                            | External Antenna                                                                                                                  |    |     |     |  |     |
| Manufacturer                            | Refer to the Antenna information supplied by the manufacture                                                                      |    |     |     |  |     |
| Antenna Model                           | Refer to the Antenna information supplied by the manufacture                                                                      |    |     |     |  |     |



Product Service

FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

Maximum Antenna  
System  
(Antenna + Cable) Gain

| Port      | Max System (Antenna & Cable) Gain                                                                                                        |
|-----------|------------------------------------------------------------------------------------------------------------------------------------------|
| CU        | 0.01 dBi for WCDMA Band 5<br>1.16 dBi for LTE Band 4<br>1.44 dBi for LTE Band 12<br>1.16 dBi for LTE Band 13<br>0.14 dBi for LTE Band 25 |
| NU Port 1 | 8.32 dBi for WCDMA Band 5<br>6.63 dBi for LTE Band 4<br>8.08 dBi for LTE Band 12<br>6.52 dBi for LTE Band 25                             |
| NU Port 2 | 6.63 dBi for LTE Band 4<br>7.99 dBi for LTE Band 13<br>6.52 dBi for LTE Band 25                                                          |



FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
 IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

### 1.4.3 Transmit Frequency Table

| Mode                  | Signal Bandwidth (MHz) | Tx Frequency (MHz) | Emission Designator | EIRP                 |                    |
|-----------------------|------------------------|--------------------|---------------------|----------------------|--------------------|
|                       |                        |                    |                     | Max. Power Avg (dBm) | Max. Power Avg (W) |
| WCDMA Band 5 Downlink | 5                      | 871.4 – 891.6      | 3M88F9W             | 15.33                | 0.034119291        |
|                       | 5 (3 Carriers)         | 871.4 – 891.6      |                     | 17                   | 0.050118723        |
| WCDMA Band 5 Uplink   | 5                      | 826.4 – 846.6      | 4M05F9W             | 29.74                | 0.941889597        |
|                       | 5 (3 Carriers)         | 826.4 – 846.6      |                     | 30                   | 1                  |
| LTE Band 4 Downlink   | 5                      | 2110 - 2155        | 4M72F9W             | 16.37                | 0.043351088        |
|                       | 10                     | 2110 - 2155        | 9M31F9W             | 17                   | 0.050118723        |
|                       | 15                     | 2110 - 2155        | 13M6F9W             | 16.89                | 0.048865236        |
|                       | 20                     | 2110 - 2155        | 18M4F9W             | 16.46                | 0.044258837        |
| LTE Band 4 Uplink     | 5                      | 1710 - 1755        | 4M64F9W             | 28.16                | 0.654636174        |
|                       | 10                     | 1710 - 1755        | 9M26F9W             | 30                   | 1                  |
|                       | 15                     | 1710 - 1755        | 13M6F9W             | 28.57                | 0.719448978        |
|                       | 20                     | 1710 - 1755        | 18M4F9W             | 28.31                | 0.677641508        |
| LTE Band 12 Downlink  | 5                      | 729 - 746          | 4M73F9W             | 17                   | 0.050118723        |
|                       | 10                     | 729 - 746          | 9M24F9W             | 16.95                | 0.049545019        |
| LTE Band 12 Uplink    | 5                      | 699 - 716          | 4M64F9W             | 30                   | 1                  |
|                       | 10                     | 699 - 716          | 9M25F9W             | 29.98                | 0.995405417        |
| LTE Band 13 Downlink  | 5                      | 746 - 756          | 4M62F9W             | 17                   | 0.050118723        |
|                       | 10                     | 746 - 756          | 9M20F9W             | 16.82                | 0.048083935        |
| LTE Band 13 Uplink    | 5                      | 777 - 787          | 4M72F9W             | 29.66                | 0.924698174        |
|                       | 10                     | 777 - 787          | 9M17F9W             | 30                   | 1                  |
| LTE Band 25 Downlink  | 5                      | 1932.5 – 1992.5    | 4M63F9W             | 15.3                 | 0.033884416        |
|                       | 10                     | 1935 – 1990        | 8M96F9W             | 15.61                | 0.036391504        |
|                       | 15                     | 1937.5 – 1987.5    | 13M4F9W             | 16.68                | 0.046558609        |
|                       | 20                     | 1940 – 1985        | 17M9F9W             | 17                   | 0.050118723        |
| LTE Band 25 Uplink    | 5                      | 1852.5 – 1912.5    | 4M47F9W             | 27.53                | 0.566239289        |
|                       | 10                     | 1855 – 1910        | 8M98F9W             | 30                   | 1                  |
|                       | 15                     | 1857.5 – 1907.5    | 13M4F9W             | 28.29                | 0.674528028        |
|                       | 20                     | 1860 – 1905        | 17M9F9W             | 28.16                | 0.654636174        |

Note: EIRP was computed with power output results on section 2.3.9 and maximum system gain from table 1.4.2



FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
 IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

#### 1.4.4 Test Configuration

| Configuration Number | Description                                                                                                                                                                                                                                                                          |
|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| A                    | Test Mode - Downlink (CU TX). Input signal is applied to antenna port of NU. Output is monitored from antenna port of CU.<br>(refer to 1.4.4 Figure 3)                                                                                                                               |
| B                    | Test Mode - Uplink (NU TX). Input signal is applied to antenna port of CU. Output is monitored from antenna port of NU.<br>(refer to 1.4.4 Figure 2)                                                                                                                                 |
| C                    | Normal Mode - Downlink (CU TX). Base Station Simulator is employed to send a modulated signal to antenna port of NU. Antenna port of CU is terminated with a 50Ω load.<br>(refer to 1.4.4 Figure 1)                                                                                  |
| D                    | Normal Mode - Uplink (NU TX). Base Station Simulator is employed to send a modulated signal to antenna port of NU. Input signal is applied to antenna port of CU.<br>(refer to 1.4.4 Figure 1)                                                                                       |
| E                    | Inter-modulation. Test setup identical to Test Configuration A and B above with the addition of another signal applied to the input of the EUT. A coupler was used in the setup to ensure that the additional signal is directed to the EUT input port.<br>(refer to 1.4.4 Figure 5) |
| F                    | Max Downlink noise limit testing - A 50 Ohm Termination is connected to the NU antenna Port 1st Measure the Noise Limit at the CU antenna port.<br>(refer to 1.4.4 Figure 6)                                                                                                         |
| G                    | Max Uplink RSSI-dependent noise limit testing - A 50 Ohm Termination is connected to the CU antenna port. A signal is connected to a step attenuator and then applied to the NU antenna port. Output is monitored from antenna port of NU.<br>(refer to 1.4.4 Figure 7)              |
| H                    | Max Downlink RSSI-dependent noise limit testing - A 50 Ohm Termination is connected to the CU antenna port. A signal is connected to a step attenuator and then applied to the NU antenna port. Output is monitored from antenna port of CU.<br>(refer to 1.4.4 Figure 8)            |

#### 1.4.5 EUT Exercise Software

Manufacturer provided Nextivity Chart Interface v2.0.0.16 running from a support laptop where both NU and CU are connected via USB.

#### 1.4.6 Support Equipment and I/O cables

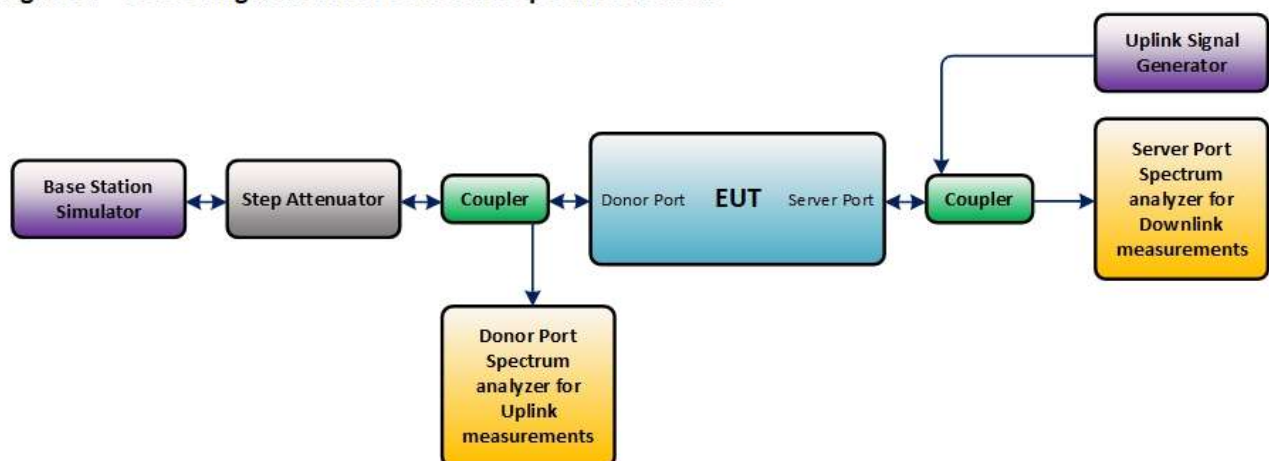
| Manufacturer | Equipment/Cable           | Description                                          |
|--------------|---------------------------|------------------------------------------------------|
| Dell         | Support Laptop            | M/N: Latitude D630 PP18L<br>S/N: 5SBJBG1             |
| Dell         | Support Laptop AC Adapter | M/N: PA-1900-02D<br>S/N: 5SBJBG1                     |
| Nextivity    | Support USB cable x 2     | Custom 1.0 meter shielded USB Type A to Type A cable |

FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
 IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

|                           |                                             |                                                       |
|---------------------------|---------------------------------------------|-------------------------------------------------------|
| Nextivity                 | Support USB cable x 2                       | Custom 1.0 meter shielded USB Type A to Micro B cable |
| Nextivity                 | USB / Interface Box x 2                     | Unshielded with "Tag-Connect" interface               |
| Agilent                   | ESG Vector Signal Generator                 | M/N: E4438C<br>S/N: MY49071335                        |
| Rhode & Schwarz           | Support Wideband Radio Communication Tester | M/N: CMW500, S/N: 1201.0002K50/103829                 |
| Ramsey                    | Support Shielded Test Enclosure             | With custom USB cable                                 |
| Agilent                   | 110 dB Step Attenuator                      | M/N: 8496B<br>S/N: MY42143874                         |
| Agilent                   | 11 dB Step Attenuator                       | M/N: 8494B<br>S/N: 2812A17193                         |
| Rhode & Schwarz           | Step Attenuator                             | M/N: RSP<br>S/N: 834500/009                           |
| Mini-Circuits             | Power Splitter                              | M/N ZN2PD-63-S+<br>S/N UU74001429                     |
| RF Precision Cables, Inc. | Power Splitter                              | M/N: PDX2103                                          |
| Weinschel                 | Power Splitter                              | M/N: 1506A<br>S/N: RR002                              |

#### 1.4.7 Simplified Test Configuration Diagram

Figure 1 – Test configuration in EUT normal operational mode



FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

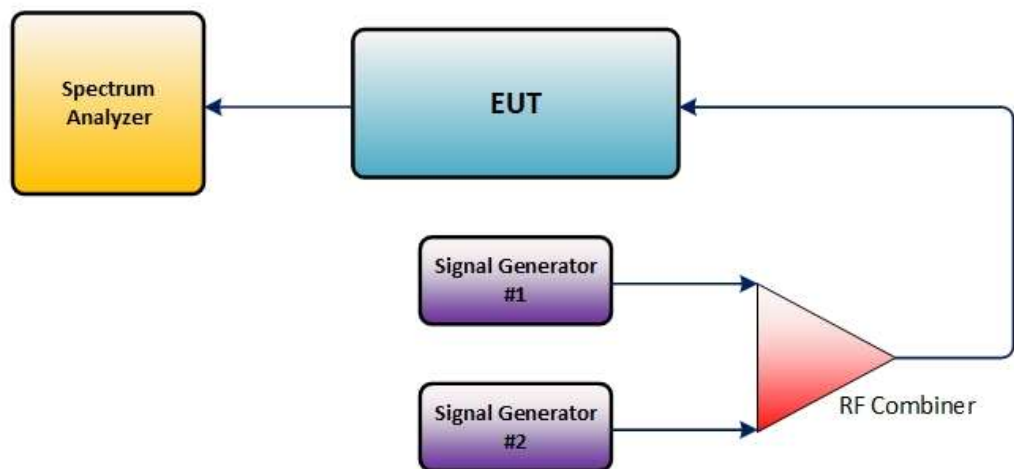
**Figure 2 – Uplink test configuration in EUT test mode**



**Figure 3 – Downlink test configuration in EUT test mode**



**Figure 5 – Intermodulation product instrumentation test setup**

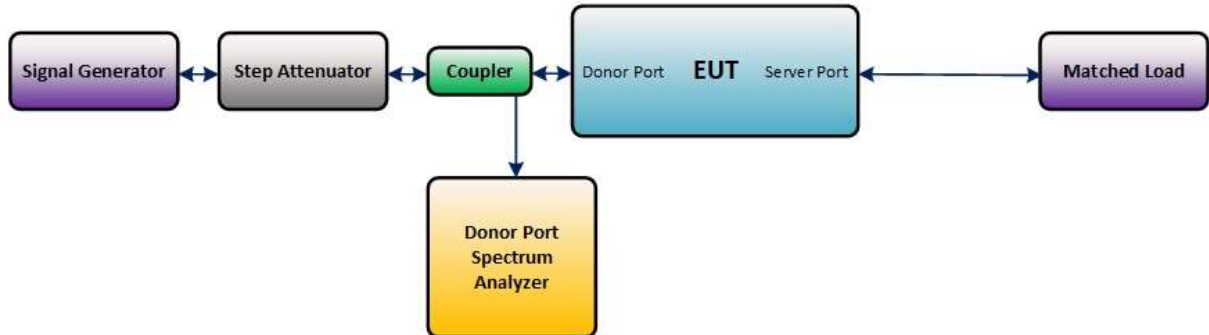


**Figure 6 – Maximum downlink noise limit test configuration**

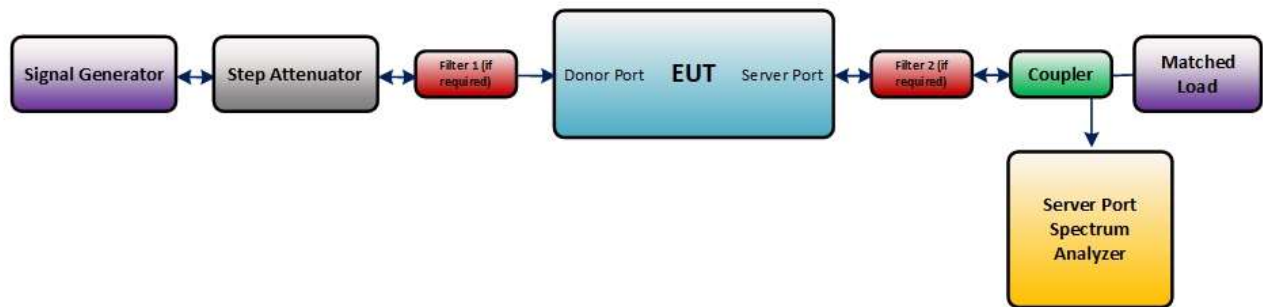


FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
 IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

**Figure 7 – Uplink RSSI-dependent noise limit test configuration**



**Figure 8 – Downlink RSSI-dependent noise limit test configuration**



## 1.5 Deviations from the Standard

There were no deviations made during testing from the applicable test standard or test plan.

## 1.6 EUT Modification Record

The table below details modifications made to the EUT during the test program. The modifications incorporated during each test are recorded on the appropriate test pages.

| Modification State | Description of Modification still fitted to EUT | Modification Fitted By | Date Modification Fitted |
|--------------------|-------------------------------------------------|------------------------|--------------------------|
| 0                  | As supplied by the manufacturer                 | -                      | -                        |

## 1.7 Test Methods

All measurements contained in this report were conducted as per KDB935210 D04 Provider-Specific Consumer Signal Boosters Compliance Measurements Guidance (February 12, 2016).



FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

## 1.8 Test Location

TÜV SÜD America conducted the following tests at our San Diego CA, Test Laboratory's.

Office Address:

### **TÜV SÜD America Inc. (Mira Mesa)**

10040 Mesa Rim Road, San Diego, CA 92121-2912 (32.901268,-117.177681).  
Phone: (858) 678 1400 Fax: (858) 546 0364.

### **TÜV SÜD America Inc. (Rancho Bernardo)**

16936 Via Del Campo, San Diego, CA 92127-1708 (33.018644,-117.092409).  
Phone: (858) 678 1400 Fax: (858) 546 0364.

## 1.9 Test Facility Registration

### 1.9.1 FCC – Designation No.: US1146

TÜV SÜD America Inc. (San Diego), is an accredited test facility with the site description report on file and has met all the requirements specified in §2.948 of the FCC rules. The acceptance letter from the FCC is maintained in our files and the Designation is US1146.

### 1.9.2 Innovation, Science and Economic Development Canada (ISED) Registration No.: 3067A-1 & 22806-1

The 10m Semi-anechoic chamber of TÜV SÜD America Inc. (San Diego Rancho Bernardo) has been registered by Certification and Engineering Bureau of Innovation, Science and Economic Development Canada for radio equipment testing with Registration No. 3067A-1.

The 3m Semi-anechoic chamber of TÜV SÜD America Inc. (San Diego Mira Mesa) has been registered by Certification and Engineering Bureau of Innovation, Science and Economic Development Canada for radio equipment testing with Registration No. 22806-1.

### 1.9.3 BSMI – Laboratory Code: SL2-IN-E-028R (US0102)

TÜV Product Service Inc. (San Diego) is a recognized RADIO testing laboratory by the BSMI under the MRA (Mutual Recognition Arrangement) with the United States. Accreditation includes CNS 13438 up to 6GHz.

### 1.9.4 NCC (National Communications Commission - US0102)

TÜV SÜD America Inc. (San Diego) is listed as a Foreign Recognized Telecommunication Equipment Testing Laboratory and is accredited to ISO/IEC 17025 (A2LA Certificate No.2955.13) which under APEC TEL MRA Phase 1 was designated as a Conformity Assessment Body competent to perform testing of equipment subject to the Technical Regulations covered under its scope of accreditation including RTTE01, PLMN01 and PLMN08 for TTE type of testing and LP0002 for Low-Power RF Device type of testing.



FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

**1.9.5 VCCI – Registration No. A-0280 and A-0281**

TÜV SÜD America Inc. (San Diego) is a VCCI registered measurement facility which includes radiated field strength measurement, radiated field strength measurement above 1GHz, mains port interference measurement and telecommunication port interference measurement.

**1.9.6 RRA – Identification No. US0102**

TÜV SÜD America Inc. (San Diego) is National Radio Research Agency (RRA) recognized laboratory under Phase I of the APEC Tel MRA.

**1.9.7 OFCA – U.S. Identification No. US0102**

TÜV SÜD America Inc. (San Diego) is recognized by Office of the Communications Authority (OFCA) under Appendix B, Phase I of the APEC Tel MRA.



FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

## 2 Test Details

### 2.1 Authorized Frequency Band Verification

#### 2.1.1 Specification Reference

FCC 47 CFR Part 20, Clause 20.21 (e)(3)  
KDB935210 D04, Clause 7.1

#### 2.1.2 Standard Applicable

FCC 47 CFR Part 20, Clause 20.21 (e)(3) Frequency Bands:  
Consumer Signal Boosters must be designed and manufactured such that they only operate on the frequencies used for the provision of subscriber-based services under parts 22 (Cellular), 24 (Broadband PCS), 27 (AWS-1, 700 MHz Lower A-E Blocks, and 700 MHz Upper C Block), and 90 (Specialized Mobile Radio) of this chapter. The Commission will not certificate any Consumer Signal Boosters for operation on part 90 of this chapter (Specialized Mobile Radio) frequencies until the Commission releases a public notice announcing the date Consumer Signal Boosters may be used in the band

#### 2.1.3 Equipment Under Test and Modification State

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

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

August 02, 05, 08 and October 15, 16, 2019 /XYZ

#### 2.1.5 Test Equipment Used

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

#### 2.1.6 Environmental Conditions

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

|                     |                |
|---------------------|----------------|
| Ambient Temperature | 24.5 - 27.0°C  |
| Relative Humidity   | 39.1 - 51.5%   |
| ATM Pressure        | 98.5 - 99.0kPa |



FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
 IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

### 2.1.7 Additional Observations

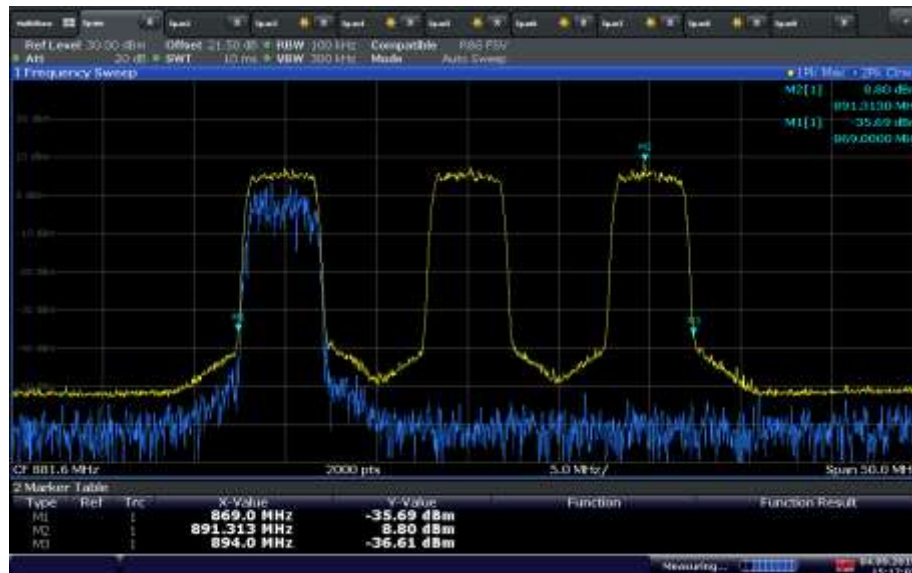
- This is conducted Test. Test procedure is per Section 7.1.1 of KDB935210 (D04 Provider Specific Booster Measurements v02r03). Appropriate offset (line losses) applied.
- The EUT operated in Test Mode, with the gain set to the maximum gain and a minimum bandwidth setting (5MHz).
- Setup the EUT according to Figure 2 or 3 of Section 6.3.3 of KDB935210 as appropriate.
- Evaluations are conducted at CU and NU antenna ports.
- Both downlink and uplink bands for WCDMA Band 5 and LTE Band 4, 12, 13, 25 on CU and NU all antenna ports were tested.
- The signal generator was set to transmit a 5MHz WCDMA or 5MHz LTE signal.
- Frequency Range:

| Technology | Band | DL Frequency Range (MHz) | UL Frequency Range (MHz) |
|------------|------|--------------------------|--------------------------|
| WCDMA      | 5    | 869 - 894                | 824 - 849                |
| LTE        | 4    | 2110 - 2155              | 1710 - 1755              |
| LTE        | 12   | 729 – 746                | 699 – 716                |
| LTE        | 13   | 746 - 756                | 777 - 787                |
| LTE        | 25   | 1930 - 1995              | 1850 - 1915              |

FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

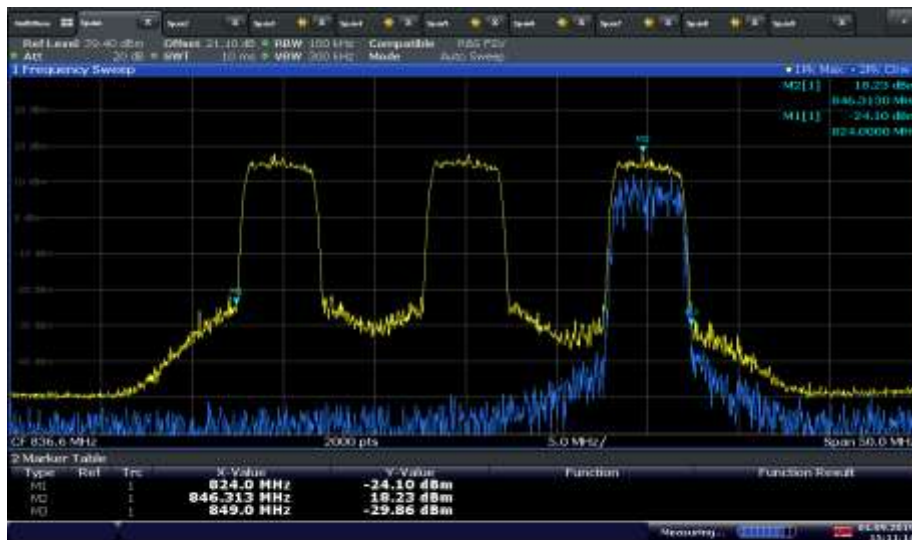
## 2.1.8 Test Results

### WCDMA Band 5 Downlink Authorized Frequency Range (869 - 894MHz) – CU with NU Port 1



15:17:02 04.09.2019

### WCDMA Band 5 Uplink Authorized Frequency Range (824 – 849 MHz) - NU Port 1



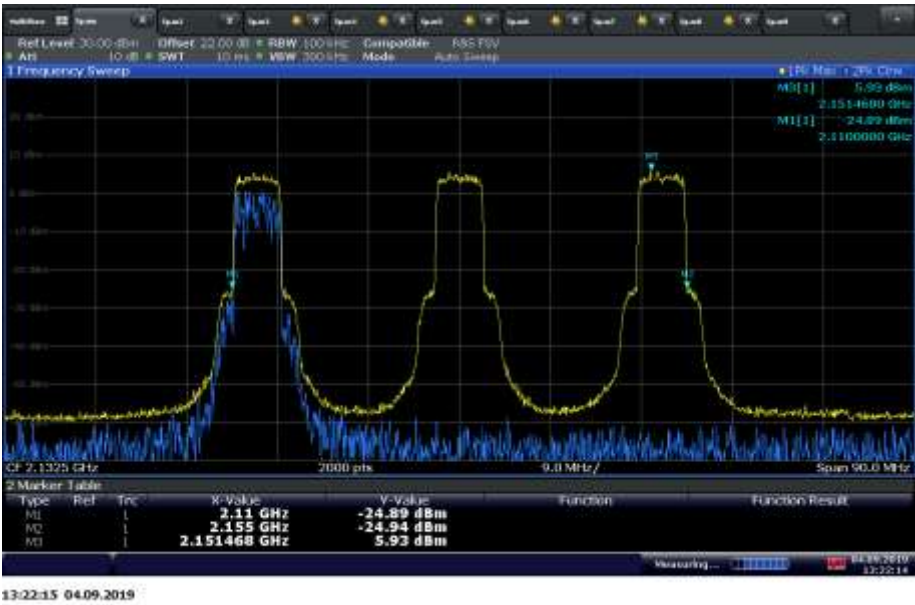
15:11:14 04.09.2019



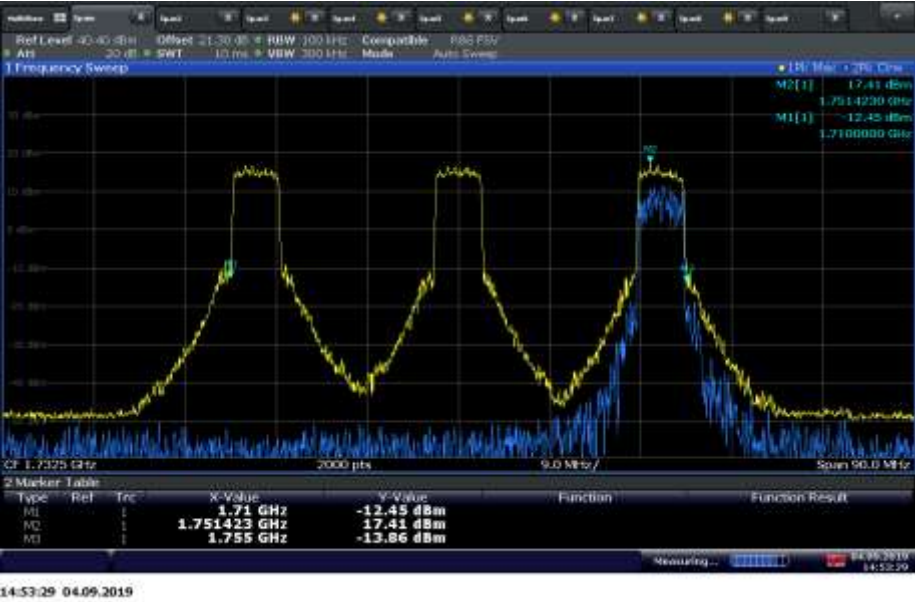
Product Service

FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

LTE Band 4 Downlink Authorized Frequency Range (2110 – 2155 MHz) - CU with NU Port 1



LTE Band 4 Uplink Authorized Frequency Range (1710 – 1755 MHz) - NU Port 1

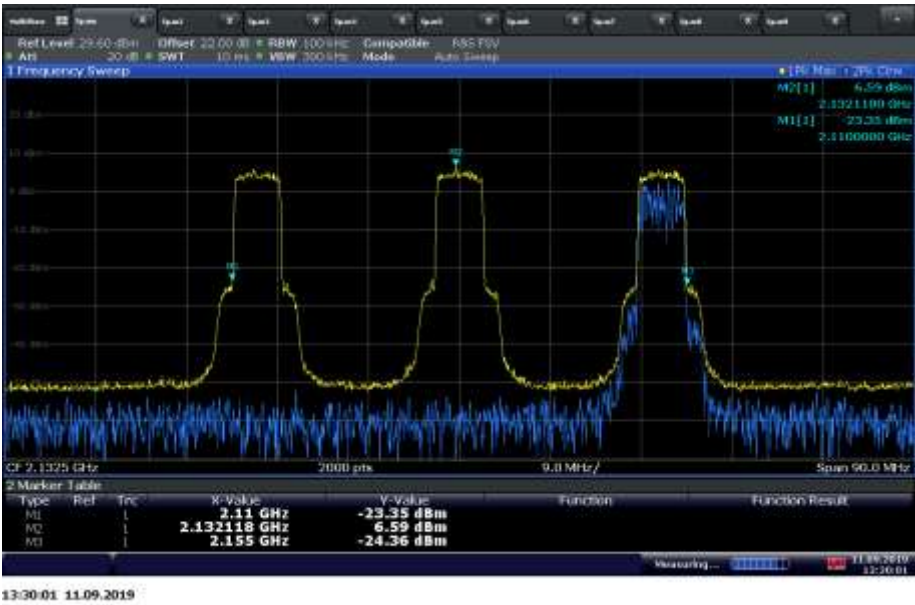




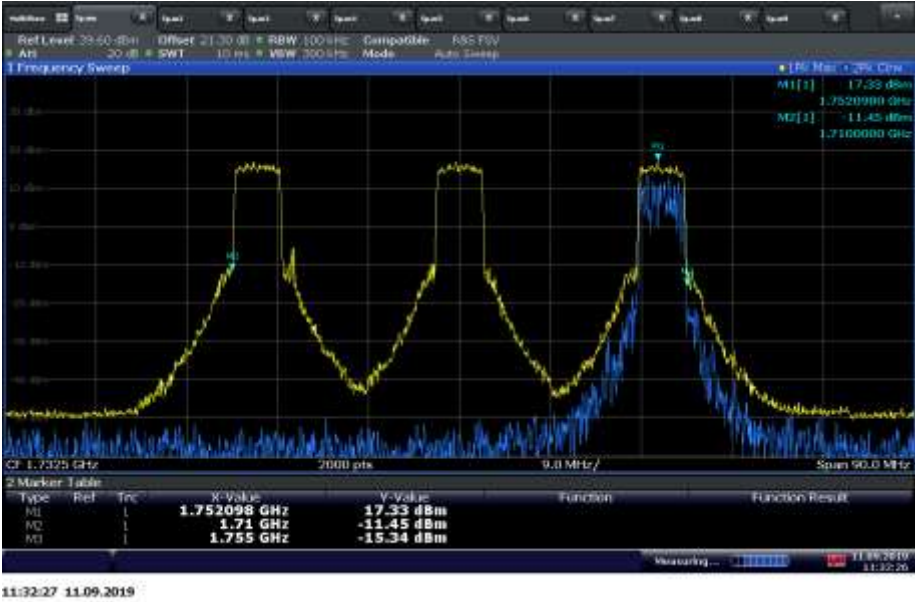
Product Service

FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

LTE Band 4 Downlink Authorized Frequency Range (2110 – 2155 MHz) - CU with NU Port 2

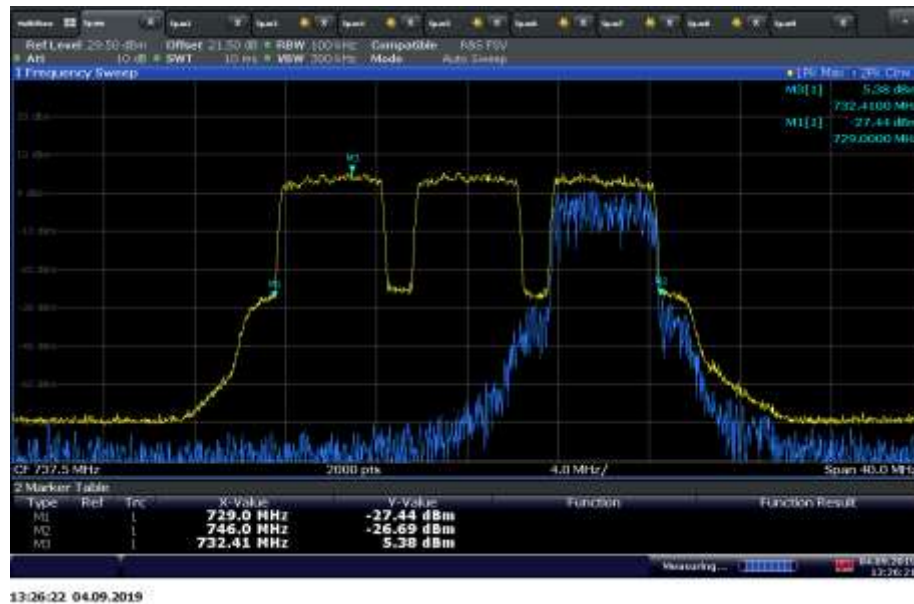


LTE Band 4 Uplink Authorized Frequency Range (1710 – 1755 MHz) - NU Port 2

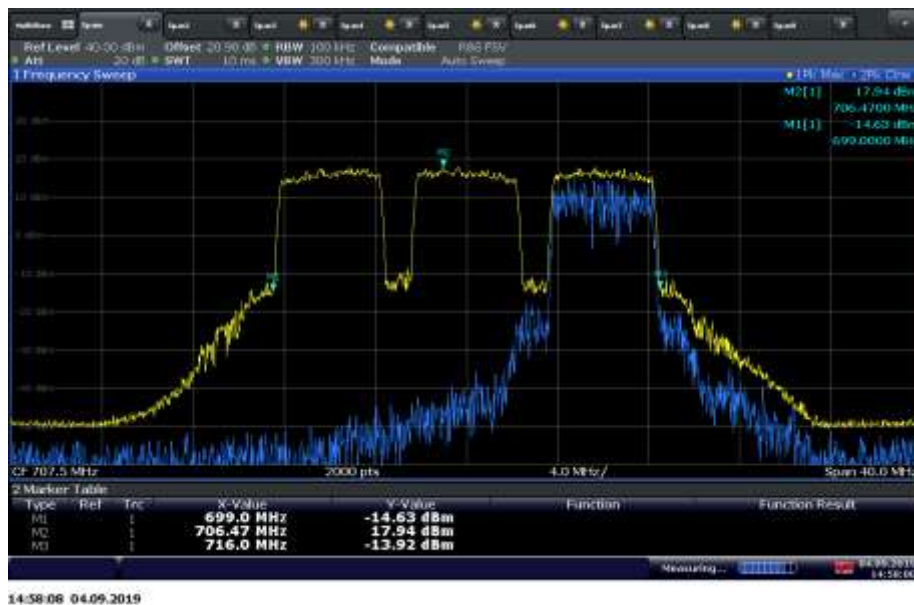


FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

### LTE Band 12 Downlink Authorized Frequency Range (729 – 746 MHz) - CU with NU Port 1



### LTE Band 12 Uplink Authorized Frequency Range (699 – 716 MHz) - NU Port 1

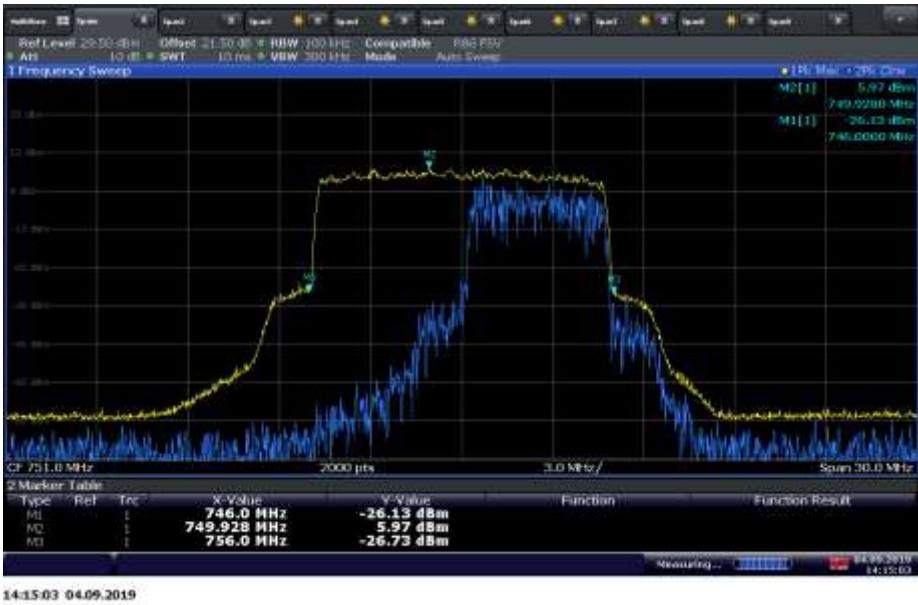




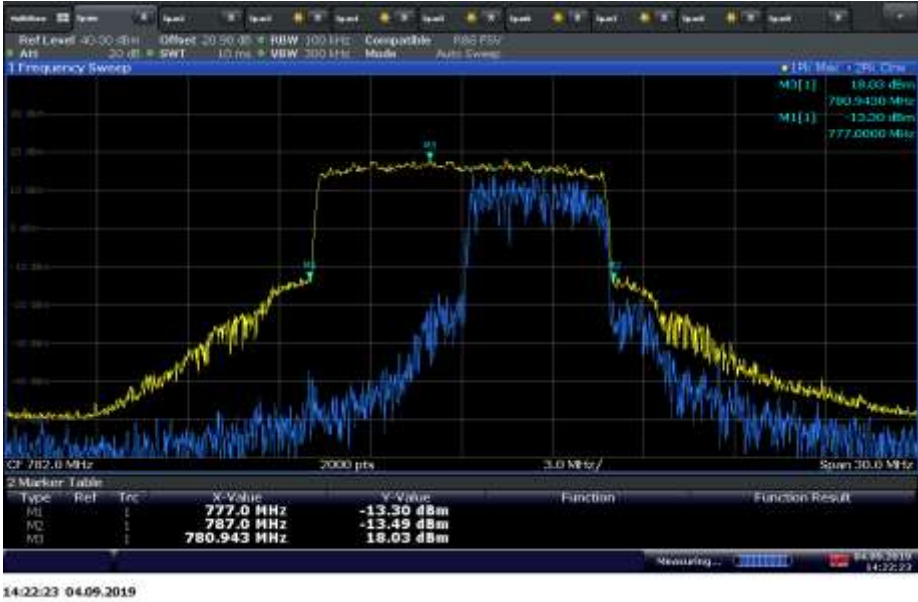
Product Service

FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

LTE Band 13 Downlink Authorized Frequency Range (746 – 756 MHz) - CU with NU Port 2



LTE Band 13 Uplink Authorized Frequency Range (777 – 787 MHz) - NU Port 2

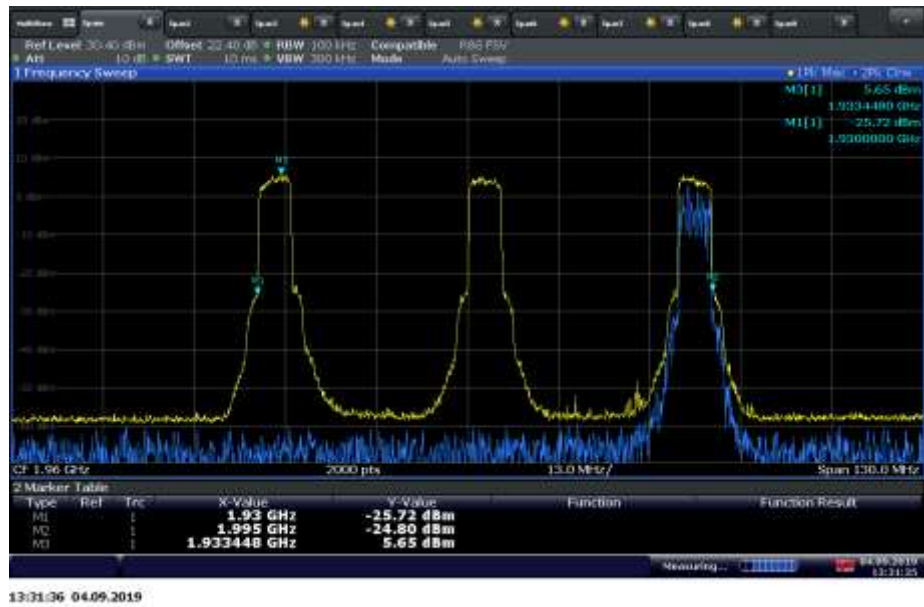




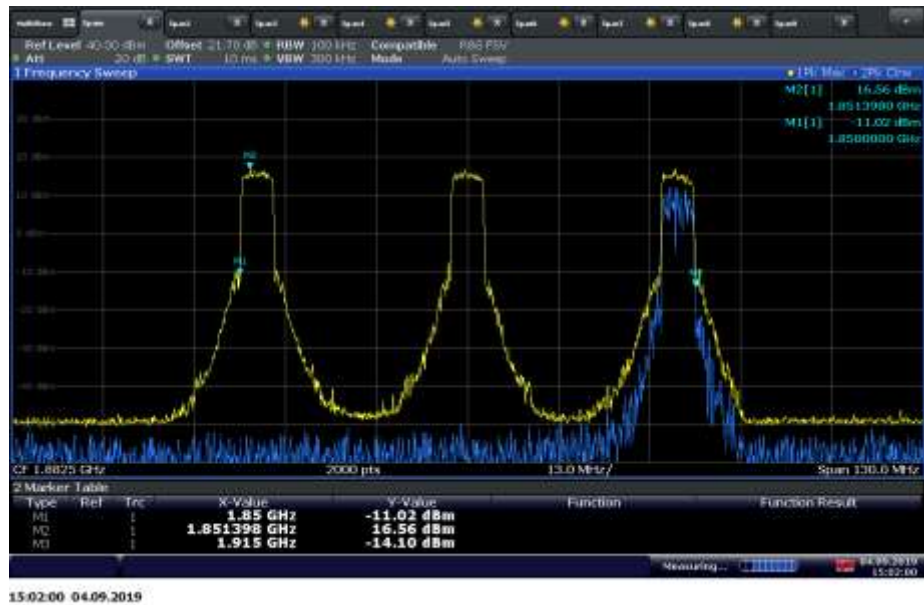
Product Service

FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

LTE Band 25 Downlink Authorized Frequency Range (1930 – 1995 MHz) - CU with NU Port 1



LTE Band 25 Uplink Authorized Frequency Range (1850 – 1915 MHz) - NU Port 1

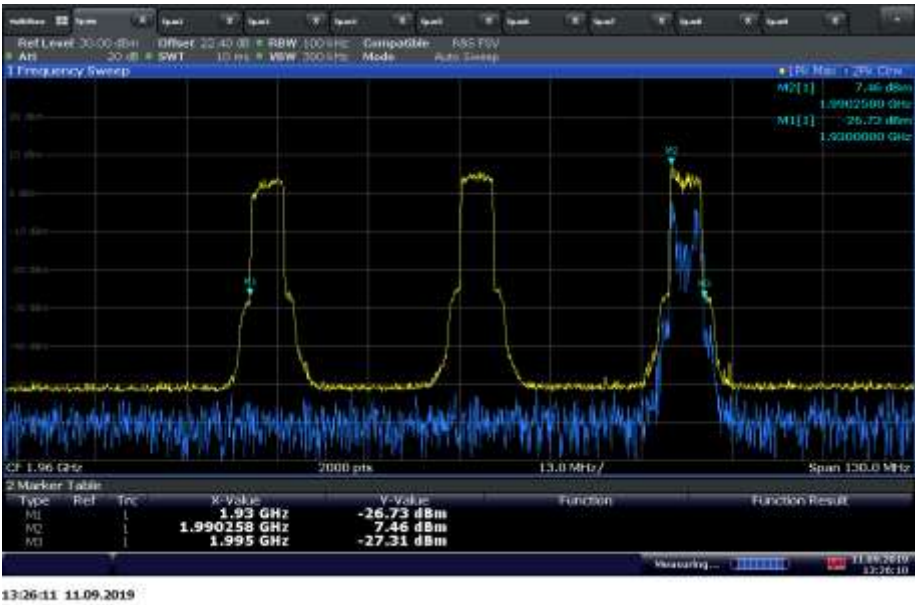




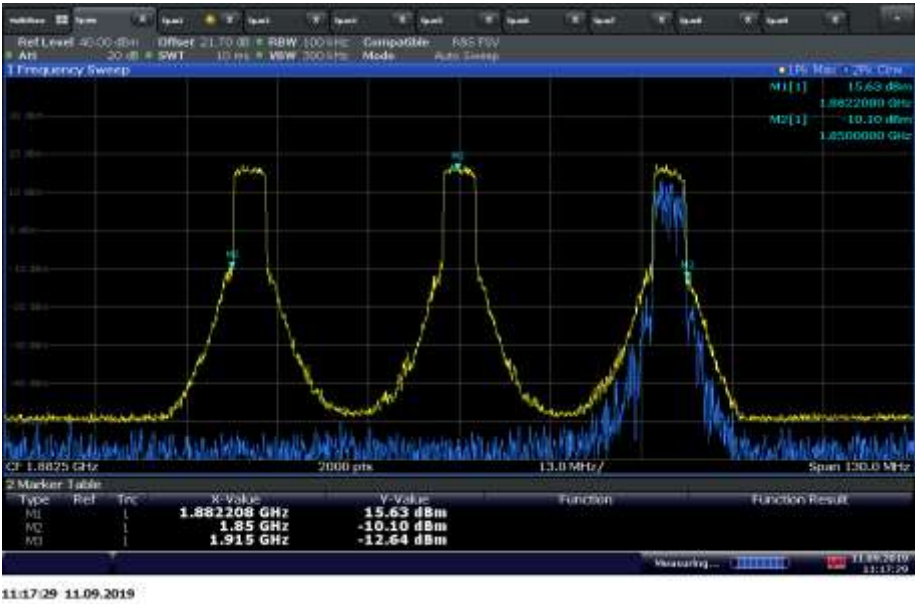
Product Service

FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

LTE Band 25 Downlink Authorized Frequency Range (1930 – 1995 MHz) - CU with NU Port 2



LTE Band 25 Uplink Authorized Frequency Range (1850 – 1915 MHz) - NU Port 2





FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

## **2.2 Authorized CMRS Provider**

### **2.2.1 Specification Reference**

FCC 47 CFR Part 27, Clause 27.50 (h)(1)  
FCC 47 CFR Part 27, Clause 27.50 (a)(1)  
RSS-139, Clause 6.5  
RSS-195, Clause 5.5

### **2.2.2 Standard Applicable**

FCC 47 CFR Part 20, Clause 20.21 (e)(3) Frequency Bands:  
Consumer Signal Boosters must be designed and manufactured such that they only operate on the frequencies used for the provision of subscriber-based services under parts 22 (Cellular), 24 (Broadband PCS), 27 (AWS-1, 700 MHz Lower A-E Blocks, and 700 MHz Upper C Block), and 90 (Specialized Mobile Radio) of this chapter. The Commission will not certificate any Consumer Signal Boosters for operation on part 90 of this chapter (Specialized Mobile Radio) frequencies until the Commission releases a public notice announcing the date Consumer Signal Boosters may be used in the band.

FCC 47 CFR Part 20, Clause 20.21(e)(4) Self Monitoring:  
Consumer Signal Boosters must automatically self-monitor their operation to ensure compliance with applicable noise and gain limits and either self-correct or shut down automatically if their operation exceeds those parameters.

### **2.2.1 Equipment Under Test and Modification State**

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

### **2.2.2 Date of Test/Initial of test personnel who performed the test**

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

### **2.2.3 Test Equipment Used**

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

### **2.2.4 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 |

### **2.2.5 Additional Observations**

- This is conducted Test. Test procedure is per Section 7.1.2 of KDB935210 (D04 Provider Specific Booster Measurements v02r03). Appropriate offset (line losses) applied.



FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
 IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

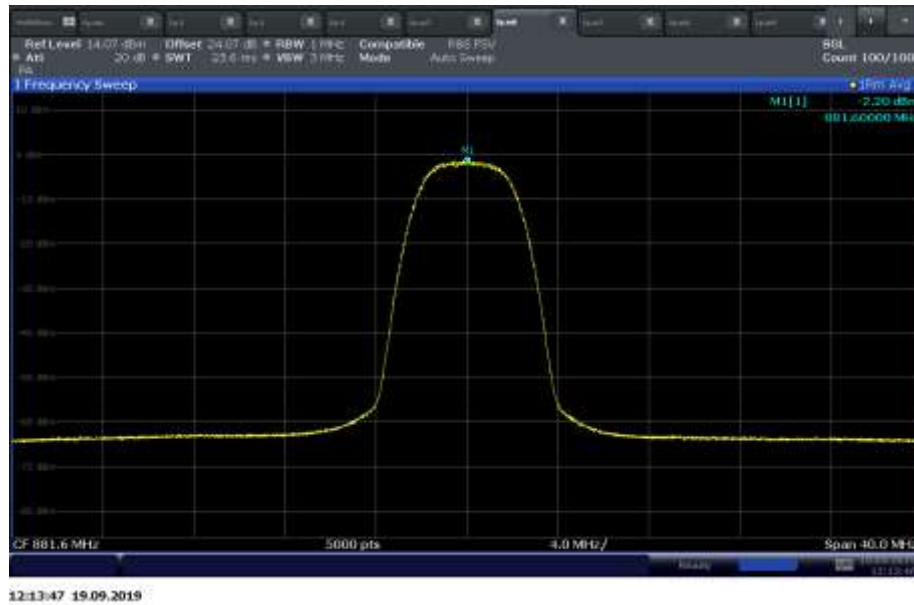
- The EUT operated in Normal Mode, with the gain set to the maximum gain and a minimum bandwidth setting (5MHz).
- Setup the EUT according to Figure 1 of Section 6.3.2 of KDB935210 with the Base Station Simulator transmitting an authorized CMRS provider signal to the booster.
- Evaluations are conducted at NU and CU antenna ports.
- All operational uplink and downlink bands for WCDMA Band 5, and LTE Band 4, 12, 13 on CU and NU all antenna ports were tested.
- The Base Station Simulator was set to transmit a 5MHz LTE or WCDMA signal.
- The authorized CMRS Provider IDs are:
  - Port 1: 310-410
  - Port 2: 311-480
- Two Non- authorized CMRS Provider signals for each band were verified.
- Frequency Range:

| Technology | Band | DL Frequency Range (MHz) | UL Frequency Range (MHz) |
|------------|------|--------------------------|--------------------------|
| WCDMA      | 5    | 869 - 894                | 824 - 849                |
| LTE        | 4    | 2110 - 2155              | 1710 - 1755              |
| LTE        | 12   | 729 – 746                | 699 – 716                |
| LTE        | 13   | 746 - 756                | 777 - 787                |
| LTE        | 25   | 1930 - 1995              | 1850 - 1915              |

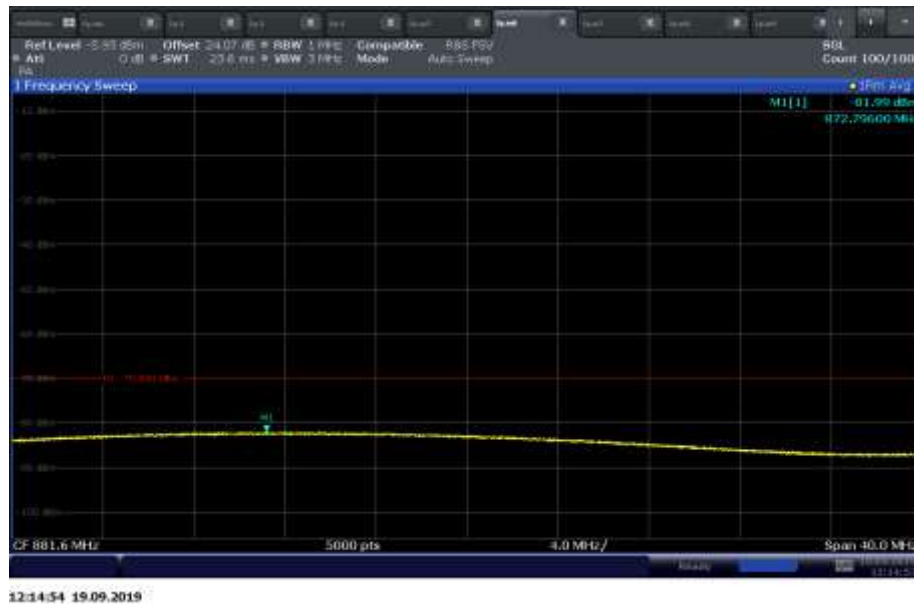
FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

## 2.2.6 Test Results

### WCDMA Band 5 Downlink Authorized Frequency Range (869 - 894MHz) – CU with NU Port 1 (MCC/MNC: 310-410)

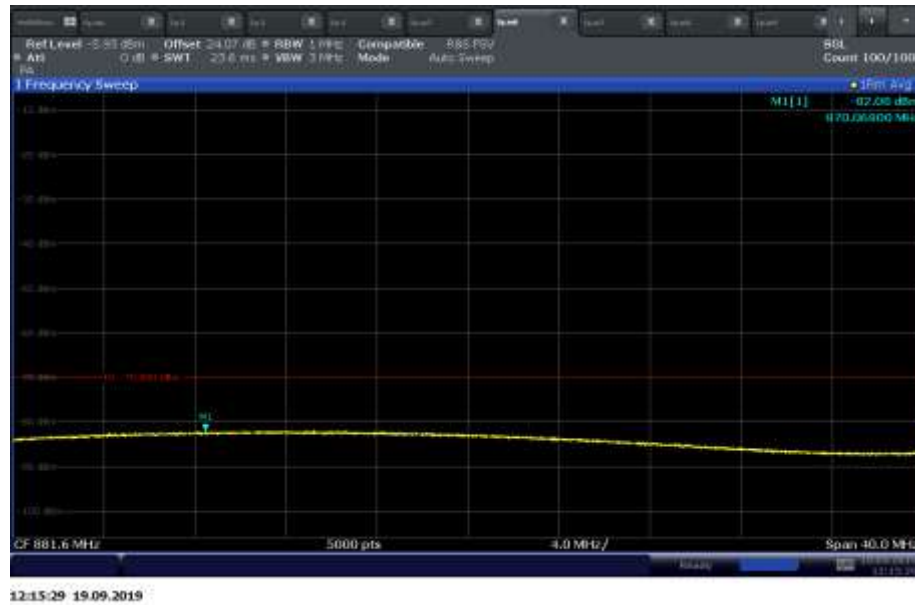


### WCDMA Band 5 Downlink Authorized Frequency Range (869 - 894MHz) – CU with NU Port 1 (MCC/MNC: 310-123)

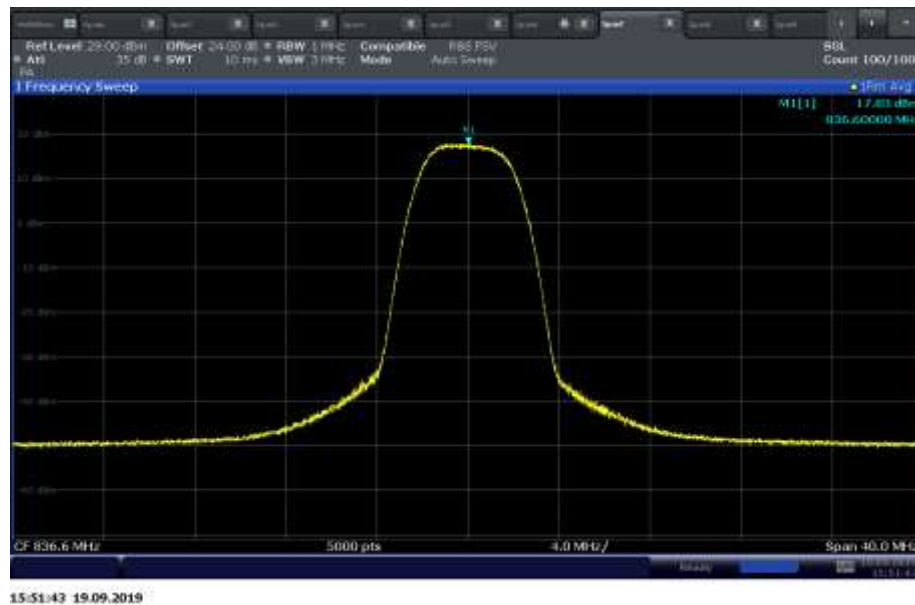


FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

**WCDMA Band 5 Downlink Authorized Frequency Range (869 - 894MHz) – CU with NU Port 1  
(MCC/MNC: 310-321)**



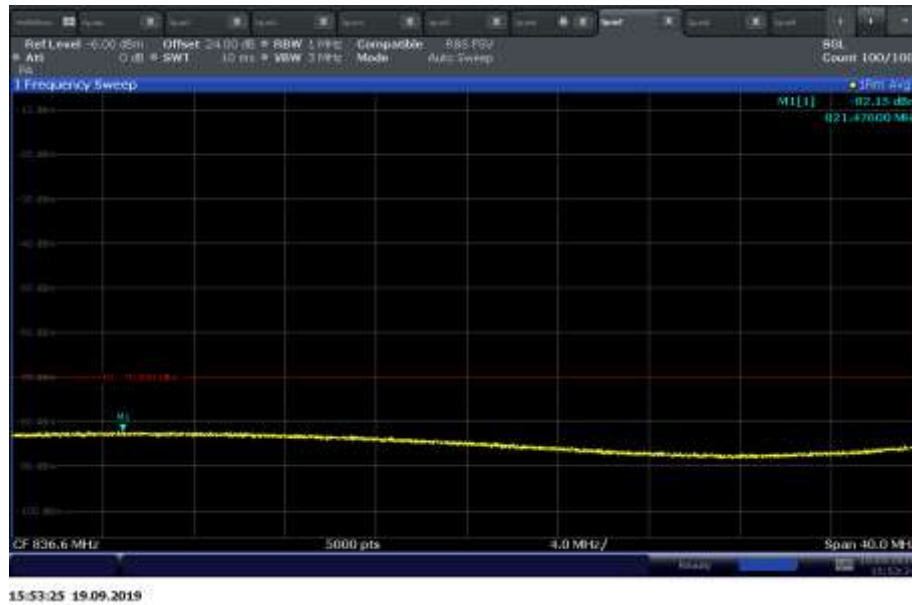
**WCDMA Band 5 Uplink Authorized Frequency Range (824 – 849 MHz) – NU Port 1  
(MCC/MNC: 310-410)**



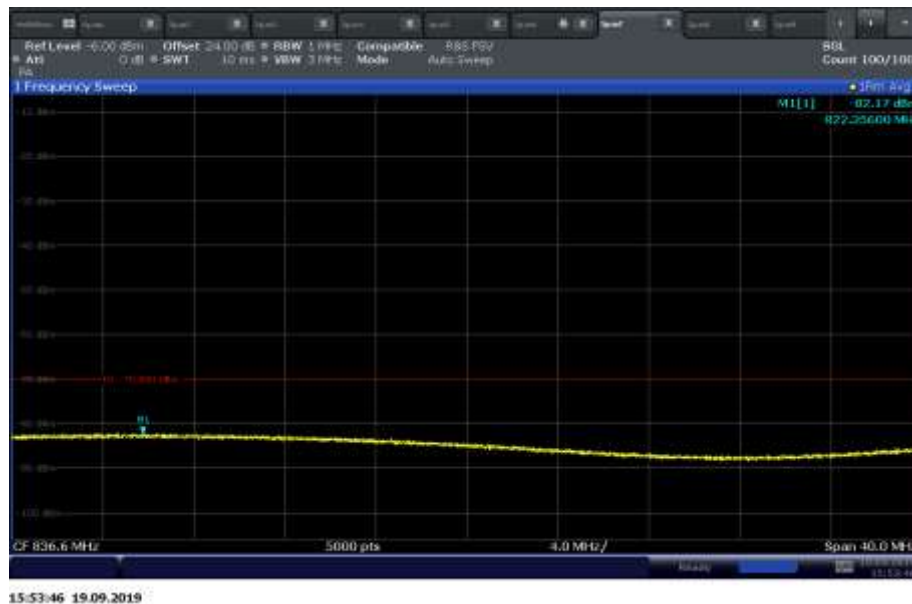


FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

**WCMDA Band 5 Uplink Authorized Frequency Range (824 – 849 MHz) – NU Port 1  
(MCC/MNC: 310-123)**



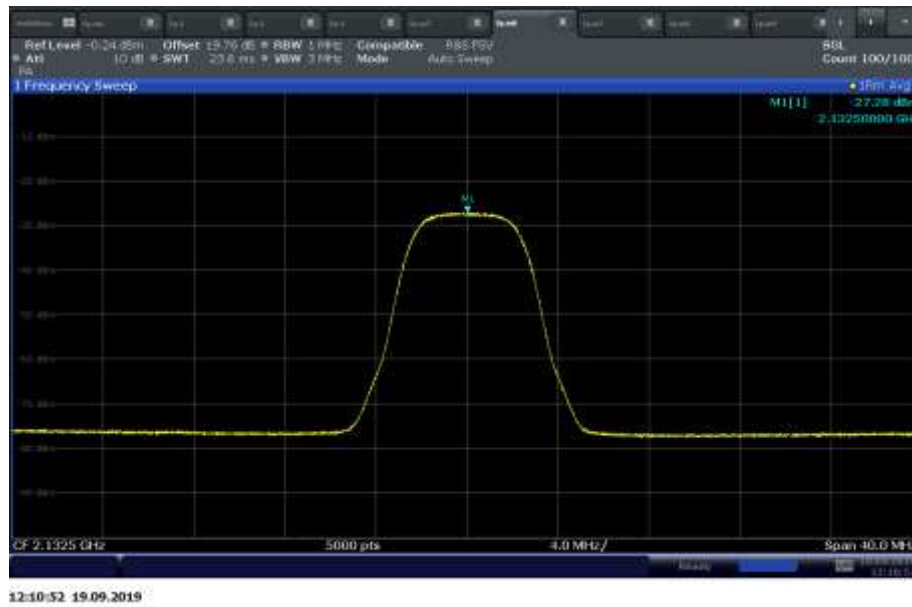
**WCMDA Band 5 Uplink Authorized Frequency Range (824 – 849 MHz) – NU Port 1  
(MCC/MNC: 310-321)**



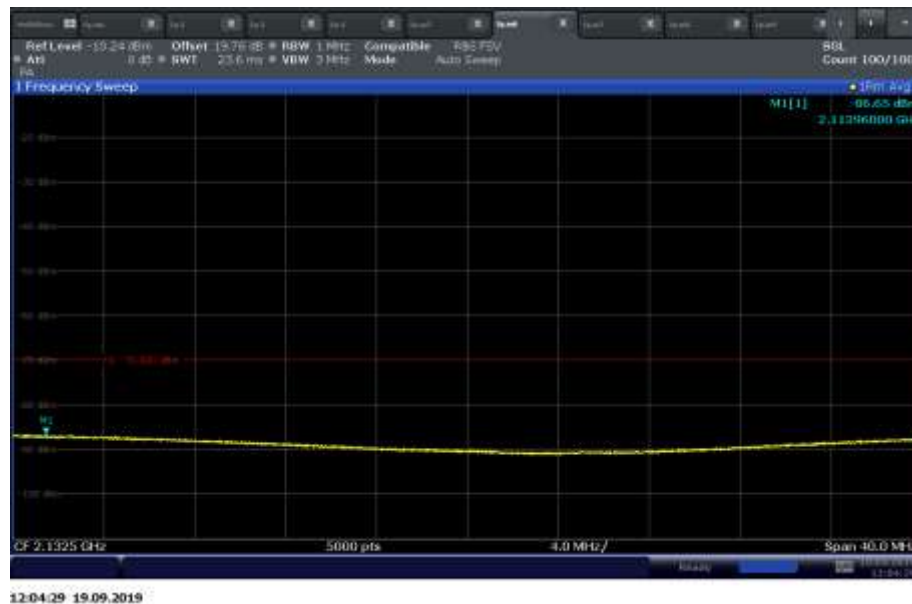
FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

Product Service

**LTE Band 4 Downlink Authorized Frequency Range (2110 – 2155 MHz) – CU with NU Port 1  
(MCC/MNC: 310-410)**



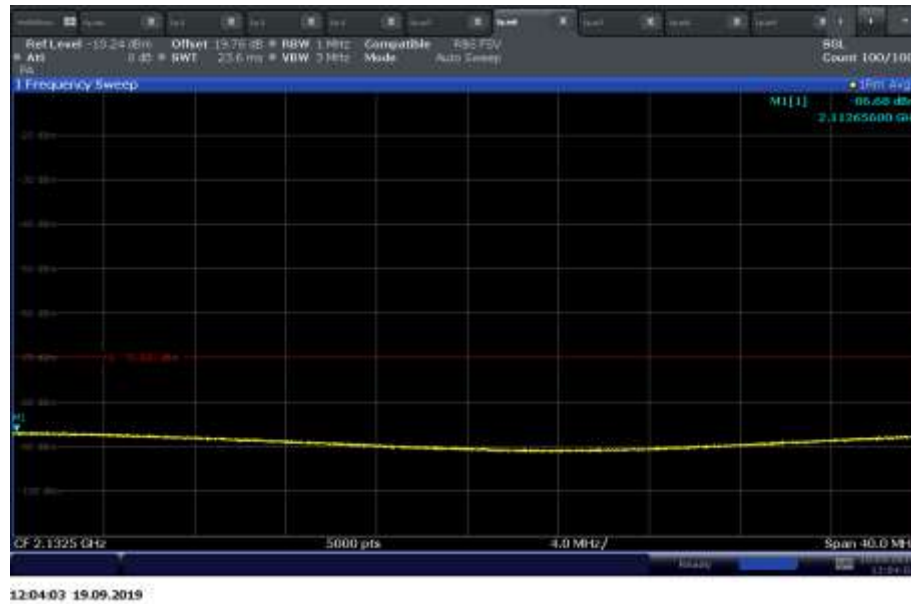
**LTE Band 4 Downlink Authorized Frequency Range (2110 – 2155 MHz) – CU with NU Port 1  
(MCC/MNC: 310-123)**



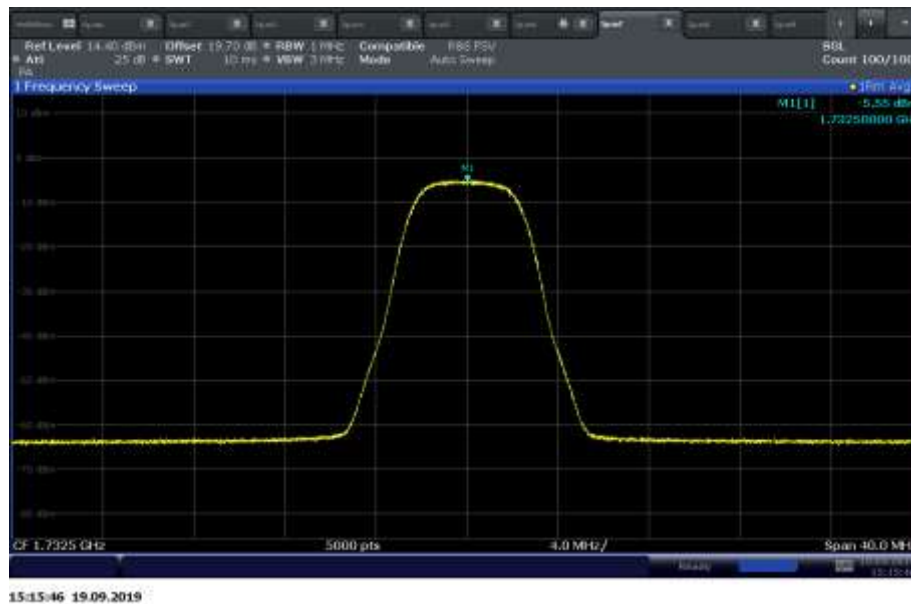
FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

Product Service

**LTE Band 4 Downlink Authorized Frequency Range (2110 – 2155 MHz) – CU with NU Port 1  
(MCC/MNC: 310-321)**



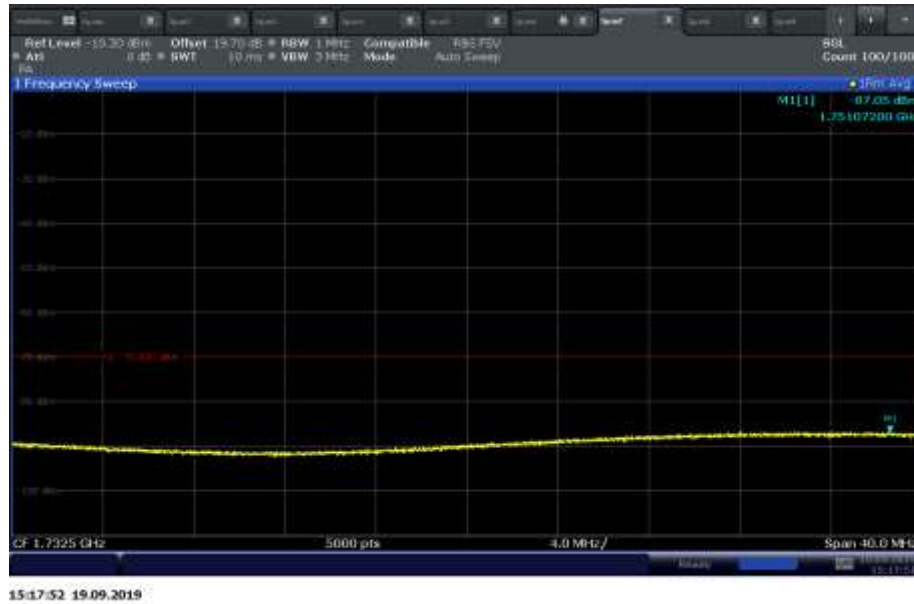
**LTE Band 4 Uplink Authorized Frequency Range (1710 – 1755 MHz) – NU Port 1  
(MCC/MNC: 310-410)**



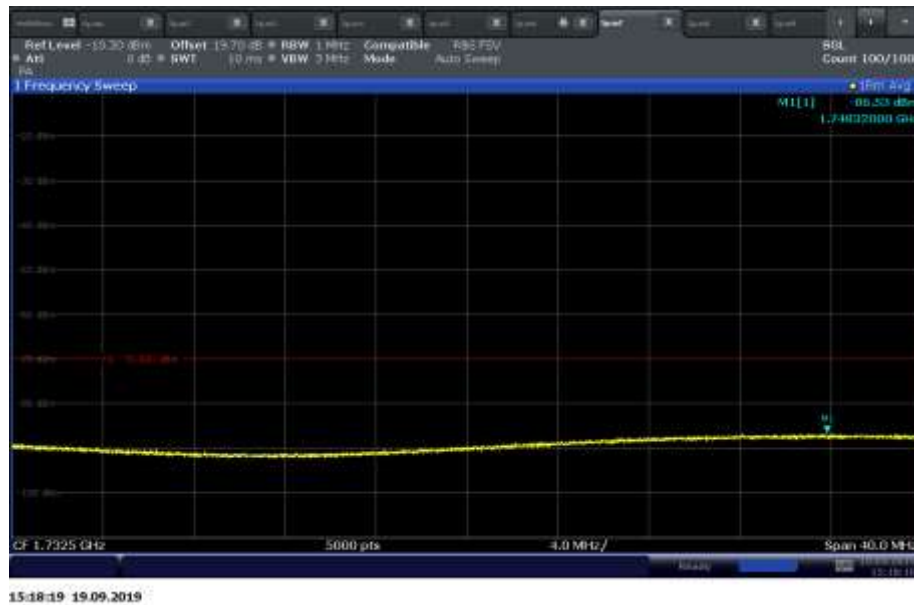


FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

**LTE Band 4 Uplink Authorized Frequency Range (1710 – 1755 MHz) – NU Port 1  
(MCC/MNC: 310-123)**



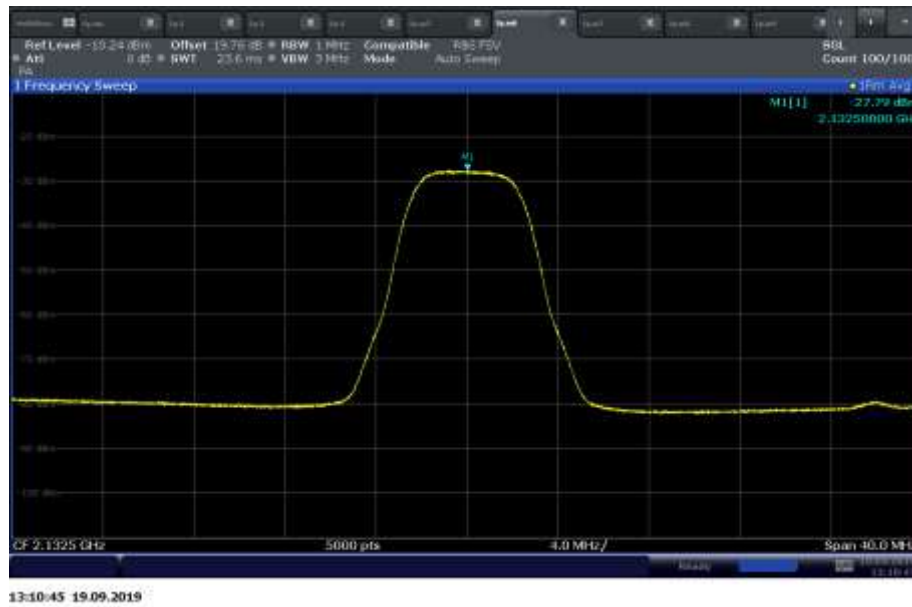
**LTE Band 4 Uplink Authorized Frequency Range (1710 – 1755 MHz) – NU Port 1  
(MCC/MNC: 310-321)**



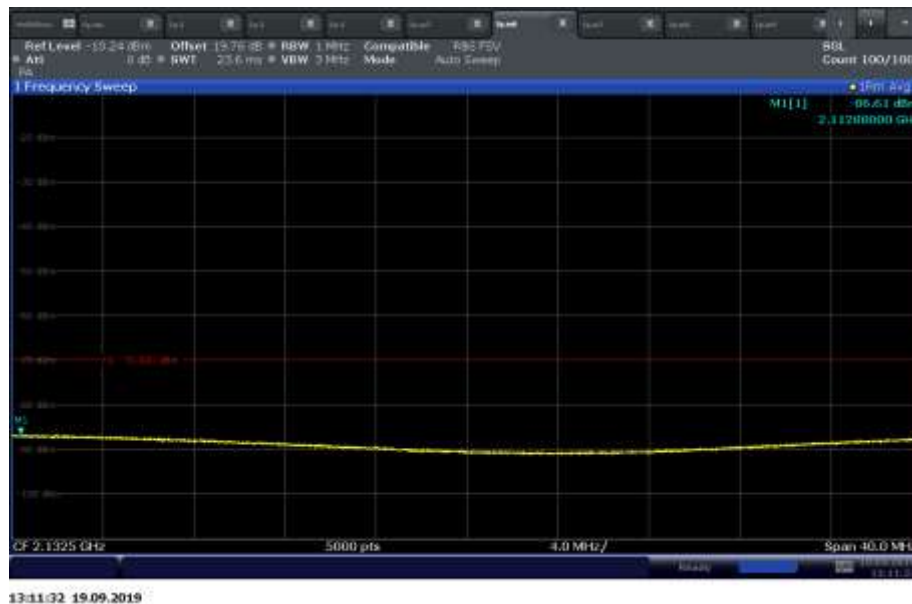
FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
 IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

Product Service

**LTE Band 4 Downlink Authorized Frequency Range (2110 – 2155 MHz) – CU with NU Port 2  
 (MCC/MNC: 311-480)**



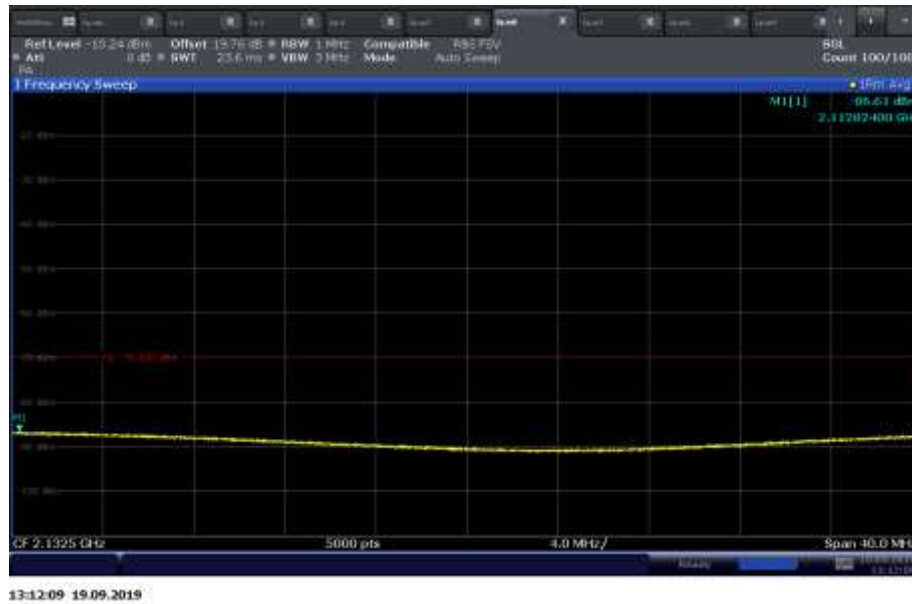
**LTE Band 4 Downlink Authorized Frequency Range (2110 – 2155 MHz) – CU with NU Port 2  
 (MCC/MNC: 311-123)**



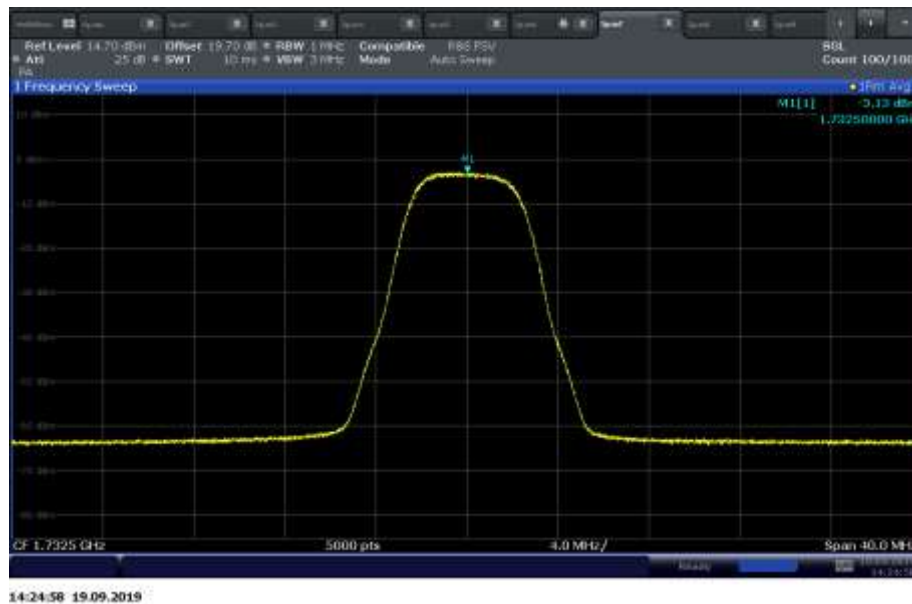
FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

Product Service

**LTE Band 4 Downlink Authorized Frequency Range (2110 – 2155 MHz) – CU with NU Port 2  
(MCC/MNC: 311-321)**



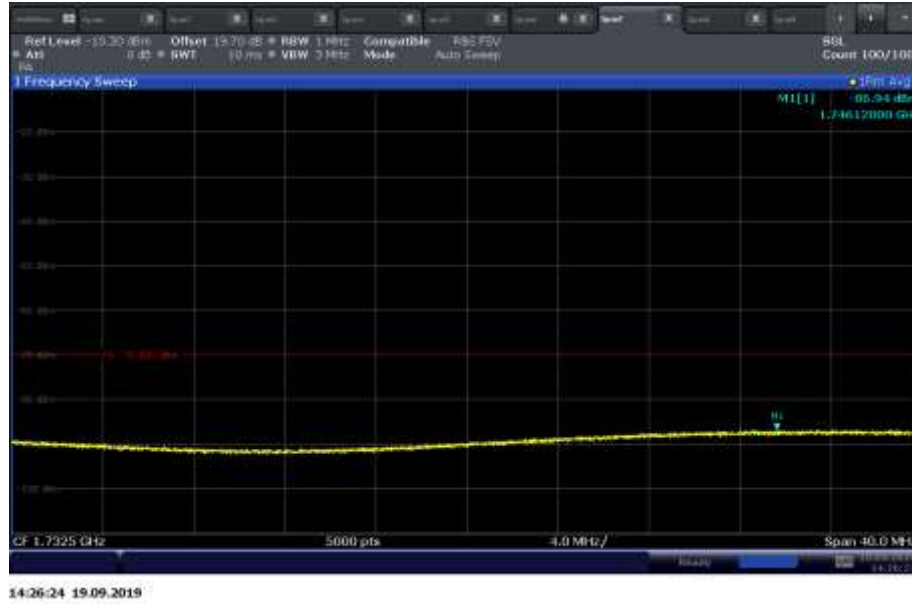
**LTE Band 4 Uplink Authorized Frequency Range (1710 – 1755 MHz) – NU Port 2  
(MCC/MNC: 311-480)**



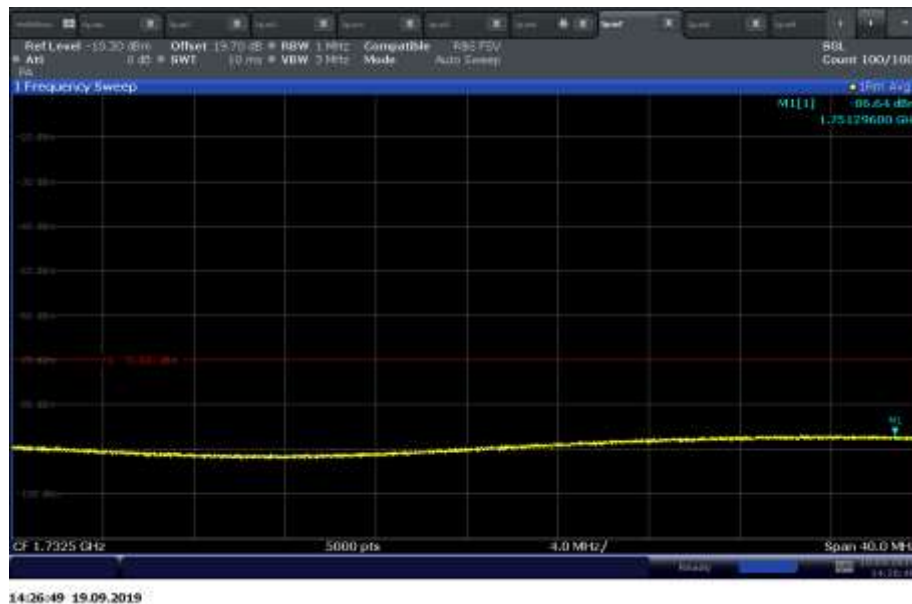


FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

**LTE Band 4 Uplink Authorized Frequency Range (1710 – 1755 MHz) – NU Port 2  
(MCC/MNC: 311-123)**



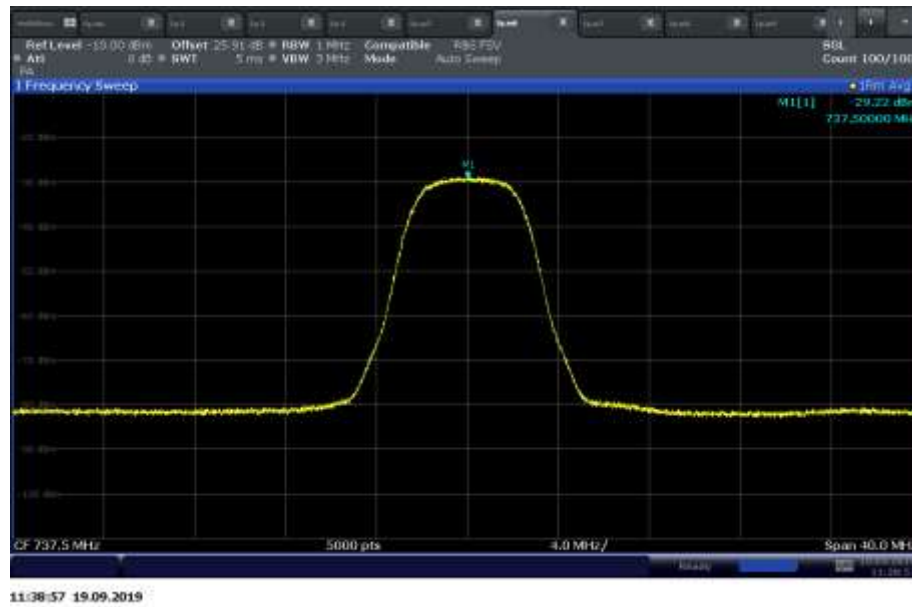
**LTE Band 4 Uplink Authorized Frequency Range (1710 – 1755 MHz) – NU Port 2  
(MCC/MNC: 311-321)**



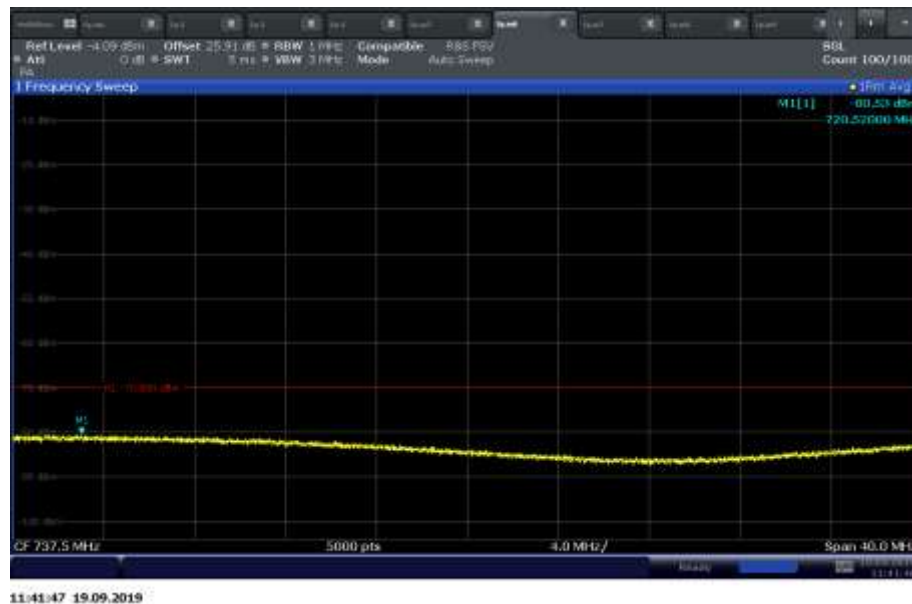


FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

**LTE Band 12 Downlink Authorized Frequency Range (729 – 746 MHz) – CU with NU Port 1  
(MCC/MNC: 310-410)**

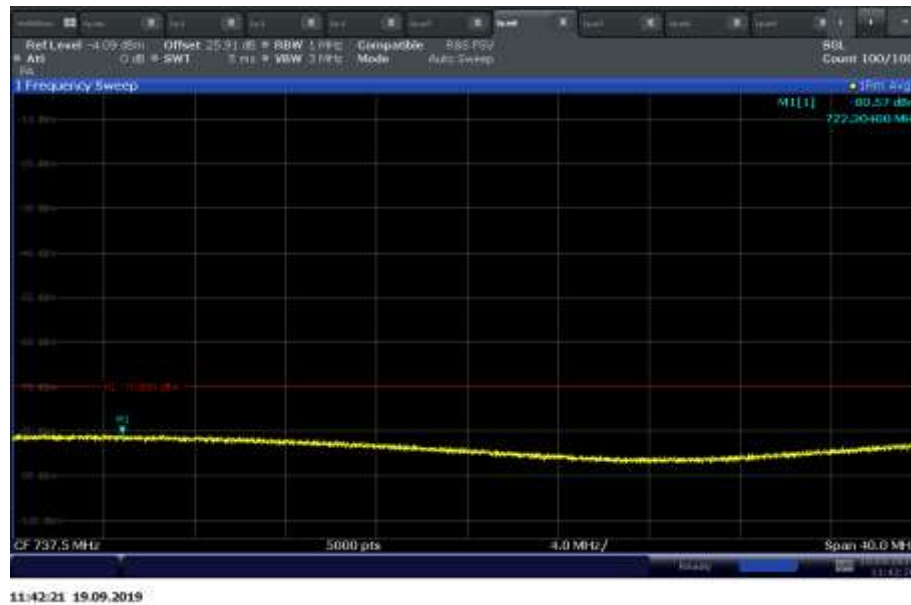


**LTE Band 12 Downlink Authorized Frequency Range (729 – 746 MHz) – CU with NU Port 1  
(MCC/MNC: 310-123)**

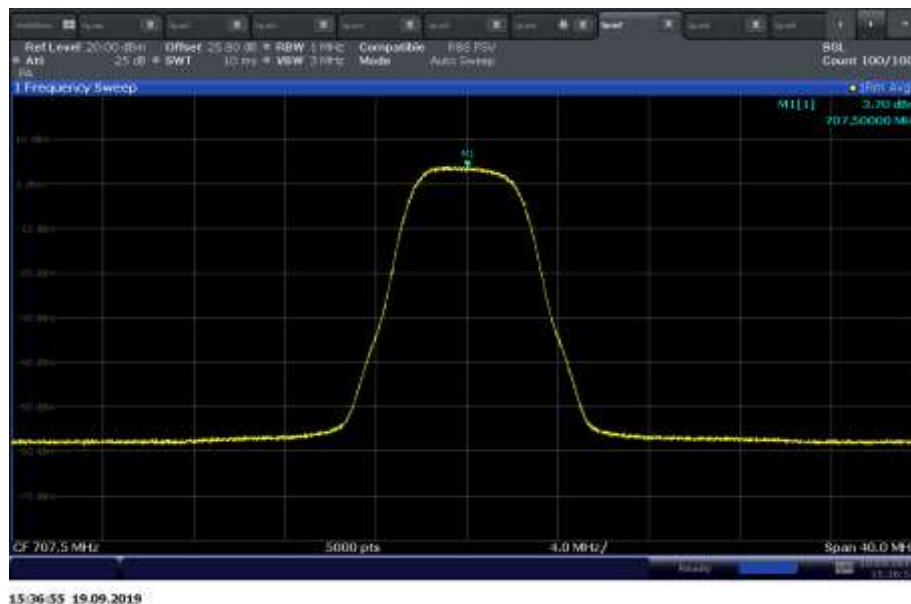


FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

**LTE Band 12 Downlink Authorized Frequency Range (729 – 746 MHz) – CU with NU Port 1  
(MCC/MNC: 310-321)**



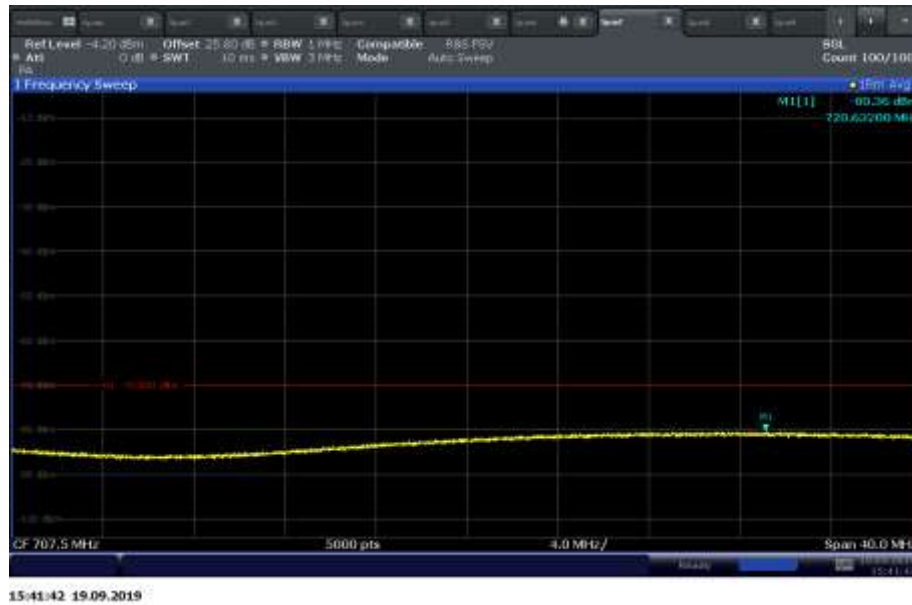
**LTE Band 12 Uplink Authorized Frequency Range (699 – 716 MHz) – NU Port 1  
(MCC/MNC: 310-410)**



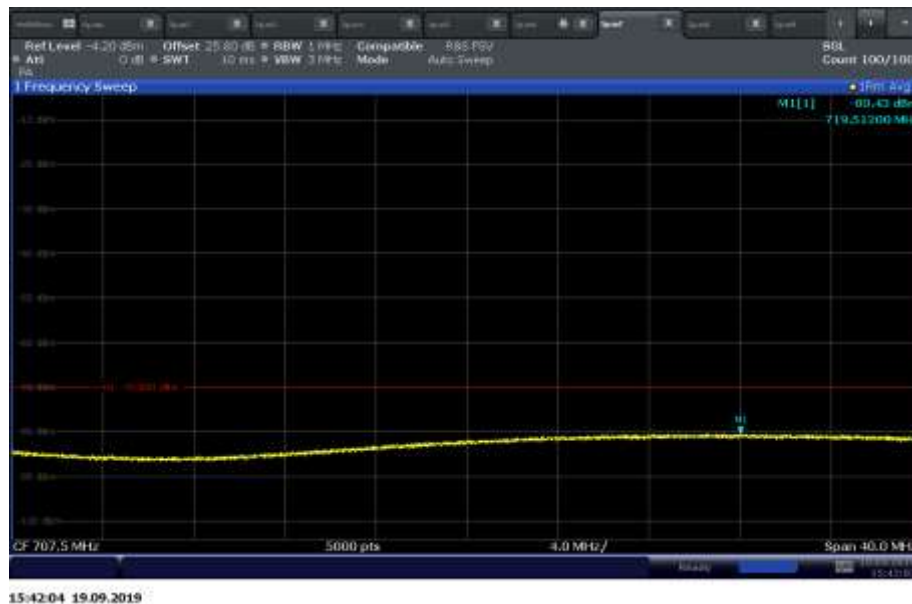
FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
 IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

Product Service

**LTE Band 12 Uplink Authorized Frequency Range (699 – 716 MHz) – NU Port 1  
 (MCC/MNC: 310-123)**



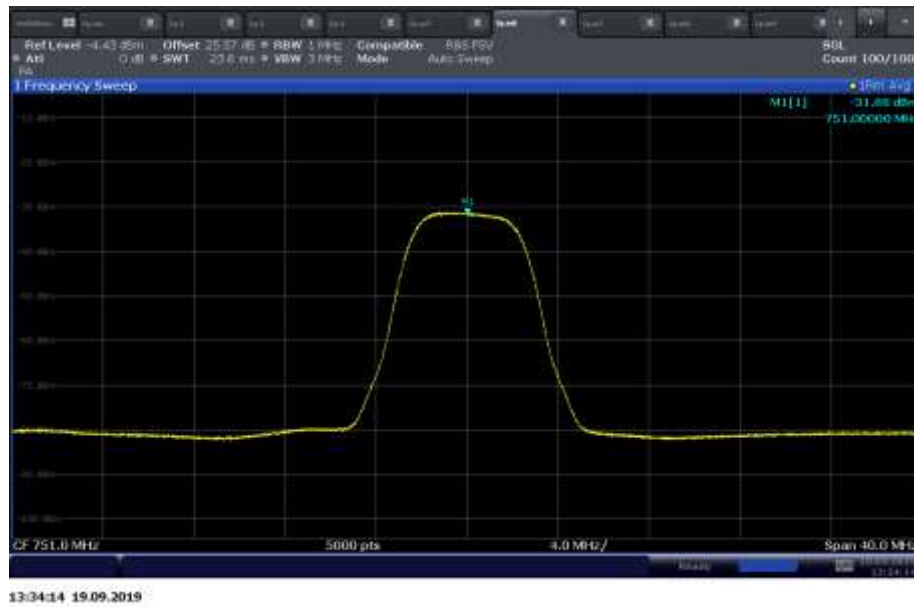
**LTE Band 12 Uplink Authorized Frequency Range (699 – 716 MHz) – NU Port 1  
 (MCC/MNC: 310-321)**



FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

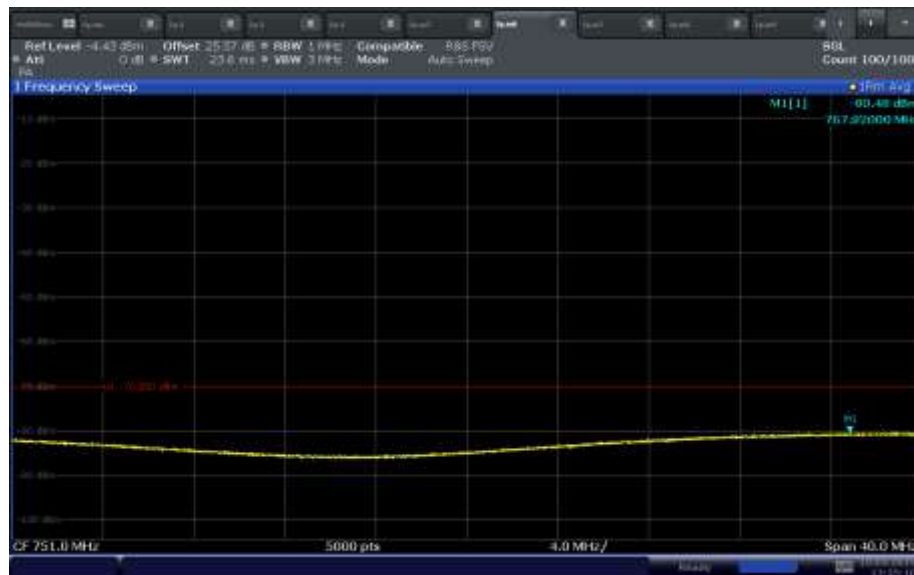
Product Service

**LTE Band 13 Downlink Authorized Frequency Range (746 – 756 MHz) – CU with NU Port 2  
(MCC/MNC: 311-480)**



13:34:14 19.09.2019

**LTE Band 13 Downlink Authorized Frequency Range (746 – 756 MHz) – CU with NU Port 2  
(MCC/MNC: 310-123)**

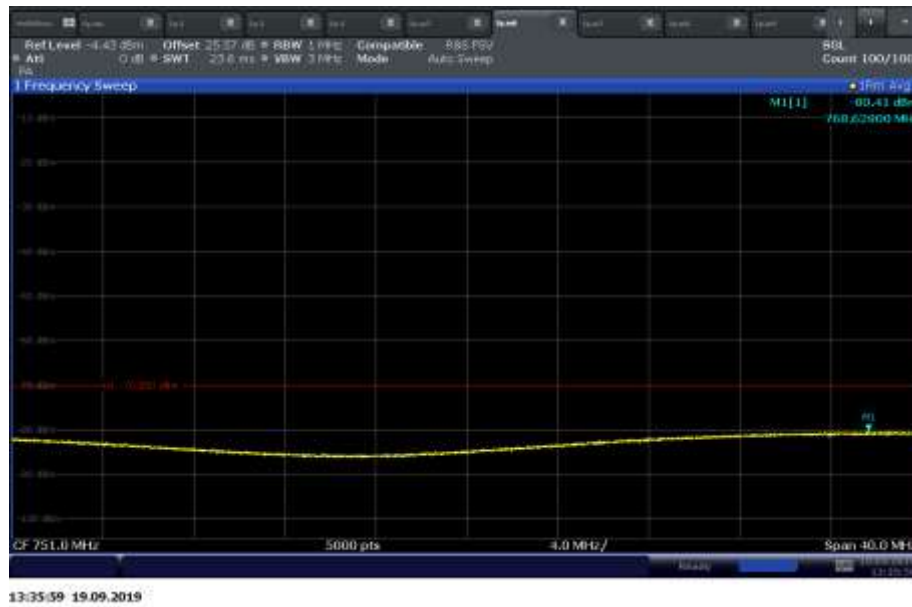


13:35:10 19.09.2019

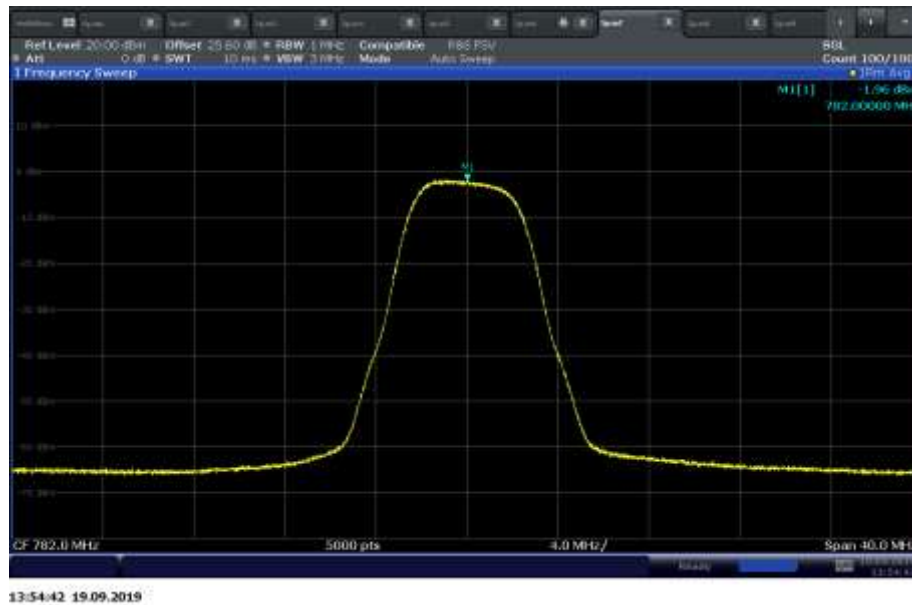
FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

Product Service

**LTE Band 13 Downlink Authorized Frequency Range (746 – 756 MHz) – CU with NU Port 2  
(MCC/MNC: 310-321)**



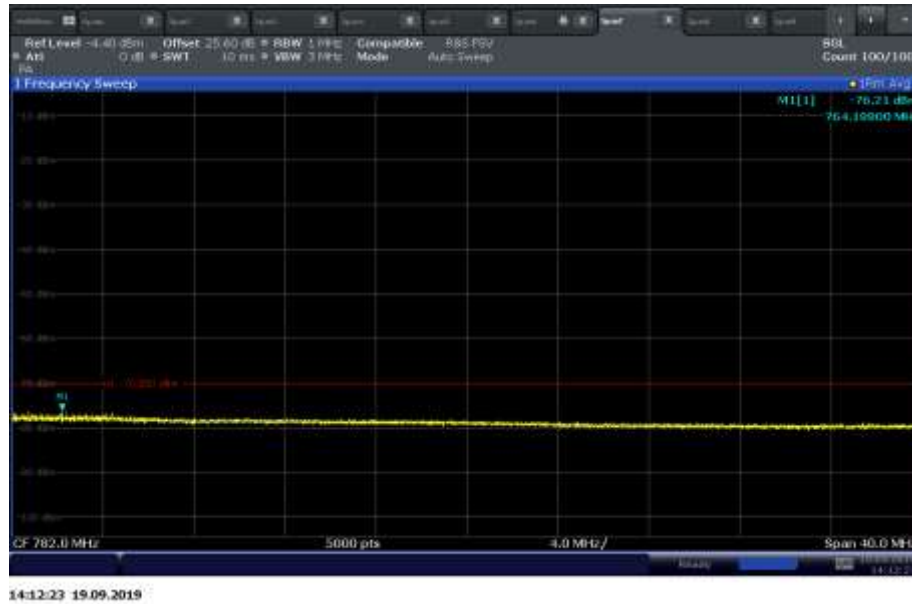
**LTE Band 13 Uplink Authorized Frequency Range (777 – 787 MHz) – NU Port 2  
(MCC/MNC: 311-480)**



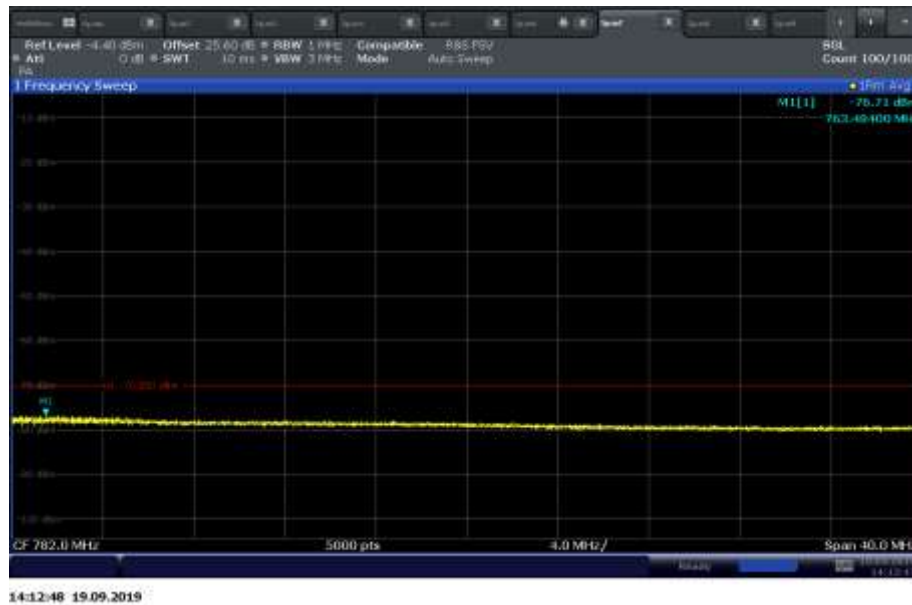


FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

**LTE Band 13 Uplink Authorized Frequency Range (777 – 787 MHz) – NU Port 2  
(MCC/MNC: 311-123)**



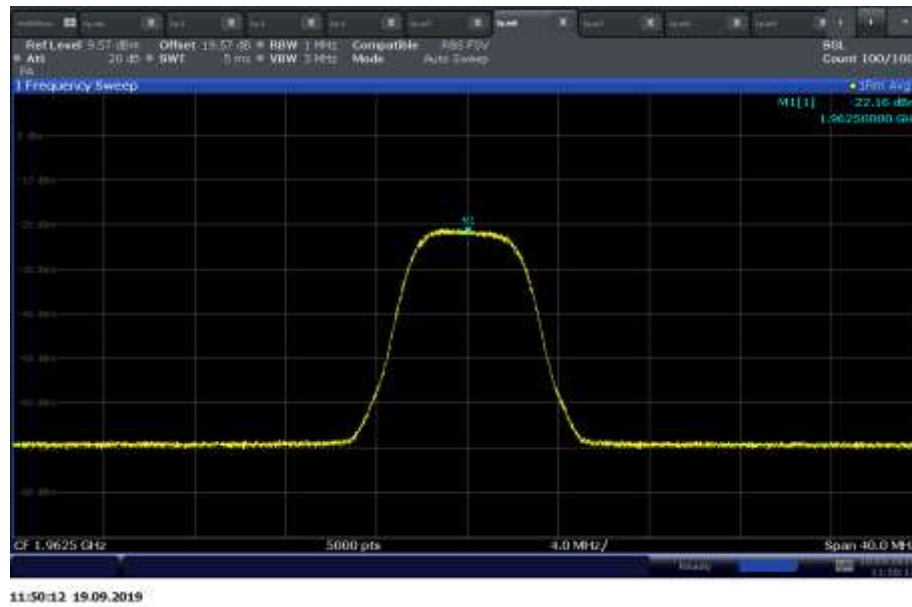
**LTE Band 13 Uplink Authorized Frequency Range (777 – 787 MHz) – NU Port 2  
(MCC/MNC: 311-321)**



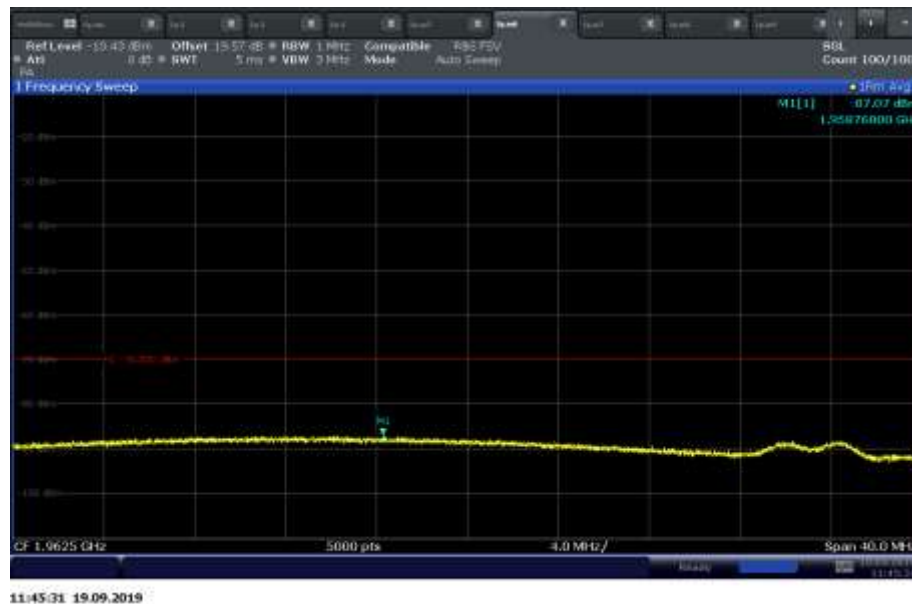
FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
 IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

Product Service

**LTE Band 25 Downlink Authorized Frequency Range (1930 – 1995 MHz) – CU with NU Port 1  
 (MCC/MNC: 310-410)**



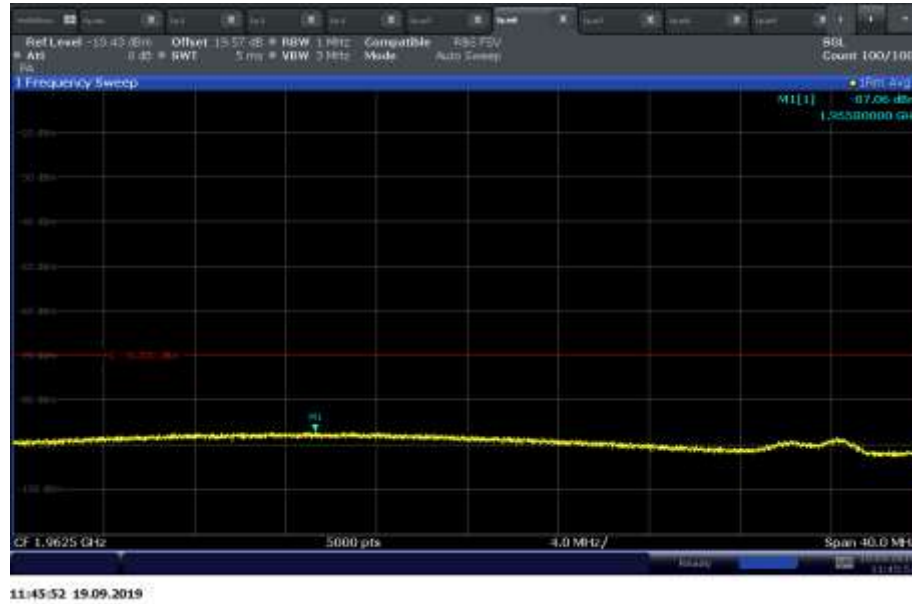
**LTE Band 25 Downlink Authorized Frequency Range (1930 – 1995 MHz) – CU with NU Port 1  
 (MCC/MNC: 310-123)**



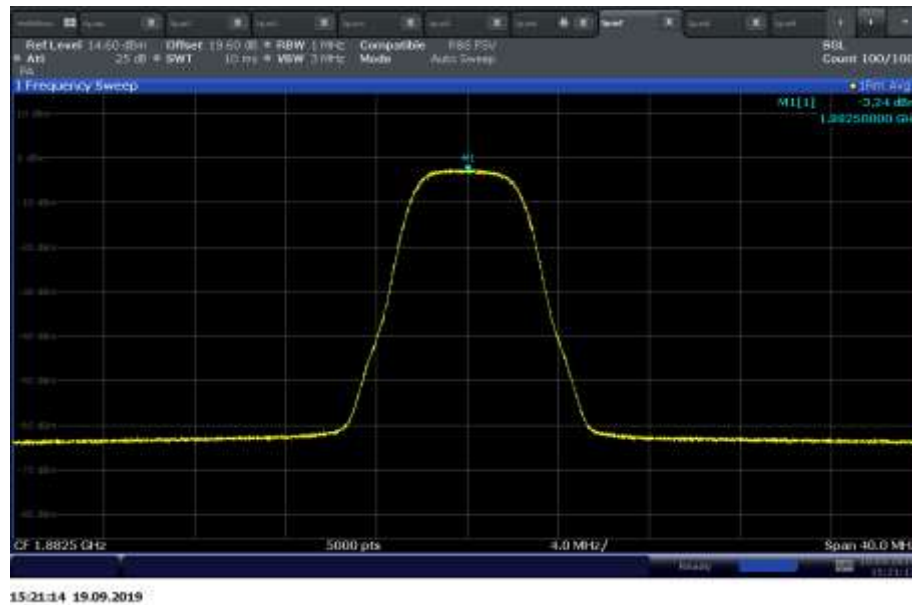
FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
 IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

Product Service

**LTE Band 25 Downlink Authorized Frequency Range (1930 – 1995 MHz) – CU with NU Port 1  
 (MCC/MNC: 310-321)**



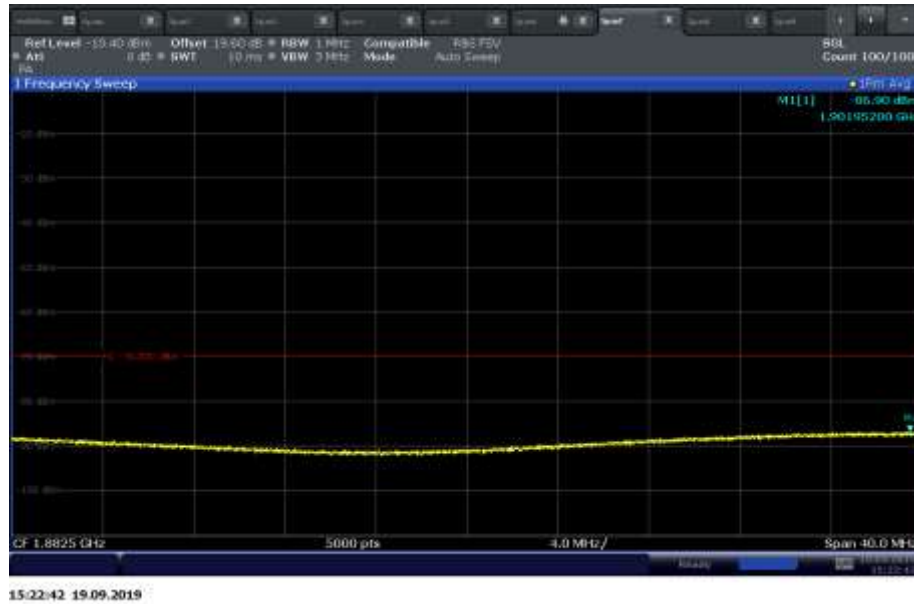
**LTE Band 25 Uplink Authorized Frequency Range (1850 – 1915 MHz) – NU Port 1  
 (MCC/MNC: 310-410)**



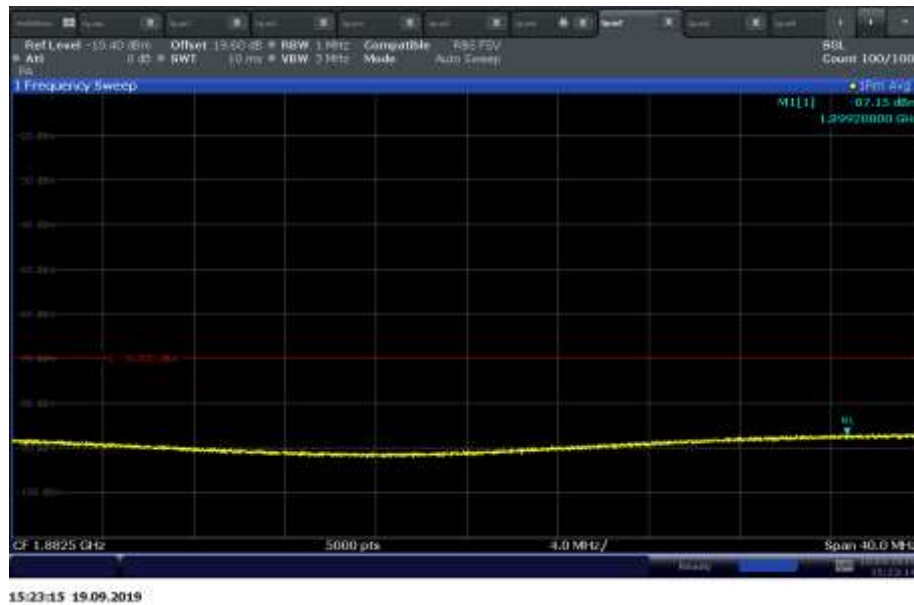


FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

**LTE Band 25 Uplink Authorized Frequency Range (1850 – 1915 MHz) – NU Port 1  
(MCC/MNC: 310-123)**



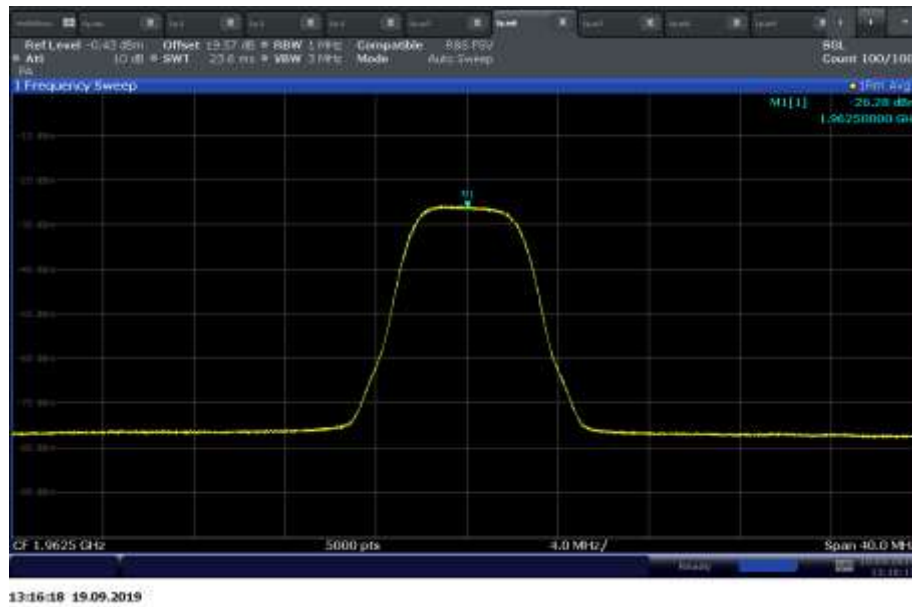
**LTE Band 25 Uplink Authorized Frequency Range (1850 – 1915 MHz) – NU Port 1  
(MCC/MNC: 310-321)**



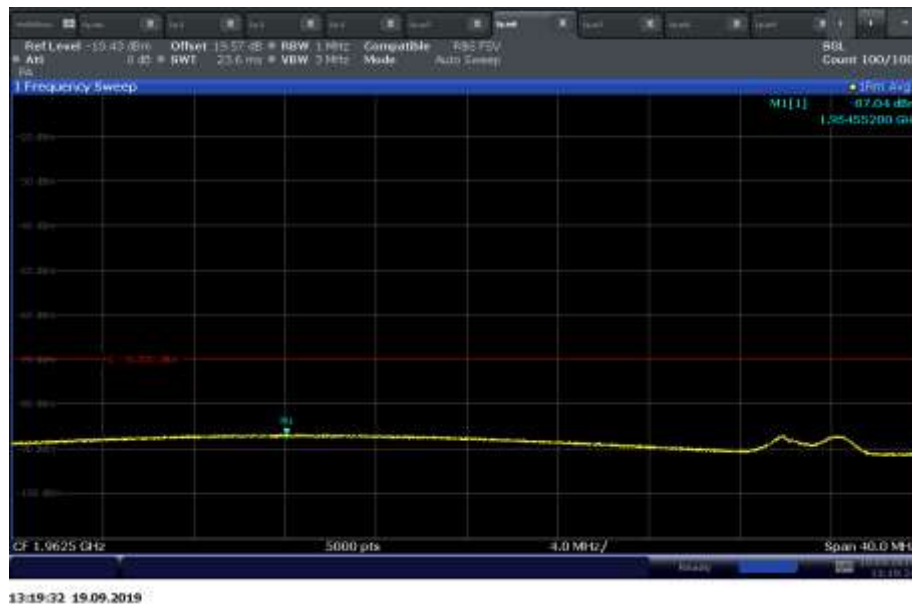
FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

Product Service

**LTE Band 25 Downlink Authorized Frequency Range (1930 – 1995 MHz) – CU with NU Port 2  
(MCC/MNC: 311-480)**



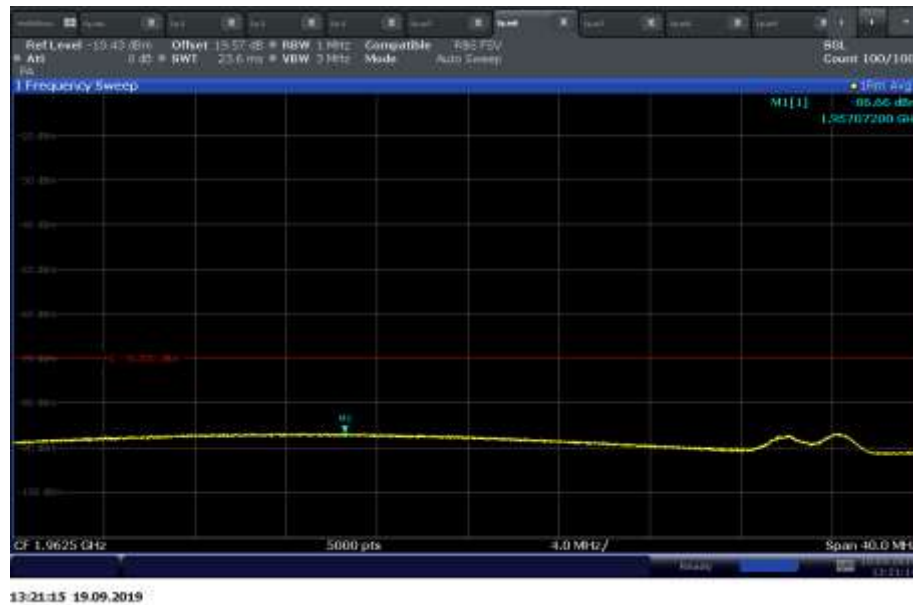
**LTE Band 25 Downlink Authorized Frequency Range (1930 – 1995 MHz) – CU with NU Port 2  
(MCC/MNC: 311-123)**



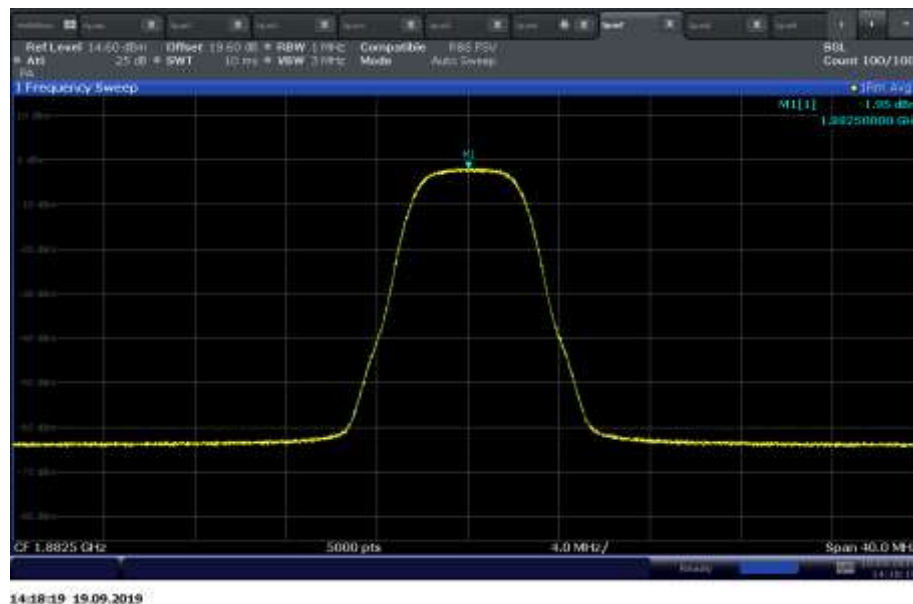
FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

Product Service

**LTE Band 25 Downlink Authorized Frequency Range (1930 – 1995 MHz) – CU with NU Port 2  
(MCC/MNC: 311-321)**



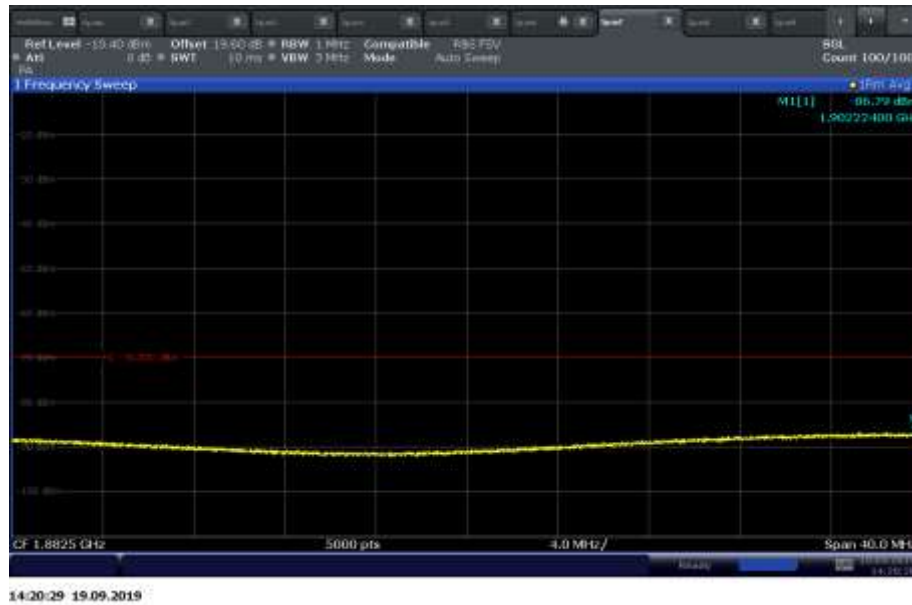
**LTE Band 25 Uplink Authorized Frequency Range (1850 – 1915 MHz) – NU Port 2  
(MCC/MNC: 311-480)**



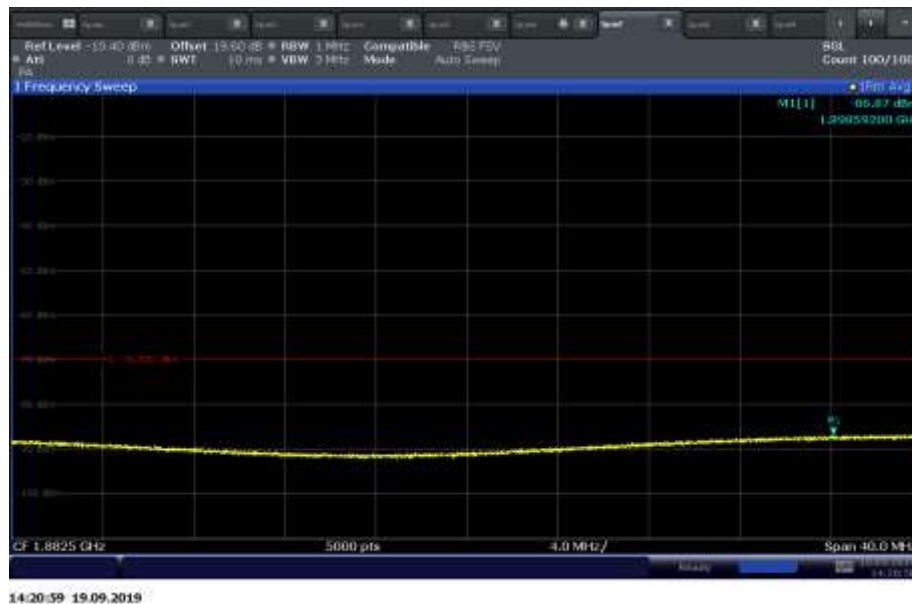
FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
 IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

Product Service

**LTE Band 25 Uplink Authorized Frequency Range (1850 – 1915 MHz) – NU Port 2  
 (MCC/MNC: 311-123)**



**LTE Band 25 Uplink Authorized Frequency Range (1850 – 1915 MHz) – NU Port 2  
 (MCC/MNC: 311-321)**





FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

## **2.3 Maximum Power Measurement And Booster Gain Computation**

### **2.3.1 Specification Reference**

FCC 47 CFR Part 20, Clause 20.21(e)(9)(i)(D)  
FCC 47 CFR Part 20, Clause 20.21(e)(9)(i)(B)  
FCC 47 CFR Part 20, Clause 20.21(e)(9)(i)(C)(2)  
KDB935210 D04, Clause 7.2  
KDB935210 D04, Clause 7.33

### **2.3.2 Standard Applicable**

FCC 47 CFR Part 20, Clause 20.21(e)(9)(i)(D) Power Limits:

A booster's uplink power must not exceed 1 watt composite conducted power and equivalent isotropic radiated power (EIRP) for each band of operation. Downlink power shall not exceed 0.05 watt (17dBm) composite and 10 dBm per channel conducted and EIRP for each band of operation. Compliance with power limits will use instrumentation calibrated in terms of RMS equivalent voltage.

FCC 47 CFR Part 20, Clause 20.21(e)(9)(i)(B) Bidirectional Capability:

Consumer Boosters must be able to provide equivalent (within 9dB as per ANSI ASC C63) uplink and downlink gain and conducted uplink power output that is at least 0.05 watts. One-way consumer boosters (i.e., uplink only, downlink only, uplink impaired, downlink impaired) are prohibited. Spectrum block filtering used must provide uplink filter attenuation not less than the downlink filter attenuation, and where RSSI is measured after spectrum block filtering is applied referenced to the booster's input port for each band of operation.

FCC 47 CFR Part 20, Clause 20.21(e)(9)(i)(C) Booster Gain Limits.

The gain of the frequency selective consumer booster shall meet the limits below.

(2) The uplink and downlink maximum gain of a frequency selective consumer booster referenced to its input and output ports shall not exceed 19.5 dB + 20 Log (Frequency), or 100 dB for systems having automatic gain adjustment based on isolation measurements between booster donor and server antennas.

Where, Frequency is the uplink midband frequency of the supported spectrum bands in MHz..

### **2.3.3 Equipment Under Test and Modification State**

Serial No: 370920000139 (NU) and 371929000156 (CU) / Test Configuration (N/A, calculation only)

Cel-Fi Quatra EVO

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

### **2.3.4 Date of Test/Initial of test personnel who performed the test**

August 02, 05, 08 and October 15, 2019 /XYZ

December 28, 2022 and February 02, 2023/ MAR

### **2.3.5 Test Equipment Used**

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



FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
 IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

### 2.3.6 Environmental Conditions

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

|                     |                |                   |                  |
|---------------------|----------------|-------------------|------------------|
|                     |                | December 28, 2022 | February 2, 2022 |
| Ambient Temperature | 24.5 - 26.3°C  | 24.4°C            | 23.2°C           |
| Relative Humidity   | 45.0 - 53.3%   | 46.2%             | 35.6%            |
| ATM Pressure        | 98.8 - 99.0kPa | 100.2kPa          | 99.9kPa          |

### 2.3.7 Additional Observations

- Conducted output power, maximum system gain (Antenna and Cable) and EIRP tests/calculations were performed on Cel-Fi Quatra EVO
- For WCDMA B5 downlink, conducted output power per channel was performed on Cel-Fi Quatra EVO
- This is conducted Test. Test procedure is per Section 7.2.2 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 2 or 3 of Section 6.3.3 of KDB935210 as appropriate.
- Maximum Gain of the booster was calculated.
- The Gain with Maximum Transmitter Input Level (-20dBm for Downlink and 0dBm for Uplink) injected was also calculated.
- Operational uplink and downlink bands for WCDMA Band 5 and LTE Band 4, 12, 13, 25 were tested.
- Evaluations are conducted at CU and NU antenna ports. The signal generator was set to transmit a 5MHz WCDMA or LTE signal.

### 2.3.8 Test Results Maximum Gain

| Maximum Gain                   |                       |           |                 |               |                          |
|--------------------------------|-----------------------|-----------|-----------------|---------------|--------------------------|
| Band                           | Frequency Range (MHz) | Gain (dB) | Gain Limit (dB) | UL vs DL Gain | UL vs DL Gain Limit (dB) |
| WCDMA Band 5 Downlink (Port 1) | 869 - 894             | 94.01     | 100             | 0.71          | 9.0                      |
| WCDMA Band 5 Uplink (Port 1)   | 824 - 849             | 94.72     | 100             |               |                          |
| LTE Band 4 Downlink (Port 1)   | 2110 - 2155           | 98.03     | 100             | 2.39          | 9.0                      |
| LTE Band 4 Uplink (Port 1)     | 1710 - 1755           | 95.64     | 100             |               |                          |
| LTE Band 4 Downlink (Port B)   | 2110 - 2155           | 97.79     | 100             | 2.53          | 9.0                      |
| LTE Band 4 Uplink (Port B)     | 1710 - 1755           | 95.26     | 100             |               |                          |



FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
 IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

|                                  |             |       |     |      |     |
|----------------------------------|-------------|-------|-----|------|-----|
| LTE Band 4<br>Downlink (Port 2)  | 2110 - 2155 | 97.57 | 100 | 1.97 | 9.0 |
| LTE Band 4<br>Uplink (Port 2)    | 1710 - 1755 | 95.60 | 100 |      |     |
| LTE Band 12 Downlink<br>(Port 1) | 729 - 746   | 94.44 | 100 | 0.01 | 9.0 |
| LTE Band 12 Uplink<br>(Port 1)   | 699 - 716   | 94.43 | 100 |      |     |
| LTE Band 12 Downlink<br>(Port B) | 729 - 746   | 94.39 | 100 | 0.32 | 9.0 |
| LTE Band 12 Uplink<br>(Port B)   | 699 - 716   | 94.07 | 100 |      |     |
| LTE Band 13 Downlink<br>(Port 2) | 746 - 756   | 93.91 | 100 | 0.6  | 9.0 |
| LTE Band 13 Uplink<br>(Port 2)   | 777 - 787   | 94.51 | 100 |      |     |
| LTE Band 25 Downlink<br>(Port 1) | 1930 - 1995 | 98.32 | 100 | 1.86 | 9.0 |
| LTE Band 25 Uplink(Port 1)       | 1850 - 1915 | 96.46 | 100 |      |     |
| LTE Band 25 Downlink<br>(Port B) | 1930 - 1995 | 97.93 | 100 | 1.57 | 9.0 |
| LTE Band 25 Uplink(Port B)       | 1850 - 1915 | 96.36 | 100 |      |     |
| LTE Band 25 Downlink<br>(Port 2) | 1930 - 1995 | 97.71 | 100 | 1.44 | 9.0 |
| LTE Band 25 Uplink<br>(Port 2)   | 1850 - 1915 | 96.27 | 100 |      |     |
| LTE Band 25 Downlink<br>(Port D) | 1930 - 1995 | 97.54 | 100 | 0.34 | 9.0 |
| LTE Band 25 Uplink<br>(Port D)   | 1850 - 1915 | 97.88 | 100 |      |     |



FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
 IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

| Maximum Gain with Maximum Transmitter Input level |                       |           |                 |
|---------------------------------------------------|-----------------------|-----------|-----------------|
| Band                                              | Frequency Range (MHz) | Gain (dB) | Gain Limit (dB) |
| WCDMA Band 5 Downlink (Port 1)                    | 869 - 894             | 31.14     | 100             |
| WCDMA Band 5 Uplink (Port 1)                      | 824 - 849             | 21.23     | 100             |
| LTE Band 4 Downlink (Port 1)                      | 2110 - 2155           | 31.04     | 100             |
| LTE Band 4 Uplink (Port 1)                        | 1710 - 1755           | 22.67     | 100             |
| LTE Band 4 Downlink (Port B)                      | 2110 - 2155           | 31.0      | 100             |
| LTE Band 4 Uplink (Port B)                        | 1710 - 1755           | 22.05     | 100             |
| LTE Band 4 Downlink (Port 2)                      | 2110 - 2155           | 30.98     | 100             |
| LTE Band 4 Uplink (Port 2)                        | 1710 - 1755           | 22.10     | 100             |
| LTE Band 12 Downlink (Port 1)                     | 729 - 746             | 31.13     | 100             |
| LTE Band 12 Uplink (Port 1)                       | 699 - 716             | 23.52     | 100             |
| LTE Band 12 Downlink (Port B)                     | 729 - 746             | 31.10     | 100             |
| LTE Band 12 Uplink (Port B)                       | 699 - 716             | 22.97     | 100             |
| LTE Band 13 Downlink (Port 2)                     | 746 - 756             | 31.15     | 100             |
| LTE Band 13 Uplink (Port 2)                       | 777 - 787             | 23.46     | 100             |
| LTE Band 25 Downlink (Port 1)                     | 1930 - 1995           | 31.61     | 100             |
| LTE Band 25 Uplink(Port 1)                        | 1850 - 1915           | 21.61     | 100             |
| LTE Band 25 Downlink (Port B)                     | 1930 - 1995           | 31.15     | 100             |
| LTE Band 25 Uplink(Port B)                        | 1850 - 1915           | 21.58     | 100             |
| LTE Band 25 Downlink (Port 2)                     | 1930 - 1995           | 30.96     | 100             |



Product Service

FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

|                                  |             |       |     |
|----------------------------------|-------------|-------|-----|
| LTE Band 25 Uplink<br>(Port 2)   | 1850 - 1915 | 21.04 | 100 |
| LTE Band 25<br>Downlink (Port D) | 1930 - 1995 | 31.02 | 100 |
| LTE Band 25 Uplink<br>(Port D)   | 1850 - 1915 | 21.36 | 100 |



FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
 IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

### 2.3.9 Test Results Power Output

| Power Output (Conducted / EIRP) WCDMA Band 5 Downlink |                |                   |               |            |                                             |            |       |                                      |
|-------------------------------------------------------|----------------|-------------------|---------------|------------|---------------------------------------------|------------|-------|--------------------------------------|
| Bandwidth                                             | Channels       | Frequency         | Average Power | Peak Power | Maximum System Gain (Antenna + Cable) (dBi) | EIRP (dBm) |       | Average EIRP FCC Part 20 Limit (dBm) |
| (MHz)                                                 |                | (MHz)             | (dBm)         | (dBm)      |                                             | Average    | Peak  |                                      |
| 5 MHz                                                 | 4357           | 871.4             | 15.32         | 26.8       | 1.68                                        | 17         | 28.48 | 17                                   |
|                                                       | 4408           | 881.6             | 15.22         | 26.6       | 1.78                                        | 17         | 28.38 | 17                                   |
|                                                       | 4458           | 891.6             | 15.18         | 26.72      | 1.82                                        | 17         | 28.54 | 17                                   |
| 15 MHz                                                | 4357+4382+4407 | 871.4+876.4+881.4 | <b>16.99</b>  | 28.37      | <b>0.01</b>                                 | 17         | 28.38 | 17                                   |
|                                                       | 4383+4408+4433 | 876.6+881.6+886.6 | 16.8          | 27.96      | 0.2                                         | 17         | 28.16 | 17                                   |
|                                                       | 4408+4433+4458 | 881.6+886.6+891.6 | 16.93         | 28.45      | 0.07                                        | 17         | 28.52 | 17                                   |

| Power Output (Conducted / EIRP) WCDMA Band 5 Uplink |                |                   |               |            |                                             |            |       |                                      |
|-----------------------------------------------------|----------------|-------------------|---------------|------------|---------------------------------------------|------------|-------|--------------------------------------|
| Bandwidth                                           | Channels       | Frequency         | Average Power | Peak Power | Maximum System Gain (Antenna + Cable) (dBi) | EIRP (dBm) |       | Average EIRP FCC Part 20 Limit (dBm) |
| (MHz)                                               |                | (MHz)             | (dBm)         | (dBm)      |                                             | Average    | Peak  |                                      |
| 5 MHz                                               | 4132           | 826.4             | 21.42         | 29.12      | 8.58                                        | 30         | 37.7  | 30                                   |
|                                                     | 4183           | 836.6             | 21.42         | 29.32      | 8.58                                        | 30         | 31.9  | 30                                   |
|                                                     | 4233           | 846.6             | 21.23         | 32.56      | 8.77                                        | 30         | 41.33 | 30                                   |
| 15 MHz                                              | 4132+4157+4182 | 826.4+831.4+836.4 | 21.59         | 31.44      | 8.41                                        | 30         | 39.85 | 30                                   |
|                                                     | 4158+4183+4208 | 831.6+836.6+841.6 | 21.01         | 30.87      | 8.99                                        | 30         | 39.86 | 30                                   |
|                                                     | 4183+4208+4233 | 836.6+841.6+846.6 | <b>21.68</b>  | 31.62      | <b>8.32</b>                                 | 30         | 39.94 | 30                                   |

| Power Output (Conducted / EIRP) /Channel WCDMA Band 5 Downlink |                |                                    |                              |                                             |                    |                                                |
|----------------------------------------------------------------|----------------|------------------------------------|------------------------------|---------------------------------------------|--------------------|------------------------------------------------|
| Bandwidth 15(MHz)                                              | Channels       | Channel Frequency Under test (MHz) | Average Power /Channel (dBm) | Maximum System Gain (Antenna + Cable) (dBi) | Average EIRP (dBm) | Average EIRP / Channel FCC Part 20 Limit (dBm) |
| 5MHz/Channel                                                   | 4357+4382+4407 | 871.4                              | 9.51                         | 0.49                                        | 10                 | 10                                             |
|                                                                | 4357+4382+4407 | 876.4                              | 9.23                         | 0.77                                        | 10                 | 10                                             |
|                                                                | 4357+4382+4407 | 881.4                              | 9.55                         | 0.45                                        | 10                 | 10                                             |
| 5MHz/Channel                                                   | 4383+4408+4433 | 876.6                              | 8.71                         | 1.29                                        | 10                 | 10                                             |
|                                                                | 4383+4408+4433 | 881.6                              | 9.94                         | 0.06                                        | 10                 | 10                                             |
|                                                                | 4383+4408+4433 | 886.6                              | 8.33                         | 1.67                                        | 10                 | 10                                             |
| 5MHz/Channel                                                   | 4408+4433+4458 | 881.6                              | 9.95                         | 0.05                                        | 10                 | 10                                             |
|                                                                | 4408+4433+4458 | 886.6                              | 9.42                         | 0.58                                        | 10                 | 10                                             |
|                                                                | 4408+4433+4458 | 891.6                              | 8.74                         | 1.26                                        | 10                 | 10                                             |



FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
 IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

| Power Output (Conducted / EIRP) LTE Band 4 Downlink |          |           |               |            |                                             |            |       |                                      |
|-----------------------------------------------------|----------|-----------|---------------|------------|---------------------------------------------|------------|-------|--------------------------------------|
| Bandwidth                                           | Channels | Frequency | Average Power | Peak Power | Maximum System Gain (Antenna + Cable) (dBi) | EIRP (dBm) |       | Average EIRP FCC Part 20 Limit (dBm) |
| (MHz)                                               |          | (MHz)     | (dBm)         | (dBm)      |                                             | Average    | Peak  |                                      |
| 5                                                   | 1975     | 2112.5    | 15.21         | 27.29      | 1.79                                        | 17         | 29.08 | 17                                   |
|                                                     | 2175     | 2132.5    | 15.19         | 27.27      | 1.81                                        | 17         | 29.08 | 17                                   |
|                                                     | 2375     | 2152.5    | 15.15         | 27.19      | 1.85                                        | 17         | 29.04 | 17                                   |
| 10                                                  | 2000     | 2115      | <b>15.84</b>  | 27.65      | <b>1.16</b>                                 | 17         | 28.81 | 17                                   |
|                                                     | 2175     | 2132.5    | 15.12         | 26.88      | 1.88                                        | 17         | 28.76 | 17                                   |
|                                                     | 2350     | 2150      | 15.02         | 26.96      | 1.98                                        | 17         | 28.94 | 17                                   |
| 15                                                  | 2025     | 2117.5    | 14.52         | 25.09      | 2.48                                        | 17         | 27.57 | 17                                   |
|                                                     | 2175     | 2132.5    | 14.57         | 25.69      | 2.43                                        | 17         | 28.12 | 17                                   |
|                                                     | 2325     | 2147.5    | 15.73         | 26.97      | 1.27                                        | 17         | 28.24 | 17                                   |
| 20                                                  | 2050     | 2120      | 15.24         | 24.94      | 1.76                                        | 17         | 26.7  | 17                                   |
|                                                     | 2175     | 2132.5    | 15.04         | 24.94      | 1.96                                        | 17         | 26.9  | 17                                   |
|                                                     | 2300     | 2145      | 15.3          | 24.04      | 1.7                                         | 17         | 25.74 | 17                                   |

| Power Output (Conducted / EIRP) LTE Band 4 Uplink |          |           |               |            |                                             |            |       |                                      |
|---------------------------------------------------|----------|-----------|---------------|------------|---------------------------------------------|------------|-------|--------------------------------------|
| Bandwidth                                         | Channels | Frequency | Average Power | Peak Power | Maximum System Gain (Antenna + Cable) (dBi) | EIRP (dBm) |       | Average EIRP FCC Part 20 Limit (dBm) |
| (MHz)                                             |          | (MHz)     | (dBm)         | (dBm)      |                                             | Average    | Peak  |                                      |
| 5                                                 | 19975    | 1712.5    | 21.53         | 29.82      | 8.47                                        | 30         | 38.29 | 30                                   |
|                                                   | 20175    | 1732.5    | 21.5          | 29.63      | 8.5                                         | 30         | 38.13 | 30                                   |
|                                                   | 20375    | 1752.5    | 21.45         | 29.63      | 8.55                                        | 30         | 38.18 | 30                                   |
| 10                                                | 20000    | 1715      | 23.27         | 32.24      | 6.73                                        | 30         | 38.97 | 30                                   |
|                                                   | 20175    | 1732.5    | 23.27         | 31.88      | 6.73                                        | 30         | 38.61 | 30                                   |
|                                                   | 20350    | 1750      | <b>23.37</b>  | 31.94      | <b>6.63</b>                                 | 30         | 38.57 | 30                                   |
| 15                                                | 20025    | 1717.5    | 21.94         | 29.12      | 8.06                                        | 30         | 37.18 | 30                                   |
|                                                   | 20175    | 1732.5    | 21.43         | 28.54      | 8.57                                        | 30         | 37.11 | 30                                   |
|                                                   | 20325    | 1747.5    | 21.68         | 28.94      | 8.32                                        | 30         | 37.26 | 30                                   |
| 20                                                | 20050    | 1720      | 21.68         | 29.61      | 8.32                                        | 30         | 37.93 | 30                                   |
|                                                   | 20175    | 1732.5    | 21.37         | 29.5       | 8.63                                        | 30         | 38.13 | 30                                   |
|                                                   | 20300    | 1745      | 21.51         | 29.81      | 8.49                                        | 30         | 38.3  | 30                                   |



FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
 IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

| Power Output (Conducted / EIRP) LTE Band 12 Downlink |          |           |               |            |                                                  |            |       |                                      |
|------------------------------------------------------|----------|-----------|---------------|------------|--------------------------------------------------|------------|-------|--------------------------------------|
| Bandwidth                                            | Channels | Frequency | Average Power | Peak Power | Maximum System Gain (Antenna + Cable) Gain (dBi) | EIRP (dBm) |       | Average EIRP FCC Part 20 Limit (dBm) |
| (MHz)                                                |          | (MHz)     | (dBm)         | (dBm)      |                                                  | Average    | Peak  |                                      |
| 5                                                    | 5035     | 731.5     | 15.47         | 27.36      | 1.53                                             | 17         | 28.89 | 17                                   |
|                                                      | 5095     | 737.5     | 15.28         | 26.77      | 1.72                                             | 17         | 28.49 | 17                                   |
|                                                      | 5155     | 743.5     | <b>15.56</b>  | 27.73      | <b>1.44</b>                                      | 17         | 29.17 | 17                                   |
| 10                                                   | 5060     | 734       | 15.51         | 25.33      | 1.49                                             | 17         | 26.82 | 17                                   |
|                                                      | 5095     | 737.5     | 15.46         | 27.87      | 1.54                                             | 17         | 29.41 | 17                                   |
|                                                      | 5130     | 741       | 14.79         | 24.44      | 2.21                                             | 17         | 26.65 | 17                                   |

| Power Output (Conducted / EIRP) LTE Band 12 Uplink |          |           |               |            |                                                  |            |       |                                      |
|----------------------------------------------------|----------|-----------|---------------|------------|--------------------------------------------------|------------|-------|--------------------------------------|
| Bandwidth                                          | Channels | Frequency | Average Power | Peak Power | Maximum System Gain (Antenna + Cable) Gain (dBi) | EIRP (dBm) |       | Average EIRP FCC Part 20 Limit (dBm) |
| (MHz)                                              |          | (MHz)     | (dBm)         | (dBm)      |                                                  | Average    | Peak  |                                      |
| 5                                                  | 23035    | 701.5     | 21.59         | 30.95      | 8.41                                             | 30         | 39.36 | 30                                   |
|                                                    | 23095    | 707.5     | <b>21.92</b>  | 31.45      | <b>8.08</b>                                      | 30         | 39.53 | 30                                   |
|                                                    | 23155    | 713.5     | 21.49         | 31.15      | 8.51                                             | 30         | 39.66 | 30                                   |
| 10                                                 | 23060    | 704       | 21.64         | 31.77      | 8.36                                             | 30         | 40.13 | 30                                   |
|                                                    | 23095    | 707.5     | 21.9          | 32.95      | 8.1                                              | 30         | 41.05 | 30                                   |
|                                                    | 23130    | 711       | 21.6          | 32.08      | 8.4                                              | 30         | 40.48 | 30                                   |



FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU

IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

| Power Output (Conducted / EIRP) LTE Band 13 Downlink |          |           |               |            |                                             |            |      |                                      |
|------------------------------------------------------|----------|-----------|---------------|------------|---------------------------------------------|------------|------|--------------------------------------|
| Bandwidth                                            | Channels | Frequency | Average Power | Peak Power | Maximum System Gain (Antenna + Cable) (dBi) | EIRP (dBm) |      | Average EIRP FCC Part 20 Limit (dBm) |
| (MHz)                                                |          | (MHz)     | (dBm)         | (dBm)      |                                             | Average    | Peak |                                      |
| 5                                                    | 5205     | 748.5     | 15.59         | 27.65      | 1.41                                        | 17         | 1.41 | 17                                   |
|                                                      | 5230     | 751       | <b>15.84</b>  | 27.8       | <b>1.16</b>                                 | 17         | 1.16 | 17                                   |
|                                                      | 5255     | 753.5     | 15.64         | 28.08      | 1.36                                        | 17         | 1.36 | 17                                   |
| 10                                                   | -        | -         | -             | -          |                                             |            |      |                                      |
|                                                      | 5230     | 751       | 15.66         | 28.01      | 1.34                                        | 17         | 1.34 | 17                                   |
|                                                      | -        | -         | -             | -          |                                             |            |      |                                      |

| Power Output (Conducted / EIRP) LTE Band 13 Uplink |          |           |               |            |                                             |            |       |                                      |
|----------------------------------------------------|----------|-----------|---------------|------------|---------------------------------------------|------------|-------|--------------------------------------|
| Bandwidth                                          | Channels | Frequency | Average Power | Peak Power | Maximum System Gain (Antenna + Cable) (dBi) | EIRP (dBm) |       | Average EIRP FCC Part 20 Limit (dBm) |
| (MHz)                                              |          | (MHz)     | (dBm)         | (dBm)      |                                             | Average    | Peak  |                                      |
| 5                                                  | 23205    | 779.5     | 21.47         | 30.99      | 8.53                                        | 30         | 39.52 | 30                                   |
|                                                    | 23230    | 782       | 21.64         | 31.1       | 8.36                                        | 30         | 39.46 | 30                                   |
|                                                    | 23255    | 784.5     | 21.67         | 31.48      | 8.33                                        | 30         | 39.81 | 30                                   |
| 10                                                 | -        | -         | -             | -          |                                             |            |       |                                      |
|                                                    | 23230    | 782       | <b>22.01</b>  | 30.13      | 7.99                                        | 30         | 38.12 | 30                                   |
|                                                    | -        | -         | -             | -          |                                             |            |       |                                      |



FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU

IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

| Power Output (Conducted / EIRP) LTE Band 25 Downlink |          |                 |                     |                  |                                            |                    |                 |                                      |
|------------------------------------------------------|----------|-----------------|---------------------|------------------|--------------------------------------------|--------------------|-----------------|--------------------------------------|
| Bandwidth (MHz)                                      | Channels | Frequency (MHz) | Average Power (dBm) | Peak Power (dBm) | Maximum System Gain (Antenna + Cable)(dBi) | EIRP Average (dBm) | EIRP Peak (dBm) | Average EIRP FCC Part 20 Limit (dBm) |
| 5 MHz                                                | 8065     | 1932.5          | 15.04               | 26.79            | 1.96                                       | 17                 | 28.75           | 17                                   |
|                                                      | 8365     | 1962.5          | 15.16               | 26.79            | 1.84                                       | 17                 | 28.63           | 17                                   |
|                                                      | 8665     | 1992.5          | 15.11               | 26.65            | 1.89                                       | 17                 | 28.54           | 17                                   |
| 10 MHz                                               | 8090     | 1935            | 15.2                | 26.54            | 1.8                                        | 17                 | 28.34           | 17                                   |
|                                                      | 8365     | 1962.5          | 14.51               | 26.78            | 2.49                                       | 17                 | 29.27           | 17                                   |
|                                                      | 8640     | 1990            | 15.47               | 27.75            | 1.53                                       | 17                 | 29.28           | 17                                   |
| 15 MHz                                               | 8115     | 1937.5          | 16.15               | 26.77            | 0.85                                       | 17                 | 27.62           | 17                                   |
|                                                      | 8365     | 1962.5          | 16.54               | 28.09            | 0.46                                       | 17                 | 28.55           | 17                                   |
|                                                      | 8615     | 1987.5          | 15.62               | 26.27            | 1.38                                       | 17                 | 27.65           | 17                                   |
| 20 MHz                                               | 8140     | 1940            | 16.07               | 27.22            | 0.93                                       | 17                 | 28.15           | 17                                   |
|                                                      | 8365     | 1962.5          | 15.51               | 27.34            | 1.49                                       | 17                 | 28.83           | 17                                   |
|                                                      | 8590     | 1985            | <b>16.86</b>        | 27.7             | <b>0.14</b>                                | 17                 | 27.84           | 17                                   |

| Power Output (Conducted / EIRP) LTE Band 25 Uplink |          |                 |                     |                  |                                            |                    |                 |                                      |
|----------------------------------------------------|----------|-----------------|---------------------|------------------|--------------------------------------------|--------------------|-----------------|--------------------------------------|
| Bandwidth (MHz)                                    | Channels | Frequency (MHz) | Average Power (dBm) | Peak Power (dBm) | Maximum System Gain (Antenna + Cable)(dBi) | EIRP Average (dBm) | EIRP Peak (dBm) | Average EIRP FCC Part 20 Limit (dBm) |
| 5 MHz                                              | 26065    | 1852.5          | 20.49               | 31.48            | 9.51                                       | 30                 | 40.99           | 30                                   |
|                                                    | 26365    | 1882.5          | 20.73               | 31.69            | 9.27                                       | 30                 | 40.96           | 30                                   |
|                                                    | 26665    | 1912.5          | 21.01               | 30.79            | 8.99                                       | 30                 | 39.78           | 30                                   |
| 10 MHz                                             | 26090    | 1855            | <b>23.48</b>        | 32.94            | <b>6.52</b>                                | 30                 | 39.46           | 30                                   |
|                                                    | 26365    | 1882.5          | 22.33               | 30.58            | 7.67                                       | 30                 | 38.25           | 30                                   |
|                                                    | 26640    | 1910            | 21.41               | 28.78            | 8.59                                       | 30                 | 37.37           | 30                                   |
| 15 MHz                                             | 26115    | 1857.5          | 20.95               | 29.51            | 9.05                                       | 30                 | 38.56           | 30                                   |
|                                                    | 26365    | 1882.5          | 21.66               | 29.85            | 8.34                                       | 30                 | 38.19           | 30                                   |
|                                                    | 26615    | 1907.5          | 21.77               | 29.85            | 8.23                                       | 30                 | 38.08           | 30                                   |
| 20 MHz                                             | 26140    | 1860            | 21.18               | 29.94            | 8.82                                       | 30                 | 38.76           | 30                                   |
|                                                    | 26365    | 1882.5          | 21.64               | 29.73            | 8.36                                       | 30                 | 38.09           | 30                                   |
|                                                    | 26590    | 1905            | 21.48               | 29.36            | 8.52                                       | 30                 | 37.88           | 30                                   |



FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
 IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

| 2 Bands/port worst case configuration (Downlink) |                                                             |                                             |                     |                  |
|--------------------------------------------------|-------------------------------------------------------------|---------------------------------------------|---------------------|------------------|
| Ant Port                                         | Band/Bandwidth/Channel                                      | Frequency (MHz)                             | Average Power (dBm) | Peak Power (dBm) |
| 1                                                | LTE Band 4 20MHz BW High Ch & LTE Band 12 10MHz BW High Ch  | 2145.0 MHz + 741.0 MHz                      | 15.92               | 24.77            |
|                                                  | LTE Band 4 20MHz BW High Ch & LTE Band 30 10MHz BW Mid Ch   | 2145.0 MHz + 2355.0 MHz                     | 16.17               | 24.6             |
|                                                  | LTE Band 25 20MHz BW Mid Ch & LTE Band 12 10MHz BW High Ch  | 1962.5 MHz + 741.0 MHz                      | 16.18               | 24.88            |
|                                                  | LTE Band 25 20MHz BW Mid Ch & LTE Band 30 10MHz BW Mid Ch   | 1962.5 MHz + 2355.0 MHz                     | 15.75               | 23.67            |
|                                                  | WCDMA Band 5 15MHz BW Low Ch & LTE Band 12 10MHz BW High Ch | 871.4MHz & 876.4MHz & 881.4MHz + 741.0 MHz  | 17.43               | 26               |
|                                                  | WCDMA Band 5 15MHz BW Low Ch & LTE Band 30 10MHz BW Mid Ch  | 871.4MHz & 876.4MHz & 881.4MHz + 2355.0 MHz | 16.76               | 26.4             |

| 2 Bands/port worst case configuration (Uplink) |                                                            |                         |                     |                  |
|------------------------------------------------|------------------------------------------------------------|-------------------------|---------------------|------------------|
| Ant Port                                       | Band/Bandwidth/Channel                                     | Frequency (MHz)         | Average Power (dBm) | Peak Power (dBm) |
| 1                                              | LTE Band 4 15MHz BW Low Ch & LTE Band 12 10MHz BW Low Ch   | 1717.5 MHz + 704.0 MHz  | 21.48               | 29.8             |
|                                                | LTE Band 4 15MHz BW Low Ch & LTE Band 30 5MHz BW High Ch   | 1717.5 MHz + 2312.5 MHz | 21.82               | 29.97            |
|                                                | LTE Band 25 20MHz BW High Ch & LTE Band 12 10MHz BW Low Ch | 1905.0 MHz + 704 MHz    | 21.2                | 30.9             |
|                                                | LTE Band 25 20MHz BW High Ch & LTE Band 30 5MHz BW High Ch | 1905.0 MHz + 2312.5 MHz | 22.94               | 31.43            |
|                                                | WCDMA Band 5 5MHz BW Mid Ch & LTE Band 12 10MHz BW Low Ch  | 836.6 MHz + 704 MHz     | 21.39               | 30.59            |
|                                                | WCDMA Band 5 5MHz BW Mid Ch & LTE Band 30 5MHz BW High Ch  | 836.6 MHz + 2312.5 MHz  | 23.07               | 31.08            |



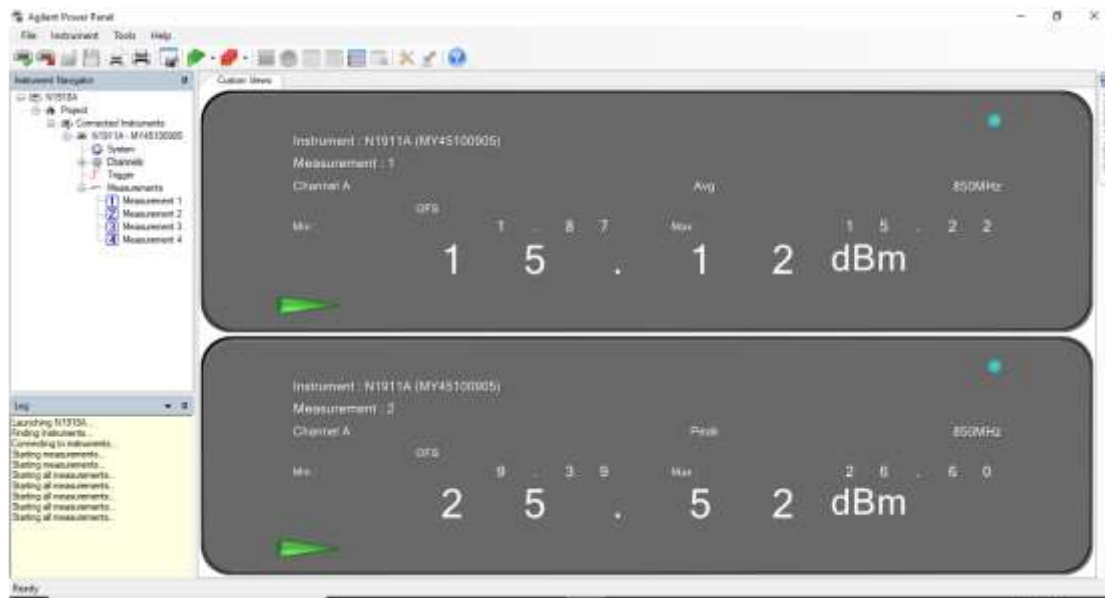
FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
 IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

| 2 Bands/port worst case configuration (Downlink) |                                                           |                          |                     |                  |
|--------------------------------------------------|-----------------------------------------------------------|--------------------------|---------------------|------------------|
| Ant Port                                         | Band/Bandwidth/Channel                                    | Frequency (MHz)          | Average Power (dBm) | Peak Power (dBm) |
| 2                                                | LTE Band 4 20MHz BW High Ch & LTE Band 71 20MHz BW Low Ch | 2145.0 MHz + 627.0.0 MHz | 15.52               | 24.46            |
|                                                  | LTE Band 4 20MHz BW High Ch & LTE Band 25 20MHz BW Mid Ch | 2145.0 MHz + 1962.5 MHz  | 15.91               | 25.4             |

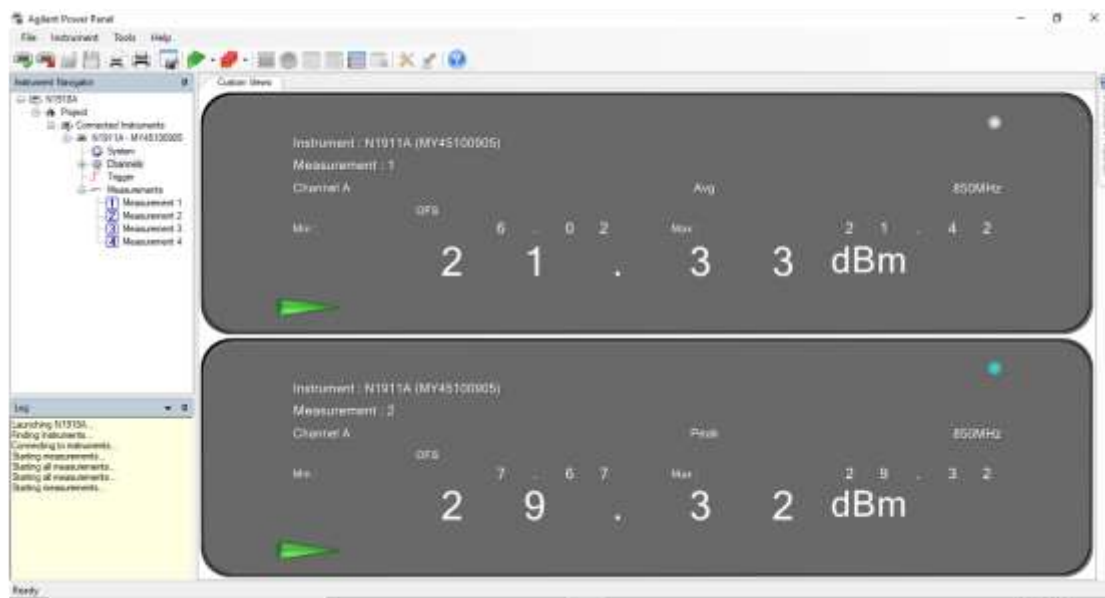
| 2 Bands/port worst case configuration (Uplink) |                                                           |                         |                     |                  |
|------------------------------------------------|-----------------------------------------------------------|-------------------------|---------------------|------------------|
| Ant Port                                       | Band/Bandwidth/Channel                                    | Frequency (MHz)         | Average Power (dBm) | Peak Power (dBm) |
| 2                                              | LTE Band 4 15MHz BW Low Ch & LTE Band 71 10MHz BW Mid Ch  | 1717.5 MHz + 680.5 MHz  | 23.54               | 31.54            |
|                                                | LTE Band 4 15MHz BW Low Ch & LTE Band 25 20MHz BW High Ch | 1717.5 MHz + 1905.0 MHz | 21.83               | 30.62            |

FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
 IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

### 2.3.10 Test Results (Conducted Power)



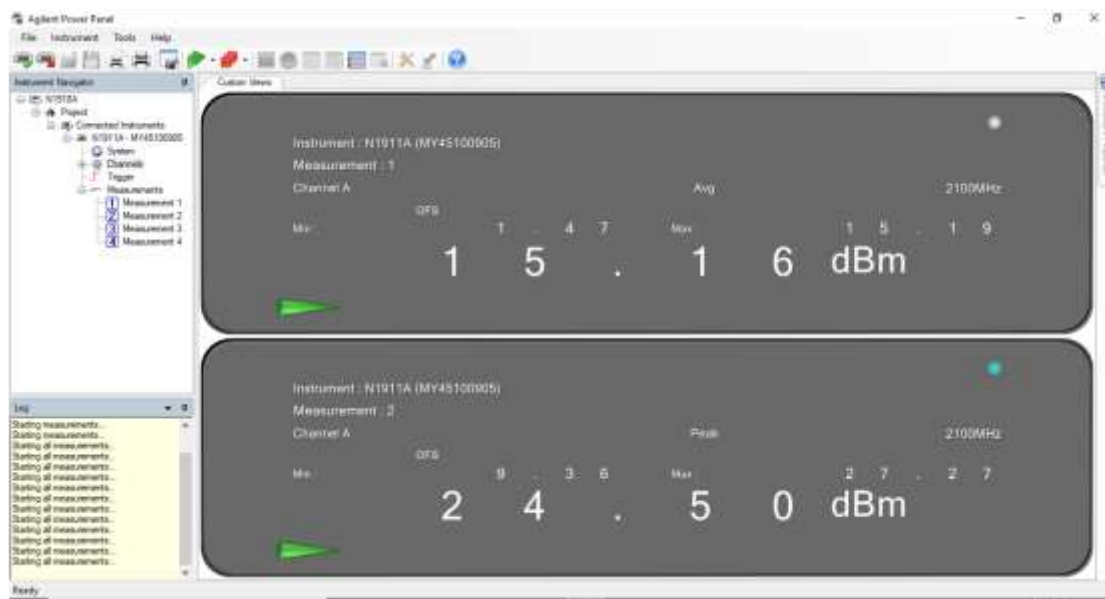
WCDMA Band 5\_DownLink\_5MHz Bandwidth\_Mid Channel



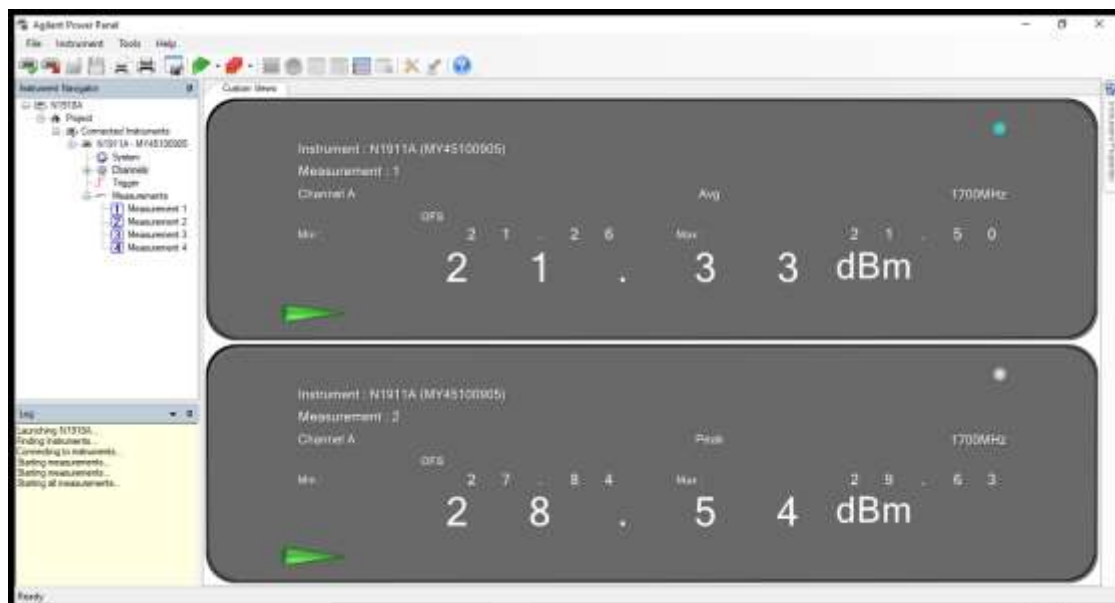
WCDMA Band 5\_UpLink\_5MHz Bandwidth\_Mid Channel

FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

Product Service



**LTE Band 4 DL 5 MHz Bandwidth Middle Channel**

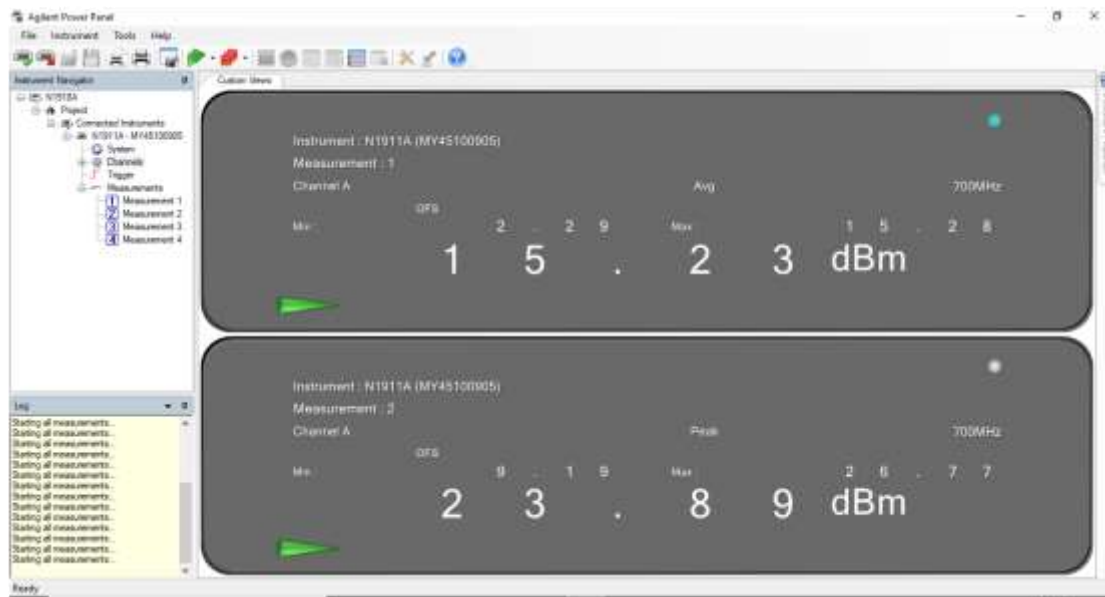


**LTE Band 4 UL 5 MHz Bandwidth Middle Channel**

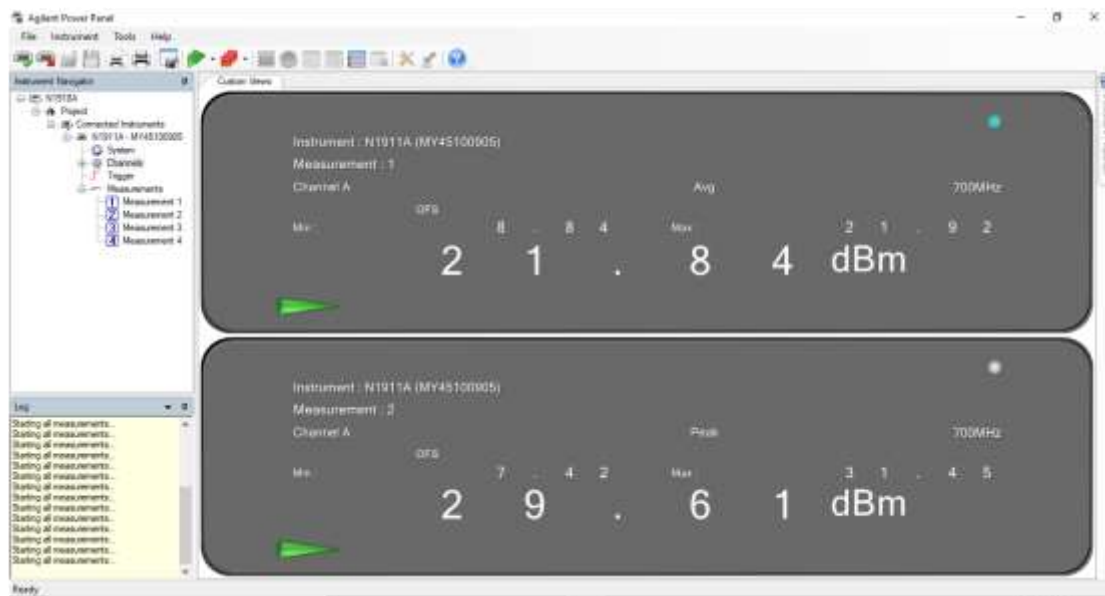


Product Service

FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU



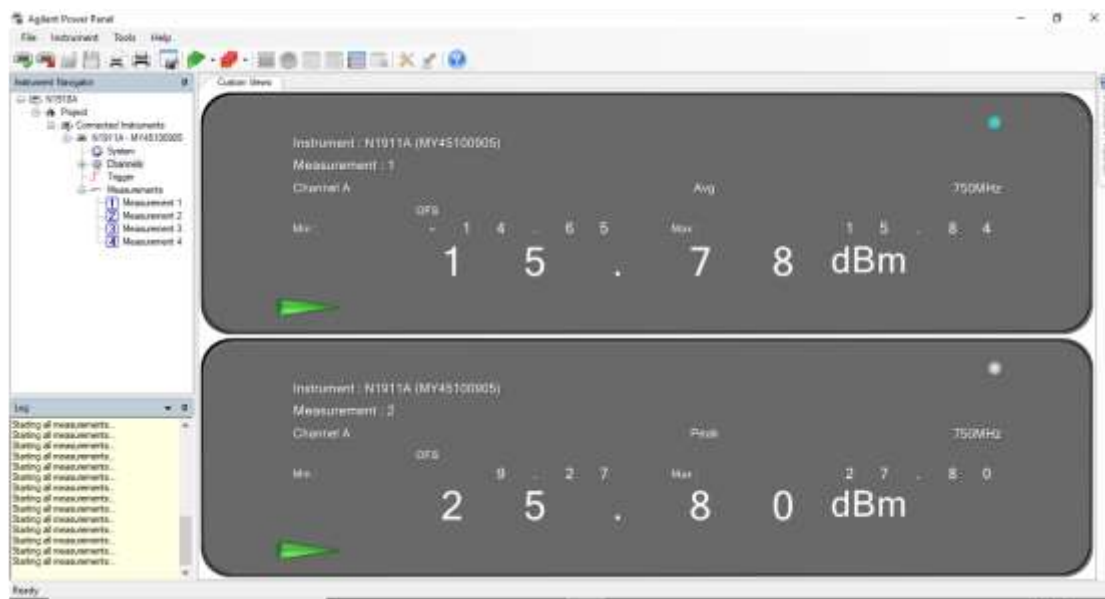
**LTE Band 12 DL 5 MHz Bandwidth Middle Channel**



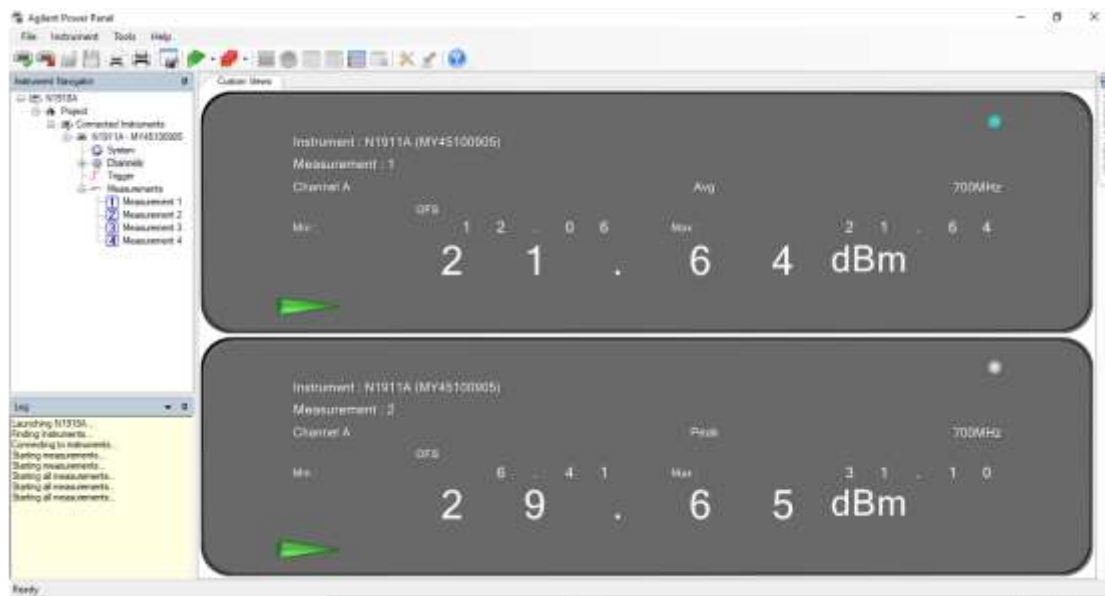
**LTE Band 12 UL 5 MHz Bandwidth Middle Channel**



FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

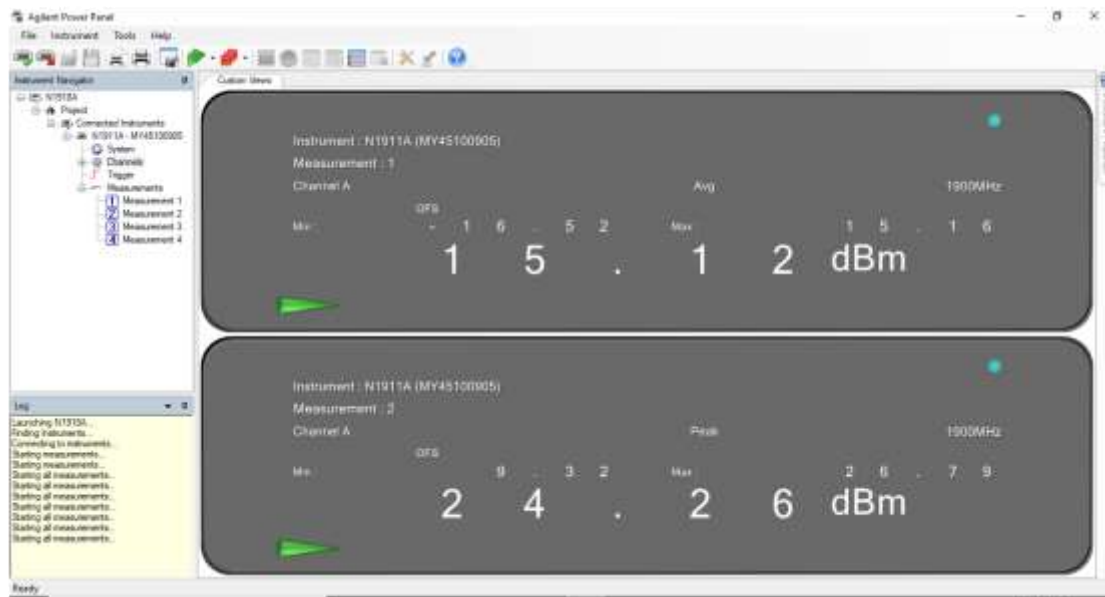


**LTE Band 13 DL 5 MHz Bandwidth Middle Channel**

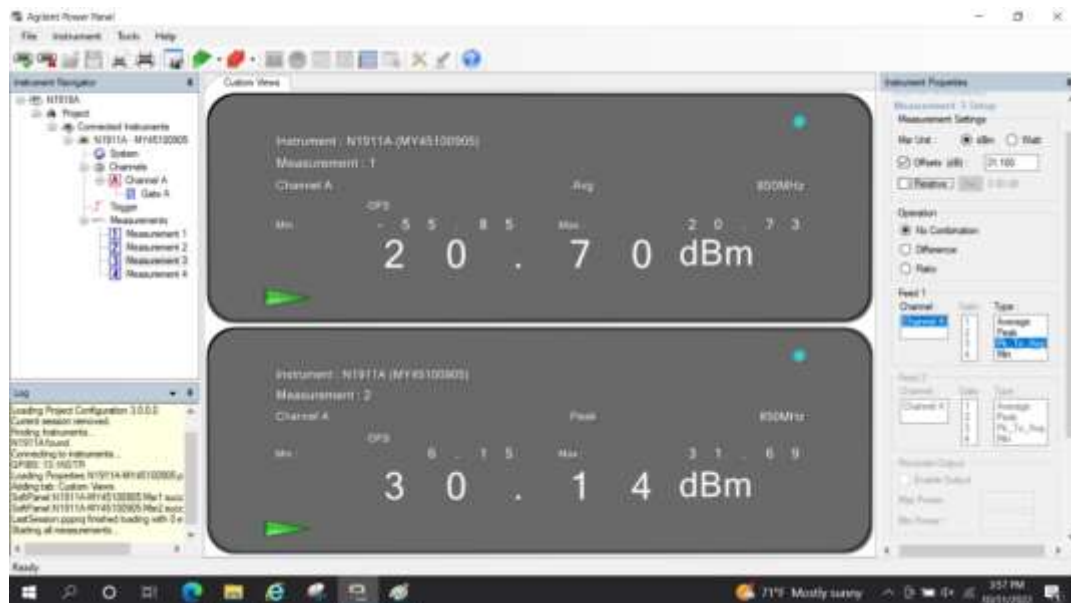


**LTE Band 13 UL 5 MHz Bandwidth Middle Channel**

FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

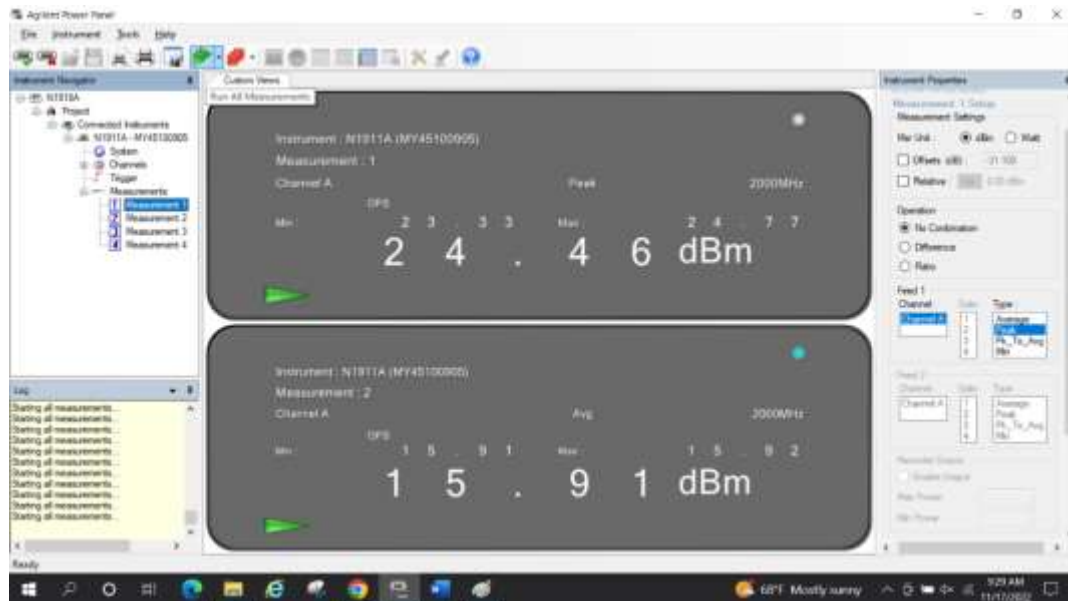


LTE Band 25\_Downlink\_5MHz Bandwidth\_Mid Channel

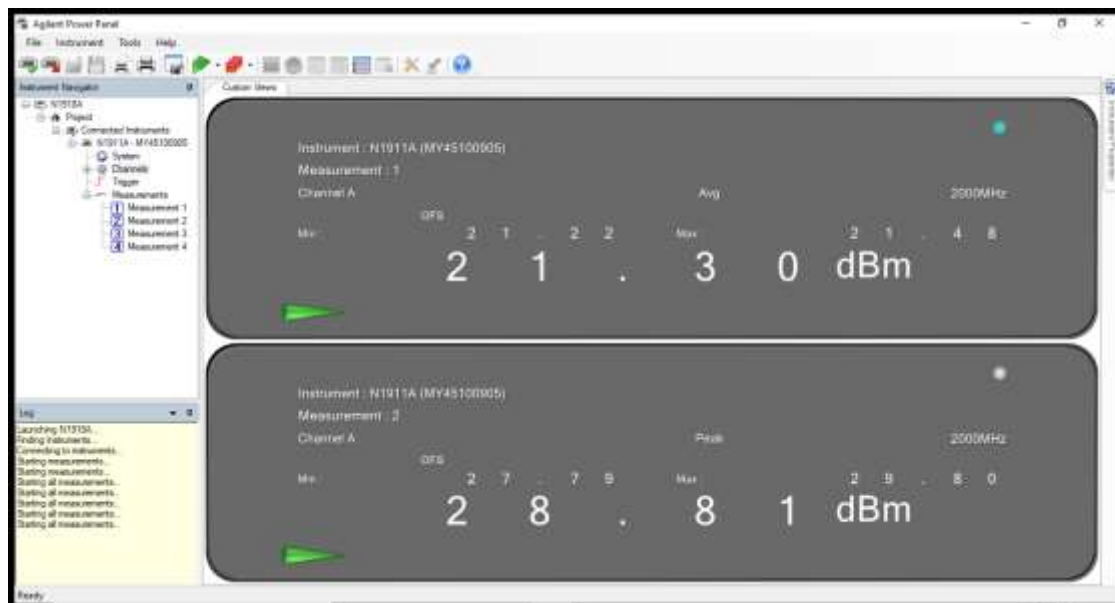


LTE Band 25\_Uplink\_5MHz Bandwidth\_Mid Channel

FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU



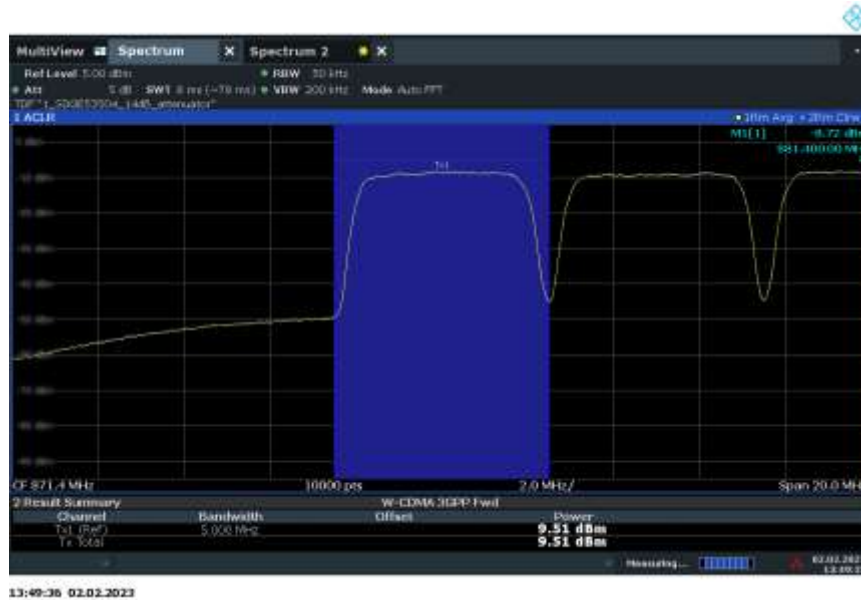
**Downlink: LTE Band 4 20MHz BW High Ch & LTE Band 12 10MHz BW High Ch**



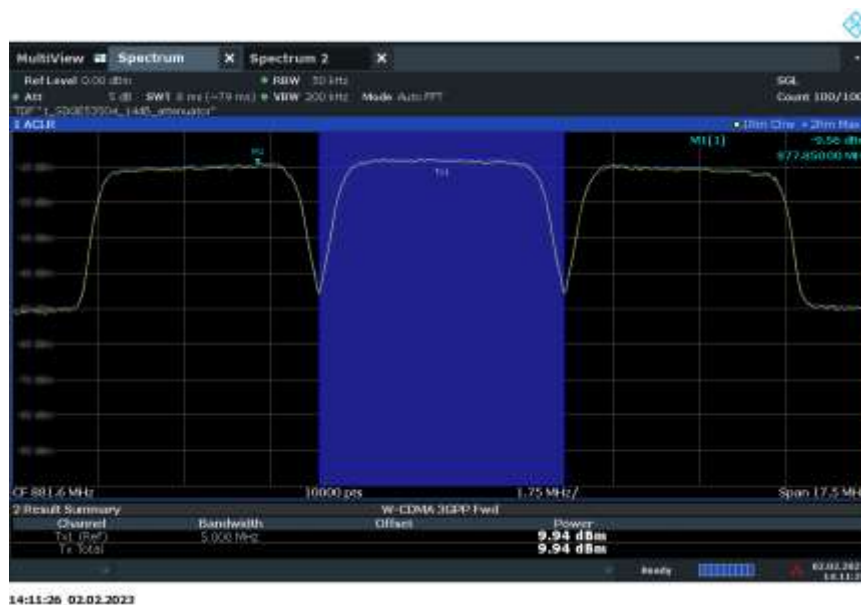
**Uplink: LTE Band 4 15MHz BW Low Ch & LTE Band 12 10MHz BW Low Ch**

FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
 IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

### 2.3.11 Test Results (Composite Conducted Power per channel)



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

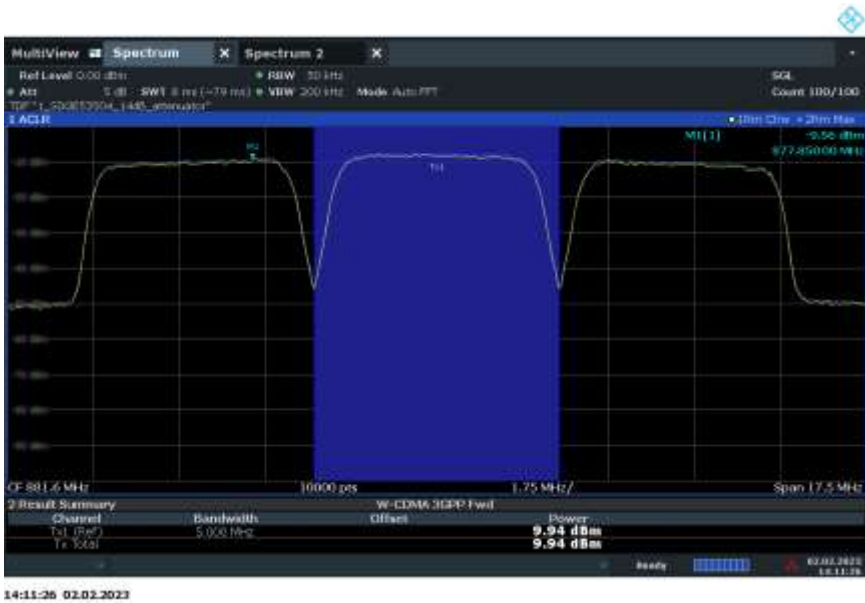


WCDMA Band 5 15MHz bandwidth DL Mid channel Output power / channel

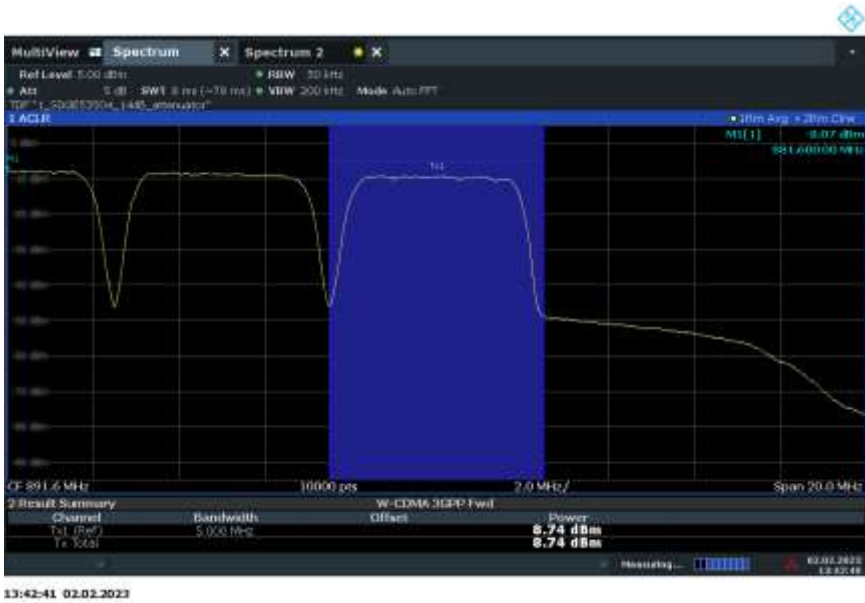


Product Service

FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU



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





FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

## **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.

FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

## 2.4.8 Test Results

### WCDMA Band 5 Downlink (-82.9 dBm)



Note: The spurious above the limit are the injected CW signals, not inter-modulation products.

### WCDMA Band 5 Downlink (-72.9 dBm)

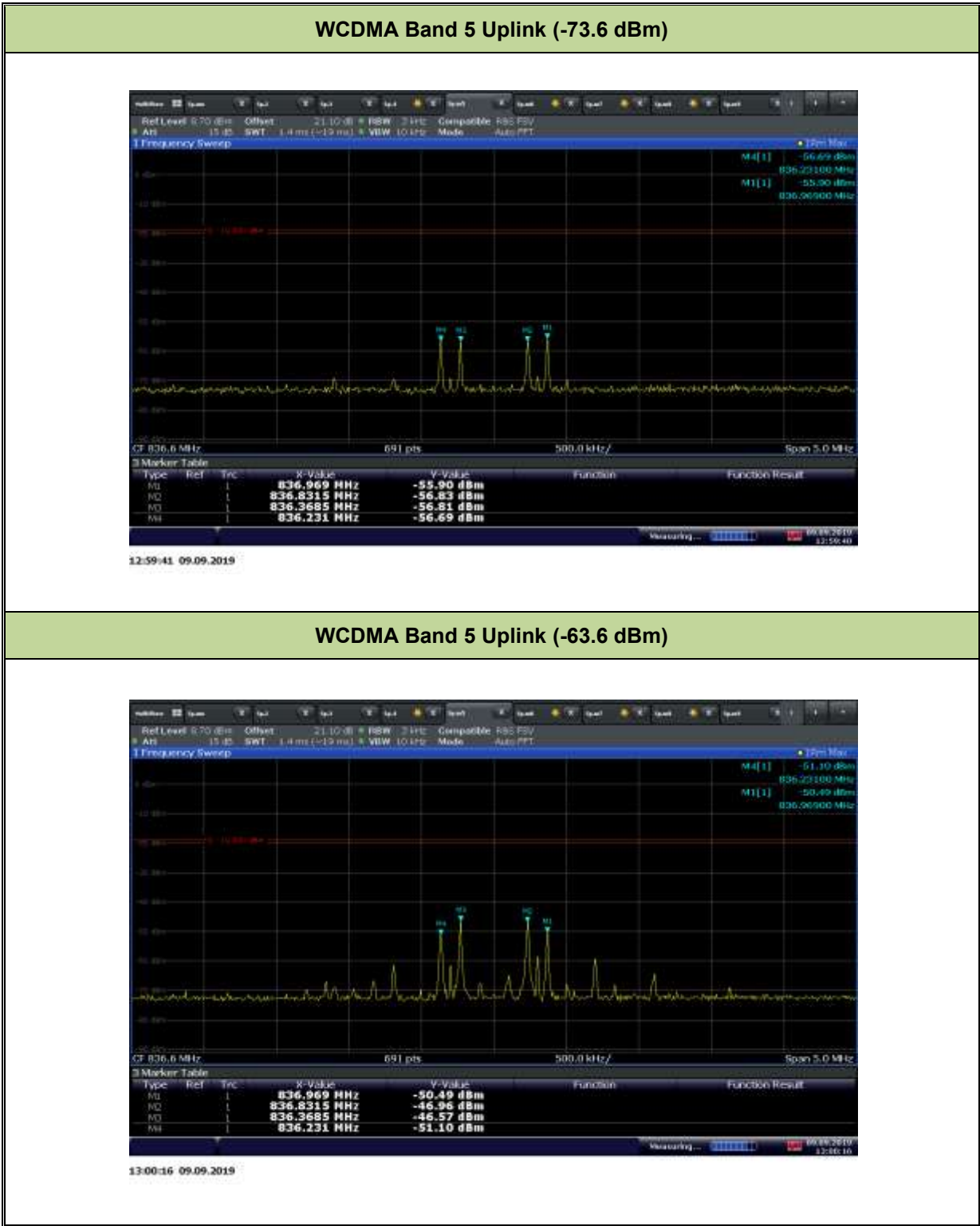


Note: The spurious above the limit are the injected CW signals, not inter-modulation products.



Product Service

FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU



FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

### LTE Band 4 Downlink (-87.7dBm)



11:53:09 09.09.2019

### LTE Band 4 Downlink (-77.7dBm)

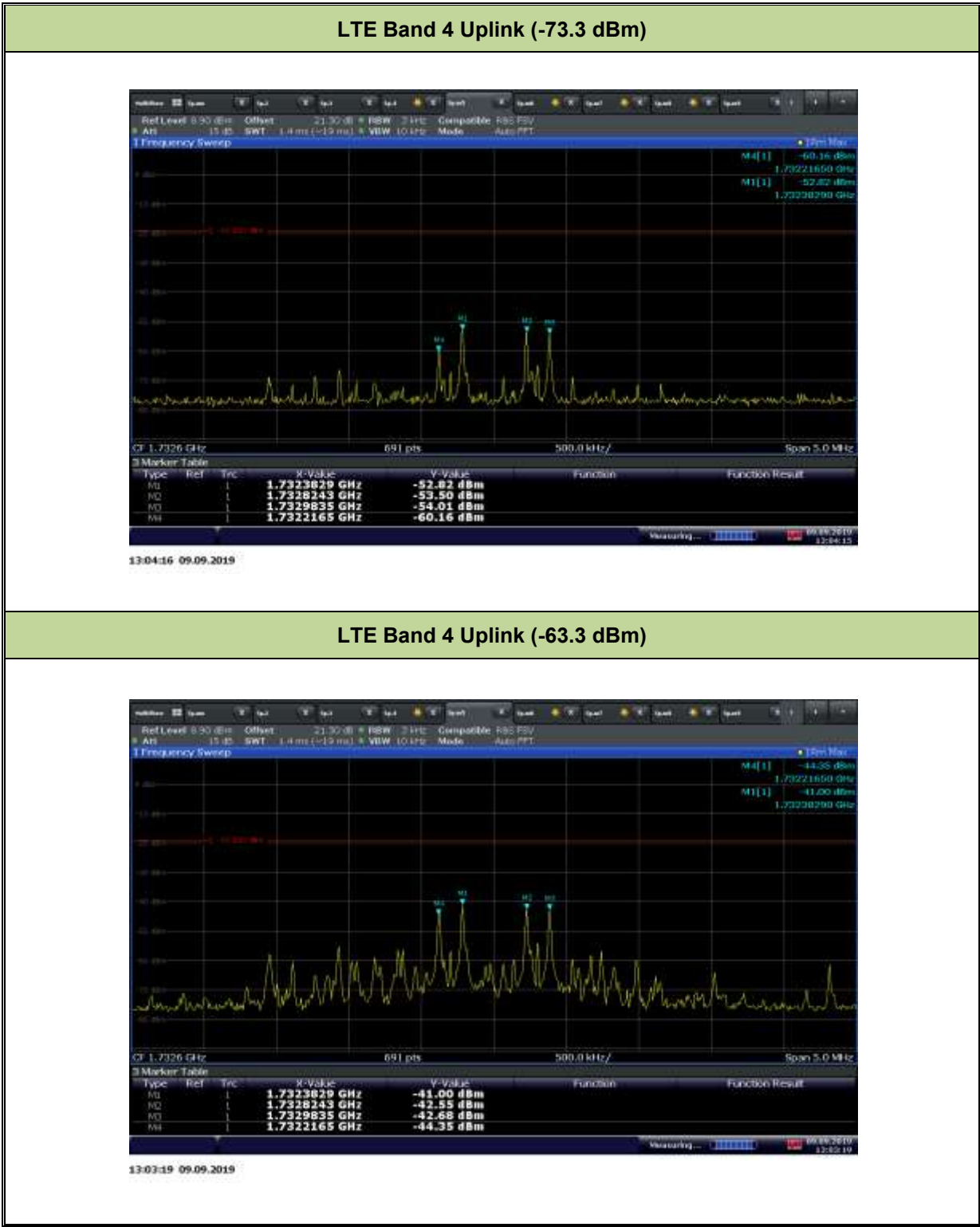


11:54:06 09.09.2019



Product Service

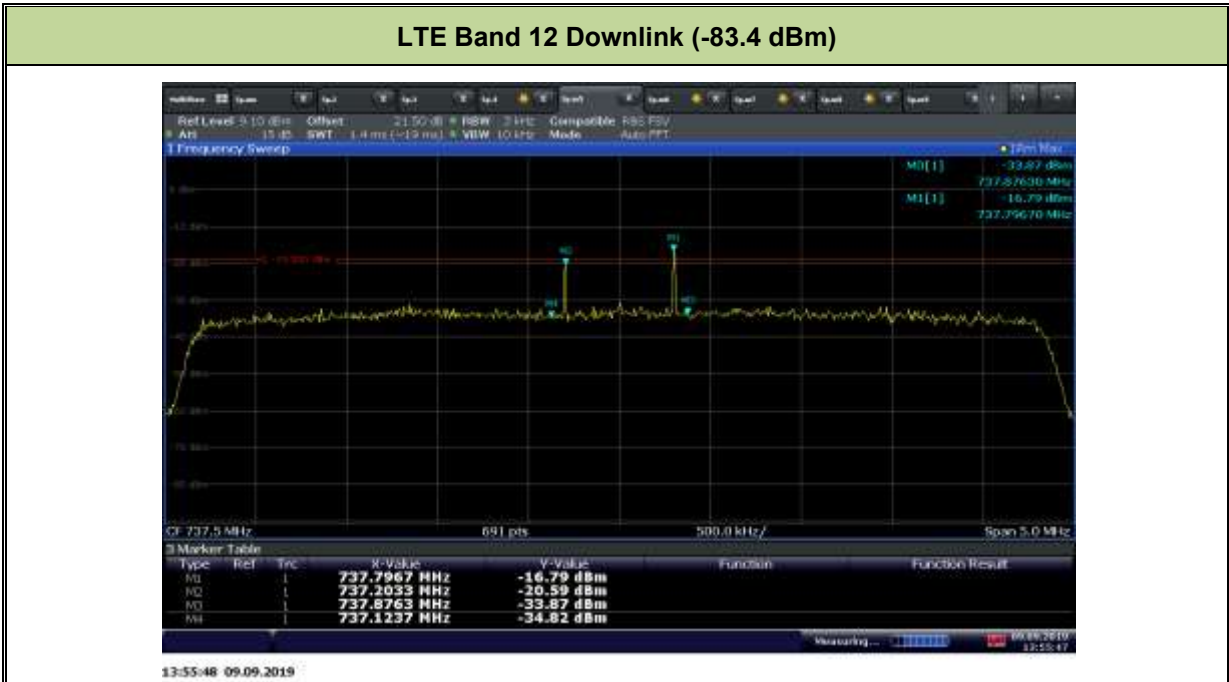
FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU



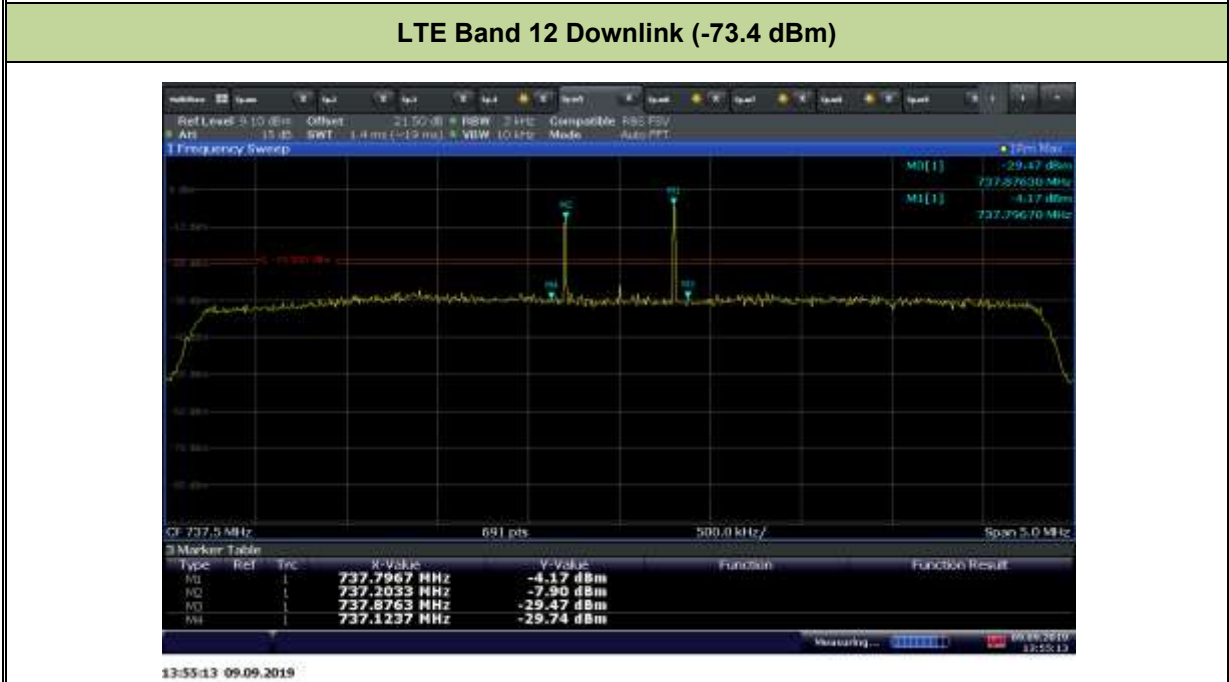


Product Service

FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

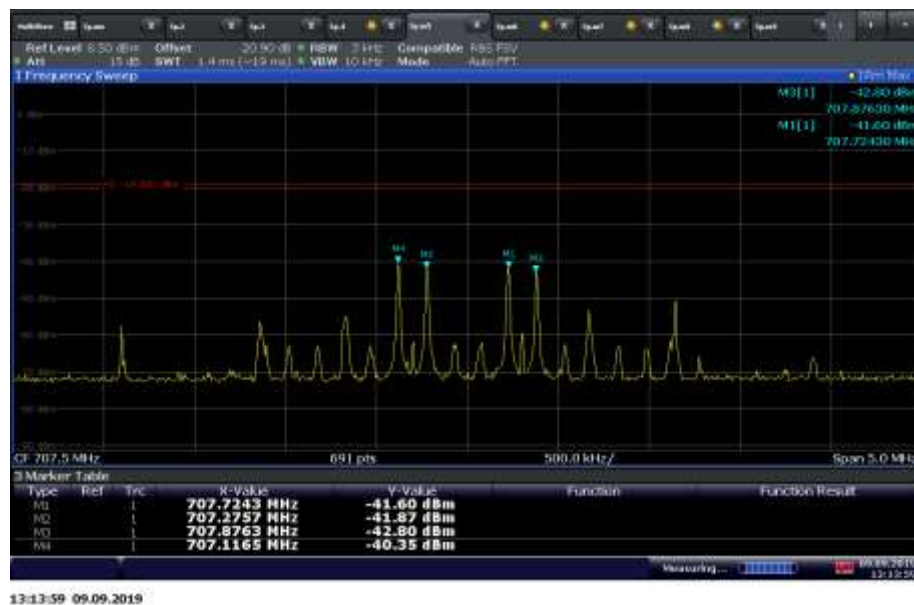


Note: The spurious above the limit are the injected CW signals, not inter-modulation products.



Note: The spurious above the limit are the injected CW signals, not inter-modulation products.

FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

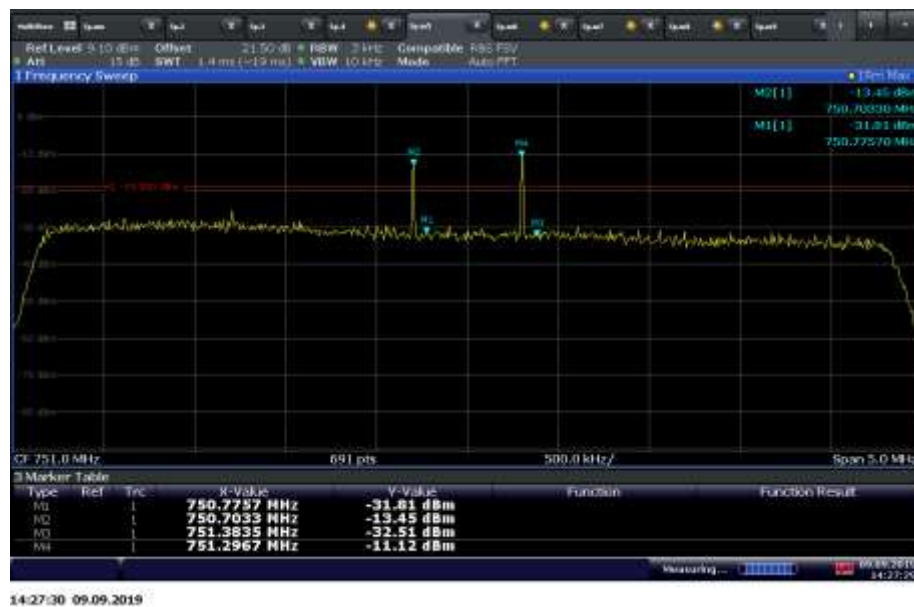
**LTE Band 12 Uplink (-71.0 dBm)****LTE Band 12 Uplink (-61.0 dBm)**

FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
 IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

### LTE Band 13 Downlink (-86.9dBm)



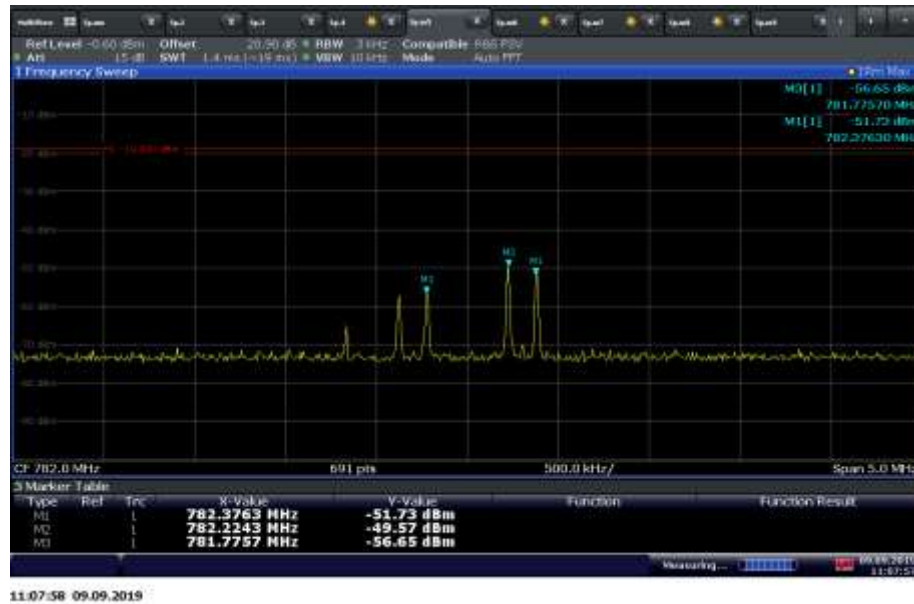
### LTE Band 13 Downlink (-76.9dBm)



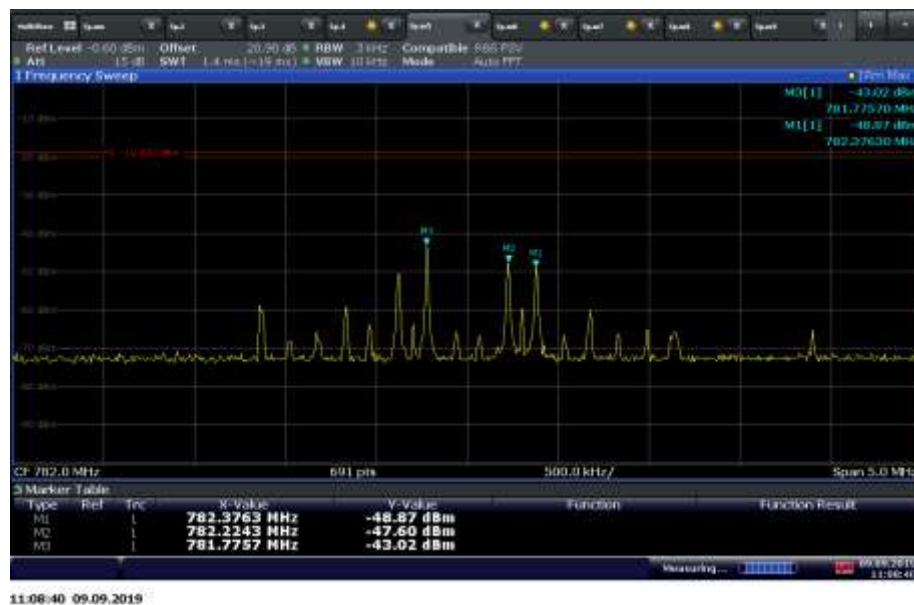
Note: The spurious above the limit are the injected CW signals, not inter-modulation products.

FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

### LTE Band 13 Uplink (-71.2dBm)



### LTE Band 13 Uplink (-61.2.0dBm)



FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

### LTE Band 25 Downlink (-86.9 dBm)



Note: The spurious above the limit are the injected CW signals, not inter-modulation products.

### LTE Band 25 Downlink (-76.9 dBm)

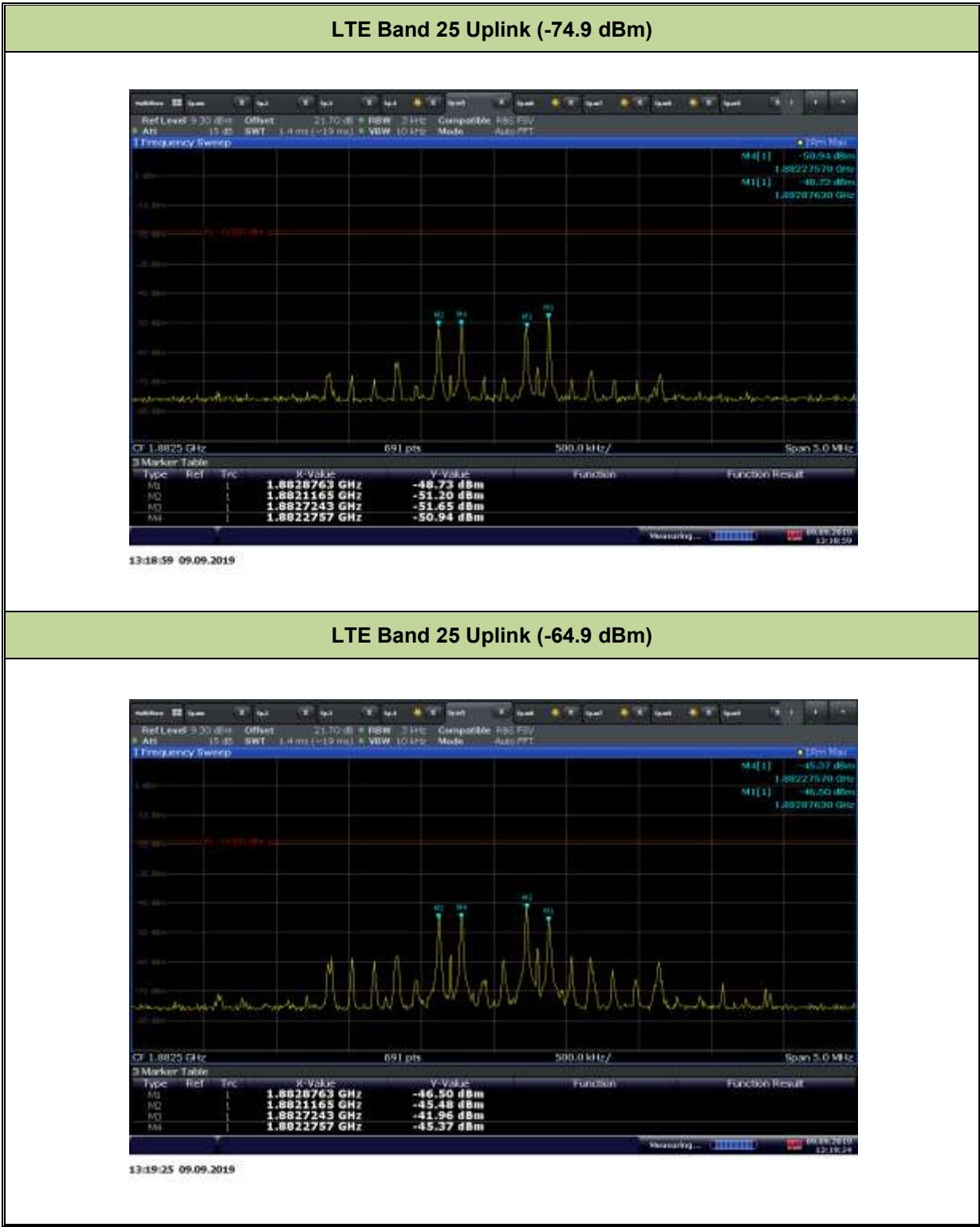


Note: The spurious above the limit are the injected CW signals, not inter-modulation products.



Product Service

FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU





FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

## **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.

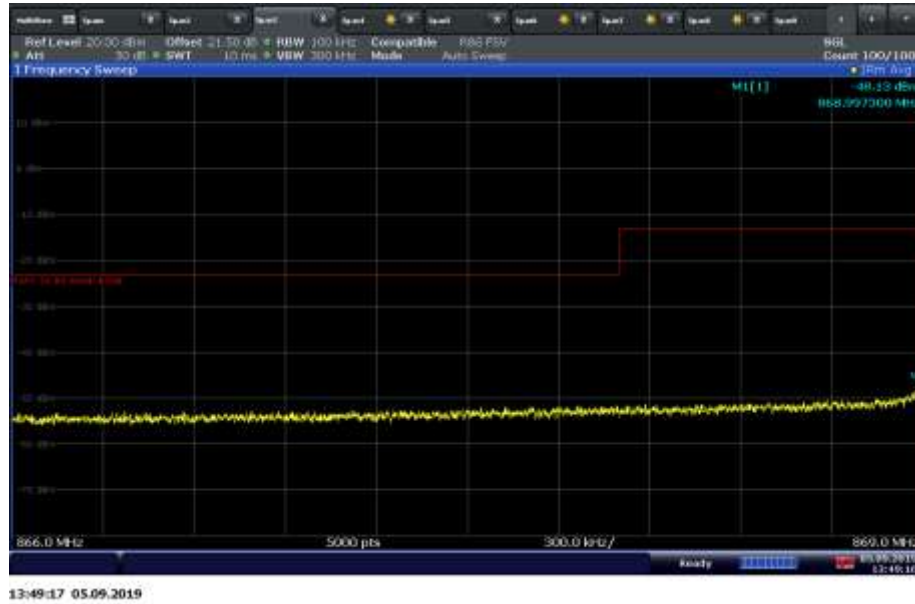


Product Service

FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

## 2.5.8 Test Results

### WCDMA Band 5 Downlink 5MHz Bandwidth Low Channel (-82.9 dBm)



### WCDMA Band 5 Downlink 5MHz Bandwidth Low Channel (-20 dBm)





FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

### WCDMA Band 5 Downlink 5MHz Bandwidth High Channel (-82.9 dBm)



### WCDMA Band 5 Downlink 5MHz Bandwidth High Channel (-20 dBm)





FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

### WCDMA Band 5 Uplink 5MHz Bandwidth Low Channel (-73.6 dBm)



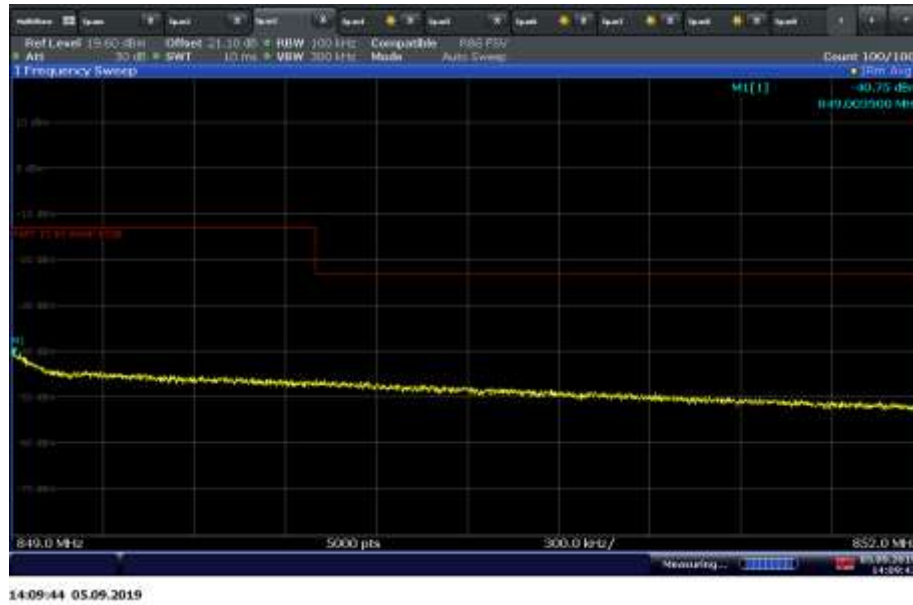
### WCDMA Band 5 Uplink 5MHz Bandwidth Low Channel (0 dBm)



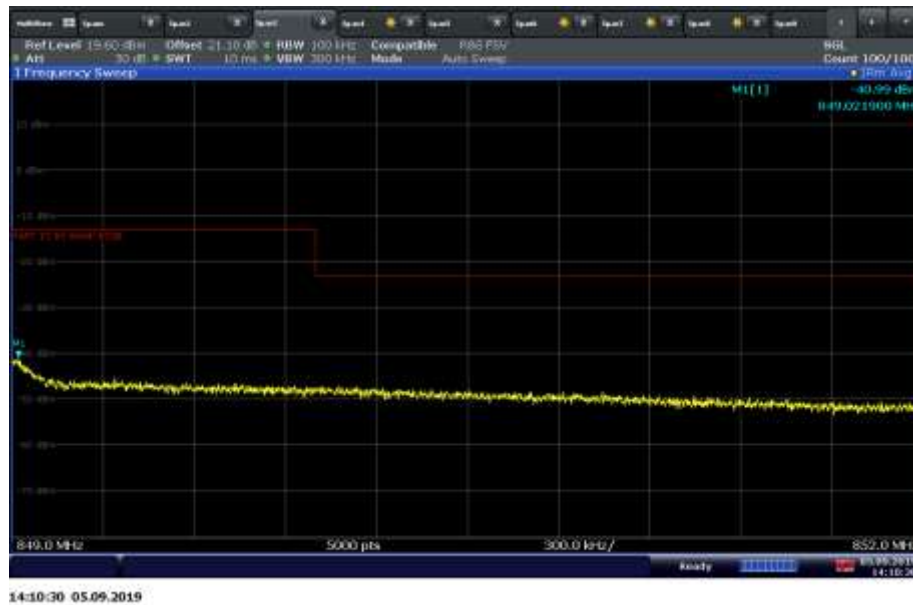


FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

### WCDMA Band 5 Uplink 5MHz Bandwidth High Channel (-73.6 dBm)



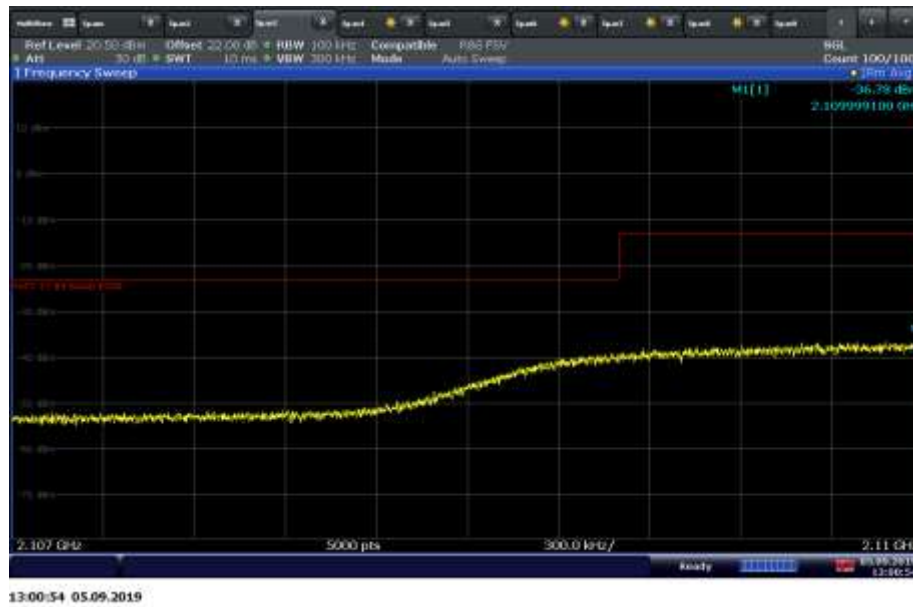
### WCDMA Band 5 Uplink 5MHz Bandwidth High Channel (0 dBm)



FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

Product Service

### LTE Band 4 Downlink 5MHz Bandwidth Low Channel (-87.7 dBm)



### LTE Band 4 Downlink 5MHz Bandwidth Low Channel (-20 dBm)





FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

### LTE Band 4 Downlink 5MHz Bandwidth High Channel (-87.7 dBm)



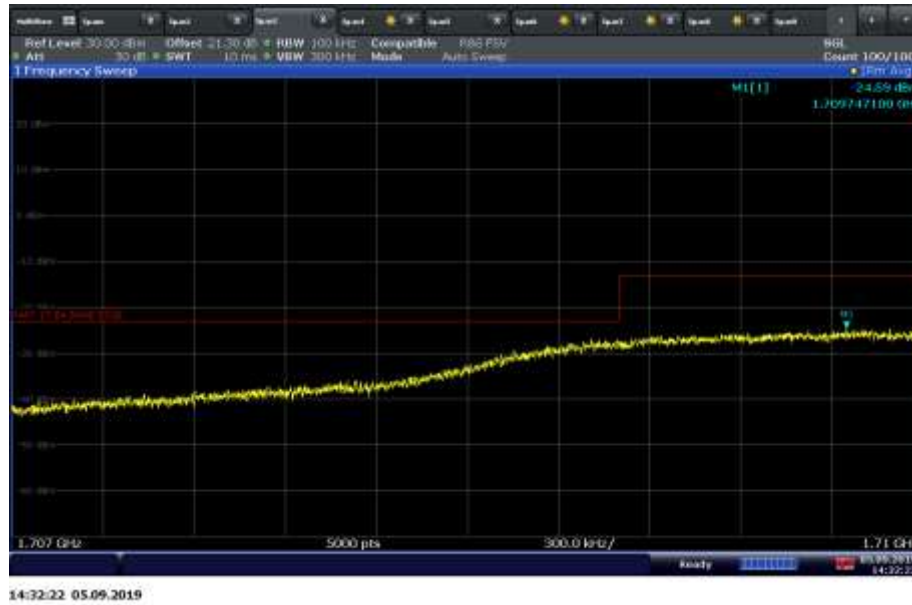
### LTE Band 4 Downlink 5MHz Bandwidth High Channel (-20 dBm)





FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

### LTE Band 4 Uplink 5MHz Bandwidth Low Channel (-73.3 dBm)



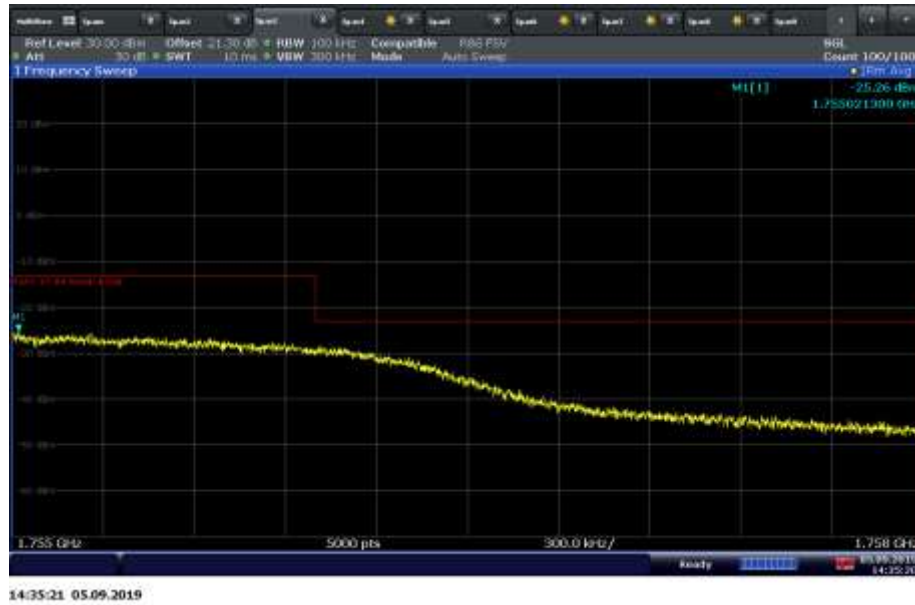
### LTE Band 4 Uplink 5MHz Bandwidth Low Channel (0 dBm)



FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
 IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

Product Service

### LTE Band 4 Uplink 5MHz Bandwidth High Channel (-73.3 dBm)



### LTE Band 4 Uplink 5MHz Bandwidth High Channel (0 dBm)





FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

### LTE Band 12 Downlink 5MHz Bandwidth Low Channel (-83.4 dBm)



### LTE Band 12 Downlink 5MHz Bandwidth Low Channel (-20 dBm)

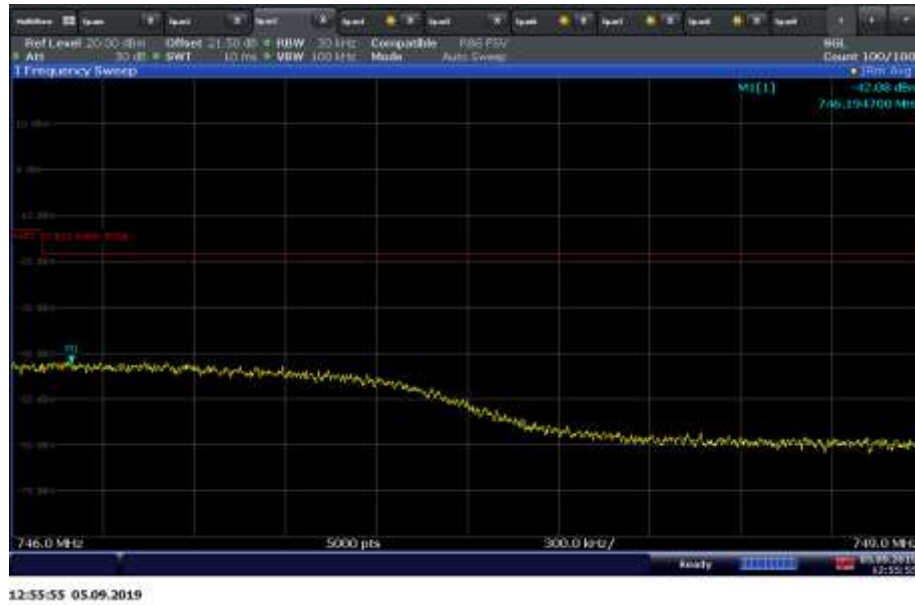




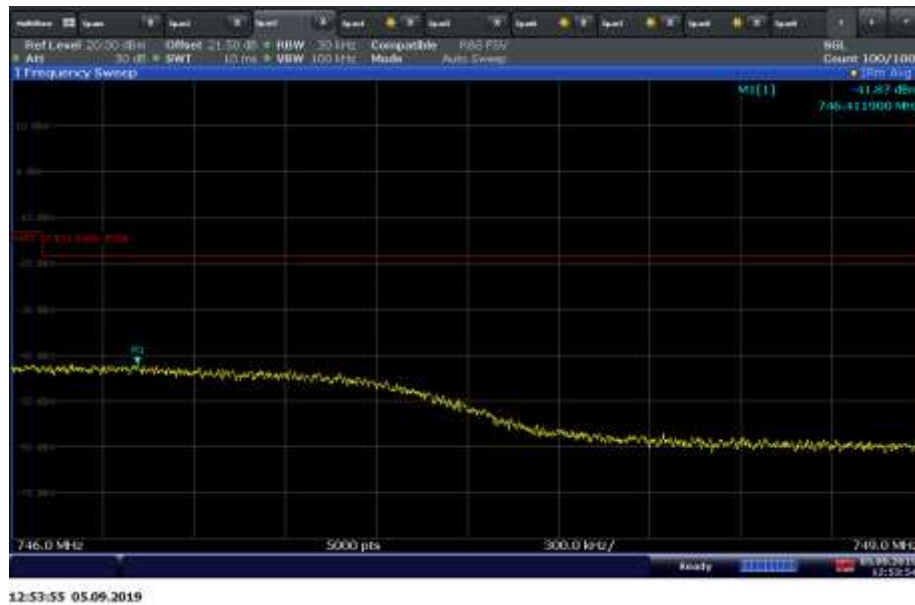
Product Service

FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

### LTE Band 12 Downlink 5MHz Bandwidth High Channel (-83.4 dBm)



### LTE Band 12 Downlink 5MHz Bandwidth High Channel (-20 dBm)



FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

Product Service

### LTE Band 12 Uplink 5MHz Bandwidth Low Channel (-71.0 dBm)



### LTE Band 12 Uplink 5MHz Bandwidth Low Channel (0 dBm)



FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

Product Service

### LTE Band 12 Uplink 5MHz Bandwidth High Channel (-71.0 dBm)



### LTE Band 12 Uplink 5MHz Bandwidth High Channel (0 dBm)





FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

### LTE Band 13 Downlink 5MHz Bandwidth Low Channel (-82.9 dBm)



### LTE Band 13 Downlink 5MHz Bandwidth Low Channel (-20 dBm)



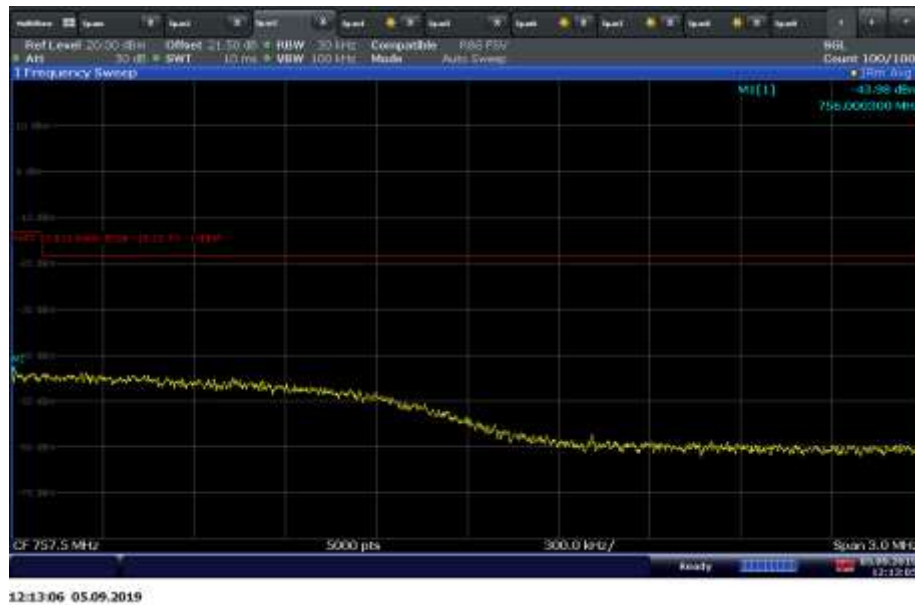
FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

Product Service

### LTE Band 13 Downlink 5MHz Bandwidth High Channel (-82.9 dBm)



### LTE Band 13 Downlink 5MHz Bandwidth High Channel (-20 dBm)





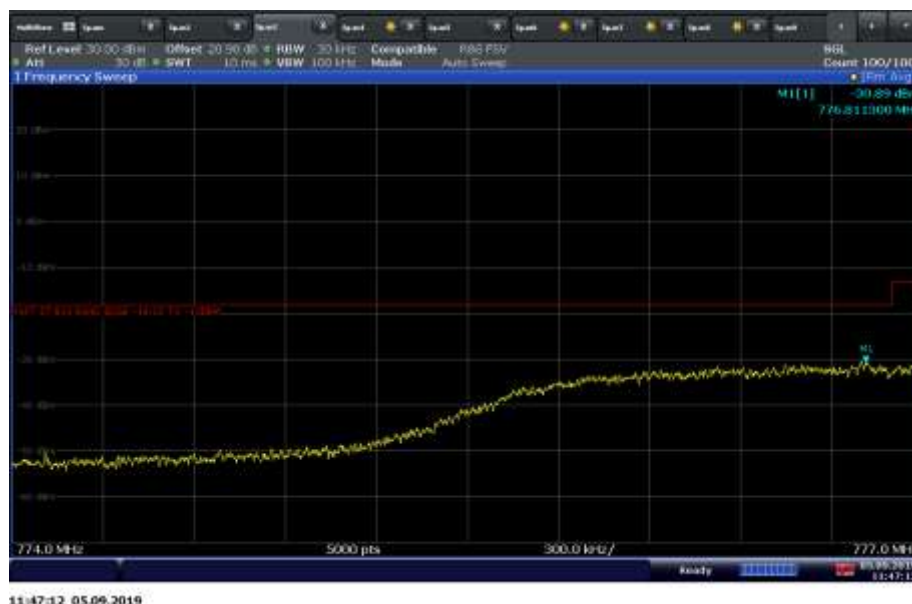
Product Service

FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

### LTE Band 13 Uplink 5MHz Bandwidth Low Channel (-71.2 dBm)



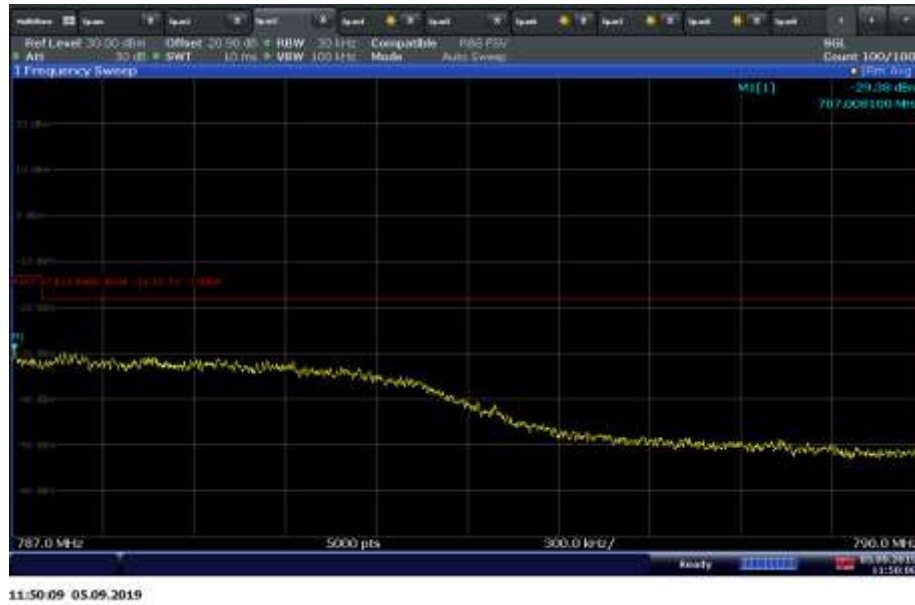
### LTE Band 13 Uplink 5MHz Bandwidth Low Channel (0 dBm)



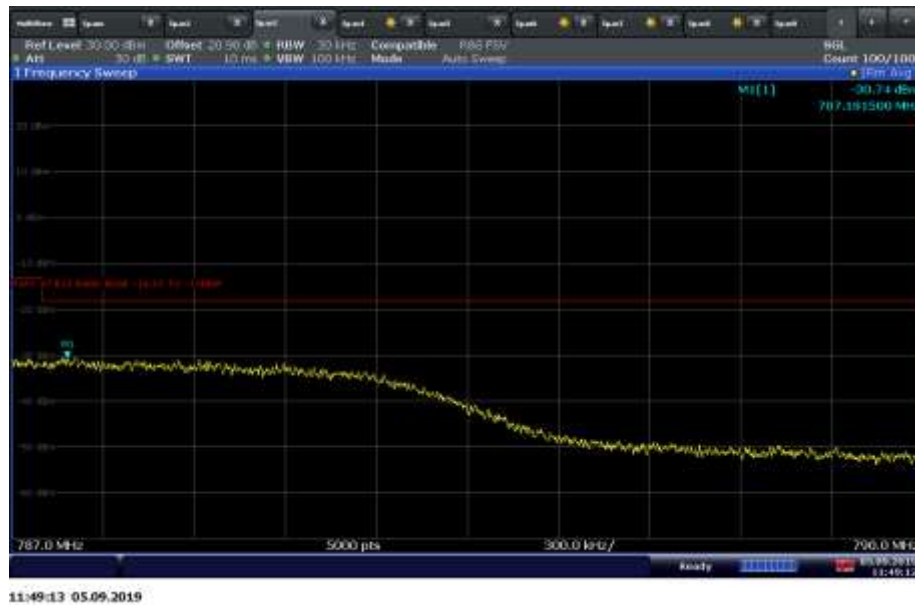


FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

### LTE Band 13 Uplink 5MHz Bandwidth High Channel (-71.2 dBm)



### LTE Band 13 Uplink 5MHz Bandwidth High Channel (0 dBm)





FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

### LTE Band 25 Downlink 5MHz Bandwidth Low Channel (-86.9 dBm)



### LTE Band 25 Downlink 5MHz Bandwidth Low Channel (-20 dBm)



FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

### LTE Band 25 Downlink 5MHz Bandwidth High Channel (-86.9 dBm)



### LTE Band 25 Downlink 5MHz Bandwidth High Channel (-20 dBm)



FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

Product Service

### LTE Band 25 Uplink 5MHz Bandwidth Low Channel (-74.9 dBm)



### LTE Band 25 Uplink 5MHz Bandwidth Low Channel (0 dBm)





FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

### LTE Band 25 Uplink 5MHz Bandwidth High Channel (-74.9 dBm)



### LTE Band 25 Uplink 5MHz Bandwidth High Channel (0 dBm)





FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

## **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 operations 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  $43 + 10 \log_{10}(P)$  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.



FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
 IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

(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 immediately outside and adjacent to the equipment's smallest operating 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  $43 + 10 \log_{10} p$  (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  $43 + 10 \log_{10} p$  (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)  $76 + 10 \log_{10} p$  (watts), dB, for base and fixed equipment, and
- (ii)  $65 + 10 \log_{10} p$  (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.



FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
 IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

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                                                                                                                                                                                                              | $43 + 10 \log_{10} (p)$               |
| 2200 - 2285                                                                                                                                                                                                        | $75 + 10 \log_{10} (p)$               |
| 2285 – 2287.5                                                                                                                                                                                                      | $72 + 10 \log_{10} (p)$               |
| 2287.5 - 2300                                                                                                                                                                                                      | $70 + 10 \log_{10} (p)$               |
| 2300 - 2305                                                                                                                                                                                                        | $43 + 10 \log_{10} (p)$               |
| 2305 - 2320                                                                                                                                                                                                        | $43 + 10 \log_{10} (p)^{\text{Note}}$ |
| 2320 -2345                                                                                                                                                                                                         | $75 + 10 \log_{10} (p)$               |
| 2345 -2360                                                                                                                                                                                                         | $43 + 10 \log_{10} (p)^{\text{Note}}$ |
| 2360 – 2362.5                                                                                                                                                                                                      | $43 + 10 \log_{10} (p)$               |
| 2362.5 - 2365                                                                                                                                                                                                      | $55 + 10 \log_{10} (p)$               |
| 2365 – 2367.5                                                                                                                                                                                                      | $70 + 10 \log_{10} (p)$               |
| 2367.5 - 2370                                                                                                                                                                                                      | $72 + 10 \log_{10} (p)$               |
| 2370 - 2395                                                                                                                                                                                                        | $75 + 10 \log_{10} (p)$               |
| >2395                                                                                                                                                                                                              | $43 + 10 \log_{10} (p)$               |
| <b>Note:</b> 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: N/A and N/A / 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 |



FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

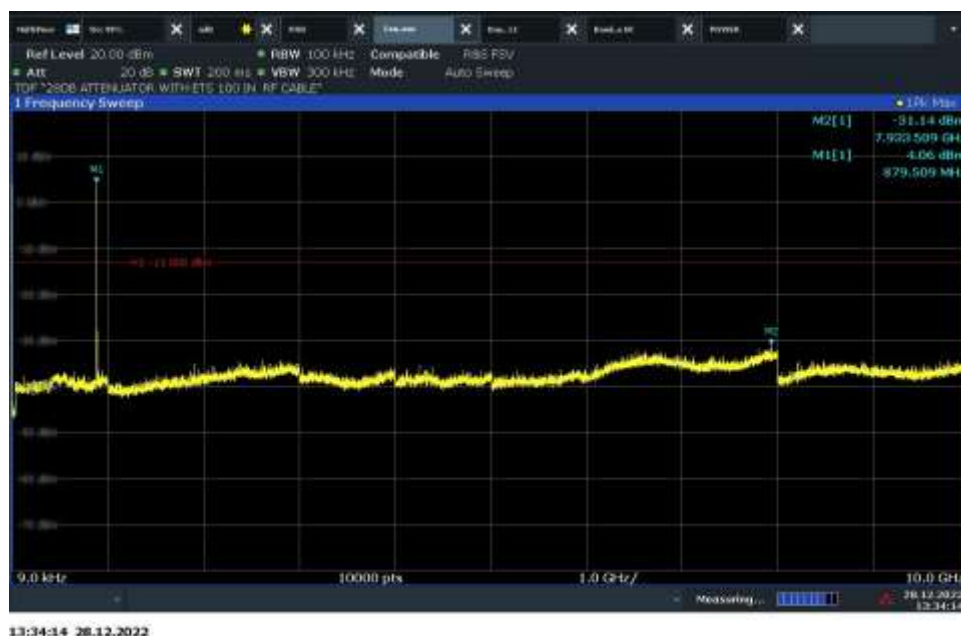
### **2.6.7 Additional Observations**

- 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.

FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

### 2.6.8 Test Results

## WCDMA Band 5\_5MHz Bandwidth\_Downlink Middle Channel Conducted Spurious Emissions



## WCDMA Band 5\_15MHz Bandwidth\_Downlink Middle Channel Conducted Spurious Emissions

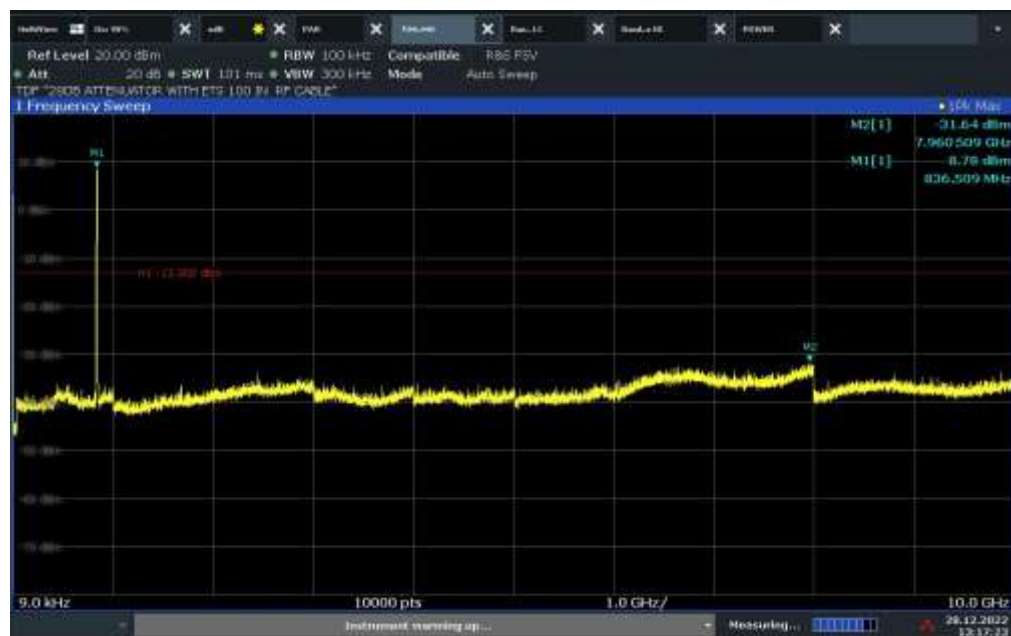


FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

### WCDMA Band 5\_5MHz Bandwidth\_Uplink Middle Channel Conducted Spurious Emissions



### WCDMA Band 5\_15MHz Bandwidth\_Uplink Middle Channel Conducted Spurious Emissions



FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

### LTE Band 25\_5MHz Bandwidth\_Downlink Middle Channel Conducted Spurious Emissions



### LTE Band 25\_10MHz Bandwidth\_Downlink Middle Channel Conducted Spurious Emissions



FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

### LTE Band 25\_15MHz Bandwidth\_Downlink Middle Channel Conducted Spurious Emissions



13:28:43 20.12.2022

### LTE Band 25\_20MHz Bandwidth\_Downlink Middle Channel Conducted Spurious Emissions



15:22:57 27.12.2022

FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

Product Service

### LTE Band 25\_5MHz Bandwidth\_Uplink Middle Channel Conducted Spurious Emissions



### LTE Band 25\_10MHz Bandwidth\_Uplink Middle Channel Conducted Spurious Emissions



FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

### LTE Band 25\_15MHz Bandwidth\_Uplink Middle Channel Conducted Spurious Emissions



### LTE Band 25\_20MHz Bandwidth\_Uplink Middle Channel Conducted Spurious Emissions





FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

### LTE Band 4 Downlink 5MHz Bandwidth Middle Channel Conducted Spurious Emissions



13:47:46 28.12.2022

FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

### LTE Band 4 Downlink 10MHz Bandwidth Middle Channel Conducted Spurious Emissions



### LTE Band 4 Downlink 15MHz Bandwidth Middle Channel Conducted Spurious Emissions



FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

### LTE Band 4 Downlink 20MHz Bandwidth Middle Channel Conducted Spurious Emissions



### LTE Band 4 Uplink 5MHz Bandwidth Middle Channel Conducted Spurious Emissions



FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

### LTE Band 4 Uplink 10MHz Bandwidth Middle Channel Conducted Spurious Emissions



### LTE Band 4 Uplink 15MHz Bandwidth Middle Channel Conducted Spurious Emissions



FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

### LTE Band 4 Uplink 20MHz Bandwidth Middle Channel Conducted Spurious Emissions



### LTE Band 12 Downlink 5MHz Bandwidth Middle Channel Conducted Spurious Emissions



FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

Product Service

### LTE Band 12 Downlink 10MHz Bandwidth Middle Channel Conducted Spurious Emissions



### LTE Band 12 Uplink 5MHz Bandwidth Middle Channel Conducted Spurious Emissions



FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

### LTE Band 12 Uplink 10MHz Bandwidth Middle Channel Conducted Spurious Emissions

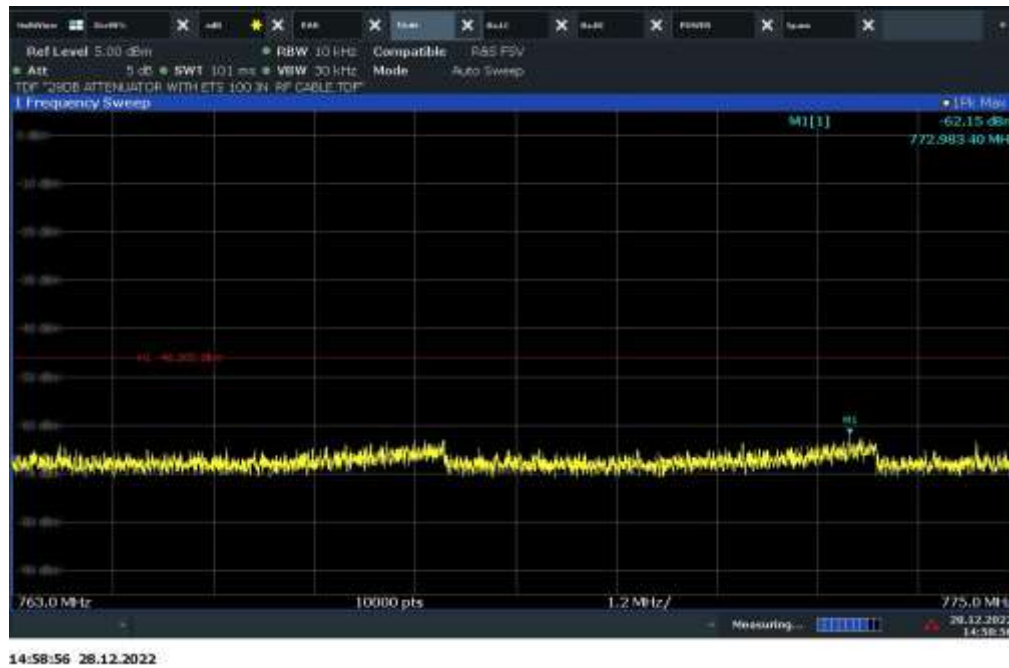


### LTE Band 13 Downlink 5MHz Bandwidth Low Channel Conducted Spurious Emissions

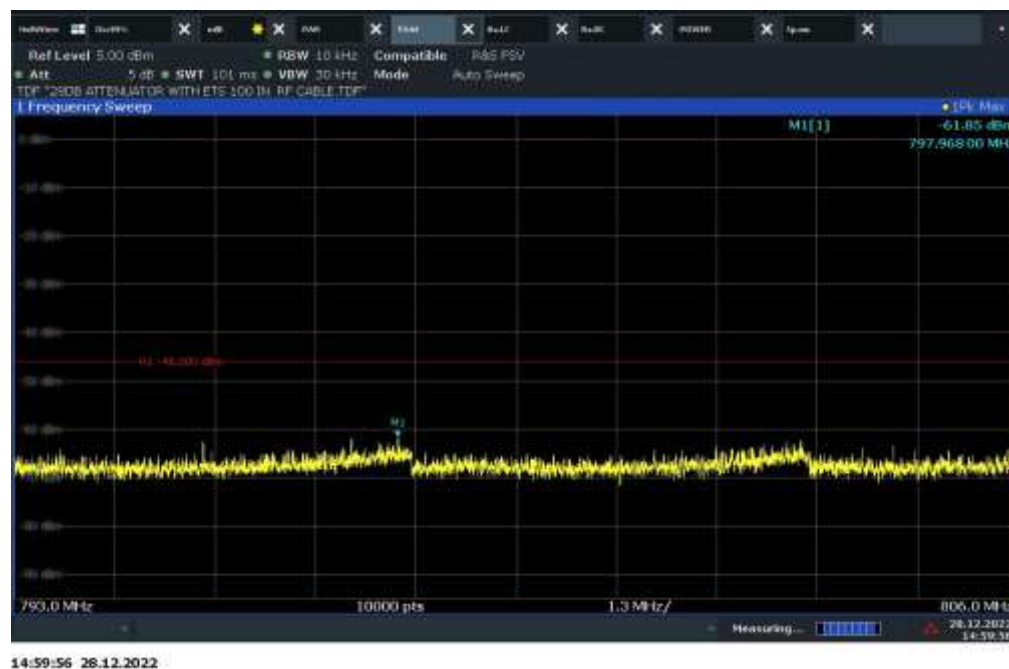


FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

### LTE Band 13 Downlink 5MHz Bandwidth Low Channel Conducted Spurious Emissions (763-775 MHz)

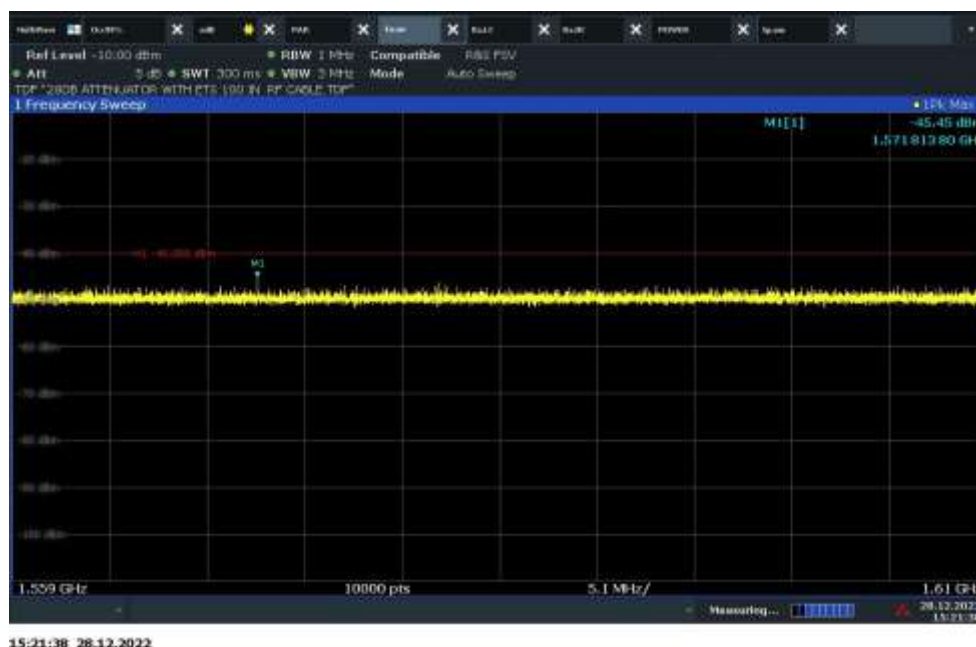


### LTE Band 13 Downlink 5MHz Bandwidth Low Channel Conducted Spurious Emissions (793-806 MHz)



FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

**LTE Band 13 Downlink 5MHz Bandwidth Low Channel Conducted Spurious Emissions (1559-1610 MHz)**



## LTE Band 13 Downlink 5MHz Bandwidth Middle Channel Conducted Spurious Emissions



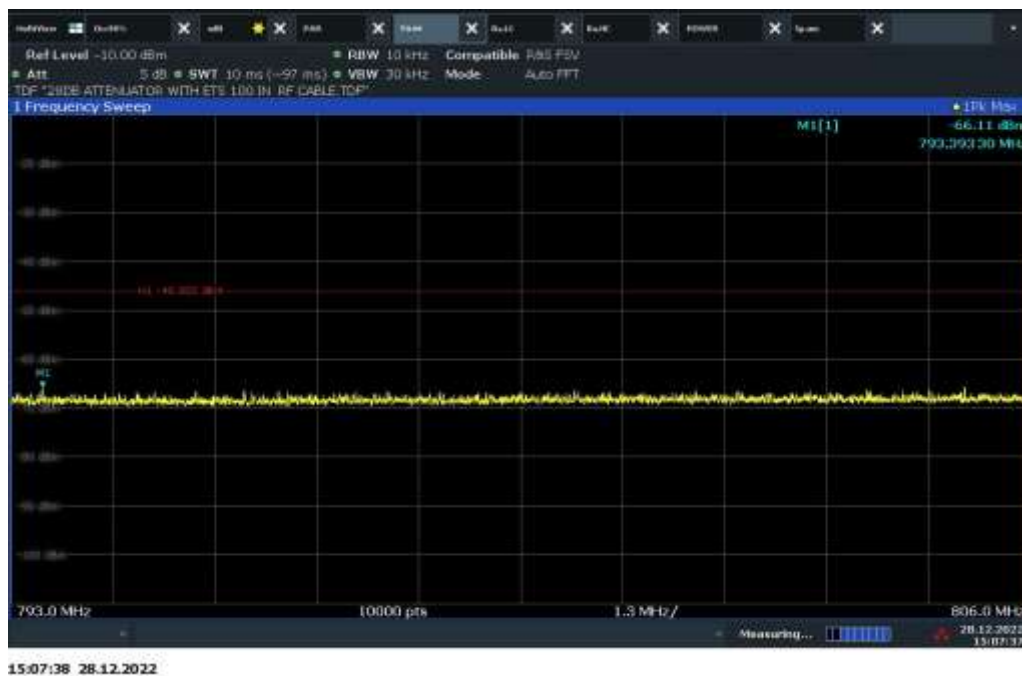


FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

### LTE Band 13 Downlink 5MHz Bandwidth Middle Channel Conducted Spurious Emissions (763-775 MHz)



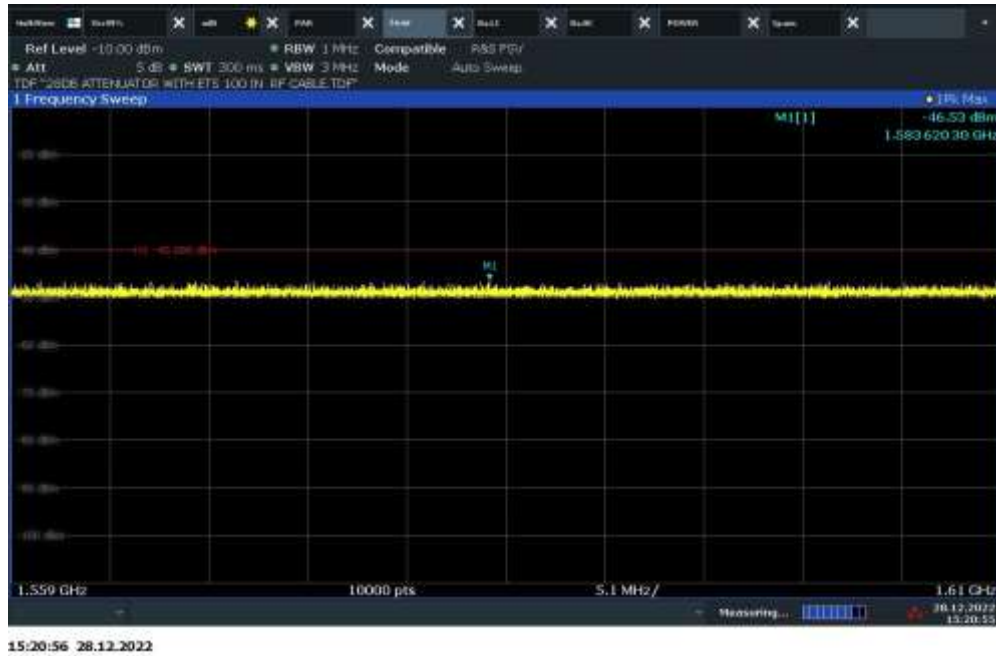
### LTE Band 13 Downlink 5MHz Bandwidth Middle Channel Conducted Spurious Emissions (793-806 MHz)



FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

Product Service

### LTE Band 13 Downlink 5MHz Bandwidth Middle Channel Conducted Spurious Emissions (1559-1610 MHz)

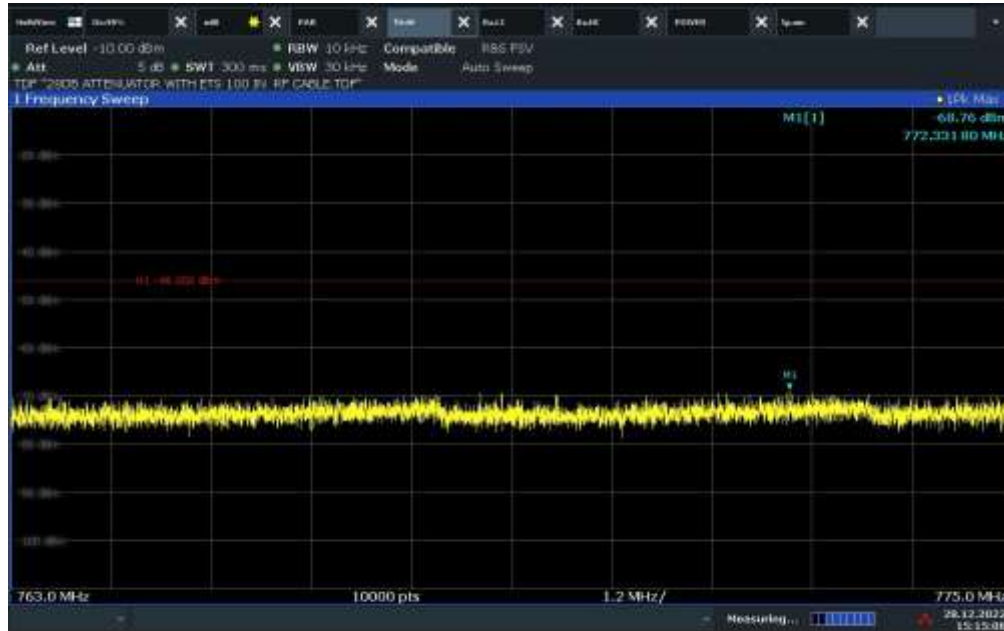


### LTE Band 13 Downlink 5MHz Bandwidth High Channel Conducted Spurious Emissions

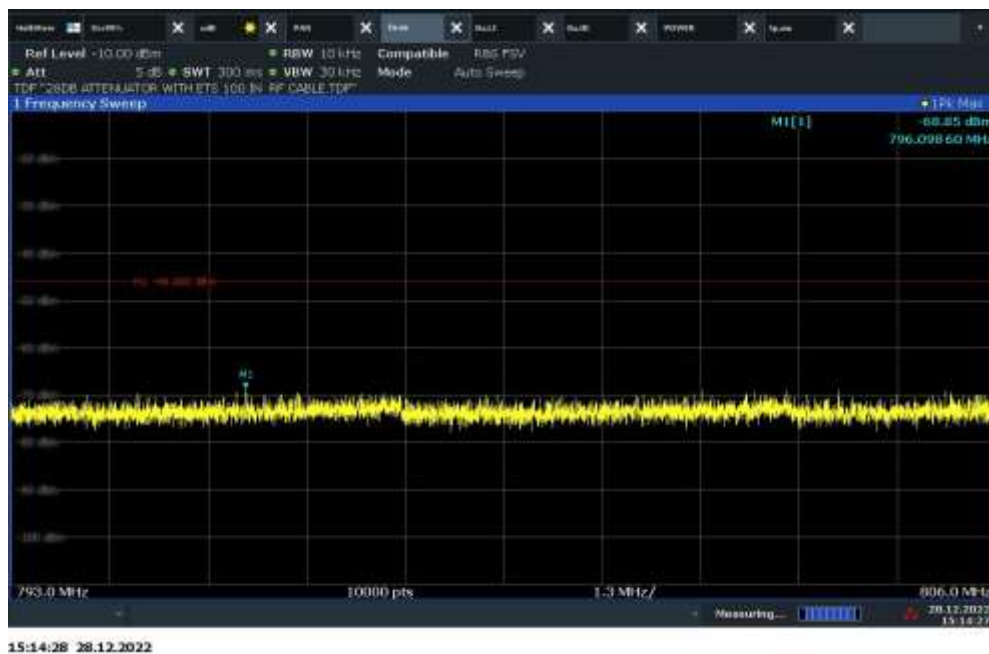


FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

### LTE Band 13 Downlink 5MHz Bandwidth High Channel Conducted Spurious Emissions (763-775 MHz)

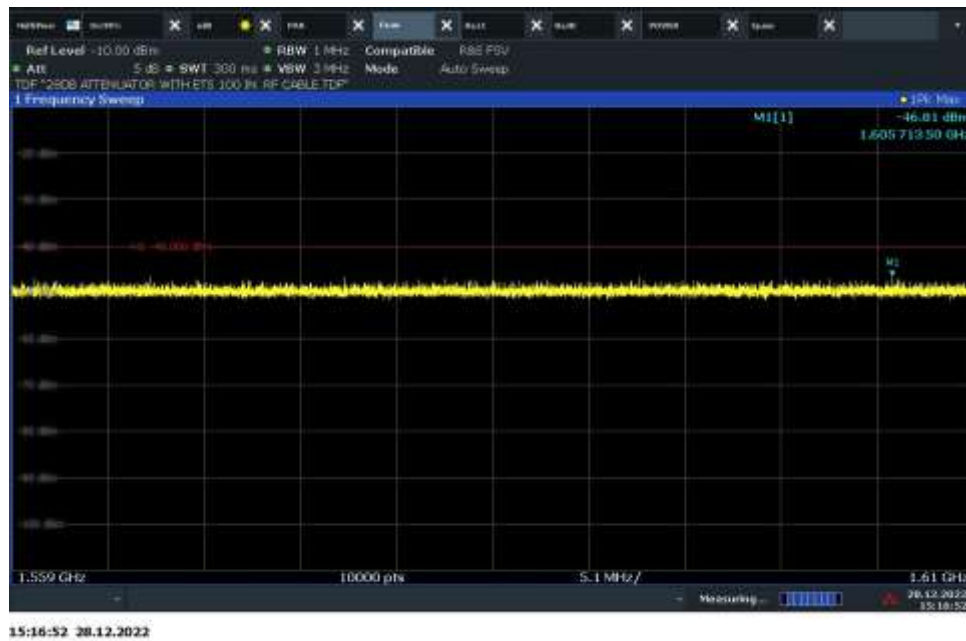


### LTE Band 13 Downlink 5MHz Bandwidth High Channel Conducted Spurious Emissions (793-806 MHz)



FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

### LTE Band 13 Downlink 5MHz Bandwidth High Channel Conducted Spurious Emissions (1559-1610 MHz)



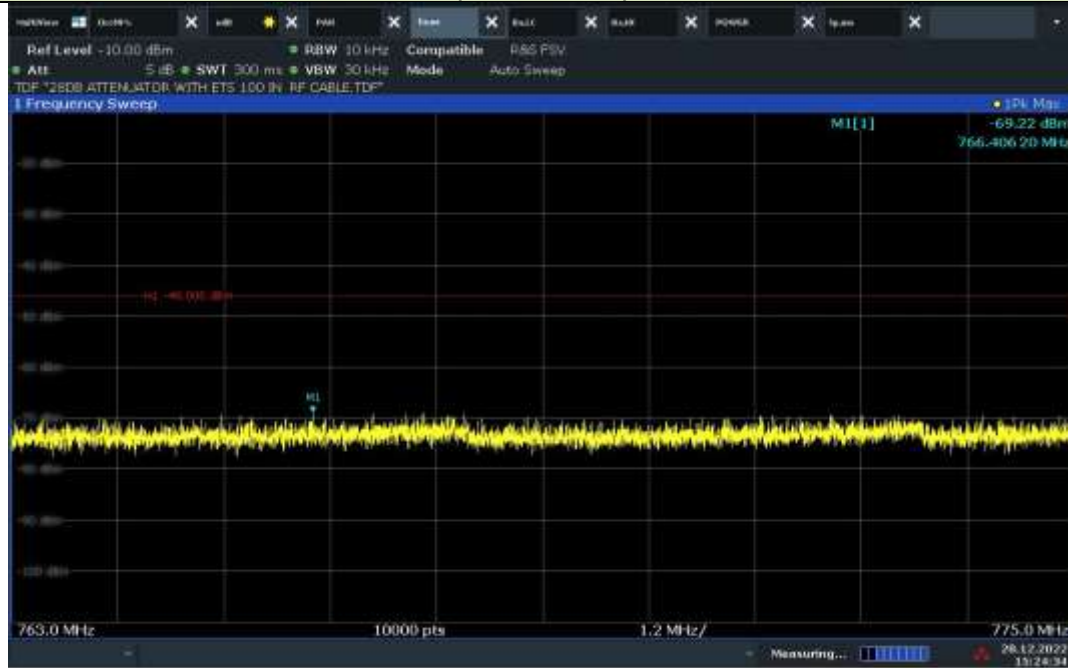
### LTE Band 13 Downlink 10MHz Bandwidth Middle Channel Conducted Spurious Emissions



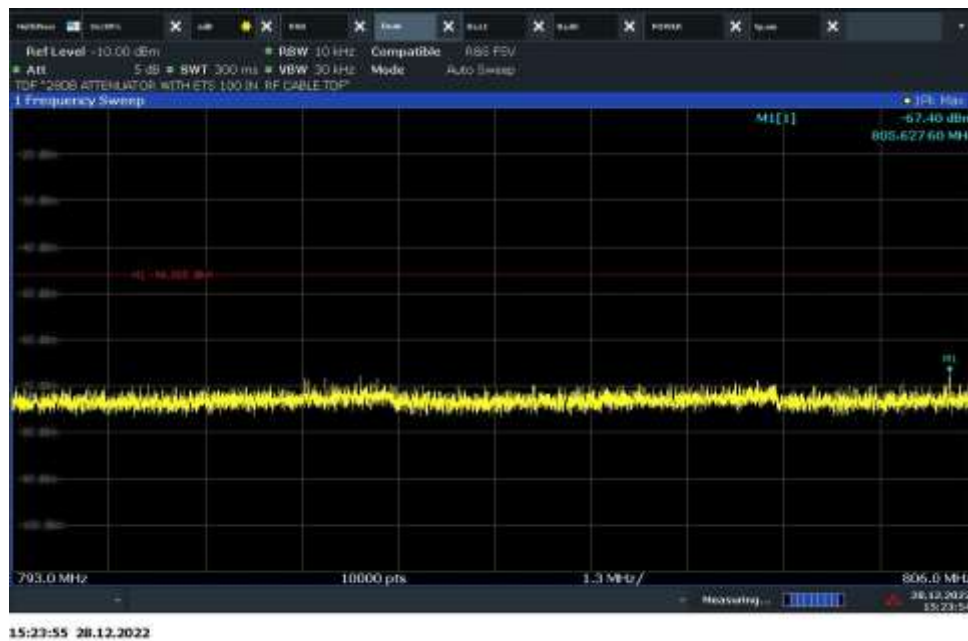
FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

Product Service

### LTE Band 13 Downlink 10MHz Bandwidth Middle Channel Conducted Spurious Emissions (763-775 MHz)



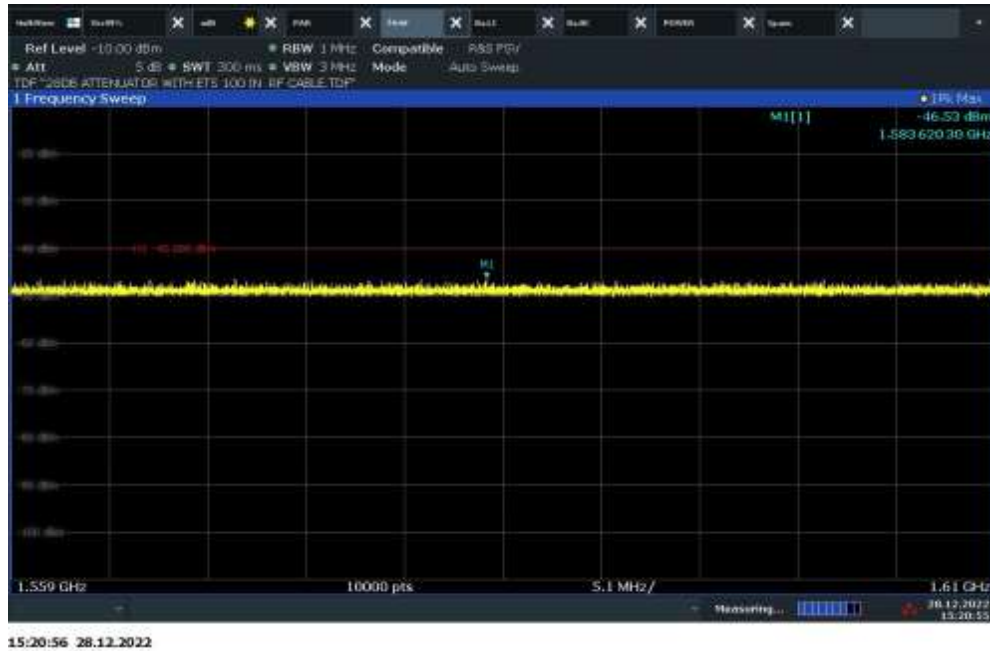
### LTE Band 13 Downlink 10MHz Bandwidth Middle Channel Conducted Spurious Emissions (793-806 MHz)



FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

Product Service

### LTE Band 13 Downlink 10MHz Bandwidth Middle Channel Conducted Spurious Emissions (1559-1610 MHz)

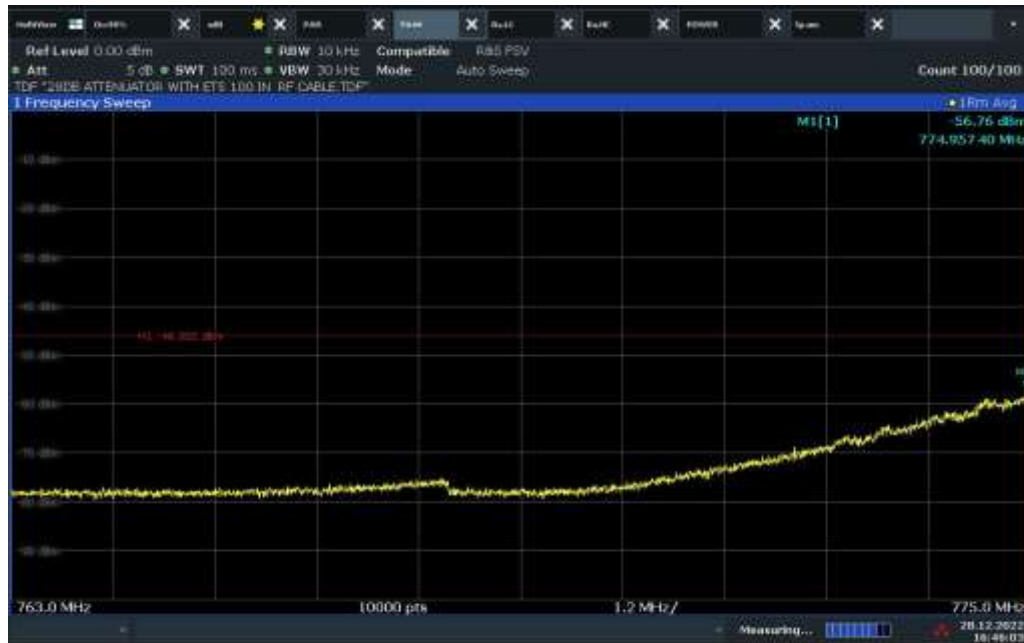


### LTE Band 13 Uplink 5MHz Bandwidth Low Channel Conducted Spurious Emissions

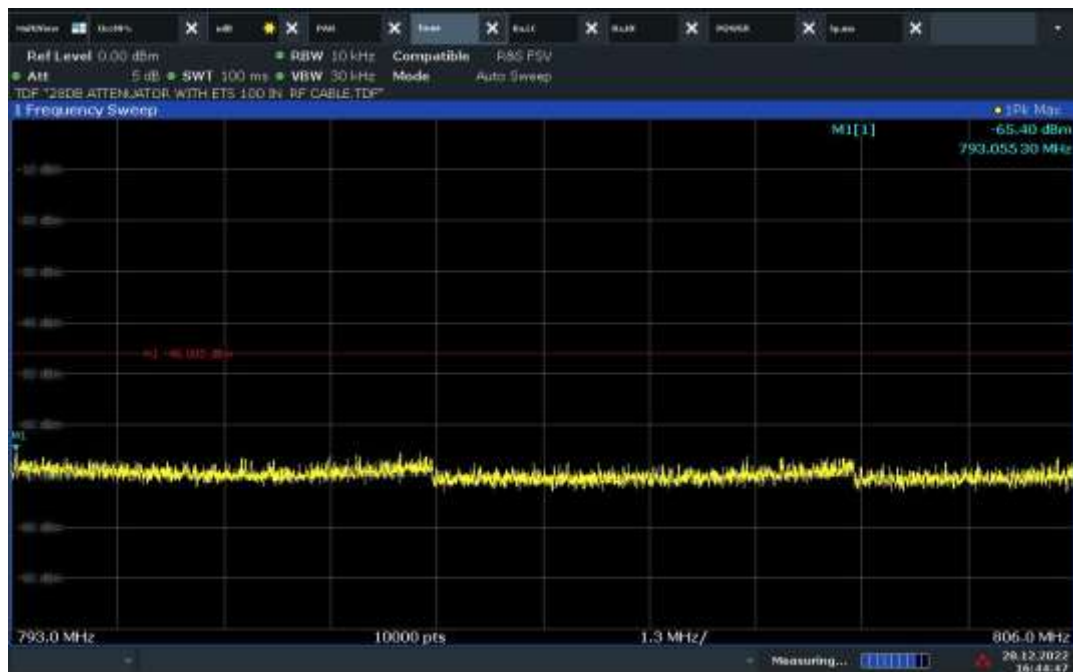


FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

### LTE Band 13 Uplink 5MHz Bandwidth Low Channel Conducted Spurious Emissions (763-775 MHz)



### LTE Band 13 Uplink 5MHz Bandwidth Low Channel Conducted Spurious Emissions (793-806 MHz)



FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

### LTE Band 13 Uplink 5MHz Bandwidth Low Channel Conducted Spurious Emissions (1559-1610 MHz)

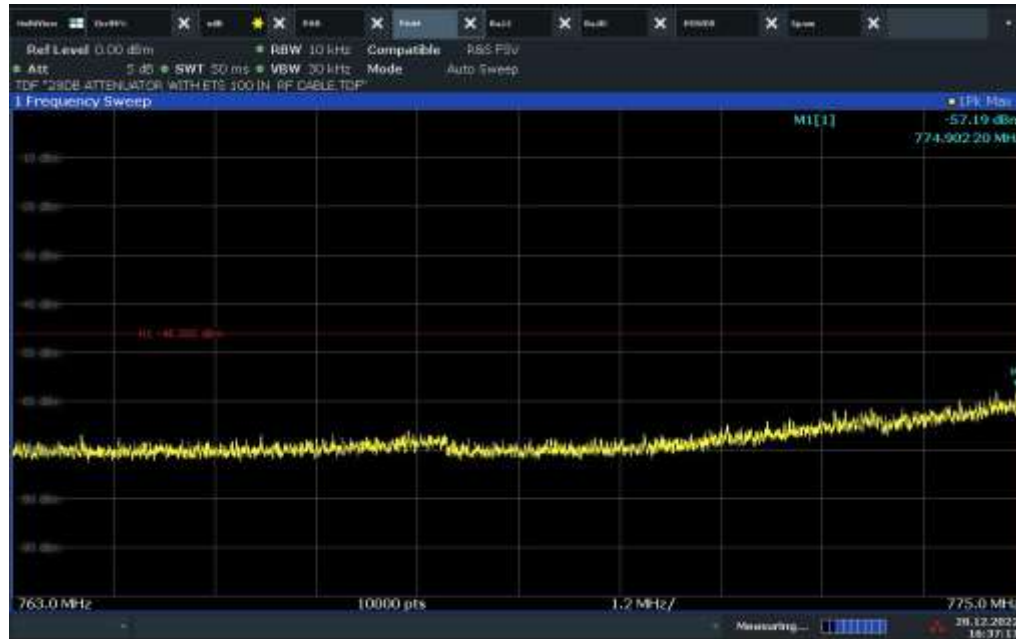


### LTE Band 13 Uplink 5MHz Bandwidth Middle Channel Conducted Spurious Emissions



FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

### LTE Band 13 Uplink 5MHz Bandwidth Middle Channel Conducted Spurious Emissions (763-775 MHz)



16:37:18 28.12.2022

### LTE Band 13 Uplink 5MHz Bandwidth Middle Channel Conducted Spurious Emissions (793-806 MHz)



16:36:34 28.12.2022

FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

Product Service

### LTE Band 13 Uplink 5MHz Bandwidth Middle Channel Conducted Spurious Emissions (1559-1610 MHz)

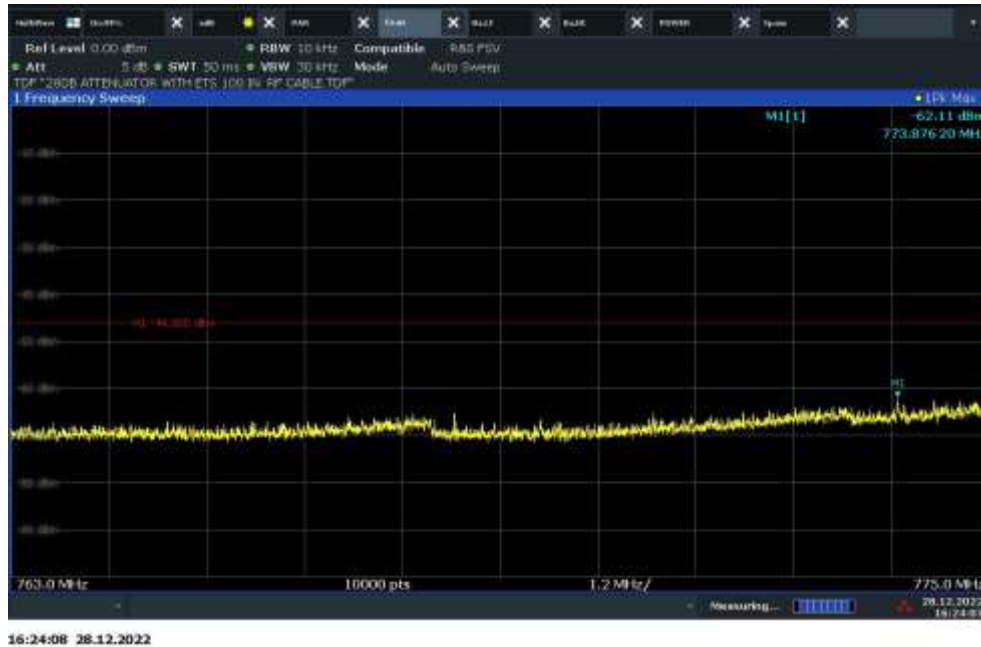


### LTE Band 13 Uplink 5MHz Bandwidth High Channel Conducted Spurious Emissions

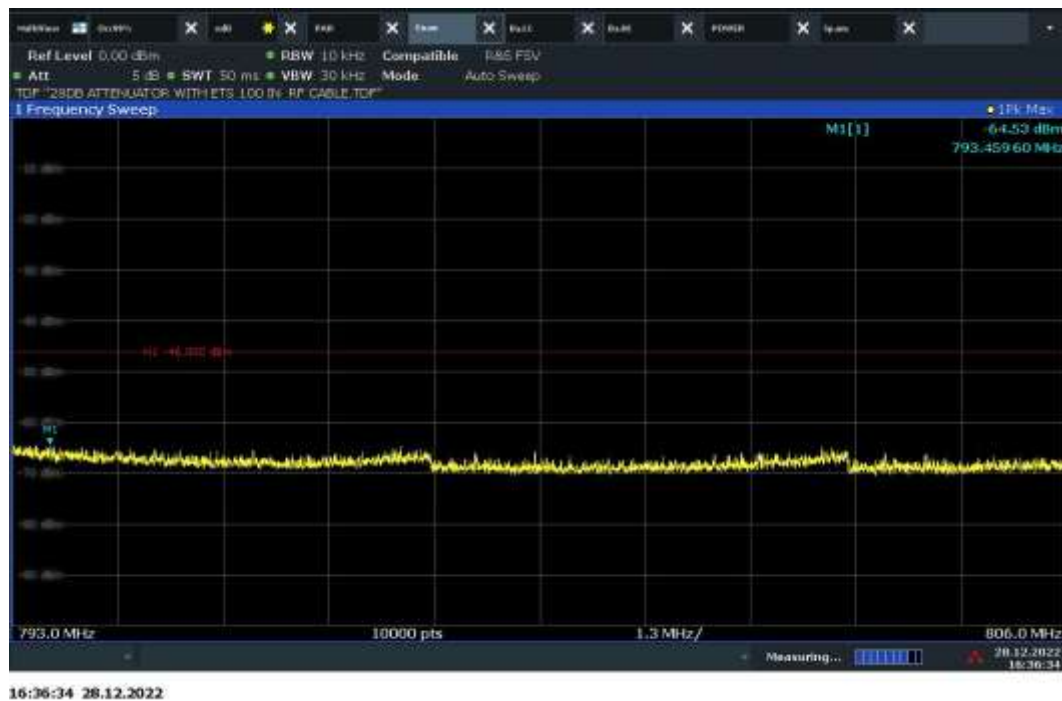


FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

### LTE Band 13 Uplink 5MHz Bandwidth High Channel Conducted Spurious Emissions (763-775 MHz)



### LTE Band 13 Uplink 5MHz Bandwidth High Channel Conducted Spurious Emissions (793-806 MHz)



FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

### LTE Band 13 Uplink 5MHz Bandwidth High Channel Conducted Spurious Emissions (1559-1610 MHz)



### LTE Band 13 Uplink 10MHz Bandwidth Middle Channel Conducted Spurious Emissions

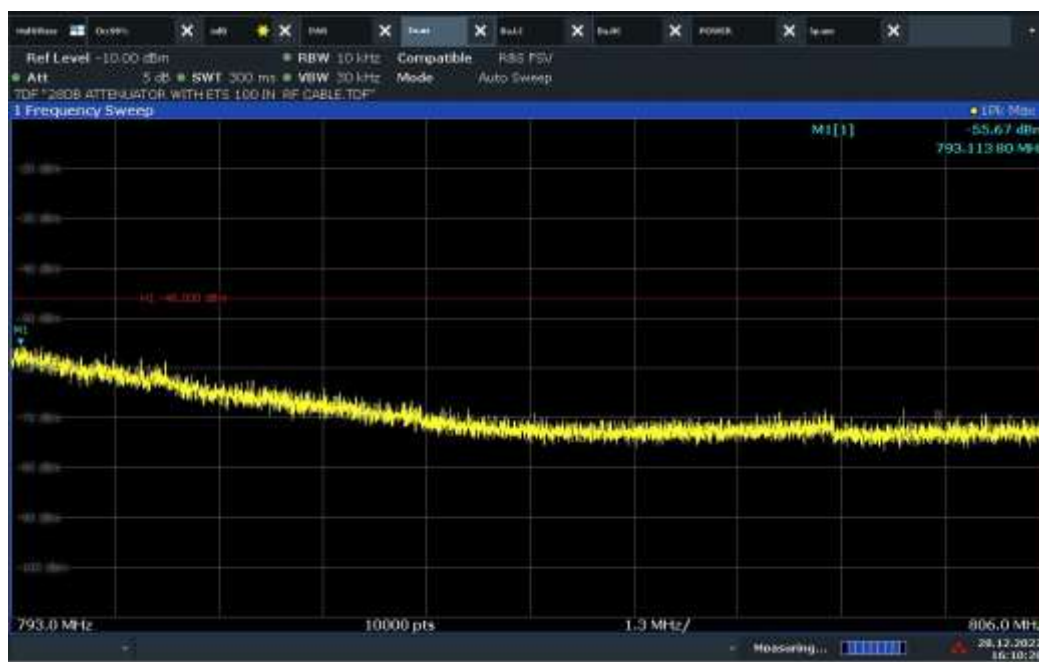


FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

### LTE Band 13 Uplink 10MHz Bandwidth Middle Channel Conducted Spurious Emissions (763-775 MHz)



### LTE Band 13 Uplink 10MHz Bandwidth Middle Channel Conducted Spurious Emissions (793-806 MHz)





FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

### LTE Band 13 Uplink 10MHz Bandwidth Middle Channel Conducted Spurious Emissions (1559-1610 MHz)



FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
 IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

Product Service

**2 Bands per antenna Port 2 conducted Spurious Emissions**  
**CU with Antenna Port 1 Downlink: LTE Band 4 20MHz BW High Ch & LTE Band 12 10MHz BW High Ch**



FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
 IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

Product Service

**2 Bands per antenna Port 2 conducted Spurious Emissions**  
**CU with Antenna Port 1 Downlink: LTE Band 4 20MHz BW High Ch & LTE Band 30 10MHz BW Mid Ch**



**2 Bands per antenna Port 2 conducted Spurious Emissions**  
**CU with Antenna Port 1 Downlink: LTE Band 25 20MHz BW Mid Ch & LTE Band 12 10MHz BW High Ch**



FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

**2 Bands per antenna Port 2 conducted Spurious Emissions**  
**CU with Antenna Port 1 Downlink: LTE Band 25 20MHz BW Mid Ch & LTE Band 30 10MHz BW Mid Ch**



**2 Bands per antenna Port 2 conducted Spurious Emissions**  
**CU with Antenna Port 1 Downlink: WCDMA Band 5 15MHz BW Low Ch & LTE Band 12 10MHz BW High Ch**



FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

**2 Bands per antenna Port 2 conducted Spurious Emissions**  
**CU with Antenna Port 1 Downlink: WCDMA Band 5 15MHz BW Low Ch & LTE Band 30 10MHz BW Mid Ch**



**2 Bands per antenna Port 2 conducted Spurious Emissions**  
**CU with Antenna Port 2 Downlink: LTE Band 4 20MHz BW High Ch & LTE Band 13 10MHz BW Mid Ch**



FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

**2 Bands per antenna Port 2 conducted Spurious Emissions**  
**CU with Antenna Port 2 Downlink: LTE Band 25 20MHz BW Mid Ch & LTE Band 13 10MHz BW Mid Ch**



**2 Bands per antenna Port 2 conducted Spurious Emissions**  
**Antenna Port 1 Uplink: LTE Band 4 15MHz BW Low Ch & LTE Band 12 10MHz BW Low Ch**



FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
 IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

Product Service

**2 Bands per antenna Port 2 conducted Spurious Emissions**  
**Antenna Port 1 Uplink: LTE Band 4 15MHz BW Low Ch & LTE Band 30 5MHz BW High Ch**



**2 Bands per antenna Port 2 conducted Spurious Emissions**  
**Antenna Port 1 Uplink: LTE Band 25 20MHz BW High Ch & LTE Band 12 10MHz BW Low Ch**



**2 Bands per antenna Port 2 conducted Spurious Emissions**  
**Antenna Port 1 Uplink: LTE Band 25 20MHz BW High Ch & LTE Band 30 5MHz BW High Ch**

FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

Product Service



**2 Bands per antenna Port 2 conducted Spurious Emissions**  
**Antenna Port 1 Uplink: WCDMA Band 5 5MHz BW Mid Ch & LTE Band 12 10MHz BW Low Ch**



**2 Bands per antenna Port 2 conducted Spurious Emissions**  
**Antenna Port 1 Uplink: WCDMA Band 5 5MHz BW Mid Ch & LTE Band 30 5MHz BW High Ch**

FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

Product Service



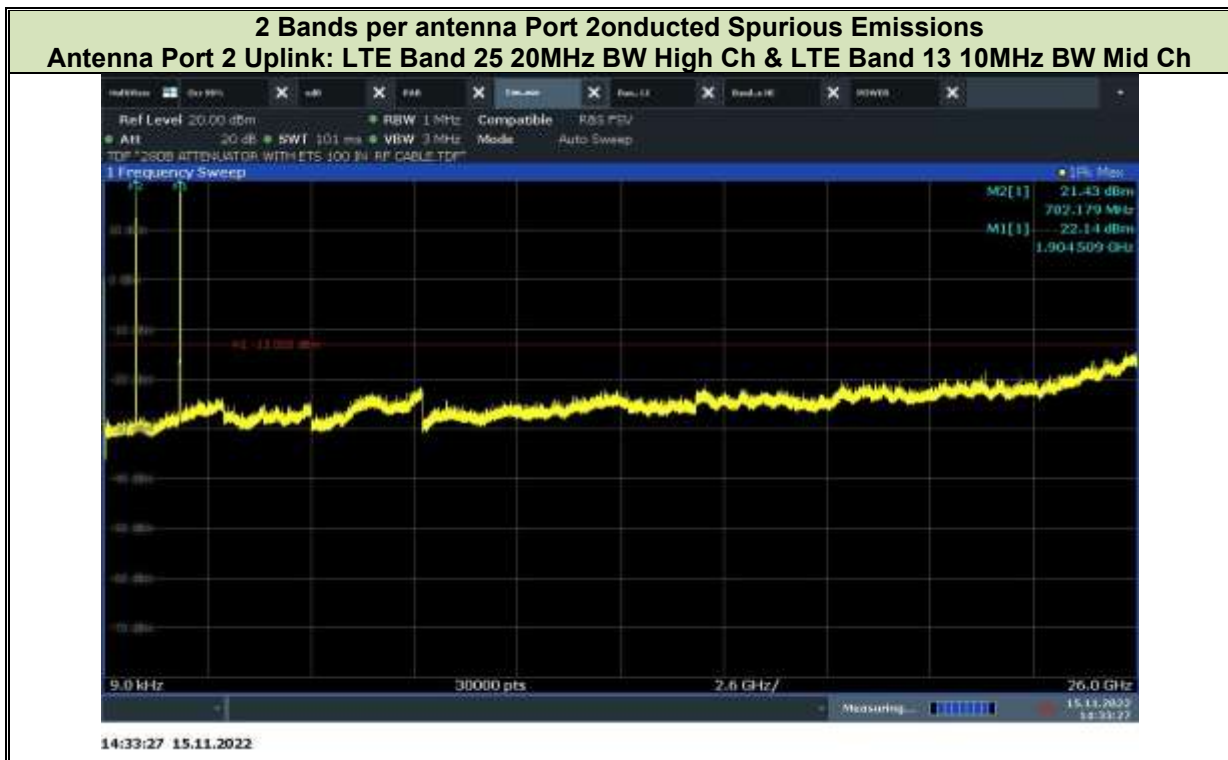
**2 Bands per antenna Port 2 conducted Spurious Emissions**  
**Antenna Port 2 Uplink: LTE Band 4 15MHz BW Low Ch & LTE Band 13 10MHz BW Mid Ch**





Product Service

FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU





FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

## **2.7 Noise Limit**

### **2.7.1 Specification Reference**

FCC 47 CFR Part 20. Clause 20.21(e)(9)(i)(A)  
FCC 47 CFR Part 20. Clause 20.21(e)(9)(i)(I)  
KDB935210 D04, Clause 7.7

### **2.7.2 Standard Applicable**

FCC 47 CFR Part 20. Clause 20.21(e)(9)(i)(A) Noise Limits.:

The transmitted noise power in dBm/MHz of frequency selective consumer boosters outside the licensee's spectrum blocks at their uplink and downlink ports shall not exceed the following limits:

(1) -103 dBm/MHz - RSSI

(i) Where RSSI is the downlink composite signal power received in dBm for frequencies in the band of operation outside the licensee's spectrum block as measured after spectrum block filtering is applied and is referenced to the booster's donor port for each band of operation. RSSI is expressed in negative dB units relative to 1 mW.

(ii) Boosters with MSCL less than 40 dB, shall reduce the Noise output in (A) by 40 dB - MSCL, where MSCL is the minimum coupling loss in dB between the wireless device and booster's server port. MSCL must be calculated or measured for each band of operation and provided in compliance test reports.

(2)(i) Maximum downlink noise power shall not exceed  $-102.5 \text{ dBm/MHz} + 20 \log_{10}(\text{Frequency})$ , where Frequency is the uplink mid-band frequency of the supported spectrum bands in MHz.

(ii) Compliance with Noise limits will use instrumentation calibrated in terms of RMS equivalent voltage, and with booster input ports terminated or without input signals applied within the band of measurement.

FCC 47 CFR Part 20. Clause 20.21(e)(9)(i)(I) Transmit Power Off Mode.

When the consumer booster cannot otherwise meet the noise and gain limits defined herein it must operate in "Transmit Power OFF Mode." In this mode of operation, the uplink and downlink noise power shall not exceed -70 dBm/MHz and uplink gain shall not exceed the lesser of 23 dB or MSCL.

### **2.7.3 Equipment Under Test and Modification State**

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

### **2.7.4 Date of Test/Initial of test personnel who performed the test**

August 19 and October 15, 2019/XYZ

### **2.7.5 Test Equipment Used**

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



FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
 IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

## 2.7.6 Environmental Conditions

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

|                     |                |
|---------------------|----------------|
| Ambient Temperature | 24.5 - 26.7°C  |
| Relative Humidity   | 45.0 - 49.6%   |
| ATM Pressure        | 98.9 - 99.0kPa |

## 2.7.7 Additional Observations

- This is conducted Test. Test procedure is per Section 7.7 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).
- For Maximum Noise (frequency Dependent) testing, setup the EUT according to Figure 6 of Section 7.7 of KDB935210.
- Maximum Noise (frequency Dependent) evaluations are conducted at CU antenna ports. Operational downlink band for WCDMA Band 5 and LTE Band 4, 12, 13, 25 were tested.
- For Maximum Noise (RSSI Dependent and Transmit Power off mode) and Noise Response Time tests, setup the EUT according to Figure 7 or 8 of Section 7.7 of KDB935210 as appropriate.
- Maximum Noise (RSSI Dependent and Transmit Power off mode) and Noise Response Time 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 generator was configured to transmit: 4.1 MHz AWGN.

## 2.7.8 Test Results

| Maximum Noise (Frequency Dependent) |                       |                     |                  |             |
|-------------------------------------|-----------------------|---------------------|------------------|-------------|
| Band                                | Frequency Range (MHz) | Max Noise (dBm/MHz) | Limit* (dBm/MHz) | Margin (dB) |
| WCDMA Band 5 Downlink (Port 1)      | 869 - 894             | -66.06              | -43.60           | 22.46       |
| LTE Band 4 Downlink (Port 1)        | 2110 - 2155           | -68.18              | -35.92           | 32.26       |
| LTE Band 12 Downlink (Port 1)       | 729 - 746             | -68.0               | -45.14           | 22.86       |
| LTE Band 13 Downlink (Port 2)       | 746 - 756             | -62.57              | -44.98           | 17.59       |
| LTE Band 25 Downlink (Port 1)       | 1930 - 1995           | -68.56              | -36.65           | 31.91       |

\*:  $-102.5 \text{ dBm/MHz} + 20 \log_{10}(\text{Frequency})$ , where Frequency is the uplink mid-band frequency of the supported spectrum bands in MHz. (Downlink only)

FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
 IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

Product Service

| Maximum Noise (RSSI Dependent and Transmit Power off mode) |                 |                                     |                     |                 |             |
|------------------------------------------------------------|-----------------|-------------------------------------|---------------------|-----------------|-------------|
| Band                                                       | Frequency (MHz) | Signal Generator Output Level (dBm) | Max Noise (dBm/MHz) | Limit (dBm/MHz) | Margin (dB) |
| WCDMA Band 5 Downlink                                      | 869 - 894       | -70.7                               | -76.81              | -37.3           | 39.51       |
|                                                            |                 | -60.7                               | -76.69              | -47.3           | 29.39       |
|                                                            |                 | -50.7                               | -76.96              | -57.3           | 19.66       |
|                                                            |                 | -40.7**                             | -81.46              | -67.3           | 14.16       |
|                                                            |                 | -30.7                               | -81.10              | -70.0           | 11.10       |
|                                                            |                 | -20.7                               | -80.89              | -70.0           | 10.89       |
| WCDMA Band 5 Uplink                                        | 824 - 849       | -74.7                               | -78.26              | -33.3           | 44.96       |
|                                                            |                 | -64.7                               | -77.47              | -43.3           | 34.17       |
|                                                            |                 | -54.7                               | -77.81              | -53.3           | 24.51       |
|                                                            |                 | -44.7**                             | -81.36              | -63.3           | 18.06       |
|                                                            |                 | -34.7                               | -81.15              | -70.0           | 11.15       |
|                                                            |                 | -24.7                               | -81.45              | -70.0           | 11.45       |
| LTE Band 4 Downlink                                        | 2110 - 2155     | -70.4                               | -71.14              | -37.6           | 33.54       |
|                                                            |                 | -60.4                               | -71.80              | -47.6           | 24.20       |
|                                                            |                 | -50.4                               | -72.43              | -57.6           | 14.83       |
|                                                            |                 | -40.4**                             | -71.84              | -67.6           | 4.24        |
|                                                            |                 | -30.4                               | -72.0               | -70.0           | 2.0         |
|                                                            |                 | -20.4                               | -71.84              | -70.0           | 1.84        |
| LTE Band 4 Uplink                                          | 1710 - 1755     | -77.0                               | -78.77              | -31.0           | 47.77       |
|                                                            |                 | -67.0                               | -78.62              | -41.0           | 37.62       |
|                                                            |                 | -57.0                               | -78.36              | -51.0           | 27.36       |
|                                                            |                 | -47.0**                             | -83.62              | -61.0           | 22.62       |
|                                                            |                 | -37.0                               | -81.97              | -70.0           | 11.97       |
|                                                            |                 | -27.0                               | -82.09              | -70.0           | 12.09       |
| LTE Band 12 Downlink                                       | 729 - 746       | -70.9                               | -74.53              | -37.1           | 37.43       |
|                                                            |                 | -60.9                               | -79.44              | -47.1           | 32.34       |
|                                                            |                 | -50.9                               | -81.89              | -57.1           | 24.79       |
|                                                            |                 | -40.9**                             | -81.48              | -67.1           | 14.38       |
|                                                            |                 | -30.9                               | -82.10              | -70.0           | 12.10       |
|                                                            |                 | -20.9                               | -81.59              | -70.0           | 11.59       |
|                                                            | 699 - 716       | -74.5                               | -77.26              | -33.5           | 43.76       |



FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
 IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

|                         |             |         |        |       |       |
|-------------------------|-------------|---------|--------|-------|-------|
| LTE Band 12<br>Uplink   |             | -64.5   | -76.75 | -43.5 | 33.25 |
|                         |             | -54.5   | -78.29 | -53.5 | 24.79 |
|                         |             | -44.5** | -79.89 | -63.5 | 16.39 |
|                         |             | -34.5   | -79.63 | -70.0 | 9.63  |
|                         |             | -24.5   | -80.67 | -70.0 | 10.67 |
| LTE Band 13<br>Downlink | 746 - 756   | -70.6   | -76.95 | -37.4 | 39.55 |
|                         |             | -60.6   | -75.13 | -47.4 | 27.73 |
|                         |             | -50.6   | -76.29 | -57.4 | 18.89 |
|                         |             | -40.6   | -75.12 | -67.4 | 7.72  |
|                         |             | -30.6   | -75.51 | -70.0 | 5.51  |
|                         |             | -20.6   | -75.57 | -70.0 | 5.57  |
| LTE Band 13<br>Uplink   | 777 - 787   | -74.6   | -72.75 | -33.4 | 39.35 |
|                         |             | -64.6   | -73.24 | -43.4 | 29.84 |
|                         |             | -54.6   | -72.85 | -53.4 | 19.45 |
|                         |             | -44.6** | -78.75 | -63.4 | 15.35 |
|                         |             | -34.6   | -82.05 | -70.0 | 12.05 |
|                         |             | -24.6   | -83.79 | -70.0 | 13.79 |
| LTE Band 25<br>Downlink | 2110 - 2155 | -72.3   | -72.90 | -35.7 | 37.20 |
|                         |             | -62.3   | -72.28 | -45.7 | 26.58 |
|                         |             | -52.3   | -72.14 | -55.7 | 16.44 |
|                         |             | -42.3** | -72.04 | -65.7 | 6.34  |
|                         |             | -32.3   | -80.21 | -70.0 | 10.21 |
|                         |             | -22.3   | -80.72 | -70.0 | 10.72 |
| LTE Band 25<br>Uplink   | 1710 - 1755 | -79.2   | -78.19 | -28.8 | 49.39 |
|                         |             | -69.2   | -77.72 | -38.8 | 38.92 |
|                         |             | -59.2   | -78.87 | -48.8 | 30.07 |
|                         |             | -49.2** | -83.90 | -58.8 | 25.10 |
|                         |             | -39.2   | -82.23 | -68.8 | 13.43 |
|                         |             | -29.2   | -82.32 | -70.0 | 12.32 |

\*\* : Transmit Power off mode



FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
 IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

| Noise Response Time   |                 |                           |             |              |
|-----------------------|-----------------|---------------------------|-------------|--------------|
| Band                  | Frequency (MHz) | Noise Response Time (Sec) | Limit (Sec) | Margin (Sec) |
| WCDMA Band 5 Downlink | 869 - 894       | 0.425                     | 3           | 2.575        |
| WCDMA Band 5 Uplink   | 824 - 849       | 0.410                     | 3           | 2.590        |
| LTE Band 4 Downlink   | 2110 - 2155     | 0.440                     | 3           | 2.560        |
| LTE Band 4 Uplink     | 1710 - 1755     | 0.640                     | 3           | 2.360        |
| LTE Band 5 Downlink   | 869 - 894       | 0.462                     | 3           | 2.538        |
| LTE Band 5 Uplink     | 824 - 849       | 0.412                     | 3           | 2.588        |
| LTE Band 12 Downlink  | 729 - 746       | 0.405                     | 3           | 2.595        |
| LTE Band 12 Uplink    | 699 - 716       | 0.435                     | 3           | 2.565        |
| LTE Band 13 Downlink  | 746 - 756       | N/A*                      | -           | -            |
| LTE Band 13 Uplink    | 777 - 787       | 0.425                     | 3           | 2.575        |
| LTE Band 25 Downlink  | 1930 - 1995     | 0.440                     | 3           | 2.560        |
| LTE Band 25 Uplink    | 1850 - 1915     | 0.410                     | 3           | 2.590        |

N/A\*: Not Applicable. Maximum Noise always complies with Noise Limit requirement. There is no noise limit change during testing.



FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

## **2.8 Uplink Inactivity**

### **2.8.1 Specification Reference**

FCC 47 CFR Part 20. Clause 20.21(e)(9)(i)(J)  
KDB935210 D04, Clause 7.8

### **2.8.2 Standard Applicable**

FCC 47 CFR Part 20. Clause 20.21(e)(9)(i)(J) Uplink Inactivity:

Uplink Inactivity. When a consumer booster is not serving an active device connection after 5 seconds the uplink noise power shall not exceed -70 dBm/MHz.

### **2.8.3 Equipment Under Test and Modification State**

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

### **2.8.4 Date of Test/Initial of test personnel who performed the test**

August 08, 13 and October 15, 16, 2019/XYZ

### **2.8.5 Test Equipment Used**

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

### **2.8.6 Environmental Conditions**

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

|                     |                |
|---------------------|----------------|
| Ambient Temperature | 24.5 - 25.8°C  |
| Relative Humidity   | 45.0 - 53.3%   |
| ATM Pressure        | 98.9 - 99.0kPa |

### **2.8.7 Additional Observations**

- This is conducted Test.
- Test procedure is per Section 7.8 of KDB935210 (D04 Provider Specific Booster Measurements v02r03). Appropriate offset (line losses) applied.
- The EUT operated in Normal Mode with a minimum bandwidth setting (5MHz).
- Setup the EUT according to Figure 1 of Section 6.3.2 of KDB935210.
- Evaluations are conducted at NU antenna ports.
- Operational uplink bands for WCDMA Band 5 and LTE Band 4, 12, 13, 25, were tested.
- Signal: 5MHz WCDMA or LTE.



FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
 IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

## 2.8.8 Test Results

| Uplink Inactivity   |                 |                        |             |              |
|---------------------|-----------------|------------------------|-------------|--------------|
| Band                | Frequency (MHz) | UL Inactive Time (Sec) | Limit (Sec) | Margin (Sec) |
| WCDMA Band 5 Port 1 | 836.6           | 1.40                   | 5.0         | 3.60         |
| LTE Band 4 Port 1   | 1732.5          | 1.44                   | 5.0         | 3.56         |
| LTE Band 4 Port B   | 1732.5          | 1.47                   | 5.0         | 3.53         |
| LTE Band 4 Port 2   | 1732.5          | 1.59                   | 5.0         | 3.41         |
| LTE Band 12 Port 1  | 707.5           | 1.67                   | 5.0         | 3.33         |
| LTE Band 12 Port B  | 707.5           | 1.46                   | 5.0         | 5.54         |
| LTE Band 13 Port 2  | 782             | 1.38                   | 5.0         | 3.62         |
| LTE Band 25 Port 1  | 1882.5          | 1.53                   | 5.0         | 3.47         |
| LTE Band 25 Port B  | 1882.5          | 1.44                   | 5.0         | 3.56         |
| LTE Band 25 Port 2  | 1882.5          | 1.77                   | 5.0         | 3.23         |
| LTE Band 25 Port D  | 1882.5          | 1.38                   | 5.0         | 3.62         |
| WCDMA Band 5 Port 1 | 836.6           | 1.40                   | 5.0         | 3.60         |
| LTE Band 4 Port 1   | 1732.5          | 1.44                   | 5.0         | 3.56         |

FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

## 2.8.9 Sample test Plots

### WCDMA Band 5 Uplink 5MHz Bandwidth Mid Channel on NU Port 1



### LTE Band 4 Uplink 5MHz Bandwidth Mid Channel on NU Port 1



FCC ID: NU: YETQ42-Z1CNU and CU: YETQ41-BXCU  
IC: NU: 9298A-Q42Z1CNU and CU: 9298A-Q41BXCU

### LTE Band 12 Uplink 5MHz Bandwidth Mid Channel on NU Port 1



### LTE Band 13 Uplink 5MHz Bandwidth Mid Channel on NU Port 2



### LTE Band 25 Uplink 5MHz Bandwidth Mid Channel on NU Port 1