

## **REPORT** **(Booster)**

**Report No.:** JYTSZ-R12-2501526  
**Applicant:** Nextivity, Inc.  
**Address of Applicant:** 16550 West Bernardo Drive, Bldg 5, Suite 550 San Diego, CA 92127, USA  
**Equipment Under Test (EUT)**  
**Product Name:** Cellphone Signal Booster  
**Model No.:** NU: Q51-RXNU, CU: Q51-RXCU  
**Trade mark:** CEL-FI  
**FCC ID:** NU: YETQ51-RXNU, CU: YETQ51-RXCU  
**Applicable standards:** FCC CFR Title 47 Part 2  
FCC CFR Title 47 Part 20 Section 20.21  
FCC CFR Title 47 Part 27 Q and O  
**Date of sample receipt:** 14 Oct., 2025  
**Date of Test:** 15 Oct., 2025 to 08 May, 2026  
**Date of report issued:** 08 May, 2026  
**Test Result:** PASS\*

\* In the configuration tested, the EUT complied with the standards specified above.

**Tested by:**

1. 2026.05.08  
 Project Engineer  
 2. 2026.05.08  
 Senior Engineer  
 Janet Wei  
 Manager

**Date:**

08 May, 2026

**Reviewed by:**

**Date:**

08 May, 2026

**Approved by:**

**Date:**

08 May, 2026

This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in above the application standard version. Test results reported herein relate only to the item(s) tested.

This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

2. Version

| Version No. | Date            | Description                 |
|-------------|-----------------|-----------------------------|
| 00          | 18 Nov., 2025   | Original                    |
| 01          | 16 April., 2026 | Updated Page 14-15.         |
| 02          | 08 May, 2026    | Updated Section 4.10 & 6.7. |
|             |                 |                             |
|             |                 |                             |

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## 4. General Information

### 4.1 Client Information

|               |                                                                       |
|---------------|-----------------------------------------------------------------------|
| Applicant:    | Nextivity, Inc.                                                       |
| Address:      | 16550 West Bernardo Drive, Bldg 5, Suite 550 San Diego, CA 92127, USA |
| Manufacturer: | Nextivity, Inc.                                                       |
| Address:      | 16550 West Bernardo Drive, Bldg 5, Suite 550 San Diego, CA 92127, USA |

### 4.2 General Description of E.U.T.

|                            |                                                                                                                                        |                                                     |
|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|
| Product Name:              | Cellphone Signal Booster                                                                                                               |                                                     |
| Model No.:                 | NU: Q51-RXNU, CU: Q51-RXCU                                                                                                             |                                                     |
| Operation Frequency range: | n77: Downlink: 3450 MHz to 3550 MHz, Uplink: 3450 MHz to 3550 MHz<br>n77: Downlink: 3700 MHz to 3980 MHz, Uplink: 3700 MHz to 3980 MHz |                                                     |
| Antenna type:              | External Antenna<br>Q51-RXNU: LPDA Antenna(A62-V44-200)<br>Q51-RXCU: Omni Whip Antenna(A21-ML3-600)                                    |                                                     |
| Antenna Gain:              | Frequency Range                                                                                                                        | LPDA Antenna A62-V44-200<br>(with 65 cm Separation) |
|                            | 3300 – 4000MHz                                                                                                                         | 12dBi                                               |
|                            | Frequency Range<br>(Service Bands)                                                                                                     | Whip Antenna A21-ML3-600<br>(with 20 cm Separation) |
|                            | 3300, 3500, 3600, 3700, 3450                                                                                                           | 1.5dBi                                              |
|                            | (declare by Applicant)                                                                                                                 |                                                     |
|                            |                                                                                                                                        |                                                     |
| Power supply:              | 48 Vdc (via EPS - POE)                                                                                                                 |                                                     |
| AC adapter:                | Model No.:Q50-XEPU<br>Input: AC90-264V, 50/60Hz 4.85A<br>Output: DC 57V, 1.9A 90W MAX                                                  |                                                     |
| Test Sample Condition:     | The test samples were provided in good working order with no visible defects.                                                          |                                                     |

### 4.3 Disclaimer

|                                                                                                                                                                                                                                                                              |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Disclaimer:                                                                                                                                                                                                                                                                  |
| For the information or data provided by the client in this report, the relevant results or conclusions of this report are only made for these data or information. The testing laboratory is not responsible for the authenticity and accuracy of these data or information. |

## 4.4 Test environment and mode, and test samples plans

| Operating Environment:                                                                                                                                                   |                                                                                             |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| Temperature:                                                                                                                                                             | Normal: 15°C ~ 35°C, Extreme: -30°C ~ +50°C                                                 |
| Humidity:                                                                                                                                                                | 20 % ~ 75 % RH                                                                              |
| Atmospheric Pressure:                                                                                                                                                    | 1008 mbar                                                                                   |
| Voltage:                                                                                                                                                                 | Nominal:120Vac, Extreme: Low 90Vac, High 264Vac                                             |
| Test mode:                                                                                                                                                               |                                                                                             |
| Uplink mode (NU TX)                                                                                                                                                      | Input signal is applied to antenna port of CU. Output is monitored from antenna port of NU. |
| Downlink mode (CU TX)                                                                                                                                                    | Input signal is applied to antenna port of NU. Output is monitored from antenna port of CU. |
| <b>Remark:</b> JianYan Testing Group Shenzhen Co., Ltd. is only responsible for the test project data of the above samples, and will keep the above samples for a month. |                                                                                             |

## 4.5 Description of Support Units

| Test Equipment | Manufacturer | Model No. | Serial No. |
|----------------|--------------|-----------|------------|
| Nextivity      | 3dB Load     | N/A       | N/A        |
| /              | 10dB Load    | N/A       | N/A        |

## 4.6 Measurement Uncertainty

| Parameter                                                                                                                                                                                                                                                                                                            | Expanded Uncertainty<br>(Confidence of 95%(U = 2Uc(y))) |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|
| Radiated Emission (30MHz ~ 200MHz) (3m SAC)                                                                                                                                                                                                                                                                          | 4.6 dB                                                  |
| Radiated Emission (200MHz ~ 1000MHz) (3m SAC)                                                                                                                                                                                                                                                                        | 5.8 dB                                                  |
| Radiated Emission (1GHz ~ 18GHz) (3m FAR)                                                                                                                                                                                                                                                                            | 5.15 dB                                                 |
| Radiated Emission (18GHz ~ 40GHz) (3m FAR)                                                                                                                                                                                                                                                                           | 5.30 dB                                                 |
| <b>Note:</b> All the measurement uncertainty value were shown with a coverage k=2 to indicate 95% level of confidence. The measurement data show herein meets or exceeds the CISPR measurement uncertainty values specified in CISPR 16-4-2 and can be compared directly to specified limit to determine compliance. |                                                         |

## 4.7 Additions to, deviations, or exclusions from the method

|    |
|----|
| No |
|----|

## 4.8 Laboratory Facility

The test facility is recognized, certified, or accredited by the following organizations:

● **FCC - Designation No.: CN1211**

JianYan Testing Group Shenzhen Co., Ltd. has been accredited as a testing laboratory by FCC(Federal Communications Commission). The test firm Registration No. is 727551.

● **ISED – CAB identifier.: CN0021**

The 3m Semi-anechoic chamber and 10m Semi-anechoic chamber of JianYan Testing Group Shenzhen Co., Ltd. has been Registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 10106A-1.

● **CNAS - Registration No.: CNAS L15527**

JianYan Testing Group Shenzhen Co., Ltd. is accredited to ISO/IEC 17025:2017 General Requirements for the Competence of Testing and Calibration laboratories for the competence of testing. The Registration No. is CNAS L15527.

● **A2LA - Registration No.: 4346.01**

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 General requirements for the competence of testing and calibration laboratories. The test scope can be found as below link: <https://portal.a2la.org/scopepdf/4346-01.pdf>

## 4.9 Laboratory Location

JianYan Testing Group Shenzhen Co., Ltd.

Address: No.101, Building 8, Innovation Wisdom Port, No.155 Hongtian Road, Huangpu Community, Xinqiao Street, Bao'an District, Shenzhen, Guangdong, People's Republic of China.

Tel: +86-755-23118282, Fax: +86-755-23116366

Email: info-JYTee@lets.com, Website: <http://jyt.lets.com>

## 4.10 Test Instruments list

| Radiated Emission(3m SAC):   |                 |                |                  |                      |                          |
|------------------------------|-----------------|----------------|------------------|----------------------|--------------------------|
| Test Equipment               | Manufacturer    | Model No.      | Manage No.       | Cal. Date (mm-dd-yy) | Cal. Due date (mm-dd-yy) |
| 3m SAC                       | ETS             | 9m*6m*6m       | WXJ001-1         | 04-14-2021           | 04-13-2026               |
|                              |                 |                |                  | 12-09-2025           | 12-08-2030               |
| Loop Antenna                 | Schwarzbeck     | FMZB 1519 B    | WXJ002-4         | 01-03-2025           | 01-02-2026               |
|                              |                 |                |                  | 12-07-2025           | 12-06-2026               |
| BiConiLog Antenna            | Schwarzbeck     | VULB9163       | WXJ002           | 08-09-2025           | 08-08-2026               |
| Biconical Antenna            | Schwarzbeck     | VUBA9117       | WXJ002-1         | 07-01-2024           | 06-30-2027               |
| Pre-amplifier (30MHz ~ 1GHz) | Schwarzbeck     | BBV9743B       | WXJ001-2         | 12-16-2024           | 12-15-2025               |
|                              |                 |                |                  | 12-04-2025           | 12-03-2026               |
| EMI Test Receiver            | Rohde & Schwarz | ESRP7          | WXJ003-1         | 12-16-2024           | 12-15-2025               |
|                              |                 |                |                  | 12-04-2025           | 12-03-2026               |
| Coaxial Cable (30MHz ~ 1GHz) | JYTSZ           | JYT3M-1G-NN-8M | WXG001-4         | 01-15-2025           | 01-14-2026               |
|                              |                 |                |                  | 01-14-2026           | 01-13-2027               |
| Band Reject Filter Group     | Tonscend        | JS0806-F       | WXJ089           | N/A                  |                          |
| Test Software                | Tonscend        | TS+            | Version: 3.0.0.1 |                      |                          |

| Radiated Emission(3m FAR):    |                 |                 |                |                      |                          |
|-------------------------------|-----------------|-----------------|----------------|----------------------|--------------------------|
| Test Equipment                | Manufacturer    | Model No.       | Manage No.     | Cal. Date (mm-dd-yy) | Cal. Due date (mm-dd-yy) |
| 3m FAR                        | YUNYI           | 9m*6m*6m        | WXJ097         | 06-15-2023           | 06-14-2028               |
| Horn Antenna                  | Schwarzbeck     | BBHA9120D       | WXJ097-3       | 05-23-2025           | 05-22-2026               |
| Horn Antenna                  | Schwarzbeck     | BBHA9120D       | WXJ002-3       | 12-25-2024           | 12-24-2025               |
|                               |                 |                 |                | 12-07-2025           | 12-06-2026               |
| Horn Antenna                  | Schwarzbeck     | BBHA9170        | WXJ002-5       | 12-25-2024           | 12-24-2025               |
|                               |                 |                 |                | 12-07-2025           | 12-06-2026               |
| Horn Antenna                  | Schwarzbeck     | BBHA9170        | WXJ002-6       | 12-25-2024           | 12-24-2025               |
|                               |                 |                 |                | 12-07-2025           | 12-06-2026               |
| Pre-amplifier (1GHz ~ 18GHz)  | YUNYI           | PAM-118N        | WXJ097-6       | 04-21-2025           | 04-20-2026               |
|                               |                 |                 |                | 03-30-2026           | 03-29-2027               |
| Pre-amplifier (18GHz ~ 40GHz) | RF System       | TRLA-180400G45B | WXJ002-7       | 12-16-2024           | 12-15-2025               |
|                               |                 |                 |                | 12-05-2025           | 12-04-2027               |
| Spectrum Analyzer             | Rohde & Schwarz | FSP 30          | WXJ004         | 12-16-2024           | 12-15-2025               |
|                               |                 |                 |                | 12-04-2025           | 12-03-2026               |
| Spectrum Analyzer             | KEYSIGHT        | N9020B          | WXJ081-1       | 06-12-2025           | 06-11-2026               |
| Coaxial Cable (1GHz ~ 18GHz)  | JYTSZ           | JYT3M-18G-NN-8M | WXG097-2       | 07-28-2025           | 07-27-2026               |
| Coaxial Cable (18GHz ~ 40GHz) | JYTSZ           | JYT3M-40G-SS-8M | WXG097-3       | 07-28-2025           | 07-27-2026               |
| High Band Reject Filter Group | Tonscend        | JS0806-F        | WXJ089         | N/A                  |                          |
| Low Band Reject Filter Group  | Tonscend        | JS0806-F        | WXJ097-4       | N/A                  |                          |
| Test Software                 | Tonscend        | TS+             | Version: 5.0.0 |                      |                          |

| Conducted method:        |              |           |                     |                      |                          |
|--------------------------|--------------|-----------|---------------------|----------------------|--------------------------|
| Test Equipment           | Manufacturer | Model No. | Manage No.          | Cal. Date (mm-dd-yy) | Cal. Due date (mm-dd-yy) |
| Spectrum Analyzer        | KEYSIGHT     | N9020B    | WXJ081-1            | 06-12-2025           | 06-11-2026               |
| Vector Signal Generator  | Keysight     | N5182B    | WXJ091-1            | 05-08-2025           | 05-07-2026               |
|                          |              |           |                     | 04-29-2026           | 04-28-2027               |
| Vector Signal Generator  | Keysight     | N5182B    | WXJ091-2            | 05-08-2025           | 05-07-2026               |
|                          |              |           |                     | 04-29-2026           | 04-28-2027               |
| Signal Generator         | Keysight     | N5173B    | WXJ091-3            | 05-08-2025           | 05-07-2026               |
|                          |              |           |                     | 04-29-2026           | 04-28-2027               |
| RF Control Unit          | Tonscend     | JS0806-1  | WXG010-2            | N/A                  | N/A                      |
| RF Control Unit          | Tonscend     | JS0806-1  | WXG010-3            | N/A                  | N/A                      |
| Band Reject Filter Group | Tonscend     | JS0806-F  | WXG010-4            | N/A                  | N/A                      |
| Test Software            | Tonscend     | TS+       | Version: 2.6.9.0526 |                      |                          |

## 5. Measurement Setup and Procedure

### 5.1 Test Configuration Description

The CEL-FI QUATRA 100M offers a cutting-edge solution for enhancing cellular coverage, tailored to expand C-band 5G networks using SA architecture. It provides rapid 100MHz n77 coverage extension and employs fiber-based, lossless signal distribution with a scalable, daisy-chain architecture via Coverage Units to support complex site coverage needs.

CEL-FI QUATRA 100M consists of three units: the Network Unit (NU), the Coverage Unit (CU) and the Power Unit (PU). 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. The PU provides power and networking for NU and CU. Figure 1 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 PU can connect one NU and upto Four (4) CUs via Ethernet Cat 5 cables.

The NU transmits and receives Cellular signals from the base station and operates similar to a cellular handset. The CU transmits and receives signals with the cellular handset and operates on frequencies similar to the cellular base station.



Figure 1

## 5.2 Test Channel

According to ANSI C63.26-2015 chapter 5.1.2.1 Table 2 requirement, select low channel, middle channel, and high channel in the frequency range in which device operates for testing. The detailed frequency points are as follows:

| Band n77(3450-3550), SCS: 30 kHz |        |                 |          |        |                 |
|----------------------------------|--------|-----------------|----------|--------|-----------------|
| Channels                         | ARFCN  | Frequency (MHz) | Channels | ARFCN  | Frequency (MHz) |
| 10 MHz                           |        |                 | 15 MHz   |        |                 |
| Low                              | 630334 | 3455.010        | Low      | 630500 | 3457.500        |
| Middle                           | 633334 | 3500.010        | Middle   | 633334 | 3500.010        |
| High                             | 636332 | 3544.980        | High     | 636166 | 3542.490        |
| 20 MHz                           |        |                 | 30 MHz   |        |                 |
| Low                              | 630668 | 3460.020        | Low      | 631000 | 3465.000        |
| Middle                           | 633334 | 3500.010        | Middle   | 633334 | 3500.010        |
| High                             | 636000 | 3540.000        | High     | 635666 | 3534.990        |
| 40 MHz                           |        |                 | 50 MHz   |        |                 |
| Low                              | 631334 | 3470.010        | Low      | 631668 | 3475.020        |
| Middle                           | 633334 | 3500.010        | Middle   | 633334 | 3500.010        |
| High                             | 635332 | 3529.980        | High     | 635000 | 3525.000        |
| 60 MHz                           |        |                 | 70 MHz   |        |                 |
| Low                              | 632000 | 3480.000        | Low      | 632334 | 3485.010        |
| Middle                           | 633334 | 3500.010        | Middle   | 633334 | 3500.010        |
| High                             | 634666 | 3519.990        | High     | 634332 | 3514.980        |
| 80 MHz                           |        |                 | 90 MHz   |        |                 |
| Low                              | 632668 | 3490.020        | Low      | 633000 | 3495.000        |
| Middle                           | 633334 | 3500.010        | Middle   | 633334 | 3500.010        |
| High                             | 634000 | 3510.000        | High     | 633666 | 3504.990        |
| 100 MHz                          |        |                 |          |        |                 |
| Low                              | /      | /               |          |        |                 |
| Middle                           | 633333 | 3499.995        |          |        |                 |
| High                             | /      | /               |          |        |                 |
| Band n77(3700-3980), SCS: 30 kHz |        |                 |          |        |                 |
| Channels                         | ARFCN  | Frequency (MHz) | Channels | ARFCN  | Frequency (MHz) |
| 10 MHz                           |        |                 | 15 MHz   |        |                 |
| Low                              | 647000 | 3705.000        | Low      | 647168 | 3707.520        |
| Middle                           | 656000 | 3840.000        | Middle   | 656000 | 3840.000        |
| High                             | 665000 | 3975.000        | High     | 664832 | 3972.480        |
| 20 MHz                           |        |                 | 30 MHz   |        |                 |
| Low                              | 647334 | 3710.010        | Low      | 647668 | 3715.020        |
| Middle                           | 656000 | 3840.000        | Middle   | 656000 | 3840.000        |
| High                             | 664666 | 3969.990        | High     | 664332 | 3964.980        |
| 40 MHz                           |        |                 | 50 MHz   |        |                 |
| Low                              | 648000 | 3720.000        | Low      | 648334 | 3725.010        |
| Middle                           | 656000 | 3840.000        | Middle   | 656000 | 3840.000        |
| High                             | 664000 | 3960.000        | High     | 663666 | 3954.990        |
| 60 MHz                           |        |                 | 70 MHz   |        |                 |
| Low                              | 648668 | 3730.020        | Low      | 649000 | 3735.000        |
| Middle                           | 656000 | 3840.000        | Middle   | 656000 | 3840.000        |
| High                             | 663332 | 3949.980        | High     | 663000 | 3945.000        |

| 80 MHz  |        |          | 90 MHz |        |          |
|---------|--------|----------|--------|--------|----------|
| Low     | 649334 | 3740.010 | Low    | 649668 | 3745.020 |
| Middle  | 656000 | 3840.000 | Middle | 656000 | 3840.000 |
| High    | 662666 | 3939.990 | High   | 662332 | 3934.980 |
| 100 MHz |        |          |        |        |          |
| Low     | 650000 | 3750.000 |        |        |          |
| Middle  | 656000 | 3840.000 |        |        |          |
| High    | 662000 | 3930.000 |        |        |          |

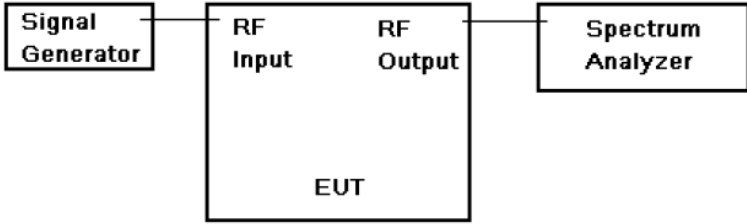
## 6. Test results

### 6.1 Summary

#### 6.1.1 Clause and Data Summary

| Test items                                                                                                                                                                                                                                                                                                    | Standard clause                                                                                                         | Test methods                 | Test data       | Result |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|------------------------------|-----------------|--------|
| Maximum output power and amplifier/booster gain                                                                                                                                                                                                                                                               | 2.1046, 27.50 (k)(2), 27.50 (j)(2)                                                                                      | KDB 935210 D05 section 3.5   | See Section 6.2 | Pass   |
| AGC threshold level                                                                                                                                                                                                                                                                                           | KDB 935210 D05 section 3.3                                                                                              | KDB 935210 D05 section 3.2   | See Section 6.3 | Pass   |
| Out-of-band rejection                                                                                                                                                                                                                                                                                         | KDB 935210 D05 section 3.3                                                                                              | KDB 935210 D05 section 3.3   | See Section 6.4 | Pass   |
| Input-versus-output signal comparison                                                                                                                                                                                                                                                                         | 2.1049, KDB 935210 D05 section 3.4                                                                                      | KDB 935210 D05 section 3.4   | See Section 6.5 | Pass   |
| Out-of-band/out-of-block (including intermodulation) emissions                                                                                                                                                                                                                                                | 2.1051, 27.53(l)(1), 27.53(n)(1)                                                                                        | KDB 935210 D05 section 3.6.2 | See Section 6.6 | Pass   |
| Conducted Spurious emissions                                                                                                                                                                                                                                                                                  | 2.1051, 27.53(l)(1), 27.53(n)(1)                                                                                        | KDB 935210 D05 section 3.6.3 | See Section 6.7 | Pass   |
| Frequency stability                                                                                                                                                                                                                                                                                           | 2.1055                                                                                                                  | KDB 935210 D05 section 3.7   | See Section 6.8 | Pass   |
| Radiated Spurious Emissions                                                                                                                                                                                                                                                                                   | 2.1051, 27.53(l)(1), 27.53(n)(1)                                                                                        | 27.50(l)(1)<br>27.50(n)(1)   | See Section 6.9 | Pass   |
| <b>Remark:</b><br>1. Pass: The EUT complies with the essential requirements in the standard.<br>2. The cable insertion loss used by "RF Output Power" and other conduction measurement items is 0.5dB (Fundamental Frequency below 1GHz)/1.0dB (Fundamental Frequency above 1GHz) (provided by the customer). |                                                                                                                         |                              |                 |        |
| <b>Test Method:</b>                                                                                                                                                                                                                                                                                           | ANSI C63.26-2015<br>KDB 935210 D03 Signal Booster Measurements v04r02<br>KDB 935210 D05 Indus Booster Basic Meas v01r01 |                              |                 |        |

## 6.2 Maximum Output Power and amplifier/booster gain

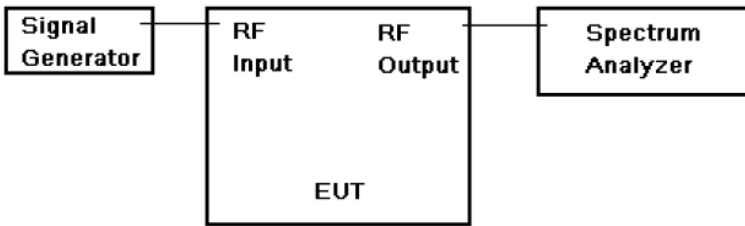
|                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Test Requirement: | 27.50 (k)(2), 27.50 (j)(2)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Limit:            | 1640W/MHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Test setup:       |  <pre> graph LR     SG[Signal Generator] --&gt; EUT[RF Input]     EUT[RF Output] --&gt; SA[Spectrum Analyzer]     subgraph EUT_Box [EUT]         EUT     end             </pre>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Test Procedure:   | <p>RF output power test procedure:</p> <ol style="list-style-type: none"> <li>Connect a signal generator to the input of the EUT.</li> <li>Configure to generate the AWGN (broadband) test signal.</li> <li>The frequency of the signal generator shall be set to the frequency <math>f_0</math> as determined from 3.3.</li> <li>Connect a spectrum analyzer or power meter to the output of the EUT using appropriate attenuation as necessary.</li> <li>Set the signal generator output power to a level that produces an EUT output level that is just below the AGC threshold (see 3.2), but not more than 0.5 dB below.</li> <li>Measure and record the output power of the EUT; use 3.5.3 or 3.5.4 for power measurement.</li> <li>Remove the EUT from the measurement setup. Using the same signal generator settings, repeat the power measurement at the signal generator port, which was used as the input signal to the EUT, and record as the input power. EUT gain may be calculated as described in 3.5.5.</li> <li>Repeat steps f) and g) with input signal amplitude set to 3 dB above the AGC threshold level.</li> <li>Repeat steps e) to h) with the narrowband test signal.</li> <li>Repeat steps e) to i) for all frequency bands authorized for use by the EUT.</li> </ol> <p>Amplifier gain test procedure:</p> <p>After the mean input and output power levels have been measured as described in the preceding subclauses, the mean gain of the EUT can be determined from:</p> $\text{Gain (dB)} = \text{output power (dBm)} - \text{input power (dBm)}.$ |
| Test Instruments: | Refer to section 4.10 for details                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Test mode:        | Refer to section 4.4 for details                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Test results:     | Passed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

**Measurement Data:**

| 5G NR n77(3450-3550MHz) |                 |                   |                    |               |                |                         |                       |                       |       |
|-------------------------|-----------------|-------------------|--------------------|---------------|----------------|-------------------------|-----------------------|-----------------------|-------|
| Test Channel            | Mode            | Input Power (dBm) | Output Power (dBm) | Nominal (dBm) | ANT Gain (dBi) | E.I.R.P Power (dBm/MHz) | E.I.R.P Power (W/MHz) | E.I.R.P Limit (W/MHz) | Gain  |
| Middle Channel          | NU TX           | -75               | 24.73              | 24            | 12             | 36.73                   | 4.71                  | 1640                  | 99.73 |
| Middle Channel          | NU TX (AGC+3dB) | -72               | 23.43              | 24            | 12             | 35.43                   | 3.49                  | 1640                  | 95.43 |
| Middle Channel          | CU TX           | -75               | 26.74              | 27            | 1.5            | 28.24                   | 0.67                  | 1640                  | 98.74 |
| Middle Channel          | CU TX (AGC+3dB) | -72               | 26.50              | 27            | 1.5            | 28                      | 0.63                  | 1640                  | 96.5  |

| 5G NR n77(3700-3980MHz) |                 |                   |                    |               |                |                         |                       |                         |       |
|-------------------------|-----------------|-------------------|--------------------|---------------|----------------|-------------------------|-----------------------|-------------------------|-------|
| Test Channel            | Mode            | Input Power (dBm) | Output Power (dBm) | Nominal (dBm) | ANT Gain (dBi) | E.I.R.P Power (dBm/MHz) | E.I.R.P Power (W/MHz) | E.I.R.P Limit (dBm/MHz) | Gain  |
| Lowest Channel          | NU TX           | -75               | 23.79              | 24            | 12             | 35.79                   | 3.79                  | 1640                    | 98.79 |
| Lowest Channel          | NU TX (AGC+3dB) | -72               | 24.01              | 24            | 12             | 36.01                   | 3.99                  | 1640                    | 96.01 |
| Middle Channel          | NU TX           | -75               | 23.25              | 24            | 12             | 35.25                   | 3.35                  | 1640                    | 98.25 |
| Middle Channel          | NU TX (AGC+3dB) | -72               | 24.21              | 24            | 12             | 36.21                   | 4.18                  | 1640                    | 96.21 |
| Highest Channel         | NU TX           | -75               | 22.53              | 24            | 12             | 34.53                   | 2.84                  | 1640                    | 97.53 |
| Highest Channel         | NU TX (AGC+3dB) | -72               | 23.07              | 24            | 12             | 35.07                   | 3.21                  | 1640                    | 95.07 |
| Lowest Channel          | CU TX           | -73               | 26.41              | 27            | 1.5            | 27.91                   | 0.62                  | 1640                    | 99.41 |
| Lowest Channel          | CU TX (AGC+3dB) | -70               | 26.08              | 27            | 1.5            | 27.58                   | 0.57                  | 1640                    | 96.08 |
| Middle Channel          | CU TX           | -73               | 26.49              | 27            | 1.5            | 27.99                   | 0.63                  | 1640                    | 99.49 |
| Middle Channel          | CU TX (AGC+3dB) | -70               | 26.75              | 27            | 1.5            | 28.25                   | 0.67                  | 1640                    | 96.75 |
| Highest Channel         | CU TX           | -73               | 26.33              | 27            | 1.5            | 27.83                   | 0.61                  | 1640                    | 99.33 |
| Highest Channel         | CU TX (AGC+3dB) | -70               | 26.36              | 27            | 1.5            | 27.86                   | 0.61                  | 1640                    | 96.36 |

## 6.3 AGC threshold level

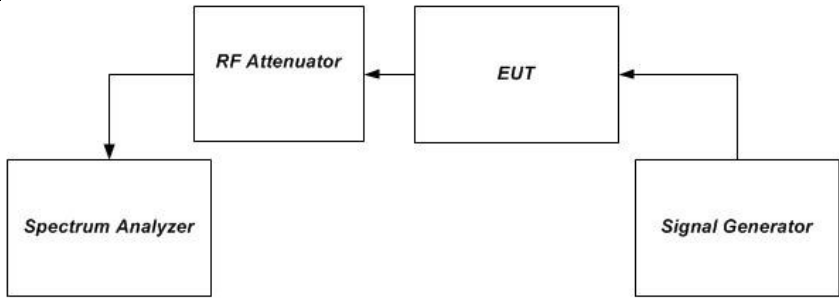
|                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Test Requirement: | KDB 935210 D05 Section 3.2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Limit:            | /                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Test setup:       |  <pre> graph LR     SG[Signal Generator] --&gt; EUT[RF Input]     EUT[RF Output] --&gt; SA[Spectrum Analyzer]     subgraph EUT_Box [EUT]         EUT     end </pre>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Test Procedure:   | AGC threshold level test procedure:<br>a) Connect a signal generator to the input of the EUT.<br>b) Connect a spectrum analyzer or power meter to the output of the EUT using appropriate attenuation as necessary.<br>c) The signal generator should initially be configured to produce either of the required test signals (i.e., broadband or narrowband).<br>d) Set the signal generator frequency to the center frequency of the EUT operating band.<br>e) While monitoring the output power of the EUT, measured using the methods of 3.5.3 or 3.5.4, increase the input level until a 1 dB increase in the input signal power no longer causes a 1 dB increase in the output signal power.<br>f) Record this level as the AGC threshold level.<br>g) Repeat the procedure with the remaining test signal. |
| Test Instruments: | Refer to section 4.10 for details                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Test mode:        | Refer to section 4.4 for details                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Test results:     | Passed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

### Measurement Data:

| 5G NR n77(3450-3550MHz) |                 |                           |
|-------------------------|-----------------|---------------------------|
| Test Channel            | Mode            | AGC threshold level (dBm) |
| Middle Channel          | NU TX           | -75                       |
| Middle Channel          | NU TX (AGC+3dB) | -72                       |
| Middle Channel          | CU TX           | -75                       |
| Middle Channel          | CU TX (AGC+3dB) | -72                       |

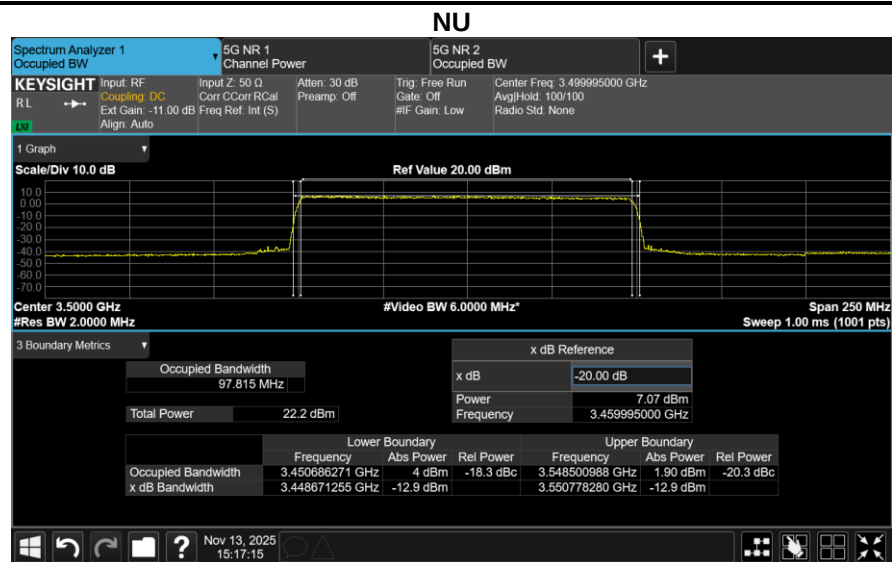
| 5G NR n77(3700-3980MHz) |                 |                           |
|-------------------------|-----------------|---------------------------|
| Test Channel            | Mode            | AGC threshold level (dBm) |
| Lowest Channel          | NU TX           | -75                       |
| Lowest Channel          | NU TX (AGC+3dB) | -72                       |
| Middle Channel          | NU TX           | -75                       |
| Middle Channel          | NU TX (AGC+3dB) | -72                       |
| Highest Channel         | NU TX           | -75                       |
| Highest Channel         | NU TX (AGC+3dB) | -72                       |
| Lowest Channel          | CU TX           | -73                       |
| Lowest Channel          | CU TX (AGC+3dB) | -70                       |
| Middle Channel          | CU TX           | -73                       |
| Middle Channel          | CU TX (AGC+3dB) | -70                       |
| Highest Channel         | CU TX           | -73                       |
| Highest Channel         | CU TX (AGC+3dB) | -70                       |

## 6.4 Out of Band Rejection

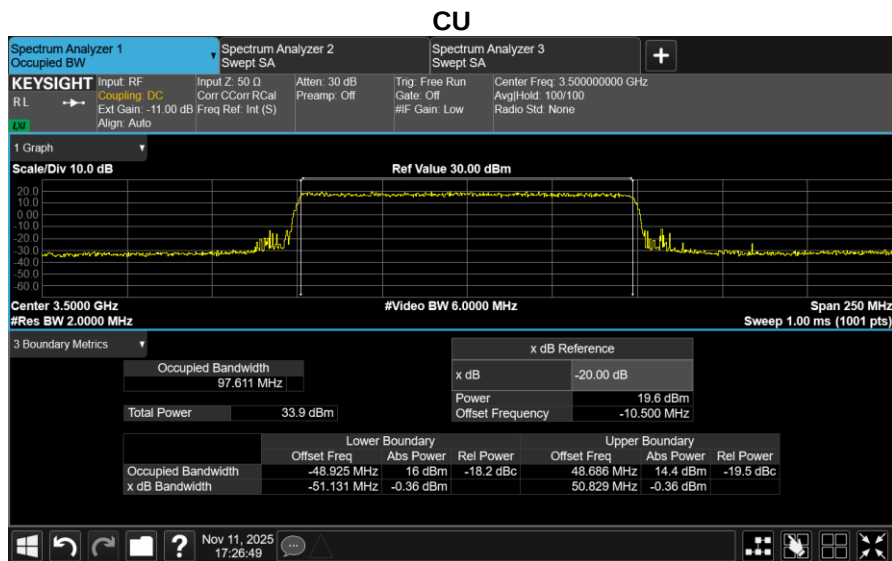
|                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Test Requirement: | KDB 935210 D05 section 3.3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Limit:            | -13dBm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Test setup:       |  <pre> graph RL     SG[Signal Generator] --&gt; EUT[EUT]     EUT --&gt; RA[RF Attenuator]     RA --&gt; SA[Spectrum Analyzer] </pre>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Test Procedure:   | <ol style="list-style-type: none"> <li>Connect a signal generator to the input of the EUT.</li> <li>Configure a swept CW signal with the following parameters: <ol style="list-style-type: none"> <li>Frequency range = <math>\pm 250\%</math> of the passband, for each applicable CMRS band (see also KDB Publication 935210 D02 [R7] and KDB Publication 634817 [R5] about selection of frequencies for testing and for grant listings).</li> <li>Level = a sufficient level to affirm that the out-of-band rejection is <math>&gt; 20</math> dB above the noise floor and will not engage the AGC during the entire sweep.</li> <li>Dwell time = approximately 10 ms.</li> <li>Number of points = <math>\text{SPAN}/(\text{RBW}/2)</math>.</li> </ol> </li> <li>Connect a spectrum analyzer to the output of the EUT using appropriate attenuation.</li> <li>Set the span of the spectrum analyzer to the same as the frequency range of the signal generator.</li> <li>Set the resolution bandwidth (RBW) of the spectrum analyzer to be 1 % to 5 % of the EUT passband, and the video bandwidth (VBW) shall be set to <math>\geq 3 \times \text{RBW}</math>.</li> <li>Set the detector to Peak Max-Hold and wait for the spectrum analyzer's spectral display to fill.</li> <li>Place a marker to the peak of the frequency response and record this frequency as <math>f_0</math>.</li> <li>Place two markers, one at the lowest and the other at the highest frequency of the envelope of the spectral display, such that each marker is at or slightly below the <math>-20</math> dB down amplitude, to determine the 20 dB bandwidth.</li> <li>Capture the frequency response of the EUT.</li> <li>Repeat for all frequency bands applicable for use by the EUT.</li> </ol> |
| Test Instruments: | Refer to section 4.10 for details                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Test mode:        | Refer to section 4.4 for details                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Test results:     | Passed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

Test plots as follows:

n77(3450MHz-3550MHz)



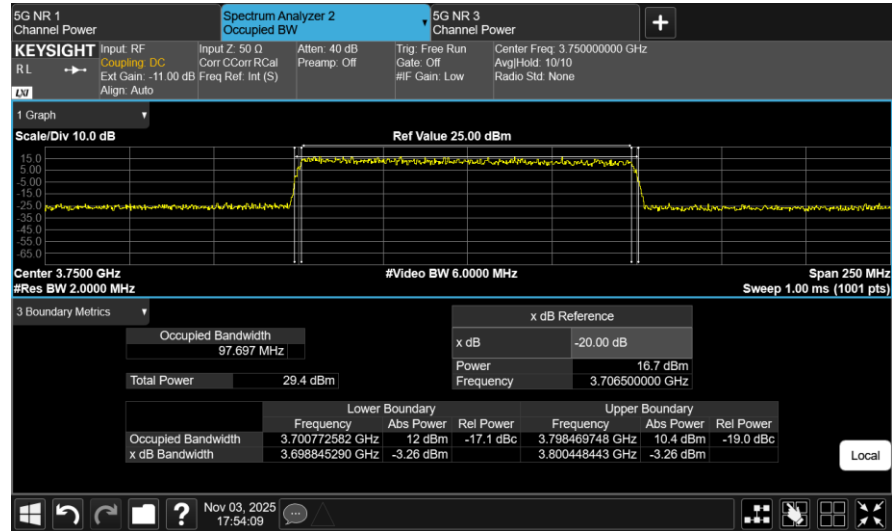
3450 MHz -3550 MHz



3450 MHz -3550 MHz

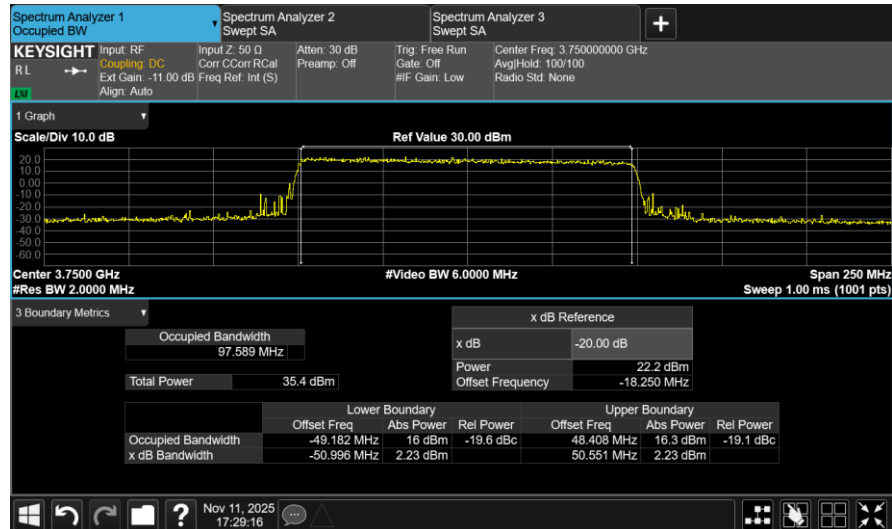
n77(3700MHz-3980MHz)

## NU – Low Channel



3700 MHz -3980 MHz

## CU - Low Channel



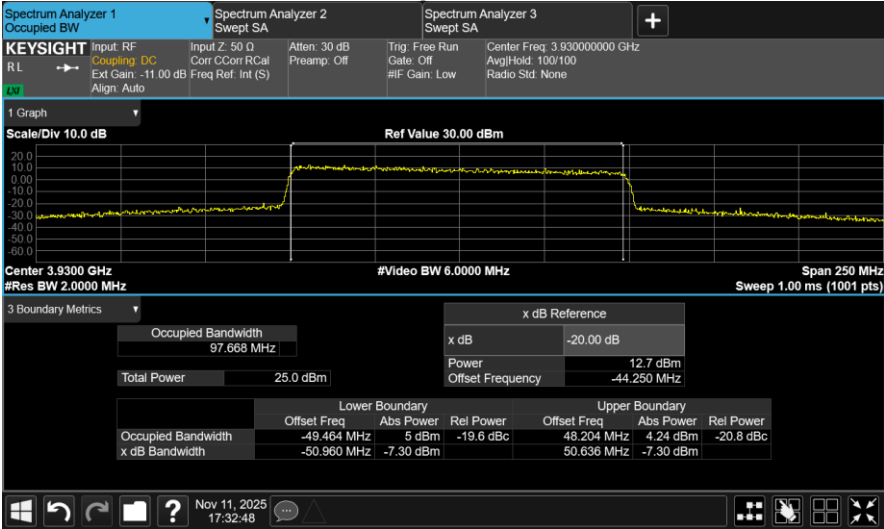
3700 MHz -3980 MHz

NU - High Channel



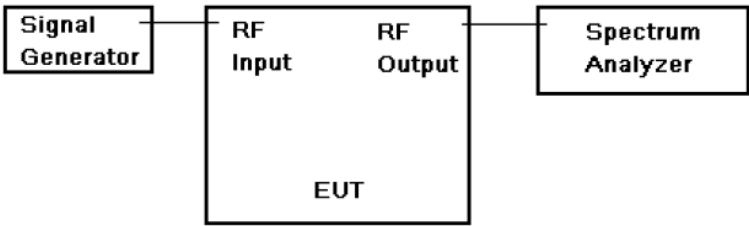
3700 MHz -3980 MHz

CU - High Channel



3700 MHz -3980 MHz

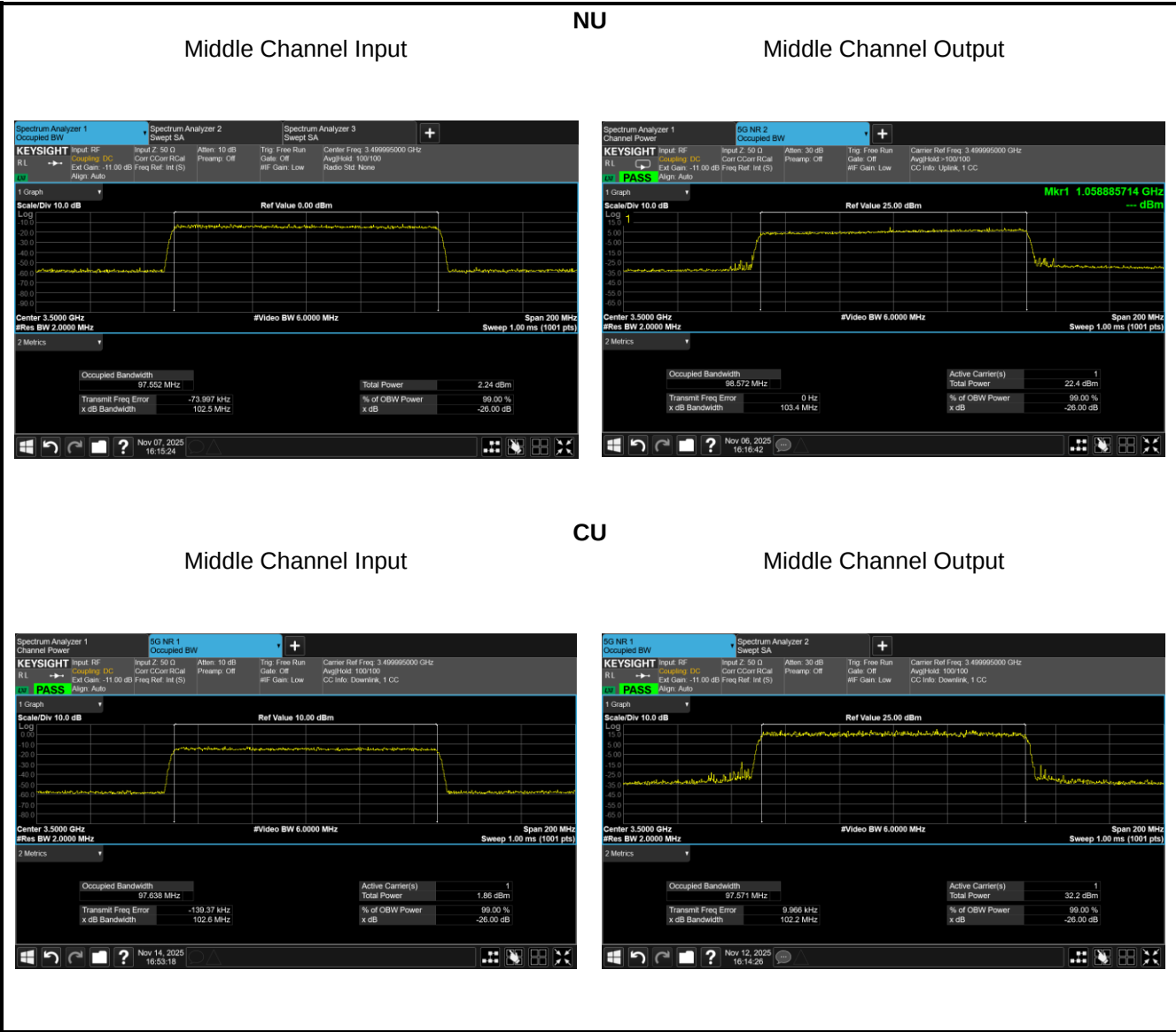
## 6.5 Input-versus-output signal comparison

|                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Test Requirement: | FCC Part 2.1049, KDB 935210 D05 section 3.4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Test setup:       |  <pre> graph LR     SG[Signal Generator] --&gt; EUT[RF Input]     EUT[RF Output] --&gt; SA[Spectrum Analyzer]     subgraph EUT_Box [EUT]         EUT     end             </pre>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Test procedure:   | <p>26 dB bandwidth measurement shall be performed on the input signal and the output signal; alternatively, the 99% OBW can be measured and used. See KDB Publication 971168 [R8] for more information on measuring OBW.</p> <ol style="list-style-type: none"> <li>Connect a signal generator to the input of the EUT.</li> <li>Configure the signal generator to transmit the AWGN signal.</li> <li>Configure the signal amplitude to be just below the AGC threshold level (see 3.2), but not more than 0.5 dB below.</li> <li>Connect a spectrum analyzer to the output of the EUT using appropriate attenuation.</li> <li>Set the spectrum analyzer center frequency to the center frequency of the operational band under test. The span range of the spectrum analyzer shall be between 2 times to 5 times the emission bandwidth (EBW) or alternatively, the OBW.</li> <li>The nominal RBW shall be in the range of 1 % to 5 % of the anticipated OBW, and the VBW shall be <math>\geq 3 \times \text{RBW}</math>.</li> <li>Set the reference level of the instrument as required to preclude the signal from exceeding the maximum spectrum analyzer input mixer level for linear operation. In general, the peak of the spectral envelope must be more than <math>[10 \log (\text{OBW} / \text{RBW})]</math> below the reference level.</li> <li>Steps f) and g) may require iteration to enable adjustments within the specified tolerances.</li> <li>The noise floor of the spectrum analyzer at the selected RBW shall be at least 36 dB below the reference level.</li> <li>Set spectrum analyzer detection function to positive peak.</li> <li>Set the trace mode to max hold.</li> <li>Determine the reference value: Allow the trace to stabilize. Set the spectrum analyzer marker to the highest amplitude level of the displayed trace (this is the reference value) and record the associated frequency as <math>f_0</math>.</li> <li>Place two markers, one at the lowest and the other at the highest frequency of the envelope of the spectral display, such that each marker is at or slightly below the -26 dB down amplitude. The 26 dB EBW (alternatively OBW) is the positive frequency difference between the two markers. If the spectral envelope crosses the -26 dB down amplitude at multiple points, the lowest or highest frequency shall be selected as the frequencies that are the furthest removed from the center frequency at which the spectral envelope crosses the -26 dB down amplitude point.</li> <li>Repeat steps e) to l) with the input signal connected directly to the spectrum analyzer (i.e., input signal measurement).</li> <li>Compare the spectral plot of the input signal (determined from step m) to the output signal (determined from step l) to affirm that they are similar (in passband and rolloff characteristic features and relative spectral locations), and include plot(s) and descriptions in test report.</li> <li>Repeat steps e) to p) for all frequency bands authorized for use by the EUT.</li> </ol> |
| Test Instruments: | Refer to section 4.10 for details                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

|               |                                  |
|---------------|----------------------------------|
| Test mode:    | Refer to section 4.4 for details |
| Test results: | Passed                           |

Test plot as follows:

n77(3450-3550MHz)

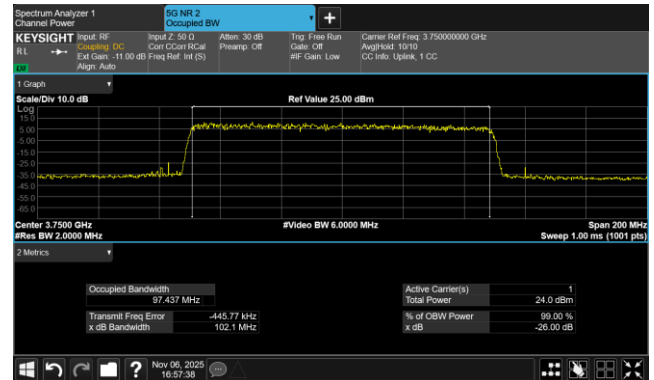
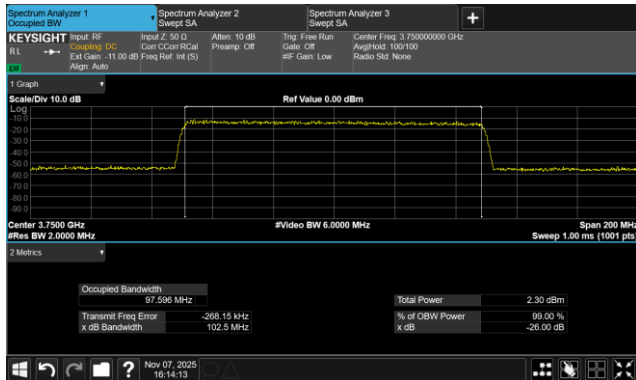


n77(3700-3980MHz)

NU

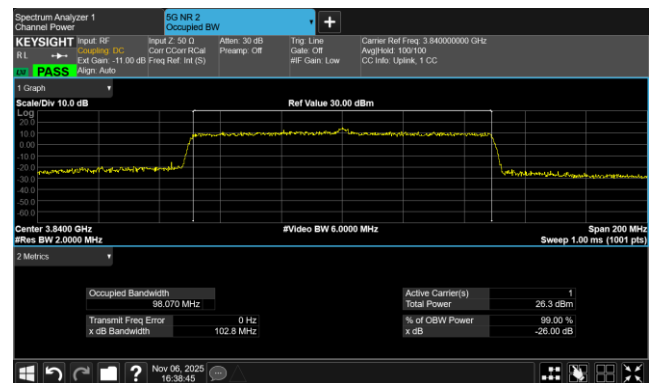
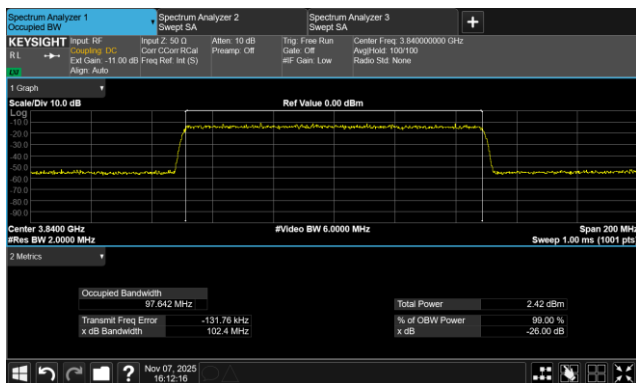
Low Channel Input

Low Channel Output



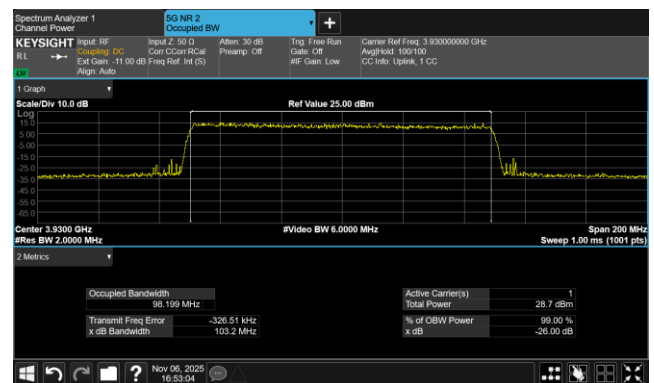
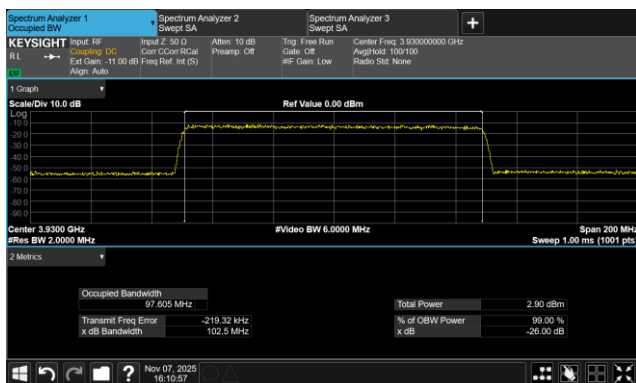
Middle Channel Input

Middle Channel Output



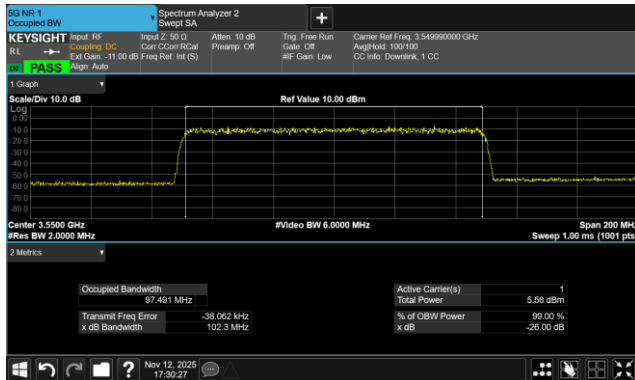
High Channel Input

High Channel Output

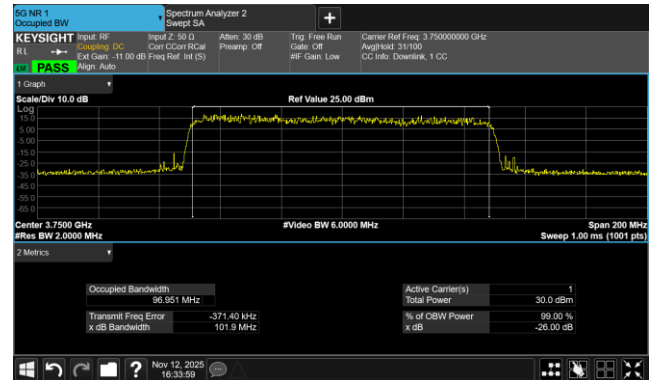


CU

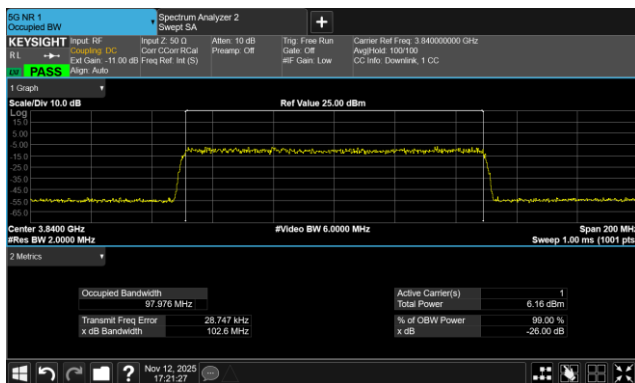
Low Channel Input



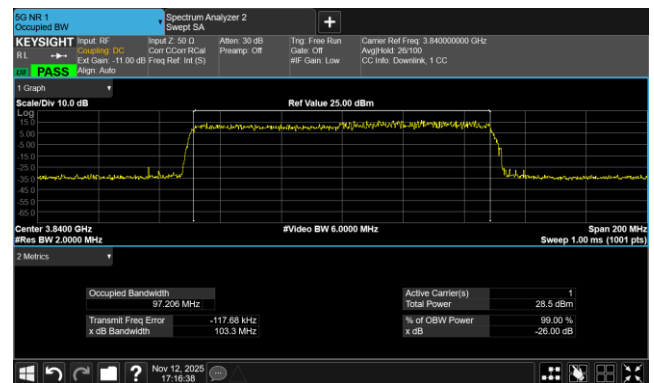
Low Channel Output



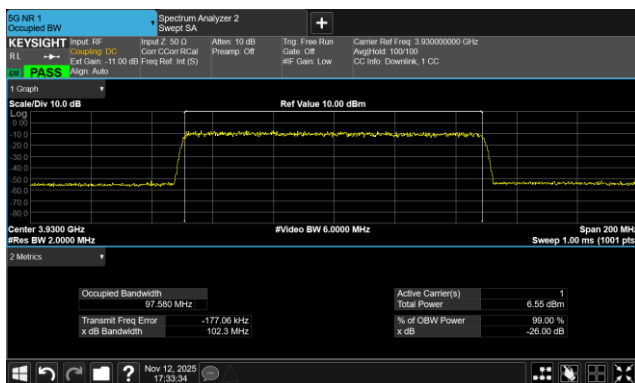
Middle Channel Input



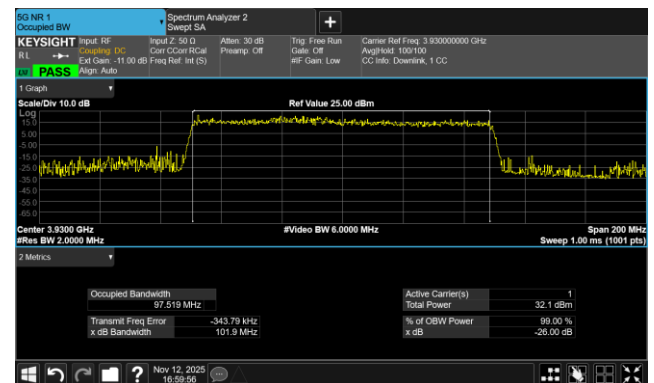
Middle Channel Output



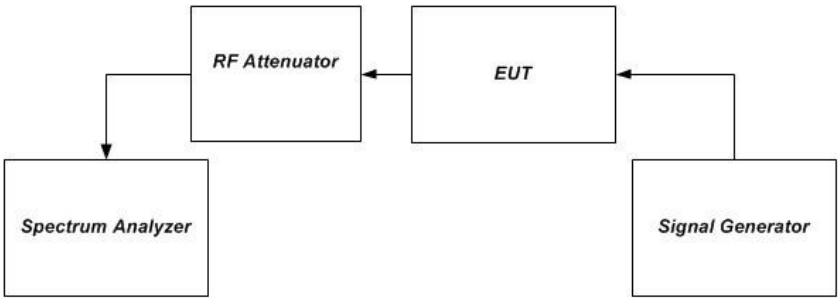
High Channel Input



High Channel Output



## 6.6 Out-of-band/out-of-block (including intermodulation) emissions

|                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Test Requirement: | FCC part 27.53(l)(1), 27.53(n)(1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Limit:            | -13dBm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Test setup:       |  <pre> graph RL     SG[Signal Generator] --&gt; EUT[EUT]     EUT --&gt; RA[RF Attenuator]     RA --&gt; SA[Spectrum Analyzer]         </pre>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Test Procedure:   | <ol style="list-style-type: none"> <li>Connect a signal generator to the input of the EUT.<br/>If the signal generator is not capable of generating two modulated carriers simultaneously, then two discrete signal generators can be connected with an appropriate combining network to support this two-signal test.</li> <li>Set the signal generator to produce two AWGN signals as previously described (e.g., 4.1 MHz OBW).</li> <li>Set the center frequencies such that the AWGN signals occupy adjacent channels, as defined by industry standards such as 3GPP or 3GPP2, at the upper edge of the frequency band or block under test.</li> <li>Set the composite power levels such that the input signal is just below the AGC threshold (see 3.2), but not more than 0.5 dB below. The composite power can be measured using the procedures provided in KDB Publication 971168 [R8], but it will be necessary to expand the power integration bandwidth so as to include both of the transmit channels. Alternatively, the composite power can be measured using an average power meter as described in KDB Publication 971168 [R8].</li> <li>Connect a spectrum analyzer to the output of the EUT using appropriate attenuation as necessary.</li> <li>Set the RBW = reference bandwidth in the applicable rule section for the supported frequency band (typically 1 % of the EBW or 100 kHz or 1 MHz)</li> <li>Set the VBW = <math>3 \times \text{RBW}</math>.</li> <li>Set the detector to power averaging (rms) detector.</li> <li>Set the Sweep time = auto-couple.</li> <li>Set the spectrum analyzer start frequency to the upper block edge frequency, and the stop frequency to the upper block edge frequency plus 300 kHz or 3 MHz, for frequencies below and above 1 GHz, respectively.</li> <li>Trace average at least 100 traces in power averaging (rms) mode.</li> <li>Use the marker function to find the maximum power level.</li> <li>Capture the spectrum analyzer trace of the power level for inclusion in the test report.</li> <li>Repeat steps k) to m) with the composite input power level set to 3 dB above the AGC threshold.</li> <li>Reset the frequencies of the input signals to the lower edge of the frequency block or band under test.</li> <li>Reset the spectrum analyzer start frequency to the lower block edge frequency minus 300 kHz or 3 MHz, for frequencies below and above 1 GHz, respectively, and the stop frequency to the lower band or block edge frequency.</li> <li>Repeat steps k) to n).</li> <li>Repeat steps a) to q) with the signal generator configured for a single</li> </ol> |

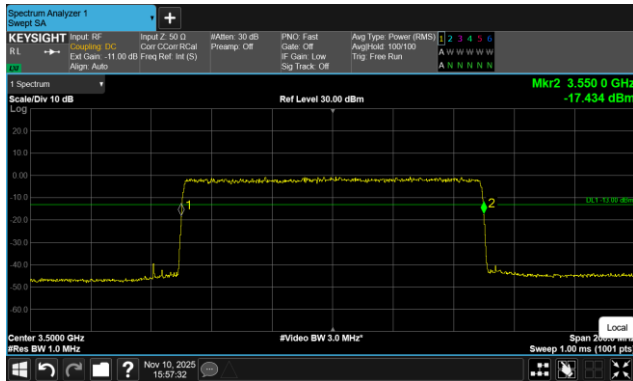
|                   |                                                                                                                                                                                                                   |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                   | test signal tuned as close as possible to the block edges.<br>s) Repeat steps a) to r) with the narrowband test signal.<br>t) Repeat steps a) to s) for all authorized frequency bands or blocks used by the EUT. |
| Test Instruments: | Refer to section 4.10 for details                                                                                                                                                                                 |
| Test mode:        | Refer to section 4.4 for details                                                                                                                                                                                  |
| Test results:     | Passed                                                                                                                                                                                                            |

Test plots as below:

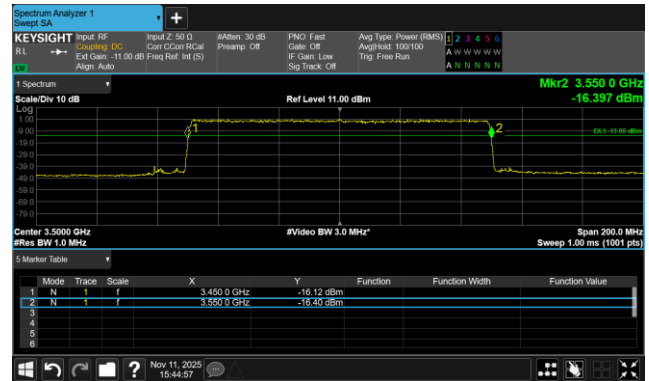
n77(3450MHz-3550MHz)

NU

Middle Channel Per-AGC



Middle Channel -3dB Above-AGC



CU

Middle Channel Per-AGC



Middle Channel -3dB Above-AGC



## Intermodulation mode:

NU

Middle Channel Per-AGC



Middle Channel -3dB Above-AGC



CU

Middle Channel Per-AGC



Middle Channel -3dB Above-AGC

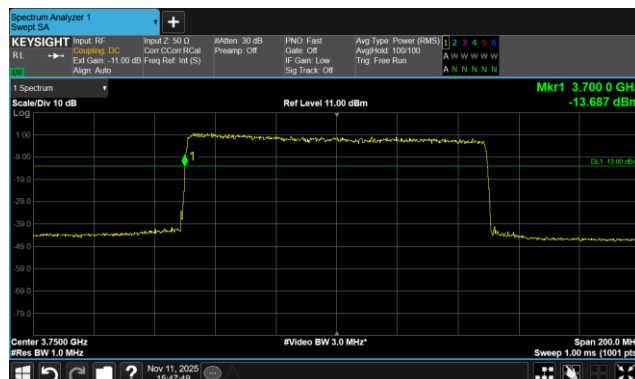
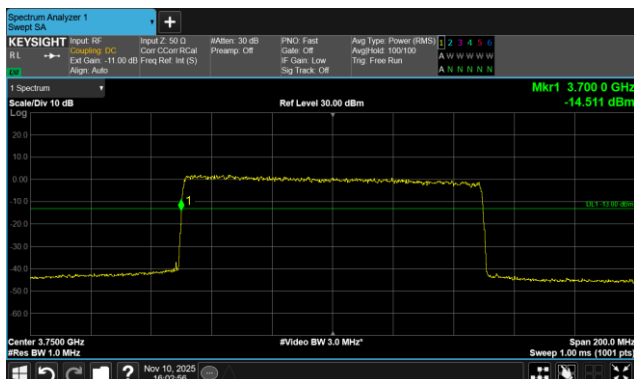


n77(3700MHz-3980MHz)

NU

## Low Channel Per-AGC

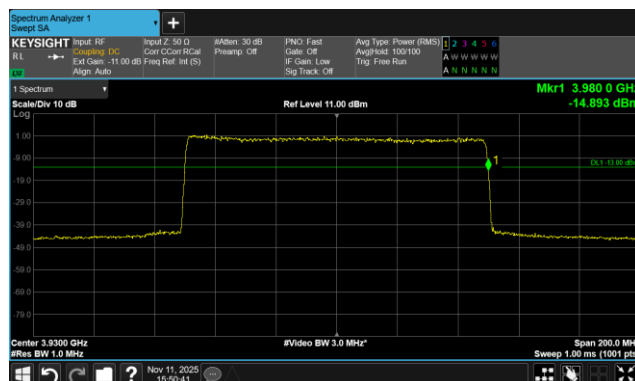
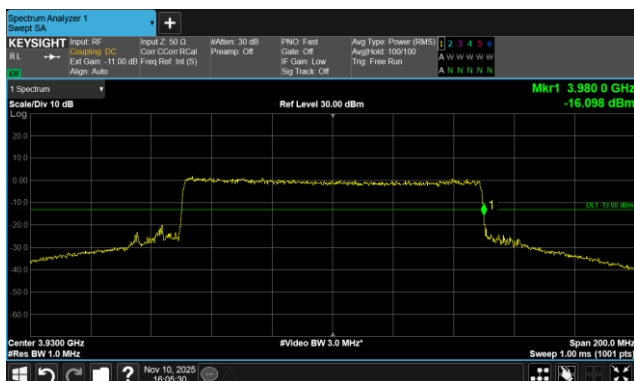
## Low Channel -3dB Above-AGC



NU

## High Channel Per-AGC

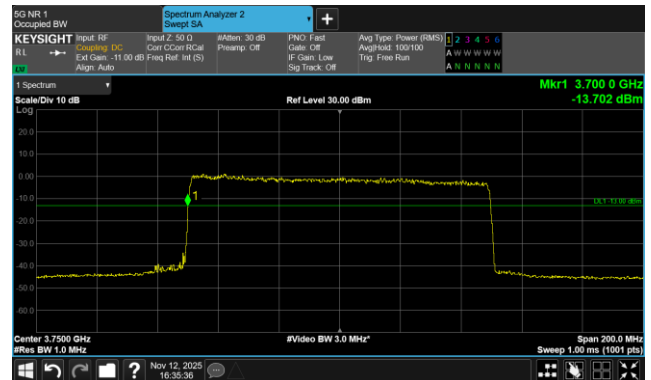
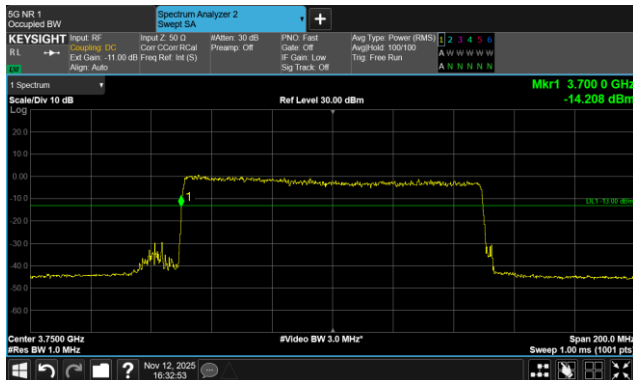
## High Channel -3dB Above-AGC



CU

## Low Channel Per-AGC

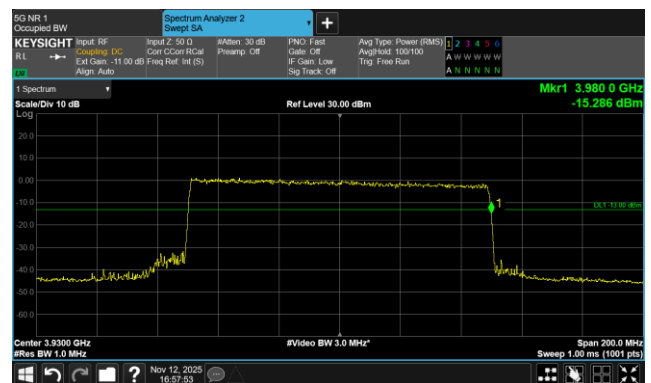
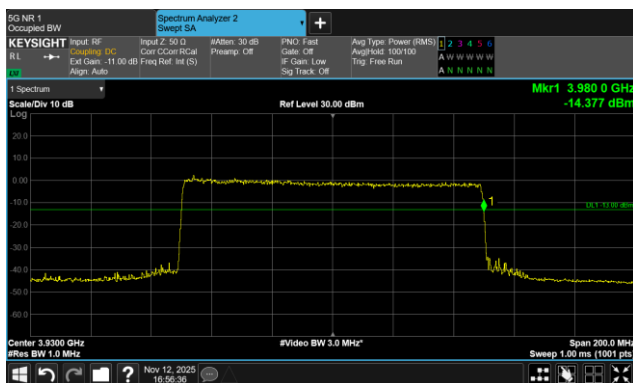
## Low Channel -3dB Above-AGC



CU

## High Channel Per-AGC

## High Channel -3dB Above-AGC

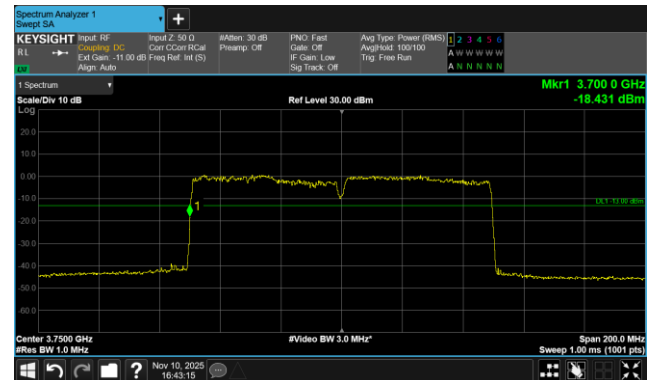
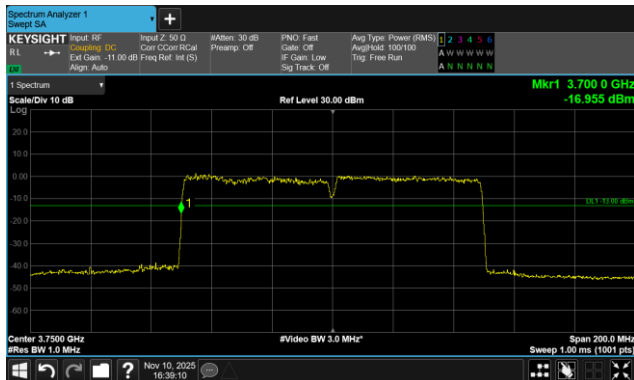


Intermodulation mode:

NU

Low Channel Per-AGC

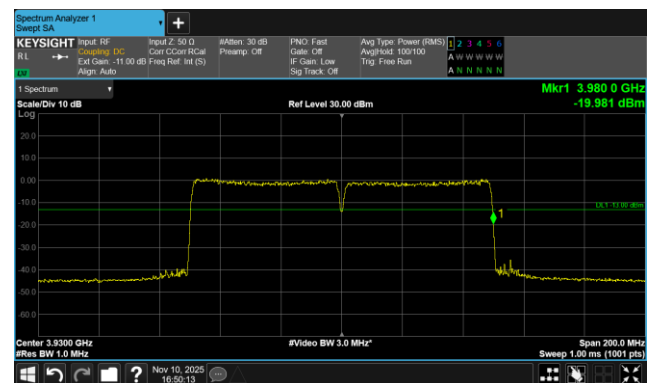
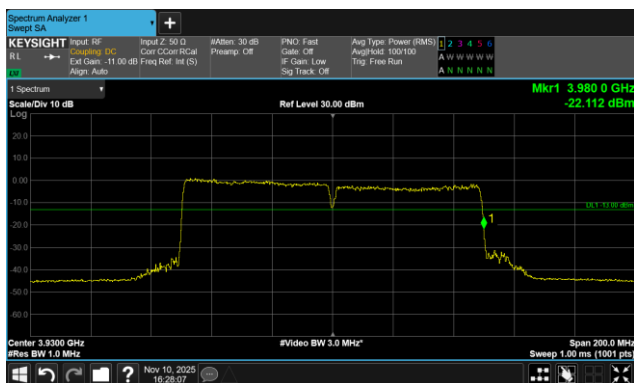
Low Channel -3dB Above-AGC



NU

High Channel Per-AGC

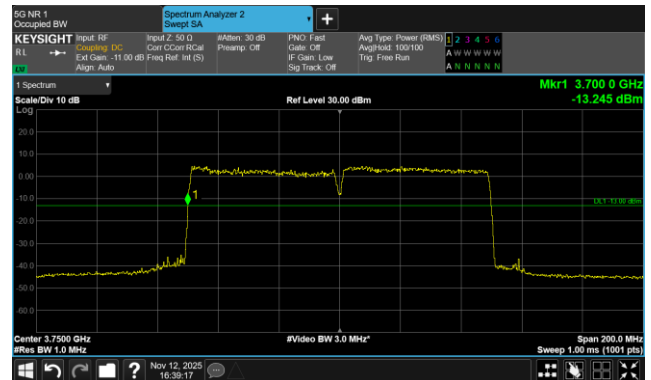
High Channel -3dB Above-AGC



CU

## Low Channel Per-AGC

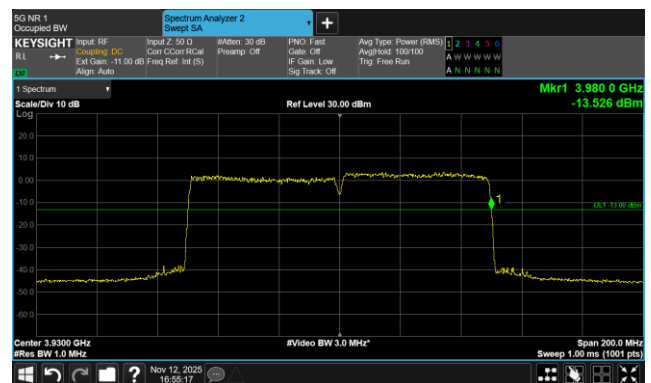
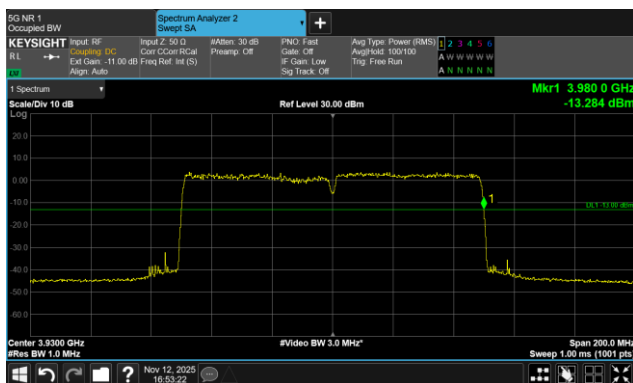
## Low Channel -3dB Above-AGC



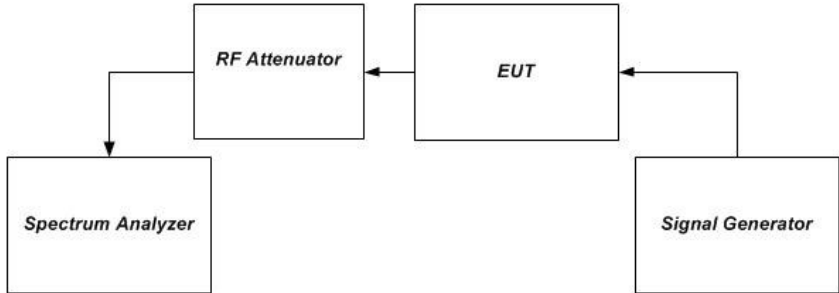
CU

## High Channel Per-AGC

## High Channel -3dB Above-AGC



## 6.7 Conducted Spurious Emissions

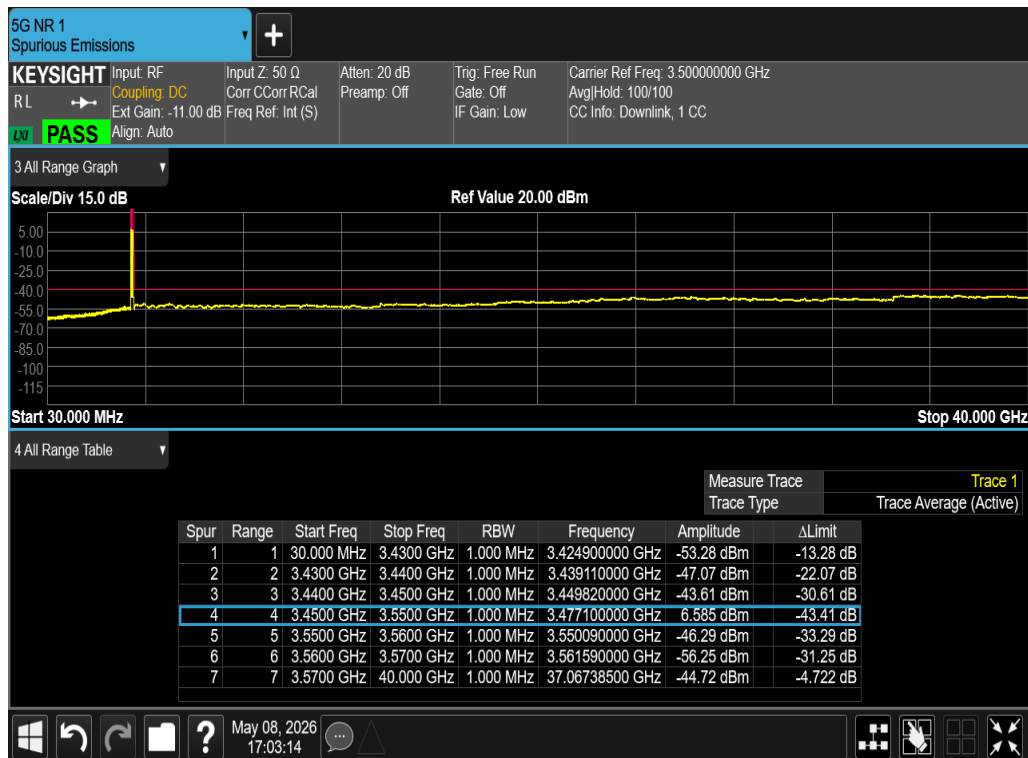
|                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Test Requirement: | FCC part 27.53(l)(1), 27.53(n)(1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Limit:            | -13dBm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Test setup:       |  <pre> graph LR     SG[Signal Generator] --&gt; EUT[EUT]     EUT --&gt; RA[RF Attenuator]     RA --&gt; SA[Spectrum Analyzer]         </pre>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Test Procedure:   | <p>a) Connect a signal generator to the input of the EUT.</p> <p>b) Set the signal generator to produce the broadband test signal as previously described (i.e., 4.1 MHz OBW AWGN).</p> <p>c) Set the center frequency of the test signal to the lowest available channel within the frequency band or block.</p> <p>d) Set the EUT input power to a level that is just below the AGC threshold (see 3.2), but not more than 0.5 dB below.</p> <p>e) Connect a spectrum analyzer to the output of the EUT using appropriate attenuation as necessary.</p> <p>f) Set the RBW = reference bandwidth in the applicable rule section for the supported frequency band of operation (e.g., reference bandwidth is typically 100 kHz or 1 MHz).</p> <p>g) Set the VBW <math>\geq 3 \times</math> RBW.</p> <p>h) Set the Sweep time = auto-couple.</p> <p>i) Set the spectrum analyzer start frequency to the lowest RF signal generated in the equipment, without going below 9 kHz, and the stop frequency to the lower band/block edge frequency minus 100 kHz or 1 MHz, as specified in the applicable rule part.</p> <p>The number of measurement points in each sweep must be <math>\geq (2 \times \text{span}/\text{RBW})</math>, which may require that the measurement range defined by the start and stop frequencies be subdivided, depending on the available number of measurement points provided by the spectrum analyzer.</p> <p>j) Select the power averaging (rms) detector function.</p> <p>k) Trace average at least 10 traces in power averaging (rms) mode.</p> <p>l) Use the peak marker function to identify the highest amplitude level over each measured frequency range. Record the frequency and amplitude and capture a plot for inclusion in the test report.</p> <p>m) Reset the spectrum analyzer start frequency to the upper band/block edge frequency plus 100 kHz or 1 MHz, as specified in the applicable rule part, and the spectrum analyzer stop frequency to 10 times the highest frequency of the fundamental emission (see Section 2.1057). The number of measurement points in each sweep must be <math>\geq (2 \times \text{span}/\text{RBW})</math>, which may require that the measurement range defined by the start and stop frequencies be subdivided, depending on the available number of measurement points provided by the spectrum analyzer.</p> <p>n) Trace average at least 10 traces in power averaging (rms) mode.</p> <p>o) Use the peak marker function to identify the highest amplitude level over each of the measured frequency ranges. Record the frequency and amplitude and capture a plot for inclusion in the test report; also provide tabular data, if required.</p> <p>p) Repeat steps i) to o) with the input test signals firstly tuned to a middle band/block frequency/channel, and then tuned to a high band/block</p> |

|                   |                                                                                                                                                                        |
|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                   | frequency/channel.<br>q) Repeat steps b) to p) with the narrowband test signal.<br>r) Repeat steps b) to q) for all authorized frequency bands/blocks used by the EUT. |
| Test Instruments: | Refer to section 4.10 for details                                                                                                                                      |
| Test mode:        | Refer to section 4.4 for details                                                                                                                                       |
| Test results:     | Passed                                                                                                                                                                 |

Test plots as follows:

n77(3450MHz-3550MHz)

## NU Middle Channel

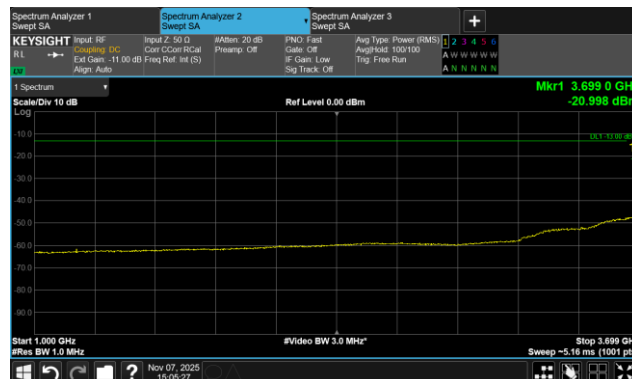
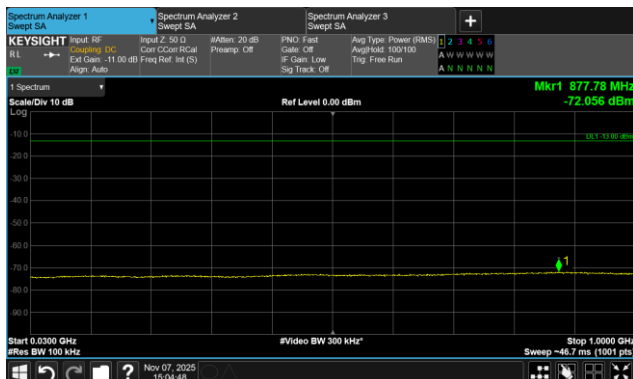


## CU Middle Channel



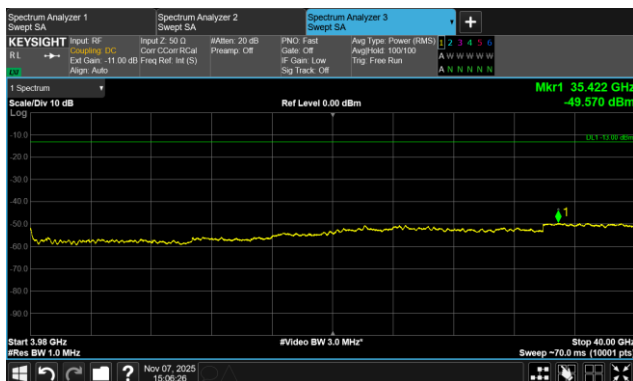
n77(3700MHz-3980MHz)

## NU Low Channel



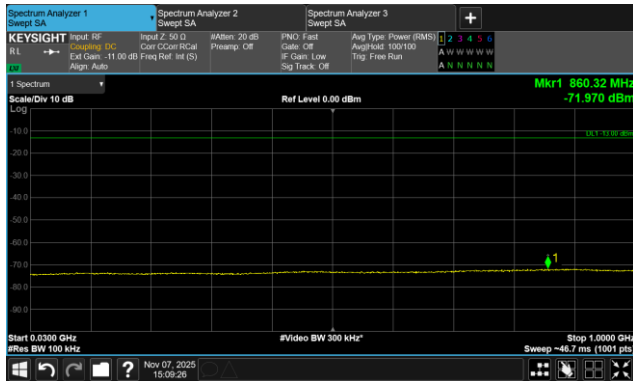
30 MHz-1000 MHz

1000MHz-3699MHz

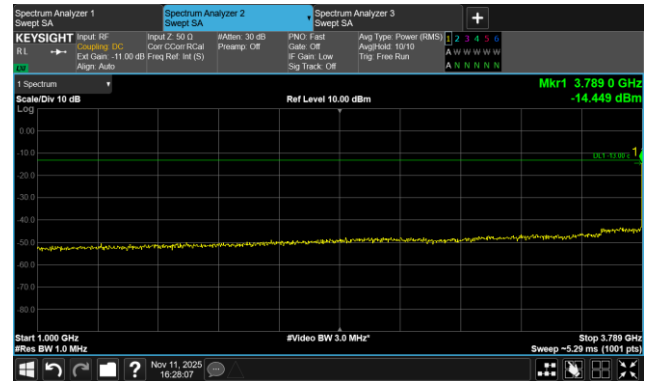


3881 MHz-40GHz

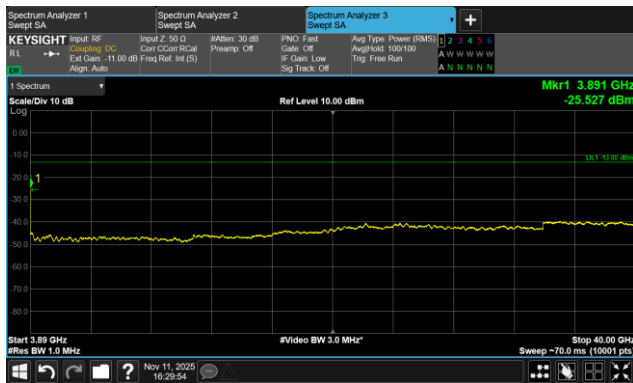
## NU Middle Channel



30 MHz-1000 MHz

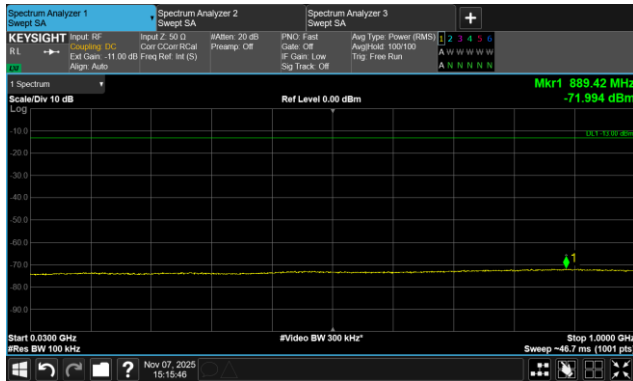


1000MHz-3789MHz

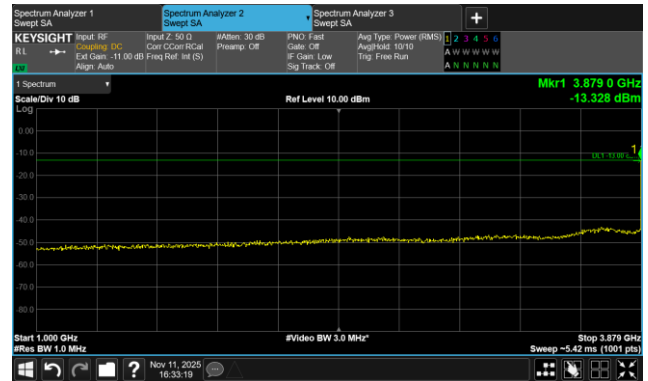


3891 MHz-40GHz

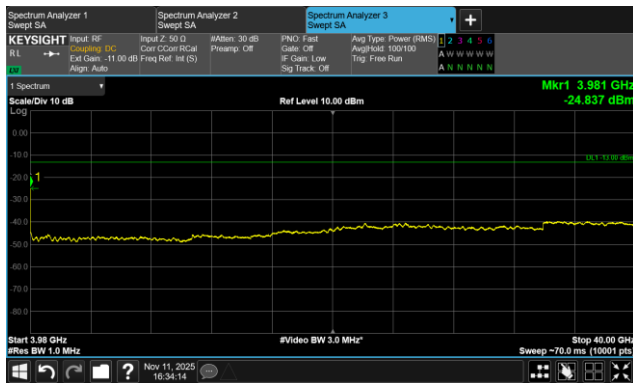
## NU High Channel



30MHz-1000MHz

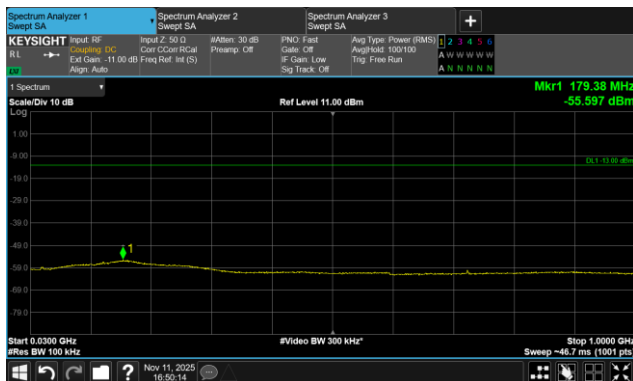


1000MHz-3879MHz

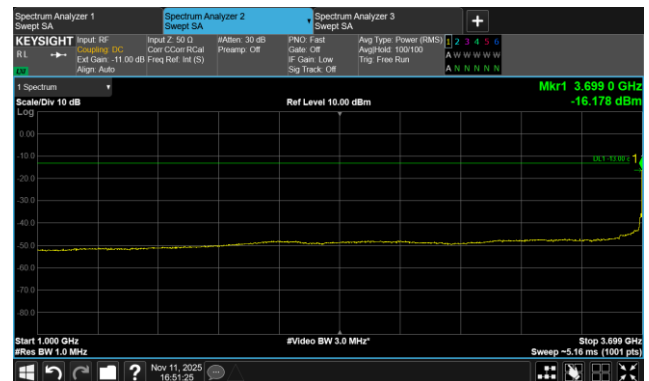


3981MHz-40GHz

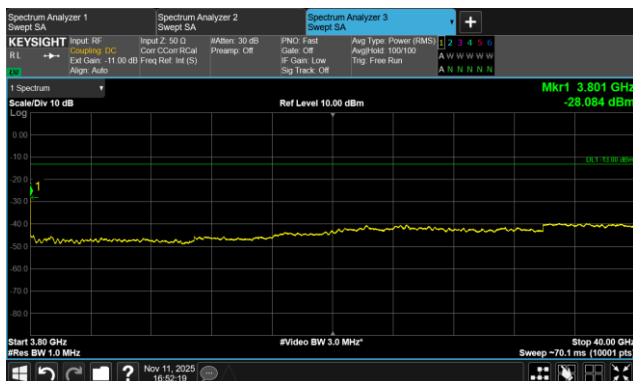
## CU Low Channel



30 MHz-1000 MHz



1000MHz-3449MHz

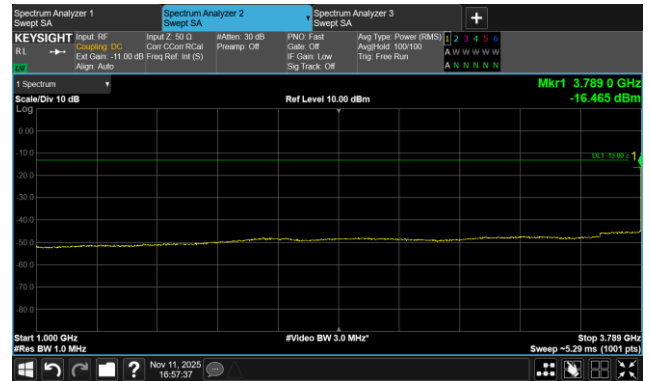


3881 MHz-40GHz

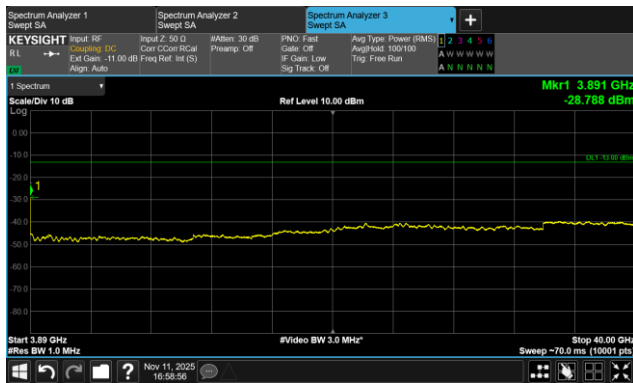
## CU Middle Channel



30 MHz-1000 MHz



1000MHz-3789MHz

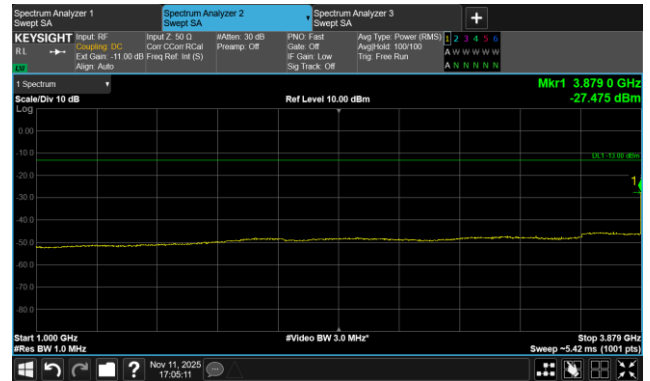


3891 MHz-40GHz

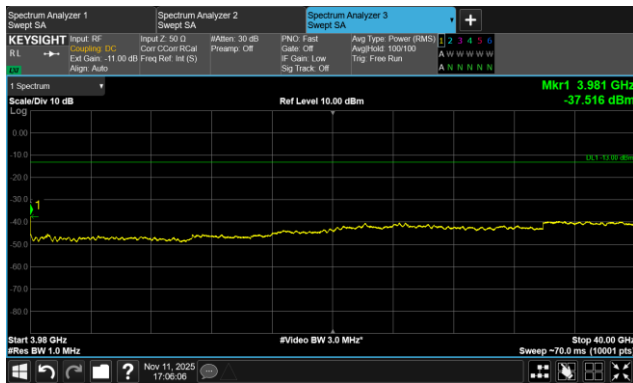
## CU High Channel



30MHz-1000MHz

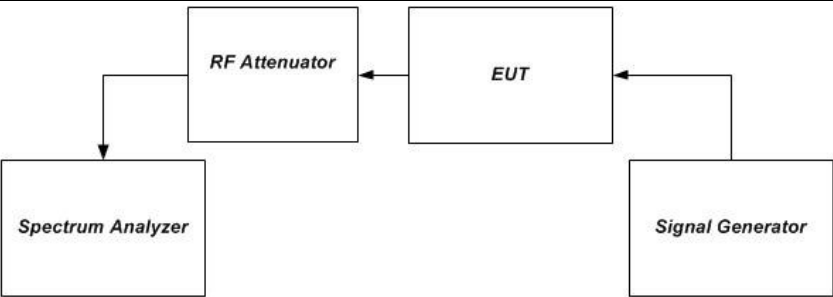


1000MHz-3879MHz



3981MHz-40GHz

## 6.8 Frequency stability

|                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Test Requirement: | FCC part 27.54                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Limit:            | Within the authorized bands of operation.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Test setup:       |  <pre> graph LR     SG[Signal Generator] --&gt; EUT[EUT]     EUT --&gt; RA[RF Attenuator]     RA --&gt; SA[Spectrum Analyzer] </pre>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Test Procedure:   | <ol style="list-style-type: none"> <li>Temperature conditions: <ol style="list-style-type: none"> <li>The RF output port of the EUT was connected to spectrum analyzer.</li> <li>Set the working Frequency in the middle channel.</li> <li>Vary the temperature from -30℃ to 50℃ with step 10℃.</li> <li>when reach a temperature point, keep the temperature banlance at least 1 hour to make the product working in this status.</li> <li>Read the frequency at the relative temperature.</li> </ol> </li> <li>Voltage conditions: <ol style="list-style-type: none"> <li>Vary the voltage from -15% nominal voltage to +15%</li> <li>Read the frequency at the relative voltage.</li> </ol> </li> </ol> |
| Test Instruments: | Refer to section 4.10 for details                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Test mode:        | Refer to section 4.4 for details                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Test results:     | Passed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

Measurement Data:

NU:

n77(3450 MHz -3500 MHz)

| Reference Frequency: LTE Band n77 (100MHz) Middle channel=633334 Frequency=3500.01MHz |                      |                 |           |                                     |        |
|---------------------------------------------------------------------------------------|----------------------|-----------------|-----------|-------------------------------------|--------|
| Temperature                                                                           |                      |                 |           |                                     |        |
| Power supplied (Vac)                                                                  | Temperature (℃)      | Frequency error |           | Limit (ppm)                         | Result |
|                                                                                       |                      | Hz              | ppm       |                                     |        |
| QPSK                                                                                  |                      |                 |           |                                     |        |
| 48.0                                                                                  | -30                  | -18.97          | -0.005420 | Within authorized band for Band n77 | Pass   |
|                                                                                       | -20                  | -17.87          | -0.005106 |                                     |        |
|                                                                                       | -10                  | -20.2           | -0.005771 |                                     |        |
|                                                                                       | 0                    | -18.71          | -0.005346 |                                     |        |
|                                                                                       | 10                   | -18.91          | -0.005403 |                                     |        |
|                                                                                       | 20                   | -18.88          | -0.005394 |                                     |        |
|                                                                                       | 30                   | -23.21          | -0.006631 |                                     |        |
|                                                                                       | 40                   | -18.79          | -0.005369 |                                     |        |
|                                                                                       | 50                   | -19.13          | -0.005466 |                                     |        |
| Voltage                                                                               |                      |                 |           |                                     |        |
| Temperature (℃)                                                                       | Power supplied (Vdc) | Frequency error |           | Limit (ppm)                         | Result |
|                                                                                       |                      | Hz              | ppm       |                                     |        |
| QPSK                                                                                  |                      |                 |           |                                     |        |
| 25                                                                                    | 40.8                 | -14.98          | -0.004280 | Within authorized band for Band n77 | Pass   |
|                                                                                       | 48.0                 | -15.78          | -0.004509 |                                     |        |
|                                                                                       | 55.2                 | -17.05          | -0.004871 |                                     |        |

n77(3700 MHz -3980 MHz)

| Reference Frequency: LTE Band n77 (100MHz) Middle channel=656000 Frequency=3840MHz |                         |                 |           |                                        |        |
|------------------------------------------------------------------------------------|-------------------------|-----------------|-----------|----------------------------------------|--------|
| Temperature                                                                        |                         |                 |           |                                        |        |
| Power supplied<br>(Vdc)                                                            | Temperature<br>(℃)      | Frequency error |           | Limit (ppm)                            | Result |
|                                                                                    |                         | Hz              | ppm       |                                        |        |
| QPSK                                                                               |                         |                 |           |                                        |        |
| 48.0                                                                               | -30                     | -19.08          | -0.004969 | Within authorized<br>band for Band n77 | Pass   |
|                                                                                    | -20                     | -18.12          | -0.004719 |                                        |        |
|                                                                                    | -10                     | -20.27          | -0.005279 |                                        |        |
|                                                                                    | 0                       | -19.05          | -0.004961 |                                        |        |
|                                                                                    | 10                      | -28.31          | -0.007372 |                                        |        |
|                                                                                    | 20                      | -12.03          | -0.003133 |                                        |        |
|                                                                                    | 30                      | -23.04          | -0.006000 |                                        |        |
|                                                                                    | 40                      | -20.06          | -0.005224 |                                        |        |
|                                                                                    | 50                      | -17.3           | -0.004505 |                                        |        |
| Voltage                                                                            |                         |                 |           |                                        |        |
| Temperature<br>(℃)                                                                 | Power supplied<br>(Vdc) | Frequency error |           | Limit (ppm)                            | Result |
|                                                                                    |                         | Hz              | ppm       |                                        |        |
| QPSK                                                                               |                         |                 |           |                                        |        |
| 25                                                                                 | 40.8                    | -22.85          | -0.005951 | Within authorized<br>band for Band n77 | Pass   |
|                                                                                    | 48.0                    | -23.32          | -0.006073 |                                        |        |
|                                                                                    | 55.2                    | -22.81          | -0.005940 |                                        |        |

CU:

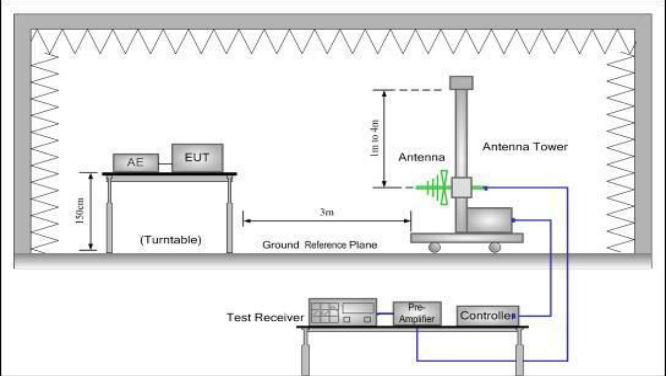
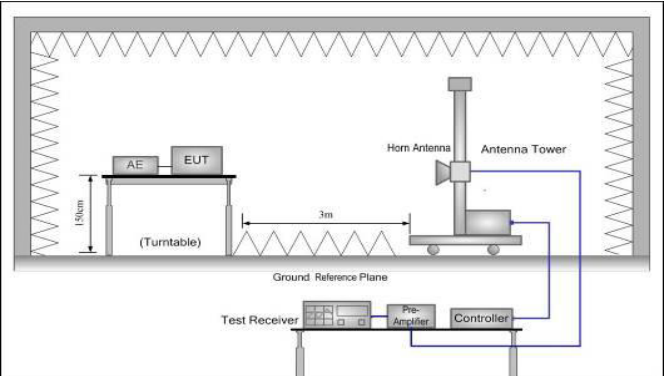
n77(3450 MHz -3500 MHz)

| Reference Frequency: LTE Band n77 (100MHz) Middle channel=633334 Frequency=3500.01MHz |                      |                 |           |                                     |        |
|---------------------------------------------------------------------------------------|----------------------|-----------------|-----------|-------------------------------------|--------|
| Temperature                                                                           |                      |                 |           |                                     |        |
| Power supplied (Vac)                                                                  | Temperature (°C)     | Frequency error |           | Limit (ppm)                         | Result |
|                                                                                       |                      | Hz              | ppm       |                                     |        |
| QPSK                                                                                  |                      |                 |           |                                     |        |
| 48.0                                                                                  | -30                  | -18.79          | -0.005369 | Within authorized band for Band n77 | Pass   |
|                                                                                       | -20                  | -17.87          | -0.005106 |                                     |        |
|                                                                                       | -10                  | -16.14          | -0.004611 |                                     |        |
|                                                                                       | 0                    | -18.5           | -0.005286 |                                     |        |
|                                                                                       | 10                   | -19.25          | -0.005500 |                                     |        |
|                                                                                       | 20                   | -18.08          | -0.005166 |                                     |        |
|                                                                                       | 30                   | -16.96          | -0.004846 |                                     |        |
|                                                                                       | 40                   | -18.38          | -0.005251 |                                     |        |
|                                                                                       | 50                   | -19.97          | -0.005706 |                                     |        |
| Voltage                                                                               |                      |                 |           |                                     |        |
| Temperature (°C)                                                                      | Power supplied (Vdc) | Frequency error |           | Limit (ppm)                         | Result |
|                                                                                       |                      | Hz              | ppm       |                                     |        |
| QPSK                                                                                  |                      |                 |           |                                     |        |
| 25                                                                                    | 40.8                 | -15.04          | -0.004297 | Within authorized band for Band n77 | Pass   |
|                                                                                       | 48.0                 | -15.76          | -0.004503 |                                     |        |
|                                                                                       | 55.2                 | -17.61          | -0.005031 |                                     |        |

n77(3700 MHz -3980 MHz)

| Reference Frequency: LTE Band n77 (100MHz) Middle channel=656000 Frequency=3840MHz |                      |                 |           |                                     |        |
|------------------------------------------------------------------------------------|----------------------|-----------------|-----------|-------------------------------------|--------|
| Temperature                                                                        |                      |                 |           |                                     |        |
| Power supplied (Vdc)                                                               | Temperature (°C)     | Frequency error |           | Limit (ppm)                         | Result |
|                                                                                    |                      | Hz              | ppm       |                                     |        |
| QPSK                                                                               |                      |                 |           |                                     |        |
| 48.0                                                                               | -30                  | -19.23          | -0.005008 | Within authorized band for Band n77 | Pass   |
|                                                                                    | -20                  | -18.5           | -0.004818 |                                     |        |
|                                                                                    | -10                  | -15.87          | -0.004133 |                                     |        |
|                                                                                    | 0                    | -18.92          | -0.004927 |                                     |        |
|                                                                                    | 10                   | -14.37          | -0.003742 |                                     |        |
|                                                                                    | 20                   | -11.2           | -0.002917 |                                     |        |
|                                                                                    | 30                   | -11.6           | -0.003021 |                                     |        |
|                                                                                    | 40                   | -10.14          | -0.002641 |                                     |        |
|                                                                                    | 50                   | -17.56          | -0.004573 |                                     |        |
| Voltage                                                                            |                      |                 |           |                                     |        |
| Temperature (°C)                                                                   | Power supplied (Vdc) | Frequency error |           | Limit (ppm)                         | Result |
|                                                                                    |                      | Hz              | ppm       |                                     |        |
| QPSK                                                                               |                      |                 |           |                                     |        |
| 25                                                                                 | 40.8                 | -20.77          | -0.005409 | Within authorized band for Band n77 | Pass   |
|                                                                                    | 48.0                 | -20.42          | -0.005318 |                                     |        |
|                                                                                    | 55.2                 | -21.27          | -0.005539 |                                     |        |

## 6.9 Radiated Spurious Emissions

|                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Test Requirement: | FCC part 27.53(l)(1), 27.53(n)(1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Limit:            | -13dBm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Test setup:       | <p>Below 1GHz</p>  <p>Above 1GHz</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Test Procedure:   | <p>a) The EUT was placed on an non-conductive turntable using a non-conductive support. The radiated emission at the fundamental frequency was measured at 3 m with a test antenna and EMI spectrum analyzer.</p> <p>b) During the tests, the antenna height and the EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. This maximization process was repeated with the EUT positioned in each of its three orthogonal orientations.</p> <p>c) The frequency range up to tenth harmonic was investigated for each of three fundamental frequency (low, middle and high channels). Once spurious emission was identified, the power of the emission was determined using the substitution method.</p> <p>d) The spurious emissions attenuation was calculated as the difference between radiated power at the fundamental frequency and the spurious emissions frequency.</p> $ERP / EIRP = S.G. \text{ output (dBm)} + \text{Antenna Gain(dB/dBi)} - \text{Cable Loss (dB)}$ |
| Test Instruments: | Refer to section 4.10 for details                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Test mode:        | Refer to section 4.4 for details                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Test results:     | Passed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

| Band n77(3450 MHz – 3550 MHz)                                                                                                                                                                                                                             |                     |             |             |             |             |              |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-------------|-------------|-------------|-------------|--------------|
| Middle Channel - NU                                                                                                                                                                                                                                       |                     |             |             |             |             |              |
| Frequency (MHz)                                                                                                                                                                                                                                           | Reading Level (dBm) | Factor (dB) | Level (dBm) | Limit (dBm) | Margin (dB) | Polarization |
| 7000.02                                                                                                                                                                                                                                                   | -60.51              | 5.79        | -54.72      | -13.00      | 41.72       | Vertical     |
| 10500.03                                                                                                                                                                                                                                                  | -54.87              | 11.93       | -42.94      | -13.00      | 29.94       | Vertical     |
| 14000.04                                                                                                                                                                                                                                                  | -56.27              | 13.55       | -42.72      | -13.00      | 29.72       | Vertical     |
| 7000.02                                                                                                                                                                                                                                                   | -63                 | 5.81        | -57.19      | -13.00      | 44.19       | Horizontal   |
| 10500.03                                                                                                                                                                                                                                                  | -58.92              | 11.33       | -47.59      | -13.00      | 34.59       | Horizontal   |
| 14000.04                                                                                                                                                                                                                                                  | -57.03              | 13.83       | -43.20      | -13.00      | 30.20       | Horizontal   |
| Middle Channel - CU                                                                                                                                                                                                                                       |                     |             |             |             |             |              |
| Frequency (MHz)                                                                                                                                                                                                                                           | Reading Level (dBm) | Factor (dB) | Level (dBm) | Limit (dBm) | Margin (dB) | Polarization |
| 7000.02                                                                                                                                                                                                                                                   | -55.91              | 5.79        | -50.12      | -13.00      | 37.12       | Vertical     |
| 10500.03                                                                                                                                                                                                                                                  | -52.46              | 11.93       | -40.53      | -13.00      | 27.53       | Vertical     |
| 14000.04                                                                                                                                                                                                                                                  | -54.4               | 13.55       | -40.85      | -13.00      | 27.85       | Vertical     |
| 7000.02                                                                                                                                                                                                                                                   | -60.83              | 5.81        | -55.02      | -13.00      | 42.02       | Horizontal   |
| 10500.03                                                                                                                                                                                                                                                  | -57.94              | 11.33       | -46.61      | -13.00      | 33.61       | Horizontal   |
| 14000.04                                                                                                                                                                                                                                                  | -55.46              | 13.83       | -41.63      | -13.00      | 28.63       | Horizontal   |
| <b>Remark:</b><br>1. The emission levels of below 1 GHz are lower than the limit 10dB, so not show in test report.<br>2. Test Frequency up to 40GHz, and the emission levels of other frequencies are lower than the limit 20dB, not show in test report. |                     |             |             |             |             |              |

| Band n77(3700 MHz – 3980 MHz)                                                                                                                                                                                                                                                                            |                     |             |             |             |             |              |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-------------|-------------|-------------|-------------|--------------|
| NU                                                                                                                                                                                                                                                                                                       |                     |             |             |             |             |              |
| Low Channel                                                                                                                                                                                                                                                                                              |                     |             |             |             |             |              |
| Frequency (MHz)                                                                                                                                                                                                                                                                                          | Reading Level (dBm) | Factor (dB) | Level (dBm) | Limit (dBm) | Margin (dB) | Polarization |
| 7500.00                                                                                                                                                                                                                                                                                                  | -64.76              | 6.75        | -58.01      | -13.00      | 45.01       | Vertical     |
| 11250.00                                                                                                                                                                                                                                                                                                 | -66.03              | 11.70       | -54.33      | -13.00      | 41.33       | Vertical     |
| 15000.00                                                                                                                                                                                                                                                                                                 | -60.46              | 13.78       | -46.68      | -13.00      | 33.68       | Vertical     |
| 7500.00                                                                                                                                                                                                                                                                                                  | -63.47              | 6.30        | -57.17      | -13.00      | 44.17       | Horizontal   |
| 11250.00                                                                                                                                                                                                                                                                                                 | -66.06              | 11.49       | -54.57      | -13.00      | 41.57       | Horizontal   |
| 15000.00                                                                                                                                                                                                                                                                                                 | -60.62              | 15.10       | -45.52      | -13.00      | 32.52       | Horizontal   |
| Middle Channel                                                                                                                                                                                                                                                                                           |                     |             |             |             |             |              |
| Frequency (MHz)                                                                                                                                                                                                                                                                                          | Reading Level (dBm) | Factor (dB) | Level (dBm) | Limit (dBm) | Margin (dB) | Polarization |
| 7680.00                                                                                                                                                                                                                                                                                                  | -64.31              | 7.10        | -57.21      | -13.00      | 44.21       | Vertical     |
| 11520.00                                                                                                                                                                                                                                                                                                 | -66.36              | 11.50       | -54.86      | -13.00      | 41.86       | Vertical     |
| 15360.00                                                                                                                                                                                                                                                                                                 | -60.73              | 14.88       | -45.85      | -13.00      | 32.85       | Vertical     |
| 7680.00                                                                                                                                                                                                                                                                                                  | -63.14              | 6.87        | -56.27      | -13.00      | 43.27       | Horizontal   |
| 11520.00                                                                                                                                                                                                                                                                                                 | -66.53              | 11.25       | -55.28      | -13.00      | 42.28       | Horizontal   |
| 15360.00                                                                                                                                                                                                                                                                                                 | -60.92              | 16.38       | -44.54      | -13.00      | 31.54       | Horizontal   |
| High Channel                                                                                                                                                                                                                                                                                             |                     |             |             |             |             |              |
| Frequency (MHz)                                                                                                                                                                                                                                                                                          | Reading Level (dBm) | Factor (dB) | Level (dBm) | Limit (dBm) | Margin (dB) | Polarization |
| 7860.00                                                                                                                                                                                                                                                                                                  | -64.60              | 9.18        | -55.42      | -13.00      | 42.42       | Vertical     |
| 11790.00                                                                                                                                                                                                                                                                                                 | -66.45              | 11.53       | -54.92      | -13.00      | 41.92       | Vertical     |
| 168990.00                                                                                                                                                                                                                                                                                                | -60.58              | 14.10       | -46.48      | -13.00      | 33.48       | Vertical     |
| 7860.00                                                                                                                                                                                                                                                                                                  | -63.00              | 8.85        | -54.15      | -13.00      | 41.15       | Horizontal   |
| 11790.00                                                                                                                                                                                                                                                                                                 | -66.64              | 11.84       | -54.80      | -13.00      | 41.80       | Horizontal   |
| 15720.00                                                                                                                                                                                                                                                                                                 | -61.29              | 16.99       | -44.30      | -13.00      | 31.30       | Horizontal   |
| <b>Remark:</b> <ol style="list-style-type: none"> <li>The emission levels of below 1 GHz are lower than the limit 10dB, so not show in test report.</li> <li>Test Frequency up to 40GHz, and the emission levels of other frequencies are lower than the limit 20dB, not show in test report.</li> </ol> |                     |             |             |             |             |              |

| Band n77(3700 MHz – 3980 MHz)                                                                                                                                                                                                                             |                     |             |             |             |             |              |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-------------|-------------|-------------|-------------|--------------|
| CU                                                                                                                                                                                                                                                        |                     |             |             |             |             |              |
| Low Channel                                                                                                                                                                                                                                               |                     |             |             |             |             |              |
| Frequency (MHz)                                                                                                                                                                                                                                           | Reading Level (dBm) | Factor (dB) | Level (dBm) | Limit (dBm) | Margin (dB) | Polarization |
| 7500.00                                                                                                                                                                                                                                                   | -66.18              | 6.75        | -59.43      | -13.00      | 46.43       | Vertical     |
| 11250.00                                                                                                                                                                                                                                                  | -66.58              | 11.70       | -54.88      | -13.00      | 41.88       | Vertical     |
| 15000.00                                                                                                                                                                                                                                                  | -59.87              | 13.78       | -46.09      | -13.00      | 33.09       | Vertical     |
| 7500.00                                                                                                                                                                                                                                                   | -64.62              | 6.30        | -58.32      | -13.00      | 45.32       | Horizontal   |
| 11250.00                                                                                                                                                                                                                                                  | -66.05              | 11.49       | -54.56      | -13.00      | 41.56       | Horizontal   |
| 15000.00                                                                                                                                                                                                                                                  | -61.48              | 15.10       | -46.38      | -13.00      | 33.38       | Horizontal   |
| Middle Channel                                                                                                                                                                                                                                            |                     |             |             |             |             |              |
| Frequency (MHz)                                                                                                                                                                                                                                           | Reading Level (dBm) | Factor (dB) | Level (dBm) | Limit (dBm) | Margin (dB) | Polarization |
| 7680.00                                                                                                                                                                                                                                                   | -65.71              | 7.10        | -58.61      | -13.00      | 45.61       | Vertical     |
| 11520.00                                                                                                                                                                                                                                                  | -66.31              | 11.50       | -54.81      | -13.00      | 41.81       | Vertical     |
| 15360.00                                                                                                                                                                                                                                                  | -59.53              | 14.88       | -44.65      | -13.00      | 31.65       | Vertical     |
| 7680.00                                                                                                                                                                                                                                                   | -65.01              | 6.87        | -58.14      | -13.00      | 45.14       | Horizontal   |
| 11520.00                                                                                                                                                                                                                                                  | -66.20              | 11.25       | -54.95      | -13.00      | 41.95       | Horizontal   |
| 15360.00                                                                                                                                                                                                                                                  | -61.37              | 16.38       | -44.99      | -13.00      | 31.99       | Horizontal   |
| High Channel                                                                                                                                                                                                                                              |                     |             |             |             |             |              |
| Frequency (MHz)                                                                                                                                                                                                                                           | Reading Level (dBm) | Factor (dB) | Level (dBm) | Limit (dBm) | Margin (dB) | Polarization |
| 7860.00                                                                                                                                                                                                                                                   | -65.43              | 9.18        | -56.25      | -13.00      | 43.25       | Vertical     |
| 11790.00                                                                                                                                                                                                                                                  | -66.59              | 11.53       | -55.06      | -13.00      | 42.06       | Vertical     |
| 168990.00                                                                                                                                                                                                                                                 | -59.30              | 14.10       | -45.20      | -13.00      | 32.20       | Vertical     |
| 7860.00                                                                                                                                                                                                                                                   | -65.51              | 8.85        | -56.66      | -13.00      | 43.66       | Horizontal   |
| 11790.00                                                                                                                                                                                                                                                  | -66.32              | 11.84       | -54.48      | -13.00      | 41.48       | Horizontal   |
| 15720.00                                                                                                                                                                                                                                                  | -61.41              | 16.99       | -44.42      | -13.00      | 31.42       | Horizontal   |
| <b>Remark:</b><br>1. The emission levels of below 1 GHz are lower than the limit 10dB, so not show in test report.<br>2. Test Frequency up to 40GHz, and the emission levels of other frequencies are lower than the limit 20dB, not show in test report. |                     |             |             |             |             |              |

-----End of report-----