



# FCC RF Test Report

APPLICANT : Xiaomi Communications Co., Ltd.  
EQUIPMENT : Mobile Phone  
BRAND NAME : XIAOMI  
MODEL NAME : 22071212AG  
FCC ID : 2AFZZ12AG  
STANDARD : 47 CFR Part 2, 22, 27  
CLASSIFICATION : PCS Licensed Transmitter Held to Ear (PCE)  
TEST DATE(S) : Jun. 13, 2022

We, Sporton International Inc. (ShenZhen), would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.26-2015 and shown compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of Sporton International Inc. (ShenZhen), the test report shall not be reproduced except in full.

Jason Jia

Approved by: Jason Jia



**Sporton International Inc. (ShenZhen)**

**1/F, 2/F, Bldg 5, Shiling Industrial Zone, Xinwei Village, Xili, Nanshan, Shenzhen, 518055**

**People's Republic of China**



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## REVISION HISTORY

| REPORT NO. | VERSION | DESCRIPTION             | ISSUED DATE   |
|------------|---------|-------------------------|---------------|
| FG250504I  | Rev. 01 | Initial issue of report | Jun. 20, 2022 |
|            |         |                         |               |
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|            |         |                         |               |



## SUMMARY OF TEST RESULT

| Report Section | FCC Rule                              | Description                                                       | Limit                               | Result | Remark                                       |
|----------------|---------------------------------------|-------------------------------------------------------------------|-------------------------------------|--------|----------------------------------------------|
| -              | §2.1046                               | Conducted Output Power                                            | Reporting Only                      | PASS   | 1                                            |
|                | §22.913(a)(5)                         | Effective Radiated Power<br>(5G NR n5)                            | ERP < 7 Watt                        |        |                                              |
|                | §27.50(h)(2)                          | Equivalent Isotropic Radiated Power<br>(5G NR n7, n38, n41)       | EIRP < 2Watt                        |        |                                              |
|                | §27.50(j)(3)                          | Equivalent Isotropic Radiated Power<br>(5G NR n77, n78)           | EIRP < 1Watt                        |        |                                              |
| -              | §27.50(j)(4)                          | Peak-to-Average Ratio                                             | <13 dB                              | PASS   | 1                                            |
| -              | §2.1049<br>§96.41                     | Occupied Bandwidth                                                | Reporting Only                      | PASS   | 1                                            |
| -              | §2.1051<br>§22.917(a)<br>§27.53(l)(2) | Conducted Band Edge Measurement<br>(5G NR n5)<br>(5G NR n77, n78) | < 43+10log <sub>10</sub> (P[Watts]) | PASS   | 1                                            |
|                | §27.53(m)(4)                          | Conducted Band Edge Measurement<br>(5G NR n7, n38, n41)           | §27.53(m)(4)                        |        |                                              |
| -              | §2.1051<br>§22.917(a)<br>§27.53(l)(2) | Conducted Spurious Emission<br>(5G NR n5)<br>(5G NR n77, n78)     | < 43+10log <sub>10</sub> (P[Watts]) | PASS   | 1                                            |
|                | §2.1051<br>§27.53(m)(4)               | Conducted Spurious Emission<br>(5G NR n7, n38, n41)               | < 55+10log <sub>10</sub> (P[Watts]) |        |                                              |
| -              | §2.1055<br>§22.355                    | Frequency Stability<br>Temperature & Voltage                      | < 2.5 ppm for Part 22               | PASS   | 1                                            |
|                | §27.54                                |                                                                   | Within Authorized Band              |        |                                              |
| 3.4            | §2.1053<br>§22.917(a)<br>§27.53(l)(2) | Radiated Spurious Emission<br>(5G NR n5)<br>(5G NR n77, n78)      | < 43+10log <sub>10</sub> (P[Watts]) | PASS   | Under limit<br>17.69 dB at<br>7402.50<br>MHz |
|                | §2.1053<br>§27.53(m)(4)               | Radiated Spurious Emission<br>(5G NR n7, n38, n41)                | < 55+10log <sub>10</sub> (P[Watts]) |        |                                              |

**Remark 1 :**

The test items of inter band CA were cover by 5G NR single carrier due to the CA power is reduced according to 3GPP MPR.

**Declaration of Conformity:**

The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.

**Comments and Explanations:**

The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.



# 1 General Description

## 1.1 Applicant

Xiaomi Communications Co., Ltd.

#019, 9th Floor, Building 6, 33 Xi'erqi Middle Road, Haidian District, Beijing, China, 100085

## 1.2 Manufacturer

Xiaomi Communications Co., Ltd.

#019, 9th Floor, Building 6, 33 Xi'erqi Middle Road, Haidian District, Beijing, China, 100085

## 1.3 Product Feature of Equipment Under Test

| Product Feature |                                             |
|-----------------|---------------------------------------------|
| Equipment       | Mobile Phone                                |
| Brand Name      | XIAOMI                                      |
| Model Name      | 22071212AG                                  |
| FCC ID          | 2AFZZ12AG                                   |
| IMEI Code       | Radiation : 860232060096565/860232060096573 |
| HW Version      | P2                                          |
| SW Version      | MIUI 13                                     |
| EUT Stage       | Identical Prototype                         |

## 1.4 Product Specification of Equipment Under Test

| Standards-related Product Specification |                                                                                                                                                                                                                                                    |
|-----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Tx Frequency                            | 5G NR n5 : 824 MHz ~ 849 MHz<br>5G NR n7 : 2500 MHz ~ 2570 MHz<br>5G NR n38 : 2570 MHz ~ 2620 MHz<br>5G NR n41 : 2496 MHz ~ 2690 MHz<br>5G NR n77: 3450 MHz ~ 3550 MHz, 3700 MHz ~ 3980 MHz<br>5G NR n78: 3450 MHz ~ 3550 MHz, 3700 MHz ~ 3800 MHz |
| Rx Frequency                            | 5G NR n5 : 869 MHz ~ 894 MHz<br>5G NR n7 : 2620 MHz ~ 2690 MHz<br>5G NR n38: 2570 MHz ~ 2620 MHz<br>5G NR n41 : 2496 MHz ~ 2690 MHz<br>5G NR n77: 3450 MHz ~ 3550 MHz, 3700 MHz ~ 3980 MHz<br>5G NR n78: 3450 MHz ~ 3550 MHz, 3700 MHz ~ 3800 MHz  |
| Uplink CA Bands                         | n41A-n77A, n77A-n41A, n5A-n78A, n78A-n5A, n7A-n78A, n78A-n7A, n38A-n78A, n78A-n38A, n41A-n78A, n78A-n41A                                                                                                                                           |
| Type of Modulation                      | CP-OFDM: QPSK / 16QAM / 64QAM / 256QAM<br>DFT-s-OFDM: PI/2 BPSK / QPSK / 16QAM / 64QAM / 256QAM                                                                                                                                                    |

## 1.5 Modification of EUT

No modifications are made to the EUT during all test items.



## 1.6 Testing Location

Sporton International Inc. (Shenzhen) is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.01.

|                           |                                                                                                                                                                                           |                            |                                       |
|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|---------------------------------------|
| <b>Test Firm</b>          | Sporton International Inc. (Shenzhen)                                                                                                                                                     |                            |                                       |
| <b>Test Site Location</b> | 101, 1st Floor, Block B, Building 1, No. 2, Tengfeng 4th Road, Fenghuang Community, Fuyong Street, Baoan District, Shenzhen City Guangdong Province China 518103<br>TEL: +86-755-33202398 |                            |                                       |
| <b>Test Site No.</b>      | <b>Sporton Site No.</b>                                                                                                                                                                   | <b>FCC Designation No.</b> | <b>FCC Test Firm Registration No.</b> |
|                           | 03CH03-SZ                                                                                                                                                                                 | CN1256                     | 421272                                |

## 1.7 Test Software

| Item | Site      | Manufacturer | Name | Version     |
|------|-----------|--------------|------|-------------|
| 1.   | 03CH03-SZ | AUDIX        | E3   | 6.2009-8-24 |

## 1.8 Applicable Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- ♦ 47 CFR Part 2, 22, 27
- ♦ ANSI C63.26-2015
- ♦ FCC KDB 971168 D01 Power Meas License Digital Systems v03r01
- ♦ FCC KDB 412172 D01 Determining ERP and EIRP v01r01

### Remark:

All test items were verified and recorded according to the standards and without any deviation during the test.

## 2 Test Configuration of Equipment Under Test

### 2.1 Test Mode

Antenna port conducted and radiated test items are performed according to KDB 971168 D01 Power Meas License Digital Systems v03r01 with maximum output power.

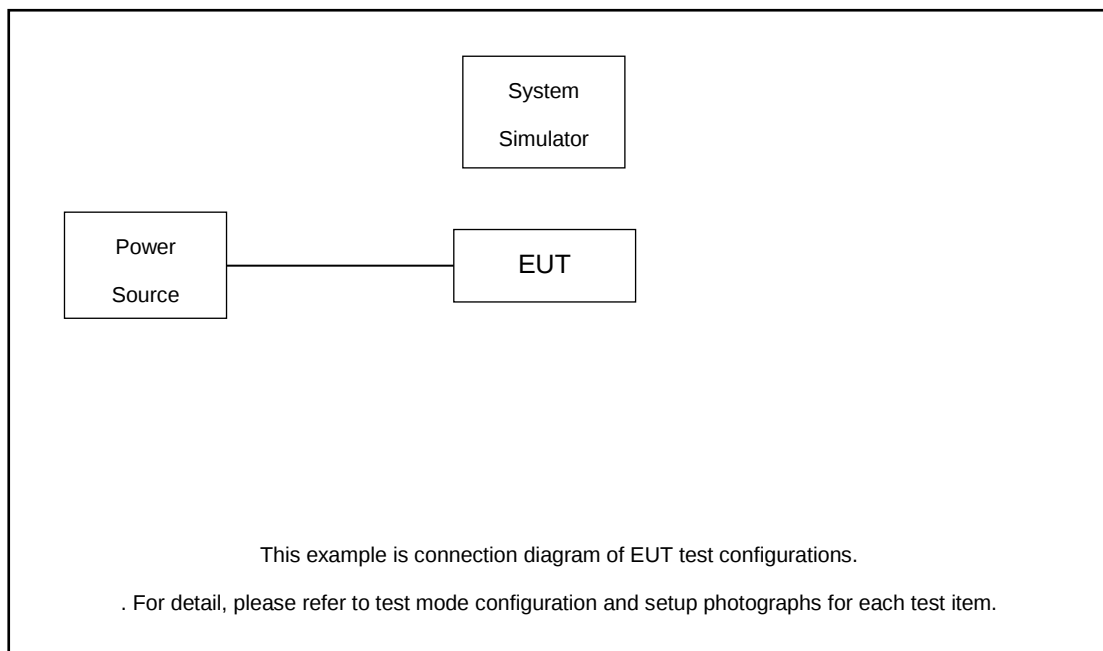
For radiated measurement, pre-scanned in three orthogonal panels, X, Y, Z. The worst cases were recorded in this report.

The device is investigated from 30MHz to 10 times of fundamental signal for radiated spurious emission test under different RB size/offset and modulations in exploratory test. Subsequently, only the worst case emissions are reported.

| Orthogonal<br>Planes of EUT | X Plane                                                                           | Y Plane                                                                           | Z Plane                                                                             |
|-----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|                             |  |  |  |

| Test Items                 | Band                                                                                                                                                                                                                                                                                                                                                                               | Bandwidth (MHz) |    |    |    |       |     | Modulation |      |       |       |        | RB # |      | Test Channel |   |   |
|----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|----|----|----|-------|-----|------------|------|-------|-------|--------|------|------|--------------|---|---|
|                            |                                                                                                                                                                                                                                                                                                                                                                                    | 5               | 10 | 15 | 20 | 25-90 | 100 | PI/2 BPSK  | QPSK | 16QAM | 64QAM | 256QAM | 1    | Full | L            | M | H |
| Radiated Spurious Emission | CA_n41A-n77A                                                                                                                                                                                                                                                                                                                                                                       | Worst Case      |    |    |    |       |     |            |      |       |       |        |      |      |              | v |   |
|                            | CA_n77A-n41A                                                                                                                                                                                                                                                                                                                                                                       | Worst Case      |    |    |    |       |     |            |      |       |       |        |      |      |              | v |   |
|                            | CA_n5A-n78A                                                                                                                                                                                                                                                                                                                                                                        | Worst Case      |    |    |    |       |     |            |      |       |       |        |      |      |              | v |   |
|                            | CA_n78A-n5A                                                                                                                                                                                                                                                                                                                                                                        | Worst Case      |    |    |    |       |     |            |      |       |       |        |      |      |              | v |   |
|                            | CA_n7A-n78A                                                                                                                                                                                                                                                                                                                                                                        | Worst Case      |    |    |    |       |     |            |      |       |       |        |      |      |              | v |   |
|                            | CA_n78A-n7A                                                                                                                                                                                                                                                                                                                                                                        | Worst Case      |    |    |    |       |     |            |      |       |       |        |      |      |              | v |   |
|                            | CA_n38A-n78A                                                                                                                                                                                                                                                                                                                                                                       | Worst Case      |    |    |    |       |     |            |      |       |       |        |      |      |              | v |   |
|                            | CA_n78A-n38A                                                                                                                                                                                                                                                                                                                                                                       | Worst Case      |    |    |    |       |     |            |      |       |       |        |      |      |              | v |   |
|                            | CA_n41A-n78A                                                                                                                                                                                                                                                                                                                                                                       | Worst Case      |    |    |    |       |     |            |      |       |       |        |      |      |              | v |   |
|                            | CA_n78A-n41A                                                                                                                                                                                                                                                                                                                                                                       | Worst Case      |    |    |    |       |     |            |      |       |       |        |      |      |              | v |   |
| Note                       | 1. The mark “v” means that this configuration is chosen for testing<br>2. The mark “-” means that this bandwidth is not supported.<br>3. The device is investigated from 30MHz to 10 times of fundamental signal for radiated spurious emission test under different RB size/offset and modulations in exploratory test. Subsequently, only the worst case emissions are reported. |                 |    |    |    |       |     |            |      |       |       |        |      |      |              |   |   |

## 2.2 Connection Diagram of Test System



## 2.3 Support Unit used in test configuration and system

| Item | Equipment        | Trade Name | Model No. | FCC ID | Data Cable | Power Cord        |
|------|------------------|------------|-----------|--------|------------|-------------------|
| 1.   | DC Power Supply  | GW         | GPS-3030D | N/A    | N/A        | Unshielded, 1.8 m |
| 2.   | LTE Base Station | Anritsu    | MT8821C   | N/A    | N/A        | Unshielded, 1.8 m |
| 3.   | NR Base Station  | Anritsu    | MT8000A   | N/A    | N/A        | Unshielded, 1.8 m |

## 2.4 Frequency List of Low/Middle/High Channels

| 5G NR n5 (15kHz) Channel and Frequency List for |                        |        |        |         |
|-------------------------------------------------|------------------------|--------|--------|---------|
| BW [MHz]                                        | Channel/Frequency(MHz) | Lowest | Middle | Highest |
| 25                                              | Channel                | -      | 176300 | -       |
|                                                 | Frequency              | -      | 836.5  | -       |
| 20                                              | Channel                | 175800 | 176300 | 176800  |
|                                                 | Frequency              | 834    | 836.5  | 839     |
| 15                                              | Channel                | 175300 | 176300 | 177300  |
|                                                 | Frequency              | 831.5  | 836.5  | 841.5   |
| 10                                              | Channel                | 174800 | 176300 | 177800  |
|                                                 | Frequency              | 829    | 836.5  | 844     |
| 5                                               | Channel                | 174300 | 176300 | 178300  |
|                                                 | Frequency              | 826.5  | 836.5  | 846.5   |

| 5G NR n5 (30kHz) Channel and Frequency List |                        |        |        |         |
|---------------------------------------------|------------------------|--------|--------|---------|
| BW [MHz]                                    | Channel/Frequency(MHz) | Lowest | Middle | Highest |
| 25                                          | Channel                | -      | 176300 | -       |
|                                             | Frequency              | -      | 836.5  | -       |
| 20                                          | Channel                | 175800 | 176300 | 176800  |
|                                             | Frequency              | 834    | 836.5  | 839     |
| 15                                          | Channel                | 175300 | 176300 | 177300  |
|                                             | Frequency              | 831.5  | 836.5  | 841.5   |
| 10                                          | Channel                | 174800 | 176300 | 177800  |
|                                             | Frequency              | 829    | 836.5  | 844     |



| 5G NR n7 (15kHz) Channel and Frequency List |                        |        |        |         |
|---------------------------------------------|------------------------|--------|--------|---------|
| BW [MHz]                                    | Channel/Frequency(MHz) | Lowest | Middle | Highest |
| 50                                          | Channel                | 529000 | 531000 | 533000  |
|                                             | Frequency              | 2525   | 2535   | 2545    |
| 40                                          | Channel                | 528000 | 531000 | 534000  |
|                                             | Frequency              | 2520   | 2535   | 2550    |
| 30                                          | Channel                | 527000 | 531000 | 535000  |
|                                             | Frequency              | 2515   | 2535   | 2555    |
| 25                                          | Channel                | 526500 | 531000 | 535500  |
|                                             | Frequency              | 2512.5 | 2535   | 2557.5  |
| 20                                          | Channel                | 526000 | 531000 | 536000  |
|                                             | Frequency              | 2510   | 2535   | 2560    |
| 15                                          | Channel                | 525500 | 531000 | 536500  |
|                                             | Frequency              | 2507.5 | 2535   | 2562.5  |
| 10                                          | Channel                | 525000 | 531000 | 537000  |
|                                             | Frequency              | 2505   | 2535   | 2565    |
| 5                                           | Channel                | 524500 | 531000 | 537500  |
|                                             | Frequency              | 2502.5 | 2535   | 2567.5  |

| 5G NR n7 (30kHz) Channel and Frequency List |                        |        |        |         |
|---------------------------------------------|------------------------|--------|--------|---------|
| BW [MHz]                                    | Channel/Frequency(MHz) | Lowest | Middle | Highest |
| 50                                          | Channel                | 529000 | 531000 | 533000  |
|                                             | Frequency              | 2525   | 2535   | 2545    |
| 40                                          | Channel                | 528000 | 531000 | 534000  |
|                                             | Frequency              | 2520   | 2535   | 2550    |
| 30                                          | Channel                | 527000 | 531000 | 535000  |
|                                             | Frequency              | 2515   | 2535   | 2555    |
| 25                                          | Channel                | 526500 | 531000 | 535500  |
|                                             | Frequency              | 2512.5 | 2535   | 2557.5  |
| 20                                          | Channel                | 526000 | 531000 | 536000  |
|                                             | Frequency              | 2510   | 2535   | 2560    |
| 15                                          | Channel                | 525500 | 531000 | 536500  |
|                                             | Frequency              | 2507.5 | 2535   | 2562.5  |
| 10                                          | Channel                | 525000 | 531000 | 537000  |
|                                             | Frequency              | 2505   | 2535   | 2565    |



| 5G NR n38 (15kHz) Channel and Frequency List |                        |        |        |         |
|----------------------------------------------|------------------------|--------|--------|---------|
| BW [MHz]                                     | Channel/Frequency(MHz) | Lowest | Middle | Highest |
| 40                                           | Channel                | 518000 | 519000 | 520000  |
|                                              | Frequency              | 2590   | 2595   | 2600    |
| 30                                           | Channel                | 517000 | 519000 | 521000  |
|                                              | Frequency              | 2585   | 2595   | 2605    |
| 25                                           | Channel                | 516500 | 519000 | 521500  |
|                                              | Frequency              | 2582.5 | 2595   | 2607.5  |
| 20                                           | Channel                | 516000 | 519000 | 522000  |
|                                              | Frequency              | 2580   | 2595   | 2610    |
| 15                                           | Channel                | 515500 | 519000 | 522500  |
|                                              | Frequency              | 2577.5 | 2595   | 2612.5  |
| 10                                           | Channel                | 515000 | 519000 | 523000  |
|                                              | Frequency              | 2575   | 2595   | 2615    |
| 5                                            | Channel                | 514500 | 519000 | 523500  |
|                                              | Frequency              | 2572.5 | 2595   | 2617.5  |

| 5G NR n38 (30kHz) Channel and Frequency List |                        |        |        |         |
|----------------------------------------------|------------------------|--------|--------|---------|
| BW [MHz]                                     | Channel/Frequency(MHz) | Lowest | Middle | Highest |
| 40                                           | Channel                | 518000 | 519000 | 520000  |
|                                              | Frequency              | 2590   | 2595   | 2600    |
| 30                                           | Channel                | 517000 | 519000 | 521000  |
|                                              | Frequency              | 2585   | 2595   | 2605    |
| 25                                           | Channel                | 516500 | 519000 | 521500  |
|                                              | Frequency              | 2582.5 | 2595   | 2607.5  |
| 20                                           | Channel                | 516000 | 519000 | 522000  |
|                                              | Frequency              | 2580   | 2595   | 2610    |
| 15                                           | Channel                | 515500 | 519000 | 522500  |
|                                              | Frequency              | 2577.5 | 2595   | 2612.5  |
| 10                                           | Channel                | 515000 | 519000 | 523000  |
|                                              | Frequency              | 2575   | 2595   | 2615    |



| 5G NR n41 (15kHz) Channel and Frequency List |                        |          |          |          |
|----------------------------------------------|------------------------|----------|----------|----------|
| BW [MHz]                                     | Channel/Frequency(MHz) | Lowest   | Middle   | Highest  |
| 50                                           | Channel                | 504201   | 518601   | 532998   |
|                                              | Frequency              | 2521.005 | 2593.005 | 2664.99  |
| 40                                           | Channel                | 503202   | 518601   | 534000   |
|                                              | Frequency              | 2516.01  | 2593.005 | 2670     |
| 30                                           | Channel                | 502200   | 518601   | 534999   |
|                                              | Frequency              | 2511     | 2593.005 | 2674.995 |
| 20                                           | Channel                | 501201   | 518601   | 535998   |
|                                              | Frequency              | 2506.005 | 2593.005 | 2679.99  |
| 15                                           | Channel                | 500700   | 518601   | 536499   |
|                                              | Frequency              | 2503.5   | 2593.005 | 2682.495 |
| 10                                           | Channel                | 500202   | 518601   | 537000   |
|                                              | Frequency              | 2501.01  | 2593.005 | 2685     |



| 5G NR n41 (30kHz) Channel and Frequency List |                        |         |          |          |
|----------------------------------------------|------------------------|---------|----------|----------|
| BW [MHz]                                     | Channel/Frequency(MHz) | Lowest  | Middle   | Highest  |
| 100                                          | Channel                | 509202  | 518598   | 528000   |
|                                              | Frequency              | 2546.01 | 2592.99  | 2640     |
| 90                                           | Channel                | 508200  | 518598   | 528996   |
|                                              | Frequency              | 2541    | 2592.99  | 2644.98  |
| 80                                           | Channel                | 507204  | 518598   | 529998   |
|                                              | Frequency              | 2536.02 | 2592.99  | 2649.99  |
| 70                                           | Channel                | 506202  | 518598   | 531000   |
|                                              | Frequency              | 2531.01 | 2592.99  | 2655     |
| 60                                           | Channel                | 505200  | 518598   | 531996   |
|                                              | Frequency              | 2526    | 2592.99  | 2659.98  |
| 50                                           | Channel                | 504204  | 518598   | 532998   |
|                                              | Frequency              | 2521.02 | 2592.99  | 2664.99  |
| 40                                           | Channel                | 503202  | 518598   | 534000   |
|                                              | Frequency              | 2516.01 | 2592.99  | 2670     |
| 30                                           | Channel                | 502200  | 518601   | 534999   |
|                                              | Frequency              | 2511    | 2593.005 | 2674.995 |
| 20                                           | Channel                | 501204  | 518598   | 535998   |
|                                              | Frequency              | 2506.02 | 2592.99  | 2679.99  |
| 15                                           | Channel                | 500700  | 518598   | 536496   |
|                                              | Frequency              | 2503.5  | 2592.99  | 2682.48  |
| 10                                           | Channel                | 500202  | 518598   | 537000   |
|                                              | Frequency              | 2501.01 | 2592.99  | 2685     |



| 5G n77 (15kHz) Channel and Frequency List for Part 27O |                        |          |        |          |
|--------------------------------------------------------|------------------------|----------|--------|----------|
| BW [MHz]                                               | Channel/Frequency(MHz) | Lowest   | Middle | Highest  |
| 50                                                     | Channel                | 648334   | 656000 | 663666   |
|                                                        | Frequency              | 3725.01  | 3840   | 3954.99  |
| 40                                                     | Channel                | 648000   | 656000 | 664000   |
|                                                        | Frequency              | 3720     | 3840   | 3960     |
| 30                                                     | Channel                | 647667   | 656000 | 664332   |
|                                                        | Frequency              | 3715.005 | 3840   | 3964.98  |
| 25                                                     | Channel                | 647500   | 656000 | 664500   |
|                                                        | Frequency              | 3712.5   | 3840   | 3967.5   |
| 20                                                     | Channel                | 647334   | 656000 | 664666   |
|                                                        | Frequency              | 3710.01  | 3840   | 3969.99  |
| 15                                                     | Channel                | 647167   | 656000 | 664833   |
|                                                        | Frequency              | 3707.505 | 3840   | 3972.495 |
| 10                                                     | Channel                | 647000   | 656000 | 665000   |
|                                                        | Frequency              | 3705     | 3840   | 3975     |



| 5G n77 (30kHz) Channel and Frequency List for Part 270 |                        |         |        |         |
|--------------------------------------------------------|------------------------|---------|--------|---------|
| BW [MHz]                                               | Channel/Frequency(MHz) | Lowest  | Middle | Highest |
| 100                                                    | Channel                | 650000  | 656000 | 662000  |
|                                                        | Frequency              | 3750    | 3840   | 3930    |
| 90                                                     | Channel                | 649668  | 656000 | 662332  |
|                                                        | Frequency              | 3745.02 | 3840   | 3934.98 |
| 80                                                     | Channel                | 649334  | 656000 | 662666  |
|                                                        | Frequency              | 3740.01 | 3840   | 3939.99 |
| 70                                                     | Channel                | 649000  | 656000 | 663000  |
|                                                        | Frequency              | 3735    | 3840   | 3945    |
| 60                                                     | Channel                | 648668  | 656000 | 663332  |
|                                                        | Frequency              | 3730.02 | 3840   | 3949.98 |
| 50                                                     | Channel                | 648334  | 656000 | 663666  |
|                                                        | Frequency              | 3725.01 | 3840   | 3954.99 |
| 40                                                     | Channel                | 648000  | 656000 | 664000  |
|                                                        | Frequency              | 3720    | 3840   | 3960    |
| 30                                                     | Channel                | 647668  | 656000 | 664332  |
|                                                        | Frequency              | 3715.02 | 3840   | 3964.98 |
| 25                                                     | Channel                | 647500  | 656000 | 664500  |
|                                                        | Frequency              | 3712.5  | 3840   | 3967.5  |
| 20                                                     | Channel                | 647334  | 656000 | 664666  |
|                                                        | Frequency              | 3710.01 | 3840   | 3969.99 |
| 15                                                     | Channel                | 647168  | 656000 | 664832  |
|                                                        | Frequency              | 3707.52 | 3840   | 3972.48 |
| 10                                                     | Channel                | 647000  | 656000 | 665000  |
|                                                        | Frequency              | 3705    | 3840   | 3975    |



| 5G n78 (15kHz) Channel and Frequency List for Part 27O |                        |          |        |          |
|--------------------------------------------------------|------------------------|----------|--------|----------|
| BW [MHz]                                               | Channel/Frequency(MHz) | Lowest   | Middle | Highest  |
| 50                                                     | Channel                | 648334   | 650000 | 651666   |
|                                                        | Frequency              | 3725.01  | 3750   | 3774.99  |
| 40                                                     | Channel                | 648000   | 650000 | 652000   |
|                                                        | Frequency              | 3720     | 3750   | 3780     |
| 30                                                     | Channel                | 647667   | 650000 | 652333   |
|                                                        | Frequency              | 3715.005 | 3750   | 3784.995 |
| 25                                                     | Channel                | 647500   | 650000 | 652500   |
|                                                        | Frequency              | 3712.5   | 3750   | 3787.5   |
| 20                                                     | Channel                | 647334   | 650000 | 652666   |
|                                                        | Frequency              | 3710.01  | 3750   | 3789.99  |
| 15                                                     | Channel                | 647167   | 650000 | 652833   |
|                                                        | Frequency              | 3707.505 | 3750   | 3792.495 |
| 10                                                     | Channel                | 647000   | 650000 | 653000   |
|                                                        | Frequency              | 3705     | 3750   | 3795     |



| 5G n78 (30kHz) Channel and Frequency List for Part 270 |                        |         |        |         |
|--------------------------------------------------------|------------------------|---------|--------|---------|
| BW [MHz]                                               | Channel/Frequency(MHz) | Lowest  | Middle | Highest |
| 100                                                    | Channel                | 650000  |        |         |
|                                                        | Frequency              | 3750    |        |         |
| 90                                                     | Channel                | 649668  | 650000 | 650332  |
|                                                        | Frequency              | 3745.02 | 3750   | 3754.98 |
| 80                                                     | Channel                | 649334  | 650000 | 650666  |
|                                                        | Frequency              | 3740.01 | 3750   | 3759.99 |
| 70                                                     | Channel                | 649000  | 650000 | 651000  |
|                                                        | Frequency              | 3735    | 3750   | 3765    |
| 60                                                     | Channel                | 648668  | 650000 | 651332  |
|                                                        | Frequency              | 3730.02 | 3750   | 3769.98 |
| 50                                                     | Channel                | 648334  | 650000 | 651666  |
|                                                        | Frequency              | 3725.01 | 3750   | 3774.99 |
| 40                                                     | Channel                | 648000  | 650000 | 652000  |
|                                                        | Frequency              | 3720    | 3750   | 3780    |
| 30                                                     | Channel                | 647668  | 650000 | 652332  |
|                                                        | Frequency              | 3715.02 | 3750   | 3784.98 |
| 25                                                     | Channel                | 647500  | 650000 | 652500  |
|                                                        | Frequency              | 3712.5  | 3750   | 3787.5  |
| 20                                                     | Channel                | 647334  | 650000 | 652666  |
|                                                        | Frequency              | 3710.01 | 3750   | 3789.99 |
| 15                                                     | Channel                | 647168  | 650000 | 652832  |
|                                                        | Frequency              | 3707.52 | 3750   | 3792.48 |
| 10                                                     | Channel                | 647000  | 650000 | 653000  |
|                                                        | Frequency              | 3705    | 3750   | 3795    |



| 5G n77/n78 (15kHz) Channel and Frequency List for Part 27Q |                        |          |         |          |
|------------------------------------------------------------|------------------------|----------|---------|----------|
| BW [MHz]                                                   | Channel/Frequency(MHz) | Lowest   | Middle  | Highest  |
| 50                                                         | Channel                | 631667   | 633334  | 635000   |
|                                                            | Frequency              | 3475.005 | 3500.01 | 3525.00  |
| 40                                                         | Channel                | 631334   | 633334  | 635333   |
|                                                            | Frequency              | 3470.01  | 3500.01 | 3529.995 |
| 30                                                         | Channel                | 631000   | 633334  | 635666   |
|                                                            | Frequency              | 3465     | 3500.01 | 3534.99  |
| 25                                                         | Channel                | 630834   | 633334  | 635833   |
|                                                            | Frequency              | 3462.51  | 3500.01 | 3537.495 |
| 20                                                         | Channel                | 630667   | 633334  | 636000   |
|                                                            | Frequency              | 3460.005 | 3500.01 | 3540.00  |
| 15                                                         | Channel                | 630500   | 633334  | 636166   |
|                                                            | Frequency              | 3457.50  | 3500.01 | 3542.49  |
| 10                                                         | Channel                | 630334   | 633334  | 636333   |
|                                                            | Frequency              | 3455.01  | 3500.01 | 3544.995 |



| 5G n77/n78 (30kHz) Channel and Frequency List for Part 27Q |                        |         |         |         |
|------------------------------------------------------------|------------------------|---------|---------|---------|
| BW [MHz]                                                   | Channel/Frequency(MHz) | Lowest  | Middle  | Highest |
| 100                                                        | Channel                | -       | 633334  | -       |
|                                                            | Frequency              | -       | 3500.01 | -       |
| 90                                                         | Channel                | 633000  | 633334  | 633666  |
|                                                            | Frequency              | 3495.00 | 3500.01 | 3504.99 |
| 80                                                         | Channel                | 632668  | 633334  | 634000  |
|                                                            | Frequency              | 3490.02 | 3500.01 | 3510.00 |
| 70                                                         | Channel                | 632334  | 633334  | 634332  |
|                                                            | Frequency              | 3485.01 | 3500.01 | 3514.98 |
| 60                                                         | Channel                | 632000  | 633334  | 634666  |
|                                                            | Frequency              | 3480.00 | 3500.01 | 3519.99 |
| 50                                                         | Channel                | 631668  | 633334  | 635000  |
|                                                            | Frequency              | 3475.02 | 3500.01 | 3525.00 |
| 40                                                         | Channel                | 631334  | 633334  | 635332  |
|                                                            | Frequency              | 3470.01 | 3500.01 | 3529.98 |
| 30                                                         | Channel                | 631000  | 633334  | 635666  |
|                                                            | Frequency              | 3465    | 3500.01 | 3534.99 |
| 25                                                         | Channel                | 630834  | 633334  | 635832  |
|                                                            | Frequency              | 3462.51 | 3500.01 | 3537.48 |
| 20                                                         | Channel                | 630668  | 633334  | 636000  |
|                                                            | Frequency              | 3460.02 | 3500.01 | 3540.00 |
| 15                                                         | Channel                | 630500  | 633334  | 636166  |
|                                                            | Frequency              | 3457.50 | 3500.01 | 3542.49 |
| 10                                                         | Channel                | 630334  | 633334  | 636332  |
|                                                            | Frequency              | 3455.01 | 3500.01 | 3544.98 |

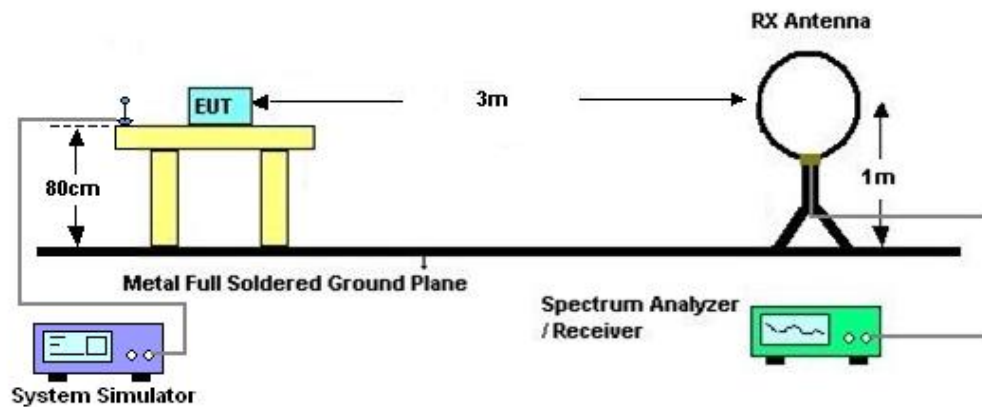
### 3 Radiated Test Items

#### 3.1 Measuring Instruments

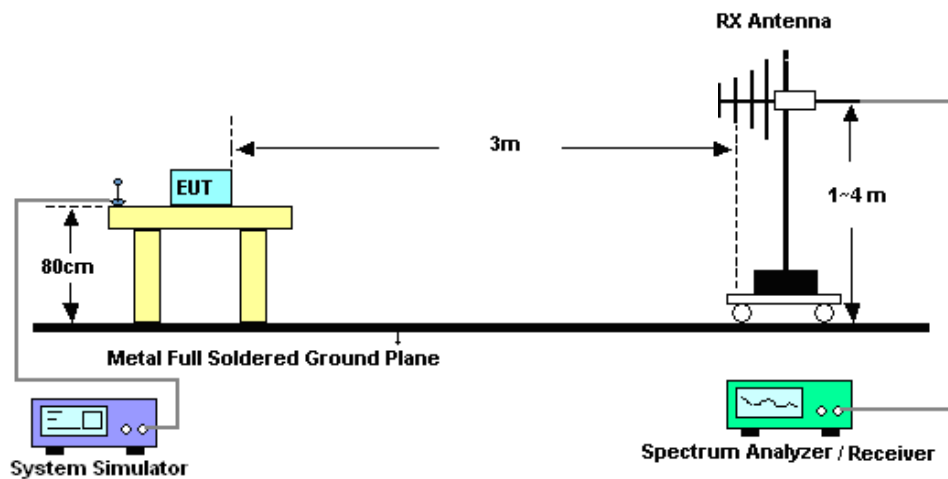
See list of measuring instruments of this test report.

#### 3.2 Test Setup

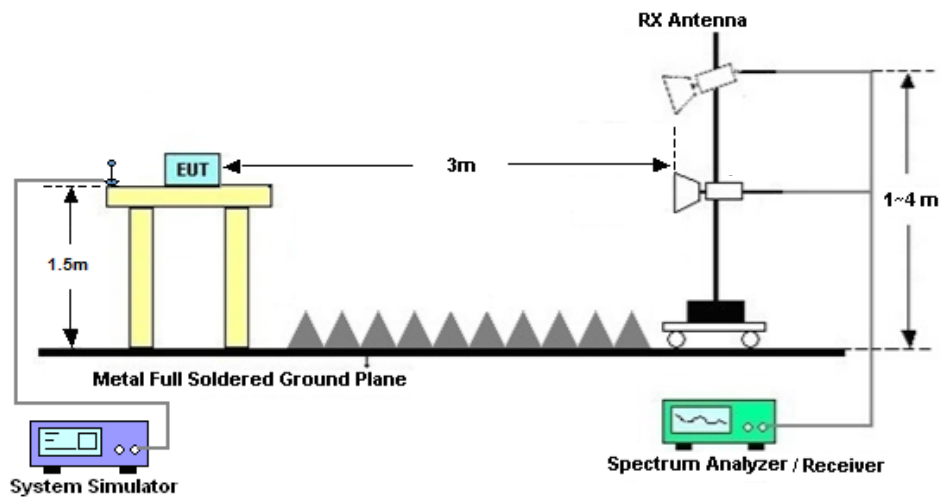
##### 3.2.1 For radiated test below 30MHz



##### 3.2.2 For radiated test from 30MHz to 1GHz



### 3.2.3 For radiated test above 1GHz



### 3.3 Test Result of Radiated Test

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line was not reported.

Please refer to Appendix B.



### **3.4 Radiated Spurious Emission**

#### **3.4.1 Description of Radiated Spurious Emission**

For 5G NR n5, n77, n78

The radiated spurious emission was measured by substitution method according to ANSI C63.26.

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

For 5G NR n7, n38, n41

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least  $55 + 10 \log (P)$  dB.

The spectrum is scanned from 30 MHz up to a frequency including its 10th harmonic.

### 3.4.2 Test Procedures

1. The testing follows ANSI C63.26 Section 5.5
2. The EUT was placed on a turntable with 0.8 meter height for frequency below 1GHz and 1.5 meter height for frequency above 1GHz respectively above ground.
3. The EUT was set 3 meters from the receiving antenna mounted on the antenna tower.
4. The table was rotated 360 degrees to determine the position of the highest spurious emission.
5. The height of the receiving antenna is varied between 1m to 4m to search the maximum spurious emission for both horizontal and vertical polarizations.
6. During the measurement, the system simulator parameters were set to force the EUT transmitting at maximum output power.
7. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking the record of maximum spurious emission.
8. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
9. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
10.  $EIRP\ (dBm) = S.G.\ Power - Tx\ Cable\ Loss + Tx\ Antenna\ Gain$
11.  $ERP\ (dBm) = EIRP - 2.15$
12. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.  
The limit line is derived from  $43 + 10\log(P)dB$  below the transmitter power  $P(Watts)$   
 $= P(W) - [43 + 10\log(P)]\ (dB)$   
 $= [30 + 10\log(P)]\ (dBm) - [43 + 10\log(P)]\ (dB)$   
 $= -13dBm.$
13. For 5G NR n7, n38, n41:  
The limit line is derived from  $55 + 10\log(P)dB$  below the transmitter power  $P(Watts)$   
The limit line is derived from  $55 + 10\log(P)dB$  below the transmitter power  $P(Watts)$



## 4 List of Measuring Equipment

| Instrument                | Manufacturer         | Model No.     | Serial No.   | Characteristics | Calibration Date | Test Date     | Due Date      | Remark                |
|---------------------------|----------------------|---------------|--------------|-----------------|------------------|---------------|---------------|-----------------------|
| EMI Test Receiver&SA      | KEYSIGHT             | N9038A        | MY54450083   | 20Hz~8.4GHz     | Apr. 06, 2022    | Jun. 13, 2022 | Apr. 05, 2023 | Radiation (03CH03-SZ) |
| Loop Antenna              | R&S                  | HFH2-Z2       | 100354       | 9kHz~30MHz      | Jun. 22, 2020    | Jun. 13, 2022 | Jun. 21, 2022 | Radiation (03CH03-SZ) |
| EXA Spectrum Analyzer     | KEYSIGHT             | N9010A        | MY55150246   | 10Hz~44GHz;     | Apr. 06, 2022    | Jun. 13, 2022 | Apr. 05, 2023 | Radiation (03CH03-SZ) |
| Bilog Antenna             | TeseQ                | CBL6112D      | 35408        | 30MHz~2GHz      | Jun. 22, 2020    | Jun. 13, 2022 | Jun. 21, 2022 | Radiation (03CH03-SZ) |
| Double Ridge Horn Antenna | SCHWARZBECK          | BBHA9120D     | 9120D-1355   | 1GHz~18GHz      | Apr. 08, 2022    | Jun. 13, 2022 | Apr. 07, 2023 | Radiation (03CH03-SZ) |
| Amplifier                 | Burgeon              | BPA-530       | 102211       | 0.01Hz ~3000MHz | Oct. 22, 2021    | Jun. 13, 2022 | Oct. 21, 2022 | Radiation (03CH03-SZ) |
| HF Amplifier              | MITEQ                | TTA1840-35-HG | 1871923      | 18GHz~40GHz     | Oct. 22, 2021    | Jun. 13, 2022 | Oct. 21, 2022 | Radiation (03CH03-SZ) |
| SHF-EHF Horn              | com-power            | AH-840        | 101071       | 18Ghz~40GHz     | Apr. 10, 2022    | Jun. 13, 2022 | Apr. 09, 2023 | Radiation (03CH03-SZ) |
| Amplifier                 | Agilent Technologies | 83017A        | MY39501302   | 500MHz~26.5GHz  | Dec. 29, 2021    | Jun. 13, 2022 | Dec. 28, 2022 | Radiation (03CH03-SZ) |
| AC Power Source           | Chroma               | 61601         | 616010001985 | N/A             | NCR              | Jun. 13, 2022 | NCR           | Radiation (03CH03-SZ) |
| Turn Table                | EM                   | EM1000        | N/A          | 0~360 degree    | NCR              | Jun. 13, 2022 | NCR           | Radiation (03CH03-SZ) |
| Antenna Mast              | EM                   | EM1000        | N/A          | 1 m~4 m         | NCR              | Jun. 13, 2022 | NCR           | Radiation (03CH03-SZ) |

NCR: No Calibration Required



## 5 Uncertainty of Evaluation

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI 63.26-2015. 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.

### Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

|                                                                         |       |
|-------------------------------------------------------------------------|-------|
| Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ ) | 3.0dB |
|-------------------------------------------------------------------------|-------|

### Uncertainty of Radiated Emission Measurement (1 GHz ~ 18 GHz)

|                                                                         |       |
|-------------------------------------------------------------------------|-------|
| Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ ) | 3.6dB |
|-------------------------------------------------------------------------|-------|

### Uncertainty of Radiated Emission Measurement (18 GHz ~ 40 GHz)

|                                                                         |       |
|-------------------------------------------------------------------------|-------|
| Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ ) | 3.8dB |
|-------------------------------------------------------------------------|-------|

----- THE END -----



## Appendix A. Test Results of Radiated Test

### Radiated Spurious Emission

|                 |          |                     |         |
|-----------------|----------|---------------------|---------|
| Test Engineer : | Zhang Xu | Temperature :       | 22~25°C |
|                 |          | Relative Humidity : | 48~52%  |

Note: Pre-scanned harmonic for the different antenna, we choose the worst antenna combination to test.

| CA_n41A_n77A / NR 100MHz + NR 100MHz / QPSK / ANT0+4 |                   |              |               |                   |                   |                    |                      |                       |                    |
|------------------------------------------------------|-------------------|--------------|---------------|-------------------|-------------------|--------------------|----------------------|-----------------------|--------------------|
| Channel                                              | Frequency ( MHz ) | EIRP ( dBm ) | Limit ( dBm ) | Over Limit ( dB ) | SPA Reading (dBm) | S.G. Power ( dBm ) | TX Cable loss ( dB ) | TX Antenna Gain (dBi) | Polarization (H/V) |
| NR n41 Middle                                        | 5089.00           | -60.86       | -25           | -35.86            | -78.25            | -66.42             | 7.14                 | 12.70                 | H                  |
|                                                      | 7633.50           | -59.21       | -25           | -34.21            | -81.42            | -62.51             | 8.30                 | 11.60                 | H                  |
|                                                      | 10178.00          | -57.37       | -25           | -32.37            | -64.66            | -58.89             | 10.48                | 12.00                 | H                  |
|                                                      | 5089.00           | -61.45       | -25           | -36.45            | -78.77            | -67.01             | 7.14                 | 12.70                 | V                  |
|                                                      | 7633.50           | -59.39       | -25           | -34.39            | -81.41            | -62.69             | 8.30                 | 11.60                 | V                  |
|                                                      | 10178.00          | -57.66       | -25           | -32.66            | -64.54            | -59.18             | 10.48                | 12.00                 | V                  |
| NR n77 Middle                                        | 7582.90           | -59.29       | -25           | -34.29            | -81.44            | -62.59             | 8.30                 | 11.60                 | H                  |
|                                                      | 11374.35          | -56.26       | -25           | -31.26            | -66.04            | -57.78             | 10.48                | 12.00                 | H                  |
|                                                      | 15165.80          | -54.87       | -25           | -29.87            | -64.71            | -56.57             | 11.80                | 13.50                 | H                  |
|                                                      | 7582.90           | -59.53       | -25           | -34.53            | -81.47            | -62.83             | 8.30                 | 11.60                 | V                  |
|                                                      | 11374.35          | -56.62       | -25           | -31.62            | -66.2             | -58.14             | 10.48                | 12.00                 | V                  |
|                                                      | 15165.80          | -54.27       | -25           | -29.27            | -64.42            | -55.97             | 11.80                | 13.50                 | V                  |

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

| CA_n77A_n41A / NR 100MHz + NR 100MHz / QPSK / ANT4+0 |                   |              |               |                   |                   |                    |                      |                       |                    |
|------------------------------------------------------|-------------------|--------------|---------------|-------------------|-------------------|--------------------|----------------------|-----------------------|--------------------|
| Channel                                              | Frequency ( MHz ) | EIRP ( dBm ) | Limit ( dBm ) | Over Limit ( dB ) | SPA Reading (dBm) | S.G. Power ( dBm ) | TX Cable loss ( dB ) | TX Antenna Gain (dBi) | Polarization (H/V) |
| NR n77 Middle                                        | 7582.90           | -59.37       | -25           | -34.37            | -81.52            | -62.67             | 8.30                 | 11.60                 | H                  |
|                                                      | 11374.35          | -57.13       | -25           | -32.13            | -66.91            | -58.65             | 10.48                | 12.00                 | H                  |
|                                                      | 15165.80          | -54.76       | -25           | -29.76            | -64.60            | -56.46             | 11.80                | 13.50                 | H                  |
|                                                      | 7582.90           | -59.64       | -25           | -34.64            | -81.58            | -62.94             | 8.30                 | 11.60                 | V                  |
|                                                      | 11374.35          | -57.34       | -25           | -32.34            | -66.92            | -58.86             | 10.48                | 12.00                 | V                  |
|                                                      | 15165.80          | -54.30       | -25           | -29.30            | -64.45            | -56.00             | 11.80                | 13.50                 | V                  |
| NR n41 Middle                                        | 5089.00           | -61.10       | -25           | -36.10            | -78.49            | -66.66             | 7.14                 | 12.70                 | H                  |
|                                                      | 7633.50           | -59.41       | -25           | -34.41            | -81.62            | -62.71             | 8.30                 | 11.60                 | H                  |
|                                                      | 10178.00          | -57.37       | -25           | -32.37            | -64.66            | -58.89             | 10.48                | 12.00                 | H                  |
|                                                      | 5089.00           | -61.36       | -25           | -36.36            | -78.68            | -66.92             | 7.14                 | 12.70                 | V                  |
|                                                      | 7633.50           | -59.63       | -25           | -34.63            | -81.65            | -62.93             | 8.30                 | 11.60                 | V                  |
|                                                      | 10178.00          | -57.29       | -25           | -32.29            | -64.17            | -58.81             | 10.48                | 12.00                 | V                  |

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



| CA_n5A_n78A / NR 25MHz + NR 100MHz / QPSK / ANT0+6 |                   |              |               |                   |                   |                    |                      |                       |                    |
|----------------------------------------------------|-------------------|--------------|---------------|-------------------|-------------------|--------------------|----------------------|-----------------------|--------------------|
| Channel                                            | Frequency ( MHz ) | EIRP ( dBm ) | Limit ( dBm ) | Over Limit ( dB ) | SPA Reading (dBm) | S.G. Power ( dBm ) | TX Cable loss ( dB ) | TX Antenna Gain (dBi) | Polarization (H/V) |
| NR n5<br>Middle                                    | 1654.5            | -66.15       | -13           | -53.15            | -72.25            | -69.40             | 4.00                 | 9.40                  | H                  |
|                                                    | 2481.75           | -63.55       | -13           | -50.55            | -73.76            | -67.12             | 4.88                 | 10.60                 | H                  |
|                                                    | 3309              | -61.78       | -13           | -48.78            | -73.90            | -66.71             | 5.52                 | 12.60                 | H                  |
|                                                    | 1654.5            | -66.38       | -13           | -53.38            | -72.33            | -69.63             | 4.00                 | 9.40                  | V                  |
|                                                    | 2481.75           | -63.34       | -13           | -50.34            | -73.91            | -66.91             | 4.88                 | 10.60                 | V                  |
|                                                    | 3309              | -61.88       | -13           | -48.88            | -74.44            | -66.81             | 5.52                 | 12.60                 | V                  |
| NR n78<br>Middle                                   | 7402.50           | -42.04       | -13           | -29.04            | -44.39            | -45.34             | 8.30                 | 11.60                 | H                  |
|                                                    | 11103.75          | -56.35       | -13           | -43.35            | -65.02            | -57.87             | 10.48                | 12.00                 | H                  |
|                                                    | 14805.00          | -54.42       | -13           | -41.42            | -65.94            | -56.12             | 11.80                | 13.50                 | H                  |
|                                                    | 7402.50           | -48.19       | -13           | -35.19            | -50.59            | -51.49             | 8.30                 | 11.60                 | V                  |
|                                                    | 11103.75          | -57.27       | -13           | -44.27            | -65.64            | -58.79             | 10.48                | 12.00                 | V                  |
|                                                    | 14805.00          | -54.41       | -13           | -41.41            | -66.12            | -56.11             | 11.80                | 13.50                 | V                  |

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

| CA_n78A_n5A / NR 100MHz + NR 25MHz / QPSK / ANT6+0 |                   |              |               |                   |                   |                    |                      |                       |                    |
|----------------------------------------------------|-------------------|--------------|---------------|-------------------|-------------------|--------------------|----------------------|-----------------------|--------------------|
| Channel                                            | Frequency ( MHz ) | EIRP ( dBm ) | Limit ( dBm ) | Over Limit ( dB ) | SPA Reading (dBm) | S.G. Power ( dBm ) | TX Cable loss ( dB ) | TX Antenna Gain (dBi) | Polarization (H/V) |
| NR n78<br>Middle                                   | 7402.50           | -41.44       | -13           | -28.44            | -43.79            | -44.74             | 8.30                 | 11.60                 | H                  |
|                                                    | 11103.75          | -56.05       | -13           | -43.05            | -64.72            | -57.57             | 10.48                | 12.00                 | H                  |
|                                                    | 14805.00          | -52.99       | -13           | -39.99            | -64.51            | -54.69             | 11.80                | 13.50                 | H                  |
|                                                    | 7402.50           | -46.68       | -13           | -33.68            | -49.08            | -49.98             | 8.30                 | 11.60                 | V                  |
|                                                    | 11103.75          | -56.27       | -13           | -43.27            | -64.64            | -57.79             | 10.48                | 12.00                 | V                  |
|                                                    | 14805.00          | -53.61       | -13           | -40.61            | -65.32            | -55.31             | 11.80                | 13.50                 | V                  |
| NR n5<br>Middle                                    | 1654.5            | -68.56       | -13           | -55.56            | -74.66            | -71.81             | 4.00                 | 9.40                  | H                  |
|                                                    | 2481.75           | -65.77       | -13           | -52.77            | -75.98            | -69.34             | 4.88                 | 10.60                 | H                  |
|                                                    | 3309              | -64.46       | -13           | -51.46            | -76.58            | -69.39             | 5.52                 | 12.60                 | H                  |
|                                                    | 1654.5            | -68.64       | -13           | -55.64            | -74.59            | -71.89             | 4.00                 | 9.40                  | V                  |
|                                                    | 2481.75           | -65.54       | -13           | -52.54            | -76.11            | -69.11             | 4.88                 | 10.60                 | V                  |
|                                                    | 3309              | -63.70       | -13           | -50.70            | -76.26            | -68.63             | 5.52                 | 12.60                 | V                  |

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



| CA_n7A_n78A / NR 50MHz + NR 100MHz / QPSK / ANT1+6 |                      |                 |                  |                         |                         |                          |                            |                             |                       |
|----------------------------------------------------|----------------------|-----------------|------------------|-------------------------|-------------------------|--------------------------|----------------------------|-----------------------------|-----------------------|
| Channel                                            | Frequency<br>( MHz ) | EIRP<br>( dBm ) | Limit<br>( dBm ) | Over<br>Limit<br>( dB ) | SPA<br>Reading<br>(dBm) | S.G.<br>Power<br>( dBm ) | TX Cable<br>loss<br>( dB ) | TX Antenna<br>Gain<br>(dBi) | Polarization<br>(H/V) |
| NR n7<br>Middle                                    | 5051.50              | -63.43          | -25              | -38.43                  | -60.84                  | -68.99                   | 7.14                       | 12.70                       | H                     |
|                                                    | 7577.25              | -59.70          | -25              | -34.70                  | -61.66                  | -63.00                   | 8.30                       | 11.60                       | H                     |
|                                                    | 10103.00             | -56.65          | -25              | -31.65                  | -64.09                  | -58.17                   | 10.48                      | 12.00                       | H                     |
|                                                    | 5051.50              | -63.19          | -25              | -38.19                  | -60.53                  | -68.75                   | 7.14                       | 12.70                       | V                     |
|                                                    | 7577.25              | -60.06          | -25              | -35.06                  | -61.83                  | -63.36                   | 8.30                       | 11.60                       | V                     |
|                                                    | 10103.00             | -57.08          | -25              | -32.08                  | -64.03                  | -58.60                   | 10.48                      | 12.00                       | V                     |
| NR n78<br>Middle                                   | 7402.50              | -59.98          | -25              | -34.98                  | -62.33                  | -63.28                   | 8.30                       | 11.60                       | H                     |
|                                                    | 11103.75             | -55.95          | -25              | -30.95                  | -64.62                  | -57.47                   | 10.48                      | 12.00                       | H                     |
|                                                    | 14805.00             | -53.47          | -25              | -28.47                  | -64.99                  | -55.17                   | 11.80                      | 13.50                       | H                     |
|                                                    | 7402.50              | -60.07          | -25              | -35.07                  | -62.47                  | -63.37                   | 8.30                       | 11.60                       | V                     |
|                                                    | 11103.75             | -56.83          | -25              | -31.83                  | -65.2                   | -58.35                   | 10.48                      | 12.00                       | V                     |
|                                                    | 14805.00             | -52.62          | -25              | -27.62                  | -64.33                  | -54.32                   | 11.80                      | 13.50                       | V                     |

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

| CA_n78A_n7A / NR 100MHz + NR 50MHz / QPSK / ANT6+1 |                      |                 |                  |                         |                         |                          |                            |                             |                       |
|----------------------------------------------------|----------------------|-----------------|------------------|-------------------------|-------------------------|--------------------------|----------------------------|-----------------------------|-----------------------|
| Channel                                            | Frequency<br>( MHz ) | EIRP<br>( dBm ) | Limit<br>( dBm ) | Over<br>Limit<br>( dB ) | SPA<br>Reading<br>(dBm) | S.G.<br>Power<br>( dBm ) | TX Cable<br>loss<br>( dB ) | TX Antenna<br>Gain<br>(dBi) | Polarization<br>(H/V) |
| NR n78<br>Middle                                   | 7402.50              | -60.19          | -25              | -35.19                  | -82.84                  | -63.49                   | 8.30                       | 11.60                       | H                     |
|                                                    | 11103.75             | -56.52          | -25              | -31.52                  | -65.19                  | -58.04                   | 10.48                      | 12.00                       | H                     |
|                                                    | 14805.00             | -53.61          | -25              | -28.61                  | -65.13                  | -55.31                   | 11.80                      | 13.50                       | H                     |
|                                                    | 7402.25              | -60.04          | -25              | -35.04                  | -82.74                  | -63.34                   | 8.30                       | 11.60                       | V                     |
|                                                    | 11103.75             | -56.48          | -25              | -31.48                  | -64.85                  | -58.00                   | 10.48                      | 12.00                       | V                     |
|                                                    | 14805.00             | -53.61          | -25              | -28.61                  | -65.32                  | -55.31                   | 11.80                      | 13.50                       | V                     |
| NR n7<br>Middle                                    | 5051.50              | -61.65          | -25              | -36.65                  | -79.07                  | -67.21                   | 7.14                       | 12.70                       | H                     |
|                                                    | 7577.25              | -59.83          | -25              | -34.83                  | -81.99                  | -63.13                   | 8.30                       | 11.60                       | H                     |
|                                                    | 10103.00             | -56.44          | -25              | -31.44                  | -63.88                  | -57.96                   | 10.48                      | 12.00                       | H                     |
|                                                    | 5051.50              | -61.74          | -25              | -36.74                  | -79.09                  | -67.30                   | 7.14                       | 12.70                       | V                     |
|                                                    | 7577.25              | -59.95          | -25              | -34.95                  | -81.92                  | -63.25                   | 8.30                       | 11.60                       | V                     |
|                                                    | 10103.00             | -56.90          | -25              | -31.90                  | -63.85                  | -58.42                   | 10.48                      | 12.00                       | V                     |

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



| CA_n38A_n78A / NR 40MHz + NR 100MHz / QPSK / ANT2+6 |                   |              |               |                   |                   |                    |                      |                       |                    |
|-----------------------------------------------------|-------------------|--------------|---------------|-------------------|-------------------|--------------------|----------------------|-----------------------|--------------------|
| Channel                                             | Frequency ( MHz ) | EIRP ( dBm ) | Limit ( dBm ) | Over Limit ( dB ) | SPA Reading (dBm) | S.G. Power ( dBm ) | TX Cable loss ( dB ) | TX Antenna Gain (dBi) | Polarization (H/V) |
| NR n38 Middle                                       | 5185.98           | -64.60       | -25           | -39.60            | -62.09            | -70.16             | 7.14                 | 12.70                 | H                  |
|                                                     | 7778.97           | -60.63       | -25           | -35.63            | -63.08            | -63.93             | 8.30                 | 11.60                 | H                  |
|                                                     | 10371.96          | -58.01       | -25           | -33.01            | -64.95            | -59.53             | 10.48                | 12.00                 | H                  |
|                                                     | 5185.98           | -64.54       | -25           | -39.54            | -61.98            | -70.10             | 7.14                 | 12.70                 | V                  |
|                                                     | 7778.97           | -60.71       | -25           | -35.71            | -63.16            | -64.01             | 8.30                 | 11.60                 | V                  |
|                                                     | 10371.96          | -58.17       | -25           | -33.17            | -64.93            | -59.69             | 10.48                | 12.00                 | V                  |
| NR n78 Middle                                       | 7402.50           | -43.09       | -25           | -18.09            | -45.44            | -46.39             | 8.30                 | 11.60                 | H                  |
|                                                     | 11103.75          | -57.05       | -25           | -32.05            | -65.72            | -58.57             | 10.48                | 12.00                 | H                  |
|                                                     | 14805.00          | -54.59       | -25           | -29.59            | -66.11            | -56.29             | 11.80                | 13.50                 | H                  |
|                                                     | 7402.50           | -47.73       | -25           | -22.73            | -50.13            | -51.03             | 8.30                 | 11.60                 | V                  |
|                                                     | 11103.75          | -57.04       | -25           | -32.04            | -65.41            | -58.56             | 10.48                | 12.00                 | V                  |
|                                                     | 14814.00          | -54.15       | -25           | -29.15            | -65.83            | -55.85             | 11.80                | 13.50                 | V                  |

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

| CA_n78A_n38A / NR 100MHz + NR 40MHz / QPSK / ANT6+2 |                   |              |               |                   |                   |                    |                      |                       |                    |
|-----------------------------------------------------|-------------------|--------------|---------------|-------------------|-------------------|--------------------|----------------------|-----------------------|--------------------|
| Channel                                             | Frequency ( MHz ) | EIRP ( dBm ) | Limit ( dBm ) | Over Limit ( dB ) | SPA Reading (dBm) | S.G. Power ( dBm ) | TX Cable loss ( dB ) | TX Antenna Gain (dBi) | Polarization (H/V) |
| NR n78 Middle                                       | 7402.50           | -42.69       | -25           | -17.69            | -45.04            | -45.99             | 8.30                 | 11.60                 | H                  |
|                                                     | 11103.75          | -57.19       | -25           | -32.19            | -65.86            | -58.71             | 10.48                | 12.00                 | H                  |
|                                                     | 14805.00          | -54.21       | -25           | -29.21            | -65.73            | -55.91             | 11.80                | 13.50                 | H                  |
|                                                     | 7402.50           | -48.64       | -25           | -23.64            | -51.04            | -51.94             | 8.30                 | 11.60                 | V                  |
|                                                     | 11103.75          | -57.32       | -25           | -32.32            | -65.69            | -58.84             | 10.48                | 12.00                 | V                  |
|                                                     | 14805.00          | -54.99       | -25           | -29.99            | -66.70            | -56.69             | 11.80                | 13.50                 | V                  |
| NR n38 Middle                                       | 5185.98           | -65.09       | -25           | -40.09            | -62.58            | -70.65             | 7.14                 | 12.70                 | H                  |
|                                                     | 7778.97           | -60.12       | -25           | -35.12            | -62.57            | -63.42             | 8.30                 | 11.60                 | H                  |
|                                                     | 10371.96          | -58.39       | -25           | -33.39            | -65.33            | -59.91             | 10.48                | 12.00                 | H                  |
|                                                     | 5185.98           | -65.11       | -25           | -40.11            | -62.55            | -70.67             | 7.14                 | 12.70                 | V                  |
|                                                     | 7778.96           | -59.91       | -25           | -34.91            | -62.36            | -63.21             | 8.30                 | 11.60                 | V                  |
|                                                     | 10371.96          | -58.36       | -25           | -33.36            | -65.12            | -59.88             | 10.48                | 12.00                 | V                  |

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



| CA_n41A_n78A / NR 100MHz + NR 100MHz / QPSK / ANT0+4 |                   |              |               |                   |                   |                    |                      |                       |                    |
|------------------------------------------------------|-------------------|--------------|---------------|-------------------|-------------------|--------------------|----------------------|-----------------------|--------------------|
| Channel                                              | Frequency ( MHz ) | EIRP ( dBm ) | Limit ( dBm ) | Over Limit ( dB ) | SPA Reading (dBm) | S.G. Power ( dBm ) | TX Cable loss ( dB ) | TX Antenna Gain (dBi) | Polarization (H/V) |
| NR n41 Middle                                        | 5089.00           | -60.88       | -25           | -35.88            | -78.27            | -66.44             | 7.14                 | 12.70                 | H                  |
|                                                      | 7633.50           | -59.37       | -25           | -34.37            | -81.58            | -62.67             | 8.30                 | 11.60                 | H                  |
|                                                      | 10178.00          | -57.73       | -25           | -32.73            | -65.02            | -59.25             | 10.48                | 12.00                 | H                  |
|                                                      | 5089.00           | -60.83       | -25           | -35.83            | -78.15            | -66.39             | 7.14                 | 12.70                 | V                  |
|                                                      | 7633.50           | -59.35       | -25           | -34.35            | -81.37            | -62.65             | 8.30                 | 11.60                 | V                  |
|                                                      | 10178.00          | -58.10       | -25           | -33.10            | -64.98            | -59.62             | 10.48                | 12.00                 | V                  |
| NR n78 Middle                                        | 7402.50           | -60.09       | -25           | -35.09            | -82.74            | -63.39             | 8.30                 | 11.60                 | H                  |
|                                                      | 11103.75          | -56.69       | -25           | -31.69            | -65.36            | -58.21             | 10.48                | 12.00                 | H                  |
|                                                      | 14805.00          | -53.96       | -25           | -28.96            | -65.48            | -55.66             | 11.80                | 13.50                 | H                  |
|                                                      | 7402.50           | -60.00       | -25           | -35.00            | -82.7             | -63.30             | 8.30                 | 11.60                 | V                  |
|                                                      | 11103.75          | -57.05       | -25           | -32.05            | -65.42            | -58.57             | 10.48                | 12.00                 | V                  |
|                                                      | 14805.00          | -53.83       | -25           | -28.83            | -65.54            | -55.53             | 11.80                | 13.50                 | V                  |

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

| CA_n78A_n41A / NR 100MHz + NR 100MHz / QPSK / ANT4+0 |                   |              |               |                   |                   |                    |                      |                       |                    |
|------------------------------------------------------|-------------------|--------------|---------------|-------------------|-------------------|--------------------|----------------------|-----------------------|--------------------|
| Channel                                              | Frequency ( MHz ) | EIRP ( dBm ) | Limit ( dBm ) | Over Limit ( dB ) | SPA Reading (dBm) | S.G. Power ( dBm ) | TX Cable loss ( dB ) | TX Antenna Gain (dBi) | Polarization (H/V) |
| NR n78 Middle                                        | 7402.50           | -59.12       | -25           | -34.12            | -81.77            | -62.42             | 8.30                 | 11.60                 | H                  |
|                                                      | 11103.75          | -56.20       | -25           | -31.20            | -64.87            | -57.72             | 10.48                | 12.00                 | H                  |
|                                                      | 14805.00          | -52.94       | -25           | -27.94            | -64.46            | -54.64             | 11.80                | 13.50                 | H                  |
|                                                      | 7402.50           | -59.16       | -25           | -34.16            | -81.86            | -62.46             | 8.30                 | 11.60                 | V                  |
|                                                      | 11103.75          | -56.67       | -25           | -31.67            | -65.04            | -58.19             | 10.48                | 12.00                 | V                  |
|                                                      | 14805.00          | -52.77       | -25           | -27.77            | -64.48            | -54.47             | 11.80                | 13.50                 | V                  |
| NR n41 Middle                                        | 5089.00           | -60.57       | -25           | -35.57            | -77.96            | -66.13             | 7.14                 | 12.70                 | H                  |
|                                                      | 7633.50           | -59.50       | -25           | -34.50            | -81.71            | -62.80             | 8.30                 | 11.60                 | H                  |
|                                                      | 10178.00          | -57.06       | -25           | -32.06            | -64.35            | -58.58             | 10.48                | 12.00                 | H                  |
|                                                      | 5089.00           | -61.07       | -25           | -36.07            | -78.39            | -66.63             | 7.14                 | 12.70                 | V                  |
|                                                      | 7633.50           | -59.80       | -25           | -34.80            | -81.82            | -63.10             | 8.30                 | 11.60                 | V                  |
|                                                      | 10178.00          | -57.23       | -25           | -32.23            | -64.11            | -58.75             | 10.48                | 12.00                 | V                  |

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.