



# FCC RADIO TEST REPORT

**FCC ID** : XMR2023RM520NGLT  
**Equipment** : 5G Sub-6 GHz M.2 Module  
**Brand Name** : Quectel  
**Model Name** : RM520N-GL  
**Applicant** : Quectel Wireless Solutions Co., Ltd.  
Building 5, Shanghai Business Park Phase III (Area B), No.1016  
Tianlin Road, Minhang District, Shanghai, China, 200233  
**Manufacturer** : Lenovo PC HK Limited  
23/F, Lincoln House, Taikoo Place 979 King's Road, Quarry Bay,  
Hong Kong, P.R. China  
**Standard** : FCC 47 CFR Part 2, 24(E), 27

Equipment: Quectel RM520N-GL tested inside of Lenovo Notebook Computer.

The product was received on Feb. 10, 2025 and testing was performed from Mar. 04, 2025 to Mar. 18, 2025. We, Sporton International Inc. EMC & Wireless Communications Laboratory, would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in compliance with the applicable technical standards.

The test results in this variant report apply exclusively to the tested model / sample. Without written approval from Sporton International Inc. EMC & Wireless Communications Laboratory, the test report shall not be reproduced except in full.

Louis Wu

Approved by: Louis Wu

**Sporton International Inc. EMC & Wireless Communications Laboratory**



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## History of this test report

| Report No.   | Version | Description             | Issue Date    |
|--------------|---------|-------------------------|---------------|
| FG3N1058-04A | 01      | Initial issue of report | Mar. 27, 2025 |
|              |         |                         |               |
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## Summary of Test Result

| Report Clause | Ref Std. Clause                                       | Test Items                                   | Result (PASS/FAIL) | Remark   |
|---------------|-------------------------------------------------------|----------------------------------------------|--------------------|----------|
| 3.2           | §2.1046                                               | Conducted Output Power                       | Pass               | -        |
|               | §27.50 (b)(10)                                        | Effective Radiated Power (n13)               | Pass               |          |
|               | §24.232 (c)                                           | Equivalent Isotropic Radiated Power (n25)    |                    |          |
|               | §27.50 (a)(3)                                         | Equivalent Isotropic Radiated Power (n30)    |                    |          |
| -             | §24.232 (d)                                           | Peak-to-Average Ratio                        | Pass               | See Note |
| -             | §2.1049                                               | Occupied Bandwidth                           | Pass               | See Note |
| -             | §2.1051<br>§24.238 (a)<br>§27.53 (c)(2)(4)            | Conducted Band Edge Measurement (n13) (n25)  | Pass               | See Note |
|               | §2.1051<br>§27.53 (a)(4)                              | Conducted Band Edge Measurement (n30)        |                    |          |
| -             | §2.1051<br>§24.238 (a)<br>§27.53 (c)(2)               | Conducted Spurious Emission (n13) (n25)      | Pass               | See Note |
|               | §2.1051<br>§27.53 (a)(4)                              | Conducted Spurious Emission (n30)            |                    |          |
| -             | §2.1055<br>§24.235<br>§27.54                          | Frequency Stability<br>Temperature & Voltage | Pass               | See Note |
| 4.2           | §2.1053<br>§24.238 (a)<br>§27.53 (c)(2)<br>§27.53 (f) | Radiated Spurious Emission (n13) (n25)       | Pass               | -        |
|               | §2.1053<br>§27.53 (a)(4)                              | Radiated Spurious Emission (n30)             |                    |          |

**Remark:**

- For host device, Radiated Spurious Emission and Effective Isotropic Radiated Power are verified and comply with the limit in this test report.
- For host device, the Conducted Output Power is no difference after compared to module (Model : RM520N-GL)
- This report is based on changes made to Host Marketing, Model name, CPU, and Motherboard. All test cases were performed according to the original report, which can be referred to as Sporton Report Number FG3N1058C. Based on the upgrades, the test cases have been verified.

**Conformity Assessment Condition:**

1. The test results (PASS/FAIL) with all measurement uncertainty excluded are presented against the regulation limits or in accordance with the requirements stipulated by the applicant/manufacture who shall bear all the risks of non-compliance that may potentially occur if measurement uncertainty is taken into account.
2. The measurement uncertainty please refer to each test result in the section "Measurement Uncertainty".

**Disclaimer:**

The product specifications of the EUT presented in the test report that may affect the test assessments are declared by the manufacturer who shall take full responsibility for the authenticity.

**Reviewed by: Sheng Kuo**

**Report Producer: Ming Chen**



# 1 General Description

## 1.1 Product Feature of Equipment Under Test

| Product Feature                 |                           |
|---------------------------------|---------------------------|
| Equipment                       | 5G Sub-6 GHz M.2 Module   |
| Brand Name                      | Quectel                   |
| Model Name                      | RM520N-GL                 |
| FCC ID                          | XMR2023RM520NGLT          |
| Sample 1                        | EUT with Host 1           |
| Sample 2                        | EUT with Host 2           |
| EUT supports Radios application | WCDMA/HSPA/LTE/5G NR/GNSS |
| EUT Stage                       | Production Unit           |

**Remark:**

1. The above EUT's information was declared by manufacturer.
2. Equipment: Quectel RM520N-GL tested inside of Lenovo Notebook Computer.

The product was installed into Notebook Computer (Brand Name: Lenovo, Model Name: TP00159C, TP00159D, TP00159E) during test, and the host information was recorded in the following table.

| Host Information |                                       |
|------------------|---------------------------------------|
| Host 1           | Host with Amphenol Taiwan Corporation |
| Host 2           | Host with AWAN Antenna                |

| Support band and evaluated information |                                                                             |
|----------------------------------------|-----------------------------------------------------------------------------|
| Supported band                         | n2, n5, n7, n12, n13, n14, n25, n26, n30, n38, n41, n48, n66, n71, n77, n78 |
| Evaluated and Tested band              | n13, n25, n30                                                               |
| Main Antenna                           | n2, n5, n7, n12, n13, n14, n25, n26, n30, n38, n41, n66, n71, n77, n78      |
| MIMO2 Antenna                          | n38, n41, n77, n78                                                          |

| TDD band Power Class |     |     |
|----------------------|-----|-----|
|                      | PC3 | PC2 |
| n38                  | V   | -   |
| n41                  | V   | V   |
| n77                  | V   | V   |
| n78                  | V   | V   |

| WWAN Antenna Information |              |                             |                 |                                                          |
|--------------------------|--------------|-----------------------------|-----------------|----------------------------------------------------------|
| Main Antenna             | Manufacturer | Amphenol Taiwan Corporation | Peak gain (dBi) | 5G NR n13: -0.25<br>5G NR n25: -1.41<br>5G NR n30: -0.81 |
|                          | Part number  | DC330022K00                 | Type            | PIFA                                                     |
|                          | Manufacturer | AWAN                        | Peak gain (dBi) | 5G NR n13: -0.25<br>5G NR n25: -1.41<br>5G NR n30: -0.81 |
|                          | Part number  | DC330022H00                 | Type            | PIFA                                                     |

**Remark:** The above EUT's information was declared by manufacturer. Please refer to Disclaimer in report summary.

## 1.2 Product Specification of Equipment Under Test

| Product Specification is subject to this standard |                                                                                                                       |
|---------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|
| <b>Tx Frequency</b>                               | 5G NR n13: 777 MHz ~ 787 MHz<br>5G NR n25: 1850MHz ~ 1915 MHz<br>5G NR n30: 2305 MHz ~ 2315 MHz                       |
| <b>Rx Frequency</b>                               | 5G NR n13: 746 MHz ~ 756 MHz<br>5G NR n25: 1930MHz ~ 1995 MHz<br>5G NR n30: 2350 MHz ~ 2360 MHz                       |
| <b>Bandwidth</b>                                  | 5G NR n13: 5MHz / 10MHz<br>5G NR n25: 5MHz / 10MHz / 15MHz / 20MHz / 25MHz / 30MHz / 40MHz<br>5G NR n30: 5MHz / 10MHz |
| <b>Maximum Output Power to Antenna</b>            | <b>&lt;Main Antenna&gt;:</b><br>5G NR n13: 23.86 dBm<br>5G NR n25: 23.97 dBm<br>5G NR n30: 21.68 dBm                  |
| <b>Type of Modulation</b>                         | PI/2 BPSK / QPSK / 16QAM / 64QAM / 256QAM                                                                             |

## 1.3 Modification of EUT

No modifications made to the EUT during the testing.

## 1.4 Testing Location

|                              |                                                                                                         |
|------------------------------|---------------------------------------------------------------------------------------------------------|
| <b>Test Site</b>             | Sporton International Inc. EMC & Wireless Communications Laboratory                                     |
| <b>Test Site Location</b>    | No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333                                                   |
| <b>Test Site No.</b>         | <b>Sporton Site No.</b>                                                                                 |
|                              | TH03-HY                                                                                                 |
| <b>Test Engineer</b>         | Mike Yeh                                                                                                |
| <b>Temperature (°C)</b>      | 21.4~24.4                                                                                               |
| <b>Relative Humidity (%)</b> | 48.7~55.8                                                                                               |
| <b>Test Site</b>             | Sporton International Inc. Wensan Laboratory                                                            |
| <b>Test Site Location</b>    | No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist., Taoyuan City 333010                            |
| <b>Test Site No.</b>         | <b>Sporton Site No.</b>                                                                                 |
|                              | 03CH22HY (TAF Code: 3786)                                                                               |
| <b>Test Engineer</b>         | Bill Chang and York Huang                                                                               |
| <b>Temperature (°C)</b>      | 18.9~22.3                                                                                               |
| <b>Relative Humidity (%)</b> | 57.7~63.2                                                                                               |
| <b>Remark</b>                | The Radiated Spurious Emission test item subcontracted to Sporton International Inc. Wensan Laboratory. |

**Note:** The test site complies with ANSI C63.4 2014 requirement.

FCC Designation No.: TW1190 and TW3786

## 1.5 Applicable Standards

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

- ♦ ANSI C63.26-2015
- ♦ FCC 47 CFR Part 2, 24(E), 27
- ♦ FCC KDB 971168 D01 Power Meas. License Digital Systems v03r01
- ♦ FCC KDB 412172 D01 Determining ERP and EIRP v01r01
- ♦ FCC KDB 414788 D01 Radiated Test Site v01r01.

**Remark:**

1. All the test items were validated and recorded in accordance with the standards without any modification during the testing.
2. The TAF code is not including all the FCC KDB listed without accreditation.



## 2 Test Configuration of Equipment Under Test

### 2.1 Test Mode

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

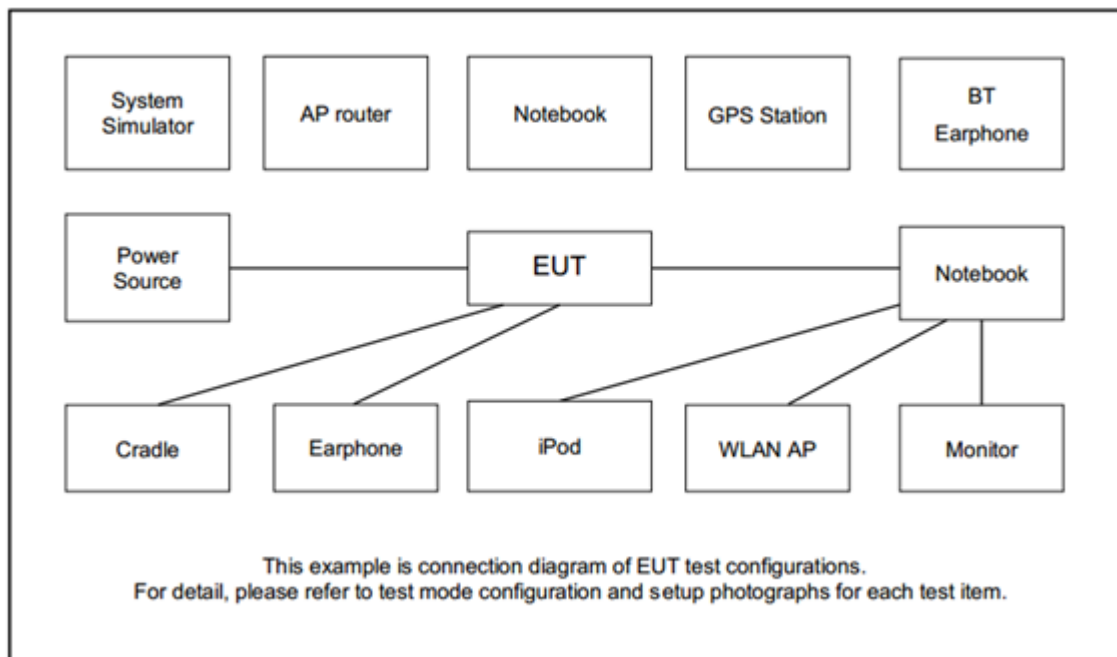
| Modulation Type | Modulation           | Modulation Type | Modulation     |
|-----------------|----------------------|-----------------|----------------|
| A               | DFT-s-OFDM pi/2 BPSK | N/A             | N/A            |
| B               | DFT-s-OFDM QPSK      | F               | CP-OFDM QPSK   |
| C               | DFT-s-OFDM 16QAM     | G               | CP-OFDM 16QAM  |
| D               | DFT-s-OFDM 64QAM     | H               | CP-OFDM 64QAM  |
| E               | DFT-s-OFDM 256QAM    | I               | CP-OFDM 256QAM |

| Test Item       | Modulation Type | Bandwidth      | RB Size   | Channel |
|-----------------|-----------------|----------------|-----------|---------|
| Conducted Power | A, B, C         | All            | 1RB       | L, M, H |
| EIRP, ERP       | A, B, C         | All            | 1RB       | L, M, H |
| RSE             | A               | 20 MHz or less | Inner_1RB | L, M, H |

**Remark:**

1. Evaluated all the transmitter signal and reporting worst-case configuration among all modulation types.
2. 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.
3. During the RSE preliminary test, the standalone mode and charging modes were verified. It is determined that the charging modes is the worst case for the official test.
4. For modulation of pi/2 BPSK & QPSK & 16QAM, the maximum power of pi/2 BPSK & QPSK & 16QAM is higher than other modulation (64QAM/256QAM), therefore, according to engineering evaluation , we choose higher power (pi/2 BPSK & QPSK & 16QAM) to perform tests and show in the report.

## 2.2 Connection Diagram of Test System



## 2.3 Support Unit used in test configuration and system

| Item | Equipment                 | Brand Name | Model No. | FCC ID       | Data Cable       | Power Cord        |
|------|---------------------------|------------|-----------|--------------|------------------|-------------------|
| 1.   | 5G Wireless Test Platform | Anritsu    | MT8000A   | N/A          | N/A              | Unshielded, 1.8 m |
| 2.   | iPod Earphone             | Apple      | N/A       | Verification | Unshielded, 1.0m | N/A               |

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

| 5G NR n13 Channel and Frequency List |                        |        |        |         |
|--------------------------------------|------------------------|--------|--------|---------|
| BW [MHz]                             | Channel/Frequency(MHz) | Lowest | Middle | Highest |
| 10                                   | Channel                | -      | 156400 | -       |
|                                      | Frequency              | -      | 782    | -       |
| 5                                    | Channel                | 155900 | 156400 | 156900  |
|                                      | Frequency              | 779.5  | 782    | 784.5   |

| 5G NR n25 Channel and Frequency List |                        |        |        |         |
|--------------------------------------|------------------------|--------|--------|---------|
| BW [MHz]                             | Channel/Frequency(MHz) | Lowest | Middle | Highest |
| 40                                   | Channel                | 374000 | 376500 | 379000  |
|                                      | Frequency              | 1870   | 1882.5 | 1895    |
| 30                                   | Channel                | 373000 | 376500 | 380000  |
|                                      | Frequency              | 1865   | 1882.5 | 1900    |
| 25                                   | Channel                | 372500 | 376500 | 380500  |
|                                      | Frequency              | 1862.5 | 1882.5 | 1902.5  |
| 20                                   | Channel                | 372000 | 376500 | 381000  |
|                                      | Frequency              | 1860   | 1882.5 | 1905    |
| 15                                   | Channel                | 371500 | 376500 | 381500  |
|                                      | Frequency              | 1857.5 | 1882.5 | 1907.5  |
| 10                                   | Channel                | 371000 | 376500 | 382000  |
|                                      | Frequency              | 1855   | 1882.5 | 1910    |
| 5                                    | Channel                | 370500 | 376500 | 382500  |
|                                      | Frequency              | 1852.5 | 1882.5 | 1912.5  |

| 5G NR n30 Channel and Frequency List |                        |        |        |         |
|--------------------------------------|------------------------|--------|--------|---------|
| BW [MHz]                             | Channel/Frequency(MHz) | Lowest | Middle | Highest |
| 10                                   | Channel                | -      | 27710  | -       |
|                                      | Frequency              | -      | 2310   | -       |
| 5                                    | Channel                | 27685  | 27710  | 27735   |
|                                      | Frequency              | 2307.5 | 2310   | 2312.5  |

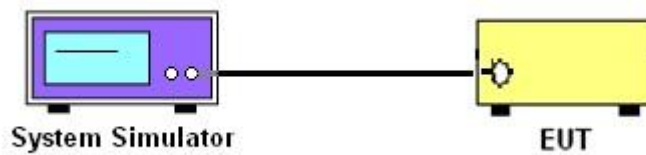
### 3 Conducted Test Items

#### 3.1 Measuring Instruments

See list of measuring instruments of this test report.

##### 3.1.1 Test Setup

##### 3.1.2 Conducted Output Power



##### 3.1.3 Test Result of Conducted Test

Please refer to Appendix A.

## 3.2 Conducted Output Power and ERP/EIRP

### 3.2.1 Description of the Conducted Output Power Measurement and ERP/EIRP Measurement

A system simulator was used to establish communication with the EUT. Its parameters were set to force the EUT transmitting at maximum output power. The measured power in the radio frequency on the transmitter output terminals shall be reported.

The ERP of mobile transmitters must not exceed 3 Watts for 5G NR n13

The EIRP of mobile transmitters must not exceed 2 Watts for 5G NR n25

The EIRP of mobile transmitters must not exceed 250mW/5MHz for 5G NR n30

According to KDB 412172 D01 Power Approach,

$EIRP = P_T + G_T - L_C$ ,  $ERP = EIRP - 2.15$ , where

$P_T$  = transmitter output power in dBm

$G_T$  = gain of the transmitting antenna in dBi

$L_C$  = signal attenuation in the connecting cable between the transmitter and antenna in dB

### 3.2.2 Test Procedures

1. The transmitter output port was connected to the system simulator.
2. Set EUT at maximum power through the system simulator.
3. Select lowest, middle, and highest channels for each band and different modulation.
4. Measure and record the power level from the system simulator.

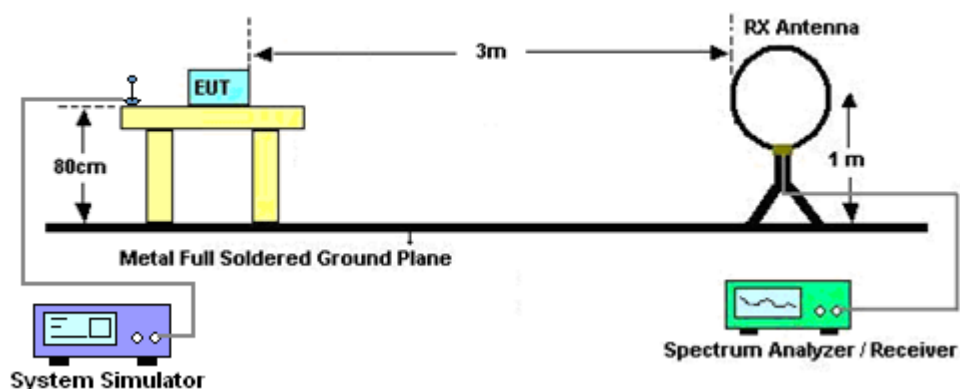
## 4 Radiated Test Items

### 4.1 Measuring Instruments

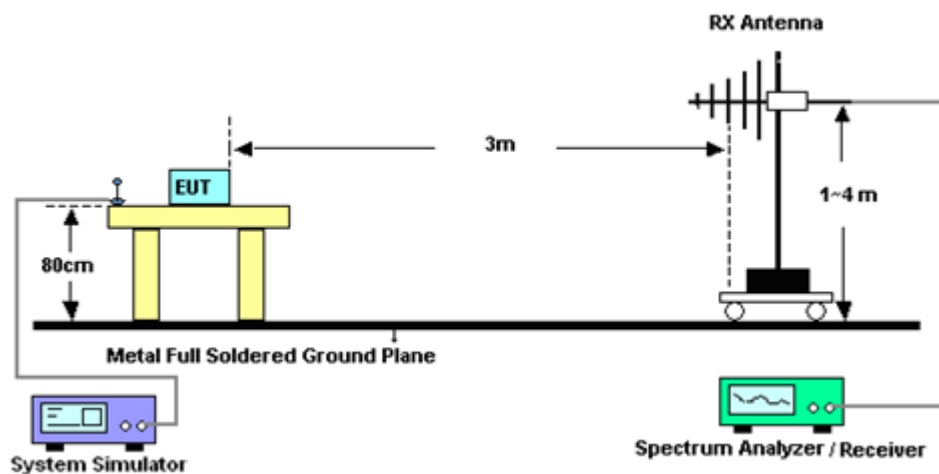
See list of measuring instruments of this test report.

#### 4.1.1 Test Setup

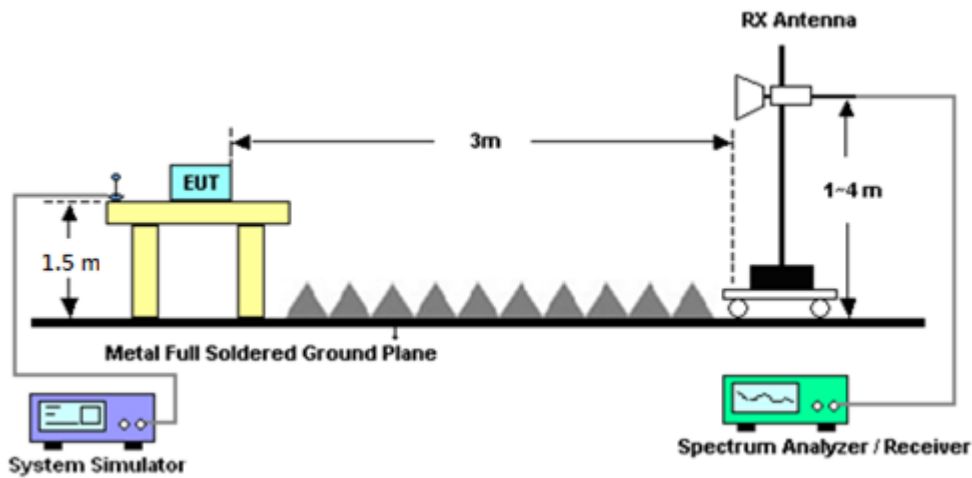
For radiated test below 30MHz



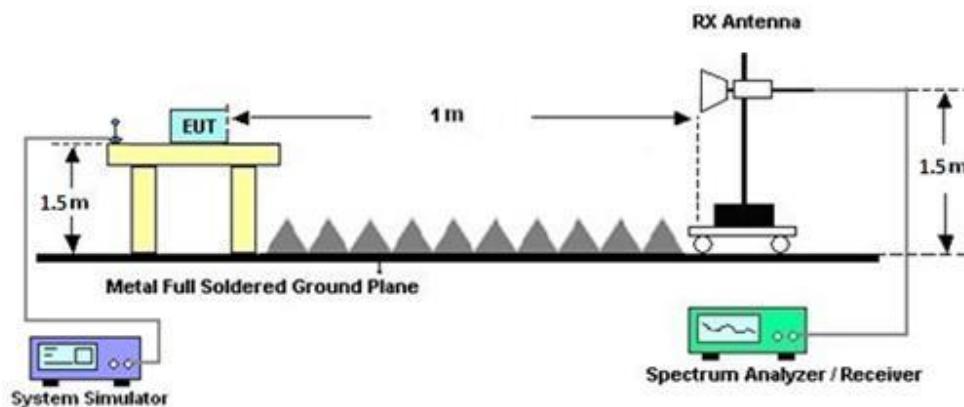
For radiated test from 30MHz to 1GHz



For radiated test from 1GHz to 18GHz



For radiated test above 18GHz



#### 4.1.2 Test Result of Radiated Test

Please refer to Appendix B.

##### Note:

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.

There is adequate comparison measurement of both open-field test site and alternative test site - semi-Anechoic chamber according to 414788 D01 Radiated Test Site v01r01, and the result came out very similar.



## 4.2 Radiated Spurious Emission Measurement

### 4.2.1 Description of Radiated Spurious Emission Measurement

The radiated spurious emission was measured by substitution method according to ANSI C63.26-2015.

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 n13

For operations in the 746-758 MHz, 775-788 MHz, and 805-806 MHz bands, emissions in the band 1559-1610 MHz shall be limited to -70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and -80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth.

For 5G NR n30

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  $70 + 10 \log (P)$  dB.

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

### 4.2.2 Test Procedures

The testing follows FCC KDB 971168 D01 v03r01 Section 7 and ANSI C63.26-2015 section 5.5.4 Radiated measurement using the field strength method.

1. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
2. The EUT was set 3 meters from the receiving antenna, which was mounted on the antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest spurious emission.
4. The height of the receiving antenna is varied between one meter and four meters to search the maximum spurious emission for both horizontal and vertical polarizations.
5. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking the record of maximum spurious emission.
6. To convert spectrum reading E(dBuV/m) to EIRP(dBm)  
$$\text{EIRP(dBm)} = \text{Level (dBuV/m)} + 20\log(d) - 104.77,$$
where d is the distance at which field strength limit is specified in the rules
7. Field Strength Level (dBm) = Spectrum Reading (dBm) + Antenna Factor + Cable Loss + Read Level - Preamp Factor.
8. ERP (dBm) = EIRP (dBm) - 2.15
9. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.





## 5 List of Measuring Equipment

| Instrument                       | Brand Name      | Model No.                    | Serial No.                 | Characteristics               | Calibration Date | Test Date                       | Due Date      | Remark                   |
|----------------------------------|-----------------|------------------------------|----------------------------|-------------------------------|------------------|---------------------------------|---------------|--------------------------|
| Loop Antenna                     | Rohde & Schwarz | HFH2-Z2                      | 100488                     | 9kHz~30MHz                    | Aug. 29, 2024    | Mar. 17, 2025~<br>Mar. 18, 2025 | Aug. 28, 2025 | Radiation<br>(03CH22-HY) |
| Bilog Antenna                    | TESEQ & WOKEN   | CBL 6111D & 00802N1D-06      | 63304 & 002                | 30MHz~1GHz                    | Dec. 17, 2024    | Mar. 17, 2025~<br>Mar. 18, 2025 | Dec. 16, 2025 | Radiation<br>(03CH22-HY) |
| Amplifier                        | SONOMA          | 310N                         | 421581                     | N/A                           | Jul. 11, 2024    | Mar. 17, 2025~<br>Mar. 18, 2025 | Jul. 10, 2025 | Radiation<br>(03CH22-HY) |
| Double Ridged Guide Horn Antenna | SCHWARZBECK     | BBHA 9120 D                  | 9120D-02038                | 1GHz~18GHz                    | Jul. 29, 2024    | Mar. 17, 2025~<br>Mar. 18, 2025 | Jul. 28, 2025 | Radiation<br>(03CH22-HY) |
| SHF-EHF Horn Antenna             | SCHWARZBECK     | BBHA 9170                    | 1230                       | 18GHz~40GHz                   | Oct. 25, 2024    | Mar. 17, 2025~<br>Mar. 18, 2025 | Oct. 24, 2025 | Radiation<br>(03CH22-HY) |
| Amplifier                        | EMEC            | EM01G18GA                    | 060877                     | N/A                           | Sep. 27, 2024    | Mar. 17, 2025~<br>Mar. 18, 2025 | Sep. 26, 2025 | Radiation<br>(03CH22-HY) |
| Preamplifier                     | EMEC            | EM18G40G                     | 060873                     | 18-40GHz                      | Sep. 02, 2024    | Mar. 17, 2025~<br>Mar. 18, 2025 | Sep. 01, 2025 | Radiation<br>(03CH22-HY) |
| Signal Analyzer                  | Keysight        | N9010B                       | MY62170278                 | 10Hz~44GHz                    | Sep. 24, 2024    | Mar. 17, 2025~<br>Mar. 18, 2025 | Sep. 23, 2025 | Radiation<br>(03CH22-HY) |
| Hygrometer                       | TECPEL          | DTM-303A                     | TP201998                   | N/A                           | Oct. 24, 2024    | Mar. 17, 2025~<br>Mar. 18, 2025 | Oct. 23, 2025 | Radiation<br>(03CH22-HY) |
| Controller                       | EMEC            | EM1000                       | N/A                        | Control Turn table & Ant Mast | N/A              | Mar. 17, 2025~<br>Mar. 18, 2025 | N/A           | Radiation<br>(03CH22-HY) |
| Antenna Mast                     | ChainTek        | MBS-520-1                    | N/A                        | 1m~4m                         | N/A              | Mar. 17, 2025~<br>Mar. 18, 2025 | N/A           | Radiation<br>(03CH22-HY) |
| Turn Table                       | ChainTek        | T-200-S-1                    | N/A                        | 0~360 Degree                  | N/A              | Mar. 17, 2025~<br>Mar. 18, 2025 | N/A           | Radiation<br>(03CH22-HY) |
| Software                         | Audix           | E3<br>6.09824 2019122        | RK-002347                  | N/A                           | N/A              | Mar. 17, 2025~<br>Mar. 18, 2025 | N/A           | Radiation<br>(03CH22-HY) |
| RF Cable                         | HUBER + SUHNER  | SUCOFLEX 102                 | 803951/2                   | 9kHz~30MHz                    | Mar. 05, 2025    | Mar. 17, 2025~<br>Mar. 18, 2025 | Mar. 04, 2026 | Radiation<br>(03CH22-HY) |
| RF Cable                         | HUBER + SUHNER  | SUCOFLEX 102                 | 804390/2,804611/2,804615/2 | N/A                           | Oct. 23, 2024    | Mar. 17, 2025~<br>Mar. 18, 2025 | Oct. 22, 2025 | Radiation<br>(03CH22-HY) |
| Signal Analyzer                  | Rohde & Schwarz | FSV3044                      | 101049                     | 10Hz~44GHz                    | Oct. 07, 2024    | Mar. 04, 2025~<br>Mar. 05, 2025 | Oct. 06, 2025 | Conducted<br>(TH03-HY)   |
| Temperature Chamber              | ESPEC           | LHU-113                      | 1012005860                 | -20°C ~85°C                   | Dec. 10, 2024    | Mar. 04, 2025~<br>Mar. 05, 2025 | Dec. 09, 2025 | Conducted<br>(TH03-HY)   |
| Hygrometer                       | TECPEL          | DTM-303B                     | TP200886                   | NA                            | Mar. 03, 2025    | Mar. 04, 2025~<br>Mar. 05, 2025 | Mar. 02, 2026 | Conducted<br>(TH03-HY)   |
| Base Station (Measure)           | Anritsu         | MT8821C                      | 6262116725                 | LTE                           | Oct. 17, 2024    | Mar. 04, 2025~<br>Mar. 05, 2025 | Oct. 16, 2025 | Conducted<br>(TH03-HY)   |
| Base Station (Measure)           | Anritsu         | MT8000A                      | 6262148275                 | FR1                           | Oct. 20, 2024    | Mar. 04, 2025~<br>Mar. 05, 2025 | Oct. 19, 2025 | Conducted<br>(TH03-HY)   |
| Coupler                          | MVE             | MVE-4816-10                  | A400024                    | N/A                           | Jun. 27, 2024    | Mar. 04, 2025~<br>Mar. 05, 2025 | Jun. 26, 2025 | Conducted<br>(TH03-HY)   |
| Power divider                    | Anritsu         | K241C                        | 2143398                    | 9KHz~40GHz                    | Jun. 13, 2024    | Mar. 04, 2025~<br>Mar. 05, 2025 | Jun. 12, 2025 | Conducted<br>(TH03-HY)   |
| RF Cable                         | MVE             | MCBL-LL403P.50               | E80002C                    | 9KHz~40GHz                    | Aug. 23, 2024    | Mar. 04, 2025~<br>Mar. 05, 2025 | Aug. 22, 2025 | Conducted<br>(TH03-HY)   |
| Software 1                       | Sporton         | FCC<br>5GNR_FSV3044_20231106 | N/A                        | Conducted Test Item           | N/A              | Mar. 04, 2025~<br>Mar. 05, 2025 | N/A           | Conducted<br>(TH03-HY)   |

## 6 Measurement Uncertainty

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

|                                                                         |        |
|-------------------------------------------------------------------------|--------|
| Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ ) | 6.6 dB |
|-------------------------------------------------------------------------|--------|

### Uncertainty of Radiated Emission Measurement (1 GHz ~ 6 GHz)

|                                                                         |        |
|-------------------------------------------------------------------------|--------|
| Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ ) | 5.2 dB |
|-------------------------------------------------------------------------|--------|

### Uncertainty of Radiated Emission Measurement (6 GHz ~ 18 GHz)

|                                                                         |        |
|-------------------------------------------------------------------------|--------|
| Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ ) | 5.0 dB |
|-------------------------------------------------------------------------|--------|

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

|                                                                         |        |
|-------------------------------------------------------------------------|--------|
| Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ ) | 5.7 dB |
|-------------------------------------------------------------------------|--------|



## Appendix A. Test Results of Conducted Test

### Conducted Output Power(Average power) and ERP/EIRP

| NR n13 Maximum Average Power [dBm] (GT - LC = -0.25 dB) |          |           |           |        |        |         |           |        |
|---------------------------------------------------------|----------|-----------|-----------|--------|--------|---------|-----------|--------|
| BW [MHz]                                                | RB Size  | RB Offset | Mod       | Lowest | Middle | Highest | ERP (dBm) | ERP(W) |
| 5                                                       | 1        | 1         | PI/2 BPSK | 23.75  | 23.76  | 23.81   | 21.46     | 0.1400 |
| 5                                                       | 1        | 1         | QPSK      | 23.71  | 23.82  | 23.86   |           |        |
| 5                                                       | 1        | 1         | 16-QAM    | 22.64  | 22.82  | 22.85   | 20.45     | 0.1109 |
| Limit                                                   | ERP < 3W |           |           | Result |        |         | Pass      |        |

| NR n13 Maximum Average Power [dBm] (GT - LC = -0.25 dB) |          |           |           |        |        |         |           |        |
|---------------------------------------------------------|----------|-----------|-----------|--------|--------|---------|-----------|--------|
| BW [MHz]                                                | RB Size  | RB Offset | Mod       | Lowest | Middle | Highest | ERP (dBm) | ERP(W) |
| 10                                                      | 1        | 1         | PI/2 BPSK | -      | 23.75  | -       | 21.35     | 0.1365 |
| 10                                                      | 1        | 1         | QPSK      | -      | 23.73  | -       |           |        |
| 10                                                      | 1        | 1         | 16-QAM    | -      | 22.68  | -       | 20.28     | 0.1067 |
| Limit                                                   | ERP < 3W |           |           | Result |        |         | Pass      |        |



| NR n25 Maximum Average Power [dBm] (GT - LC = -1.41 dB) |           |           |           |        |        |         |            |         |
|---------------------------------------------------------|-----------|-----------|-----------|--------|--------|---------|------------|---------|
| BW [MHz]                                                | RB Size   | RB Offset | Mod       | Lowest | Middle | Highest | EIRP (dBm) | EIRP(W) |
| 5                                                       | 1         | 1         | PI/2 BPSK | 23.56  | 23.62  | 23.37   | 22.23      | 0.1671  |
| 5                                                       | 1         | 1         | QPSK      | 23.64  | 23.56  | 23.57   |            |         |
| 5                                                       | 1         | 1         | 16-QAM    | 22.64  | 22.49  | 22.50   | 21.23      | 0.1327  |
| Limit                                                   | EIRP < 2W |           |           | Result |        |         | Pass       |         |

| NR n25 Maximum Average Power [dBm] (GT - LC = -1.41 dB) |           |           |           |        |        |         |            |         |
|---------------------------------------------------------|-----------|-----------|-----------|--------|--------|---------|------------|---------|
| BW [MHz]                                                | RB Size   | RB Offset | Mod       | Lowest | Middle | Highest | EIRP (dBm) | EIRP(W) |
| 10                                                      | 1         | 1         | PI/2 BPSK | 23.64  | 23.46  | 23.55   | 22.26      | 0.1683  |
| 10                                                      | 1         | 1         | QPSK      | 23.67  | 23.40  | 23.62   |            |         |
| 10                                                      | 1         | 1         | 16-QAM    | 22.57  | 22.46  | 22.56   | 21.16      | 0.1306  |
| Limit                                                   | EIRP < 2W |           |           | Result |        |         | Pass       |         |

| NR n25 Maximum Average Power [dBm] (GT - LC = -1.41 dB) |           |           |           |        |        |         |            |         |
|---------------------------------------------------------|-----------|-----------|-----------|--------|--------|---------|------------|---------|
| BW [MHz]                                                | RB Size   | RB Offset | Mod       | Lowest | Middle | Highest | EIRP (dBm) | EIRP(W) |
| 15                                                      | 1         | 1         | PI/2 BPSK | 23.91  | 23.80  | 23.67   | 22.56      | 0.1803  |
| 15                                                      | 1         | 1         | QPSK      | 23.97  | 23.80  | 23.69   |            |         |
| 15                                                      | 1         | 1         | 16-QAM    | 22.88  | 22.76  | 22.60   | 21.47      | 0.1403  |
| Limit                                                   | EIRP < 2W |           |           | Result |        |         | Pass       |         |

| NR n25 Maximum Average Power [dBm] (GT - LC = -1.41 dB) |           |           |           |        |        |         |            |         |
|---------------------------------------------------------|-----------|-----------|-----------|--------|--------|---------|------------|---------|
| BW [MHz]                                                | RB Size   | RB Offset | Mod       | Lowest | Middle | Highest | EIRP (dBm) | EIRP(W) |
| 20                                                      | 1         | 1         | PI/2 BPSK | 23.80  | 23.69  | 23.69   | 22.42      | 0.1746  |
| 20                                                      | 1         | 1         | QPSK      | 23.83  | 23.76  | 23.75   |            |         |
| 20                                                      | 1         | 1         | 16-QAM    | 22.72  | 22.68  | 22.64   | 21.31      | 0.1352  |
| Limit                                                   | EIRP < 2W |           |           | Result |        |         | Pass       |         |

| NR n25 Maximum Average Power [dBm] (GT - LC = -1.41 dB) |           |           |           |        |        |         |            |         |
|---------------------------------------------------------|-----------|-----------|-----------|--------|--------|---------|------------|---------|
| BW [MHz]                                                | RB Size   | RB Offset | Mod       | Lowest | Middle | Highest | EIRP (dBm) | EIRP(W) |
| 25                                                      | 1         | 1         | PI/2 BPSK | 23.82  | 23.83  | 23.74   | 22.51      | 0.1782  |
| 25                                                      | 1         | 1         | QPSK      | 23.92  | 23.86  | 23.79   |            |         |
| 25                                                      | 1         | 1         | 16-QAM    | 22.81  | 22.79  | 22.75   | 21.4       | 0.1380  |
| Limit                                                   | EIRP < 2W |           |           | Result |        |         | Pass       |         |

| NR n25 Maximum Average Power [dBm] (GT - LC = -1.41 dB) |           |           |           |        |        |         |            |         |
|---------------------------------------------------------|-----------|-----------|-----------|--------|--------|---------|------------|---------|
| BW [MHz]                                                | RB Size   | RB Offset | Mod       | Lowest | Middle | Highest | EIRP (dBm) | EIRP(W) |
| 30                                                      | 1         | 1         | PI/2 BPSK | 23.89  | 23.70  | 23.71   | 22.49      | 0.1774  |
| 30                                                      | 1         | 1         | QPSK      | 23.90  | 23.69  | 23.80   |            |         |
| 30                                                      | 1         | 1         | 16-QAM    | 22.77  | 22.68  | 22.65   | 21.36      | 0.1368  |
| Limit                                                   | EIRP < 2W |           |           | Result |        |         | Pass       |         |

| NR n25 Maximum Average Power [dBm] (GT - LC = -1.41 dB) |           |           |           |        |        |         |            |         |
|---------------------------------------------------------|-----------|-----------|-----------|--------|--------|---------|------------|---------|
| BW [MHz]                                                | RB Size   | RB Offset | Mod       | Lowest | Middle | Highest | EIRP (dBm) | EIRP(W) |
| 40                                                      | 1         | 1         | PI/2 BPSK | 23.77  | 23.68  | 23.71   | 22.53      | 0.1791  |
| 40                                                      | 1         | 1         | QPSK      | 23.94  | 23.68  | 23.86   |            |         |
| 40                                                      | 1         | 1         | 16-QAM    | 22.62  | 22.62  | 22.74   | 21.33      | 0.1358  |
| Limit                                                   | EIRP < 2W |           |           | Result |        |         | Pass       |         |



| NR n30 Maximum Average Power [dBm] (GT - LC = -0.81 dB) |                    |           |           |        |        |         |            |         |
|---------------------------------------------------------|--------------------|-----------|-----------|--------|--------|---------|------------|---------|
| BW [MHz]                                                | RB Size            | RB Offset | Mod       | Lowest | Middle | Highest | EIRP (dBm) | EIRP(W) |
| 5                                                       | 1                  | 1         | PI/2 BPSK | 21.49  | 21.63  | 21.64   | 20.83      | 0.1211  |
| 5                                                       | 1                  | 1         | QPSK      | 21.57  | 21.56  | 21.63   |            |         |
| 5                                                       | 1                  | 1         | 16-QAM    | 20.61  | 20.61  | 20.63   | 19.82      | 0.0959  |
| Limit                                                   | EIRP < 250 mW/5MHz |           |           | Result |        |         | Pass       |         |

| NR n30 Maximum Average Power [dBm] (GT - LC = -0.81 dB) |                    |           |           |        |        |         |            |         |
|---------------------------------------------------------|--------------------|-----------|-----------|--------|--------|---------|------------|---------|
| BW [MHz]                                                | RB Size            | RB Offset | Mod       | Lowest | Middle | Highest | EIRP (dBm) | EIRP(W) |
| 10                                                      | 1                  | 1         | PI/2 BPSK | -      | 21.68  | -       | 20.87      | 0.1222  |
| 10                                                      | 1                  | 1         | QPSK      | -      | 21.67  | -       |            |         |
| 10                                                      | 1                  | 1         | 16-QAM    | -      | 20.67  | -       | 19.86      | 0.0968  |
| Limit                                                   | EIRP < 250 mW/5MHz |           |           | Result |        |         | Pass       |         |

Total EIRP power is less than partial EIRP limit 250 mW/5MHz.



## Appendix B. Test Results of Radiated Test

### B1. Summary of each worse mode

| Mode | Part     | Band      | Ch | Freq (MHz) | Level (dBm) | Det | Ant Factor (dB) | AmplCbl (dB) | Filter (dB) | EIRPCF (dB) | Reading (dBuV) | Limit (dBm) | Margin (dB) | Pol | Ant          |
|------|----------|-----------|----|------------|-------------|-----|-----------------|--------------|-------------|-------------|----------------|-------------|-------------|-----|--------------|
| 1    | Part 24E | NR SA n25 | M  | 3750       | -50.59      | RMS | 30.00           | -22.49       | 1.21        | -95.23      | 35.92          | -13.00      | -37.59      | V   | Main Antenna |
| 1    | Part 27F | NR SA n13 | M  | 2340       | -45.29      | RMS | 27.20           | -24.02       | 1.20        | -95.23      | 45.56          | -13.00      | -32.29      | H   | Main Antenna |
| 2    | Part 27F | NR SA n13 | M  | 2333       | -47.65      | RMS | 27.27           | -24.02       | 0.63        | -95.23      | 43.70          | -13.00      | -34.65      | H   | Main Antenna |
| 1    | Part 27D | NR SA n30 | H  | 9242       | -52.66      | RMS | 37.78           | -21.14       | 2.23        | -95.23      | 23.70          | -40.00      | -12.66      | H   | Main Antenna |
| 2    | Part 27D | NR SA n30 | M  | 9223       | -52.55      | RMS | 37.75           | -21.13       | 2.22        | -95.23      | 23.84          | -40.00      | -12.55      | H   | Main Antenna |

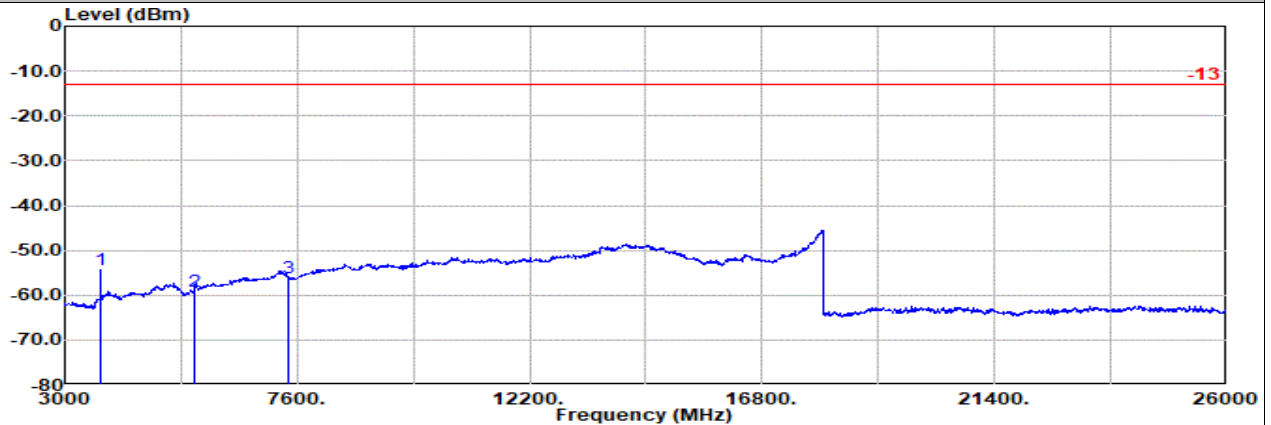


## Main Antenna

## Part 24E Mode 1

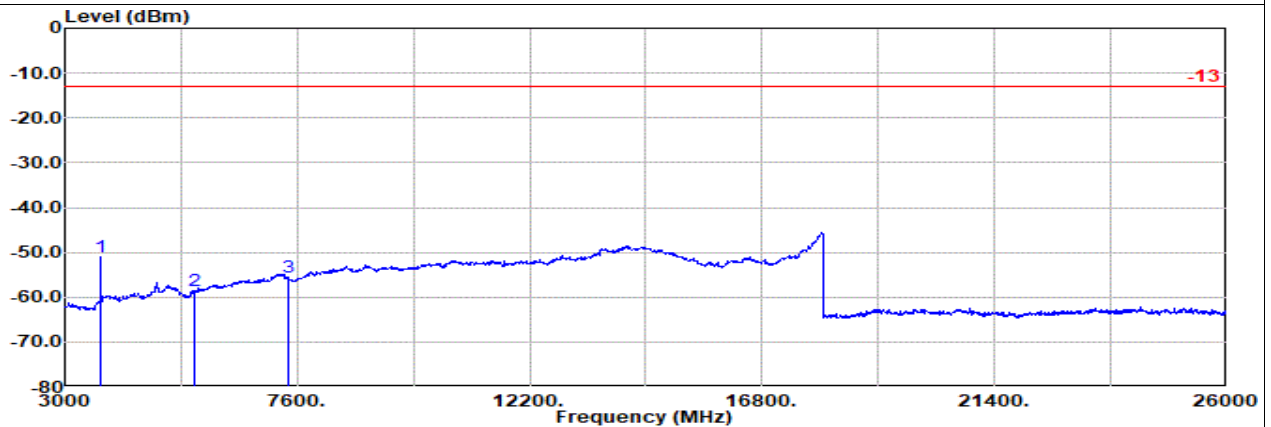
## NR SA n25 20M Ch372000 1RB1 BPSK

## L



Site : 03CH22-HY  
Condition: -13 1m SHF\_1230\_241025 Horizontal  
: SA n25 40M Ch372000 1RB1 BPSK

|   | Freq Level |        | Detector | Ant Amp\Cb Filter |        | Factor | Filter 1 |       | EIRPCF | Reading | Limit      |    | Margin | Pol |
|---|------------|--------|----------|-------------------|--------|--------|----------|-------|--------|---------|------------|----|--------|-----|
|   | MHz        | dBm    |          | dB/m              | dB     |        | dB       | dB    |        | dBuV    | dBm        | dB |        |     |
| 1 | 3703.00    | -54.46 | RMS      | 29.72             | -22.56 | 1.18   | -95.23   | 32.43 | -13.00 | -41.46  | Horizontal |    |        |     |
| 2 | 5554.00    | -59.29 | RMS      | 32.88             | -21.60 | 1.35   | -95.23   | 23.31 | -13.00 | -46.29  | Horizontal |    |        |     |
| 3 | 7405.00    | -56.03 | RMS      | 36.30             | -21.23 | 1.04   | -95.23   | 23.09 | -13.00 | -43.03  | Horizontal |    |        |     |



Site : 03CH22-HY  
Condition: -13 1m SHF\_1230\_241025 Vertical  
: SA n25 40M Ch372000 1RB1 BPSK

|   | Freq Level |        | Detector | Ant Amp\Cb Filter |        | Factor | Filter 1 |       | EIRPCF | Reading | Limit    |    | Margin | Pol |
|---|------------|--------|----------|-------------------|--------|--------|----------|-------|--------|---------|----------|----|--------|-----|
|   | MHz        | dBm    |          | dB/m              | dB     |        | dB       | dB    |        | dBuV    | dBm      | dB |        |     |
| 1 | 3703.00    | -50.96 | RMS      | 29.72             | -22.56 | 1.18   | -95.23   | 35.93 | -13.00 | -37.96  | Vertical |    |        |     |
| 2 | 5554.00    | -58.53 | RMS      | 32.88             | -21.60 | 1.35   | -95.23   | 24.07 | -13.00 | -45.53  | Vertical |    |        |     |
| 3 | 7405.00    | -55.57 | RMS      | 36.30             | -21.23 | 1.04   | -95.23   | 23.55 | -13.00 | -42.57  | Vertical |    |        |     |

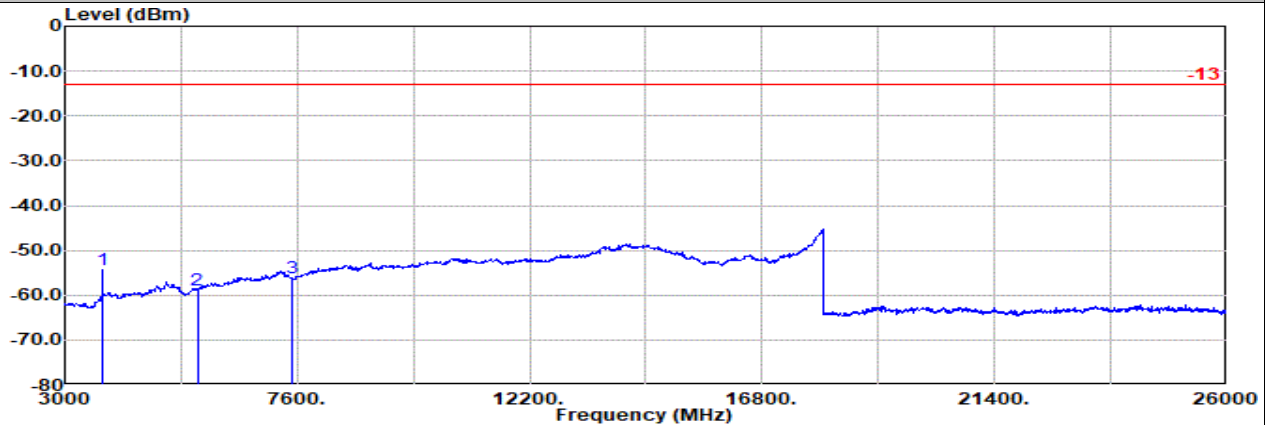


## Main Antenna

## Part 24E Mode 1

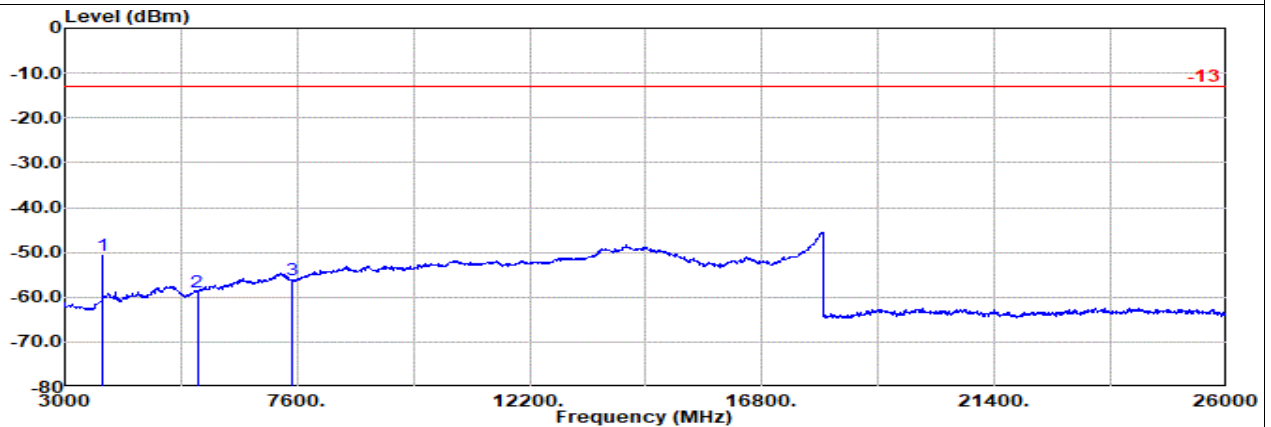
NR SA n25 20M Ch376500 1RB1 BPSK

M



Site : 03CH22-HY  
Condition: -13 1m SHF\_1230\_241025 Horizontal  
: SA n25 40M Ch376500 1RB1 BPSK

|   | Freq Level |        | Detector | Ant Amp\Cb Filter |        | Factor | Filter 1 |       | EIRPCF | Reading | Limit      |    | Margin | Pol |
|---|------------|--------|----------|-------------------|--------|--------|----------|-------|--------|---------|------------|----|--------|-----|
|   | MHz        | dBm    |          | dB/m              | dB     |        | dB       | dB    |        | dBuV    | dBm        | dB |        |     |
| 1 | 3750.00    | -54.27 | RMS      | 30.00             | -22.49 | 1.21   | -95.23   | 32.24 | -13.00 | -41.27  | Horizontal |    |        |     |
| 2 | 5621.00    | -58.89 | RMS      | 32.83             | -21.54 | 1.41   | -95.23   | 23.64 | -13.00 | -45.89  | Horizontal |    |        |     |
| 3 | 7500.00    | -56.27 | RMS      | 36.20             | -21.26 | 1.02   | -95.23   | 23.00 | -13.00 | -43.27  | Horizontal |    |        |     |



Site : 03CH22-HY  
Condition: -13 1m SHF\_1230\_241025 Vertical  
: SA n25 40M Ch376500 1RB1 BPSK

|   | Freq Level |        | Detector | Ant Amp\Cb Filter |        | Factor | Filter 1 |       | EIRPCF | Reading | Limit    |    | Margin | Pol |
|---|------------|--------|----------|-------------------|--------|--------|----------|-------|--------|---------|----------|----|--------|-----|
|   | MHz        | dBm    |          | dB/m              | dB     |        | dB       | dB    |        | dBuV    | dBm      | dB |        |     |
| 1 | 3750.00    | -50.59 | RMS      | 30.00             | -22.49 | 1.21   | -95.23   | 35.92 | -13.00 | -37.59  | Vertical |    |        |     |
| 2 | 5621.00    | -58.72 | RMS      | 32.83             | -21.54 | 1.41   | -95.23   | 23.81 | -13.00 | -45.72  | Vertical |    |        |     |
| 3 | 7500.00    | -56.27 | RMS      | 36.20             | -21.26 | 1.02   | -95.23   | 23.00 | -13.00 | -43.27  | Vertical |    |        |     |



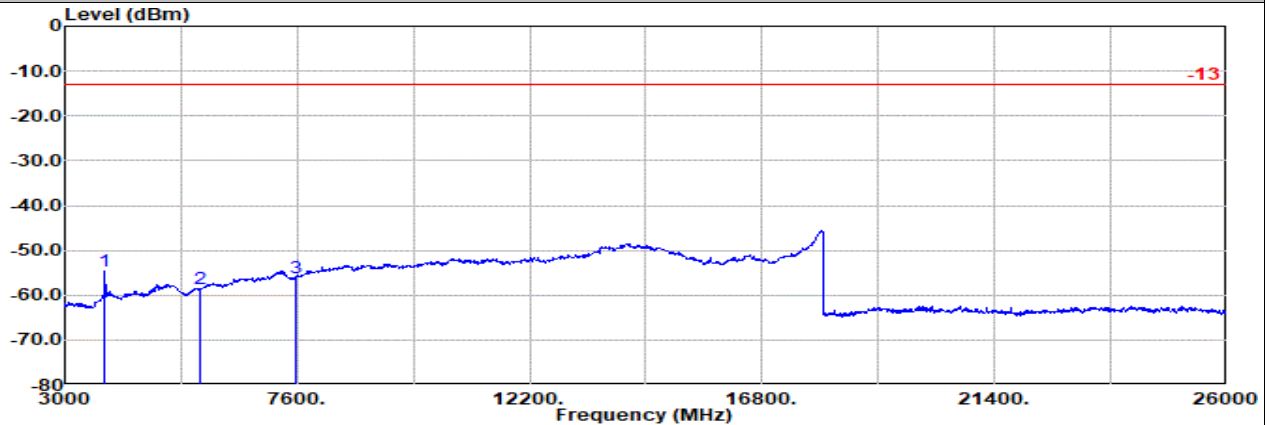


## Main Antenna

## Part 24E Mode 1

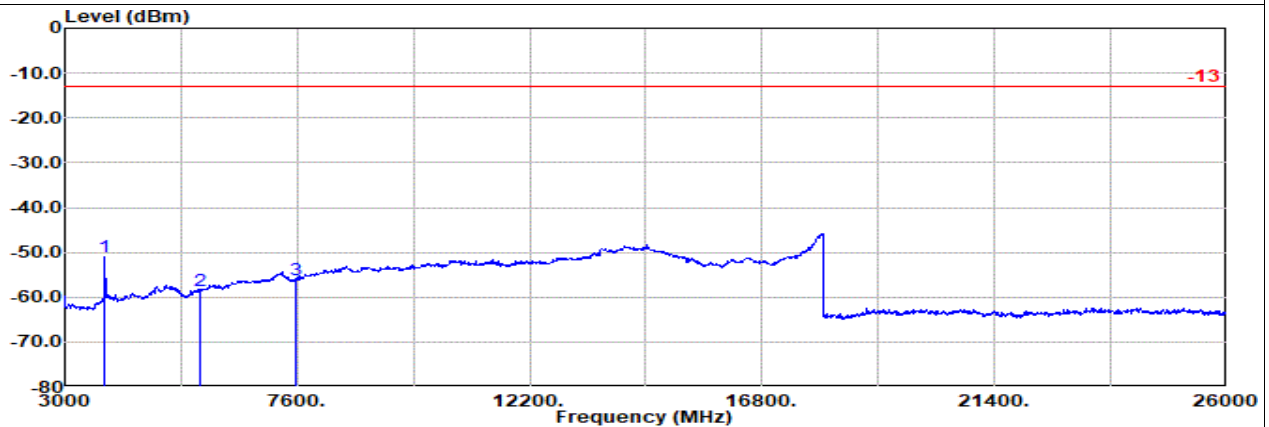
## NR SA n25 20M Ch381000 1RB1 BPSK

## H



Site : 03CH22-HY  
Condition: -13 1m SHF\_1230\_241025 Horizontal  
: SA n25 40M Ch381000 1RB1 BPSK

|   | Freq    | Level  | Detector | Ant    | Amp\Cb | Filter | EIRPCF | Readin | Limit  | Margin | Pol        |
|---|---------|--------|----------|--------|--------|--------|--------|--------|--------|--------|------------|
|   |         |        |          | Factor | l      |        |        |        | g      |        |            |
|   | MHz     | dBm    |          | dB/m   | dB     | dB     |        | dBuV   | dBm    |        |            |
| 1 | 3793.00 | -54.70 | RMS      | 30.34  | -22.44 | 1.24   | -95.23 | 31.39  | -13.00 | -41.70 | Horizontal |
| 2 | 5689.00 | -58.47 | RMS      | 33.31  | -21.48 | 1.23   | -95.23 | 23.70  | -13.00 | -45.47 | Horizontal |
| 3 | 7585.00 | -56.23 | RMS      | 36.07  | -21.18 | 1.00   | -95.23 | 23.11  | -13.00 | -43.23 | Horizontal |



Site : 03CH22-HY  
Condition: -13 1m SHF\_1230\_241025 Vertical  
: SA n25 40M Ch381000 1RB1 BPSK

|   | Freq    | Level  | Detector | Ant Factor | Amp\Cb<br>l | Filter | EIRPCF | Reading | Limit  | Margin | Pol      |
|---|---------|--------|----------|------------|-------------|--------|--------|---------|--------|--------|----------|
|   | MHz     | dBm    |          | dB/m       | dB          | dB     | dB     | dBuV    | dBm    | dB     |          |
| 1 | 3793.00 | -51.08 | RMS      | 30.34      | -22.44      | 1.24   | -95.23 | 35.01   | -13.00 | -38.08 | Vertical |
| 2 | 5689.00 | -58.49 | RMS      | 33.31      | -21.48      | 1.23   | -95.23 | 23.68   | -13.00 | -45.49 | Vertical |
| 3 | 7585.00 | -56.23 | RMS      | 36.07      | -21.18      | 1.00   | -95.23 | 23.11   | -13.00 | -43.23 | Vertical |

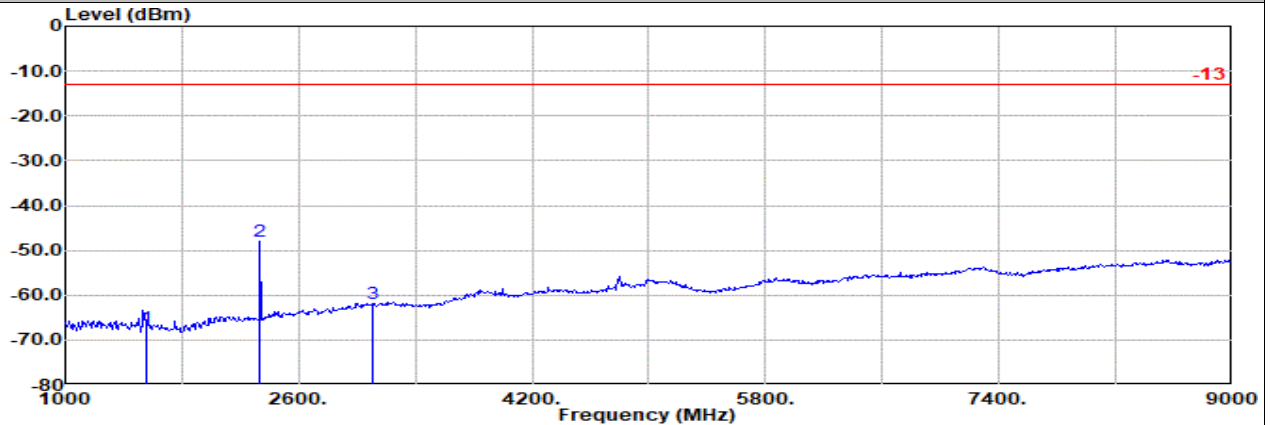


## Main Antenna

## Part 27F Mode 1

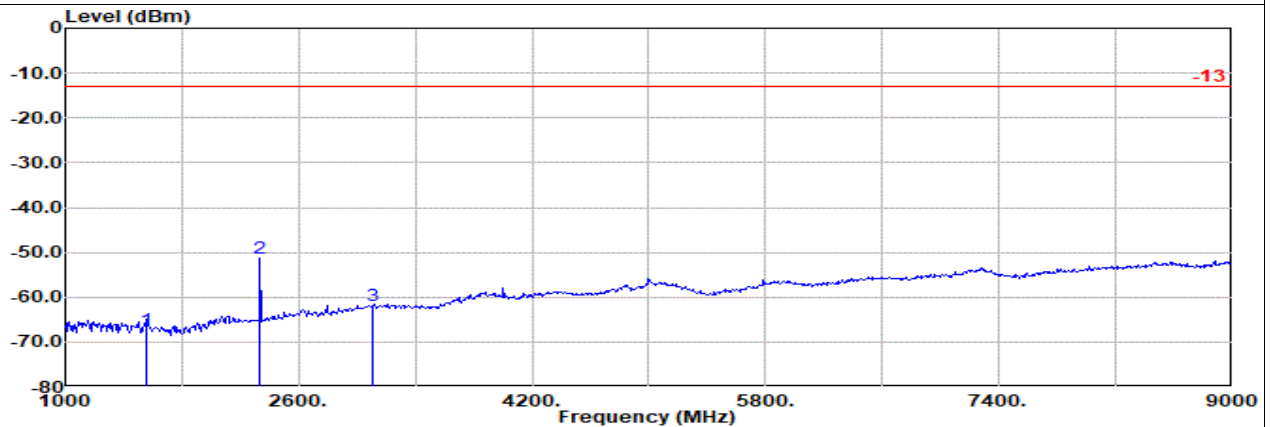
NR SA n13 5M Ch155900 1RB1 BPSK

L



Site : 03CH22-HY  
Condition: -13 3m 9120D\_02038\_240729 Horizontal  
NR SA n13 5M Ch155900 1RB1 BPSK

|   | Freq Level |        | Detector | Ant Amp\Cb Filter |        | EIRPCF | Readin g | Limit  |        | Margin | Pol        |
|---|------------|--------|----------|-------------------|--------|--------|----------|--------|--------|--------|------------|
|   | MHz        | dBm    |          | Factor            | 1      |        |          | dBm    | dB     |        |            |
| 1 | 1555.00    | -67.34 | RMS      | 25.45             | -25.00 | 1.29   | -95.23   | -66.21 | -13.00 | -54.34 | Horizontal |
| 2 | 2333.00    | -47.90 | RMS      | 27.27             | -24.02 | 1.20   | -95.23   | 42.88  | -13.00 | -34.90 | Horizontal |
| 3 | 3110.00    | -61.96 | RMS      | 29.64             | -22.98 | 1.29   | -95.23   | 25.32  | -13.00 | -48.96 | Horizontal |



Site : 03CH22-HY  
Condition: -13 3m 9120D\_02038\_240729 Vertical  
NR SA n13 5M Ch155900 1RB1 BPSK

|   | Freq Level |        | Detector | Ant Amp\Cb Filter |        | EIRPCF | Readin g | Limit |        | Margin | Pol      |
|---|------------|--------|----------|-------------------|--------|--------|----------|-------|--------|--------|----------|
|   | MHz        | dBm    |          | Factor            | 1      |        |          | dBm   | dB     |        |          |
| 1 | 1555.00    | -67.33 | RMS      | 25.45             | -25.00 | 1.29   | -95.23   | 26.16 | -13.00 | -54.33 | Vertical |
| 2 | 2333.00    | -51.37 | RMS      | 27.27             | -24.02 | 1.20   | -95.23   | 39.41 | -13.00 | -38.37 | Vertical |
| 3 | 3110.00    | -62.02 | RMS      | 29.64             | -22.98 | 1.29   | -95.23   | 25.26 | -13.00 | -49.02 | Vertical |

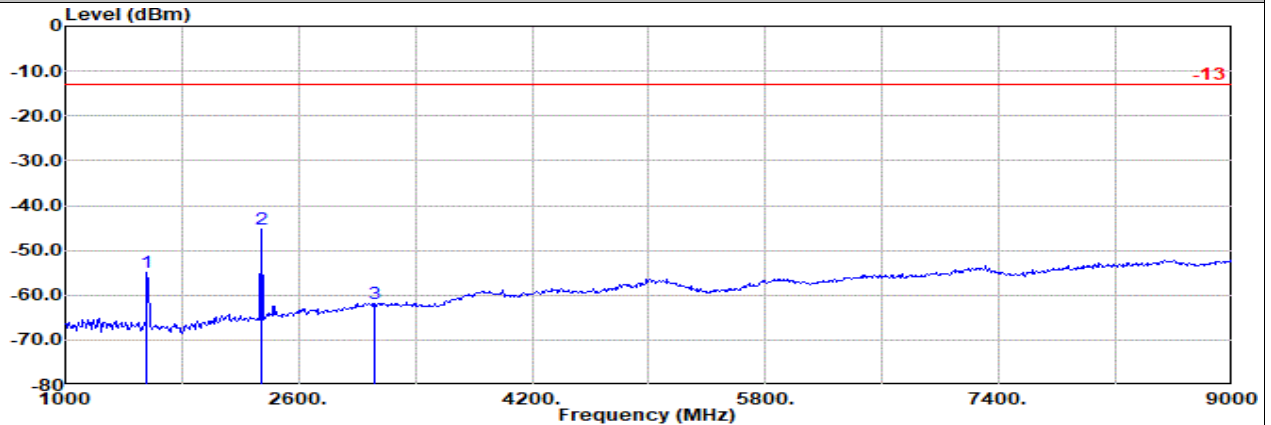


## Main Antenna

## Part 27F Mode 1

NR SA n13 5M Ch156400 1RB1 BPSK

M

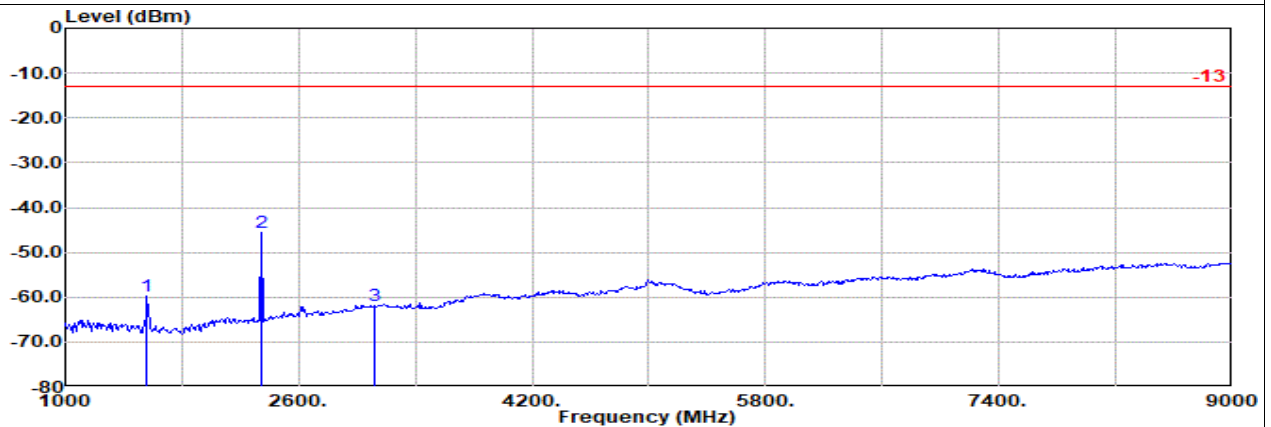


Site : 03CH22-HY

Condition: -13 3m 9120D\_02038\_240729 Horizontal

NR SA n13 5M Ch156400 1RB1 BPSK

|   | Freq Level |        | Detector | Ant Amp\Cb Filter |        | Factor | Filter |       | EIRPCF | Readin g | Limit      |     | Margin | Pol |
|---|------------|--------|----------|-------------------|--------|--------|--------|-------|--------|----------|------------|-----|--------|-----|
|   | MHz        | dBm    |          | dB/m              | dB     |        | dB     | dB    |        |          | dBuV       | dBm | dB     |     |
| 1 | 1560.00    | -55.02 | RMS      | 25.40             | -24.99 | 1.30   | -95.23 | 38.50 | -13.00 | -42.02   | Horizontal |     |        |     |
| 2 | 2340.00    | -45.29 | RMS      | 27.20             | -24.02 | 1.20   | -95.23 | 45.56 | -13.00 | -32.29   | Horizontal |     |        |     |
| 3 | 3120.00    | -62.03 | RMS      | 29.68             | -22.97 | 1.29   | -95.23 | 25.20 | -13.00 | -49.03   | Horizontal |     |        |     |



Site : 03CH22-HY

Condition: -13 3m 9120D\_02038\_240729 Vertical

NR SA n13 5M Ch156400 1RB1 BPSK

|   | Freq Level |        | Detector | Ant Amp\Cb Filter |        | Factor | Filter |       | EIRPCF | Readin g | Limit    |     | Margin | Pol |
|---|------------|--------|----------|-------------------|--------|--------|--------|-------|--------|----------|----------|-----|--------|-----|
|   | MHz        | dBm    |          | dB/m              | dB     |        | dB     | dB    |        |          | dBuV     | dBm | dB     |     |
| 1 | 1560.00    | -59.85 | RMS      | 25.40             | -24.99 | 1.30   | -95.23 | 33.67 | -13.00 | -46.85   | Vertical |     |        |     |
| 2 | 2340.00    | -45.54 | RMS      | 27.20             | -24.02 | 1.20   | -95.23 | 45.31 | -13.00 | -32.54   | Vertical |     |        |     |
| 3 | 3120.00    | -61.87 | RMS      | 29.68             | -22.97 | 1.29   | -95.23 | 25.36 | -13.00 | -48.87   | Vertical |     |        |     |

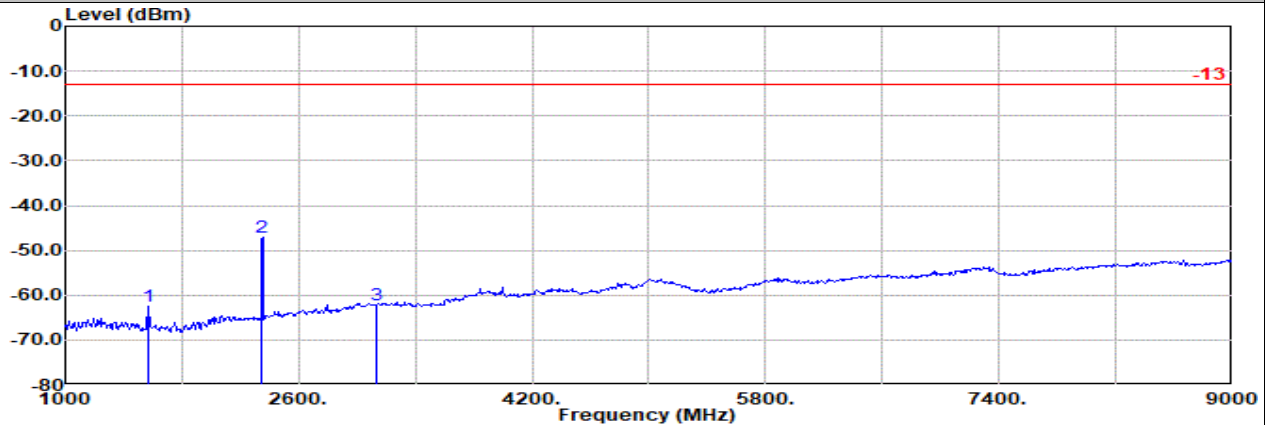


## Main Antenna

## Part 27F Mode 1

NR SA n13 5M Ch156900 1RB1 BPSK

H

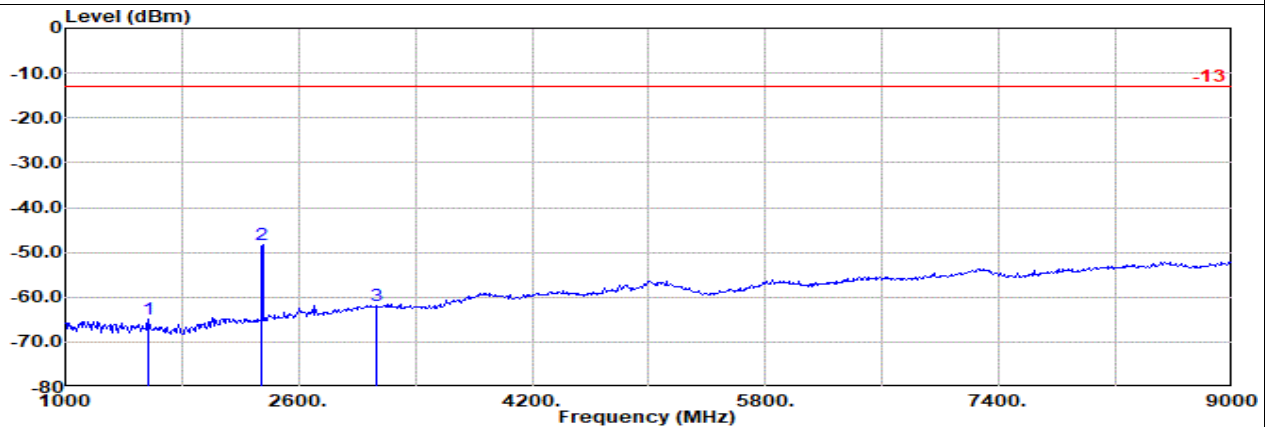


Site : 03CH22-HY

Condition: -13 3m 9120D\_02038\_240729 Horizontal

NR SA n13 5M Ch156900 1RB1 BPSK

|   | Freq Level |        | Detector | Ant Amp\Cb Filter |        | Factor | Filter |       | EIRPCF | Readin g | Limit      |     | Margin | Pol |
|---|------------|--------|----------|-------------------|--------|--------|--------|-------|--------|----------|------------|-----|--------|-----|
|   | MHz        | dBm    |          | dB/m              | dB     |        | dB     | dB    |        |          | dBuV       | dBm | dB     |     |
| 1 | 1565.00    | -62.60 | RMS      | 25.40             | -24.98 | 1.30   | -95.23 | 30.91 | -13.00 | -49.60   | Horizontal |     |        |     |
| 2 | 2348.00    | -47.17 | RMS      | 27.28             | -24.01 | 1.20   | -95.23 | 43.59 | -13.00 | -34.17   | Horizontal |     |        |     |
| 3 | 3130.00    | -62.08 | RMS      | 29.72             | -22.97 | 1.29   | -95.23 | 25.11 | -13.00 | -49.08   | Horizontal |     |        |     |



Site : 03CH22-HY

Condition: -13 3m 9120D\_02038\_240729 Vertical

NR SA n13 5M Ch156900 1RB1 BPSK

|   | Freq Level |        | Detector | Ant Amp\Cb Filter |        | Factor | Filter |       | EIRPCF | Readin g | Limit    |     | Margin | Pol |
|---|------------|--------|----------|-------------------|--------|--------|--------|-------|--------|----------|----------|-----|--------|-----|
|   | MHz        | dBm    |          | dB/m              | dB     |        | dB     | dB    |        |          | dBuV     | dBm | dB     |     |
| 1 | 1565.00    | -64.86 | RMS      | 25.40             | -24.98 | 1.30   | -95.23 | 28.65 | -13.00 | -51.86   | Vertical |     |        |     |
| 2 | 2348.00    | -48.24 | RMS      | 27.28             | -24.01 | 1.20   | -95.23 | 42.52 | -13.00 | -35.24   | Vertical |     |        |     |
| 3 | 3130.00    | -61.97 | RMS      | 29.72             | -22.97 | 1.29   | -95.23 | 25.22 | -13.00 | -48.97   | Vertical |     |        |     |

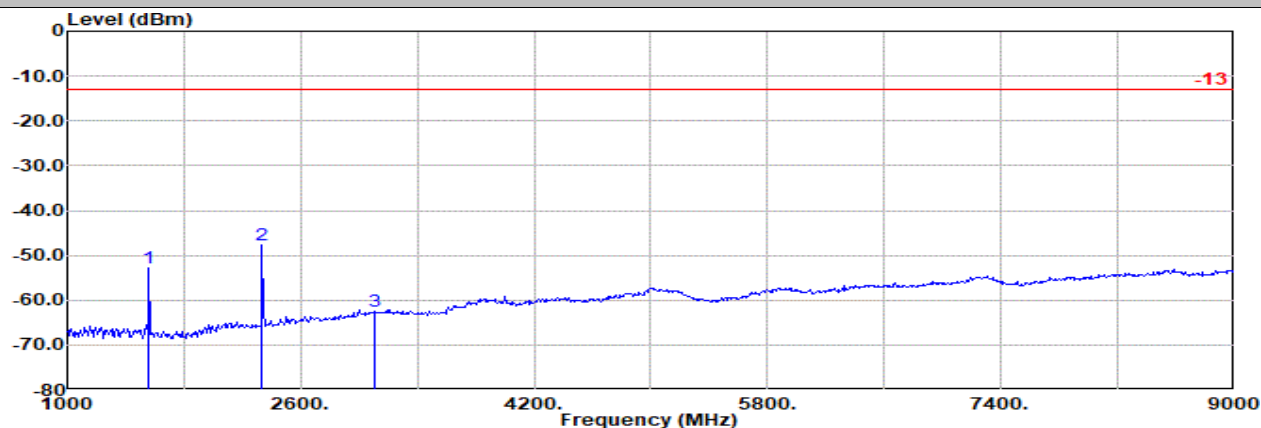


## Main Antenna

## Part 27F Mode 2

NR SA n13 10M Ch156400 1RB1 BPSK

M

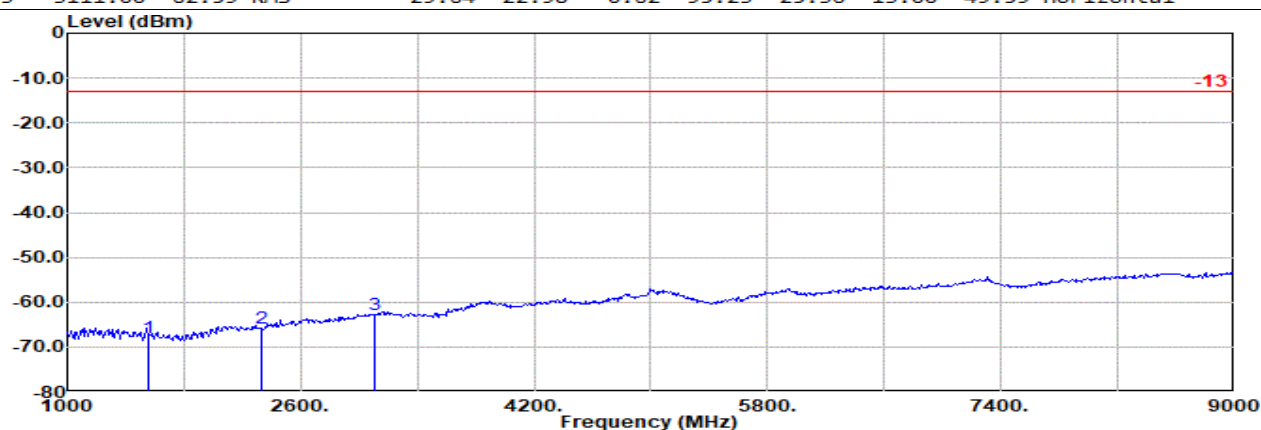


Site : 03CH22-HY

Condition: -13 3m 9120D\_02038\_240729 Horizontal

NR SA n13 10M Ch156400 1RB1 BPSK

|   | Freq Level |        | Detector | Ant Amp\Cb Filter |        | Factor | EIRPCF |        | Readin g | Limit  |            | Margin | Pol |
|---|------------|--------|----------|-------------------|--------|--------|--------|--------|----------|--------|------------|--------|-----|
|   | MHz        | dBm    |          | dB/m              | dB     |        | dB     | dB     |          | dBuV   | dBm        | dB     |     |
| 1 | 1556.00    | -52.92 | RMS      | 25.44             | -24.99 | 0.83   | -95.23 | -66.91 | -13.00   | -39.92 | Horizontal |        |     |
| 2 | 2333.00    | -47.65 | RMS      | 27.27             | -24.02 | 0.63   | -95.23 | 43.70  | -13.00   | -34.65 | Horizontal |        |     |
| 3 | 3111.00    | -62.59 | RMS      | 29.64             | -22.98 | 0.62   | -95.23 | 25.36  | -13.00   | -49.59 | Horizontal |        |     |



Site : 03CH22-HY

Condition: -13 3m 9120D\_02038\_240729 Vertical

NR SA n13 10M Ch156400 1RB1 BPSK

|   | Freq Level |        | Detector | Ant Amp\Cb Filter |        | Factor | EIRPCF |       | Readin g | Limit  |          | Margin | Pol |
|---|------------|--------|----------|-------------------|--------|--------|--------|-------|----------|--------|----------|--------|-----|
|   | MHz        | dBm    |          | dB/m              | dB     |        | dB     | dB    |          | dBuV   | dBm      | dB     |     |
| 1 | 1556.00    | -67.81 | RMS      | 25.44             | -24.99 | 0.83   | -95.23 | 26.14 | -13.00   | -54.81 | Vertical |        |     |
| 2 | 2333.00    | -65.94 | RMS      | 27.27             | -24.02 | 0.63   | -95.23 | 25.41 | -13.00   | -52.94 | Vertical |        |     |
| 3 | 3111.00    | -62.78 | RMS      | 29.64             | -22.98 | 0.62   | -95.23 | 25.17 | -13.00   | -49.78 | Vertical |        |     |

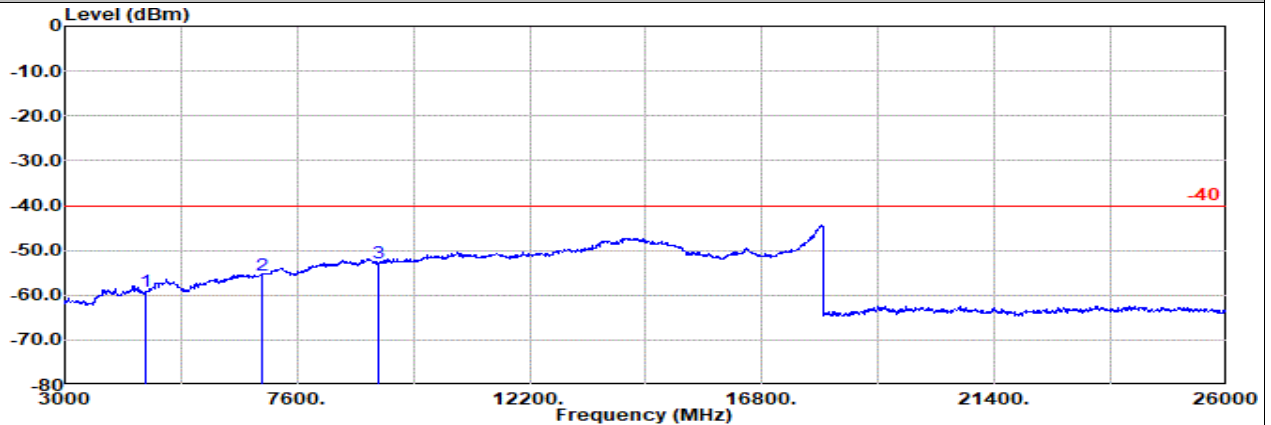


## Main Antenna

## Part 27D Mode 1

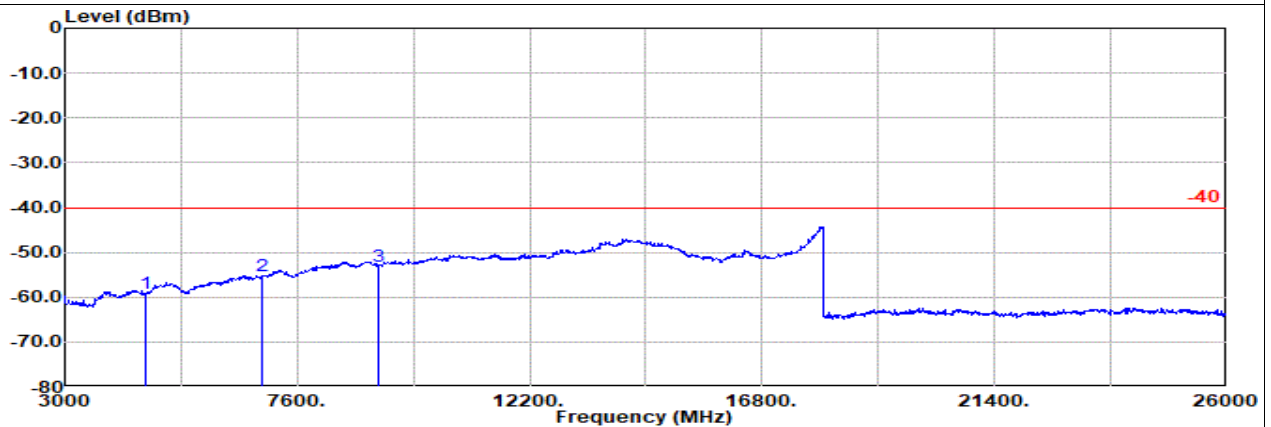
NR SA n30 5M Ch461500 1RB1 BPSK

L



Site : 03CH22-HY  
Condition: -40 1m SHF\_1230\_241025 Horizontal  
: NR n30 5M Ch461500 1RB1 BPSK

|   | Freq Level |        | Detector | Ant Amp\Cb Filter |        | Factor | Filter |       | EIRPCF | Reading | Limit      |    | Margin | Pol |
|---|------------|--------|----------|-------------------|--------|--------|--------|-------|--------|---------|------------|----|--------|-----|
|   | MHz        | dBm    |          | dB/m              | dB     |        | dB     | dB    |        | dBuV    | dBm        | dB |        |     |
| 1 | 4611.00    | -59.22 | RMS      | 31.64             | -21.56 | 1.75   | -95.23 | 24.18 | -40.00 | -19.22  | Horizontal |    |        |     |
| 2 | 6917.00    | -55.58 | RMS      | 35.70             | -21.03 | 1.99   | -95.23 | 22.99 | -40.00 | -15.58  | Horizontal |    |        |     |
| 3 | 9222.00    | -52.89 | RMS      | 37.74             | -21.13 | 2.22   | -95.23 | 23.51 | -40.00 | -12.89  | Horizontal |    |        |     |



Site : 03CH22-HY  
Condition: -40 1m SHF\_1230\_241025 Vertical  
: NR n30 5M Ch461500 1RB1 BPSK

|   | Freq Level |        | Detector | Ant Amp\Cb Filter |        | Factor | Filter |       | EIRPCF | Reading | Limit    |    | Margin | Pol |
|---|------------|--------|----------|-------------------|--------|--------|--------|-------|--------|---------|----------|----|--------|-----|
|   | MHz        | dBm    |          | dB/m              | dB     |        | dB     | dB    |        | dBuV    | dBm      | dB |        |     |
| 1 | 4611.00    | -59.16 | RMS      | 31.64             | -21.56 | 1.75   | -95.23 | 24.24 | -40.00 | -19.16  | Vertical |    |        |     |
| 2 | 6917.00    | -55.36 | RMS      | 35.70             | -21.03 | 1.99   | -95.23 | 23.21 | -40.00 | -15.36  | Vertical |    |        |     |
| 3 | 9222.00    | -53.01 | RMS      | 37.74             | -21.13 | 2.22   | -95.23 | 23.39 | -40.00 | -13.01  | Vertical |    |        |     |

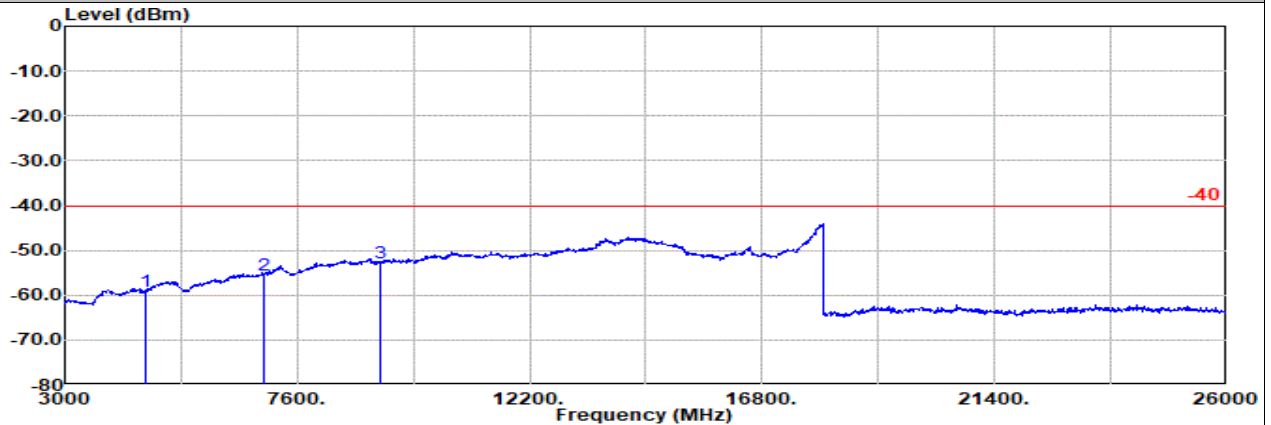


## Main Antenna

## Part 27D Mode 1

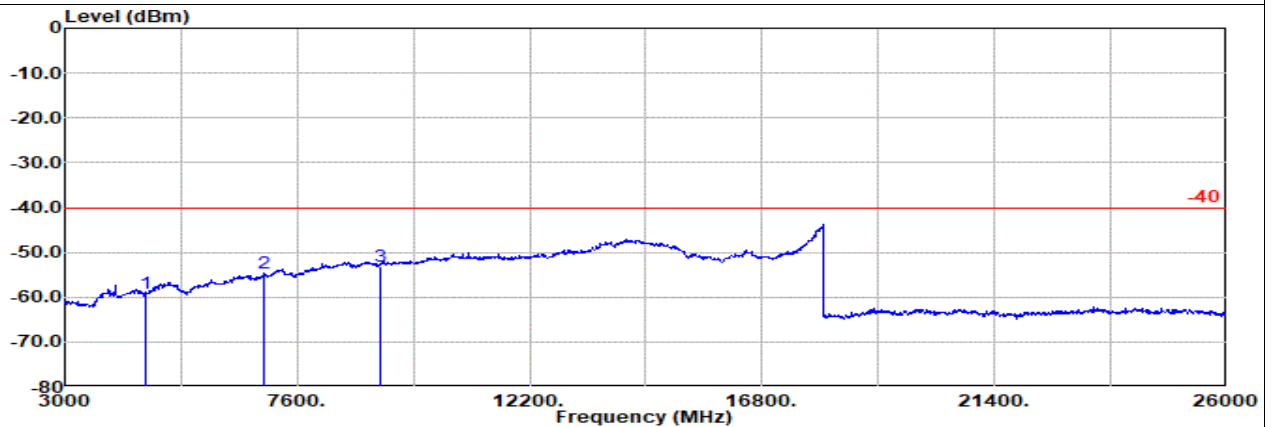
NR SA n30 5M Ch462000 1RB1 BPSK

M



Site : 03CH22-HY  
Condition: -40 1m SHF\_1230\_241025 Horizontal  
: NR n30 5M Ch462000 1RB1 BPSK

|   | Freq Level |        | Detector | Ant Amp\Cb Filter |        | EIRPCF | Readin g | Limit |        | Margin | Pol        |
|---|------------|--------|----------|-------------------|--------|--------|----------|-------|--------|--------|------------|
|   | MHz        | dBm    |          | Factor            | 1      |        |          | dBuV  | dBm    |        |            |
| 1 | 4616.00    | -59.22 | RMS      | 31.66             | -21.55 | 1.76   | -95.23   | 24.14 | -40.00 | -19.22 | Horizontal |
| 2 | 6924.00    | -55.43 | RMS      | 35.70             | -21.03 | 1.99   | -95.23   | 23.14 | -40.00 | -15.43 | Horizontal |
| 3 | 9232.00    | -52.71 | RMS      | 37.76             | -21.13 | 2.22   | -95.23   | 23.67 | -40.00 | -12.71 | Horizontal |



Site : 03CH22-HY  
Condition: -40 1m SHF\_1230\_241025 Vertical  
: NR n30 5M Ch462000 1RB1 BPSK

|   | Freq Level |        | Detector | Ant Amp\Cb Filter |        | EIRPCF | Readin g | Limit |        | Margin | Pol      |
|---|------------|--------|----------|-------------------|--------|--------|----------|-------|--------|--------|----------|
|   | MHz        | dBm    |          | Factor            | 1      |        |          | dBuV  | dBm    |        |          |
| 1 | 4616.00    | -59.22 | RMS      | 31.66             | -21.55 | 1.76   | -95.23   | 24.14 | -40.00 | -19.22 | Vertical |
| 2 | 6924.00    | -54.74 | RMS      | 35.70             | -21.03 | 1.99   | -95.23   | 23.83 | -40.00 | -14.74 | Vertical |
| 3 | 9232.00    | -53.00 | RMS      | 37.76             | -21.13 | 2.22   | -95.23   | 23.38 | -40.00 | -13.00 | Vertical |



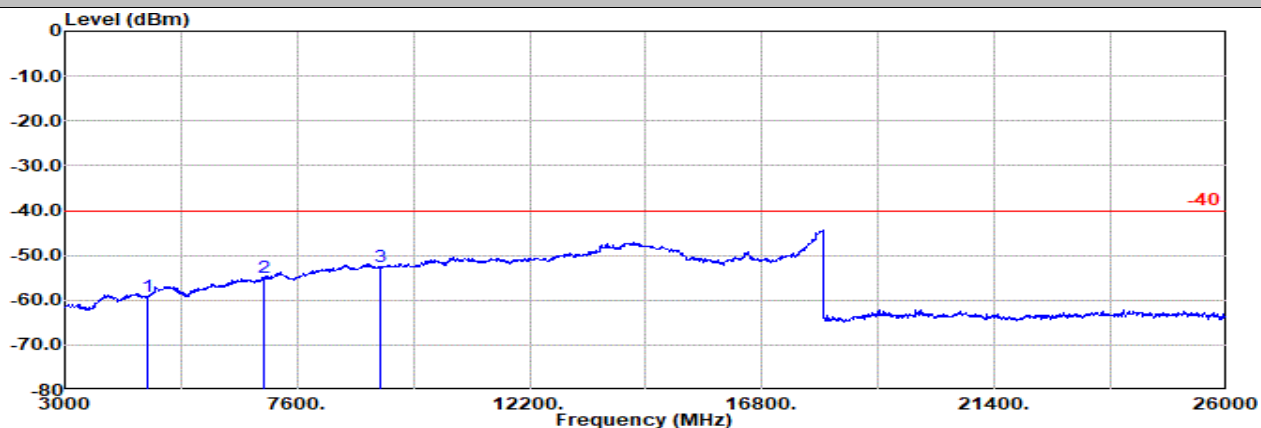


## Main Antenna

## Part 27D Mode 1

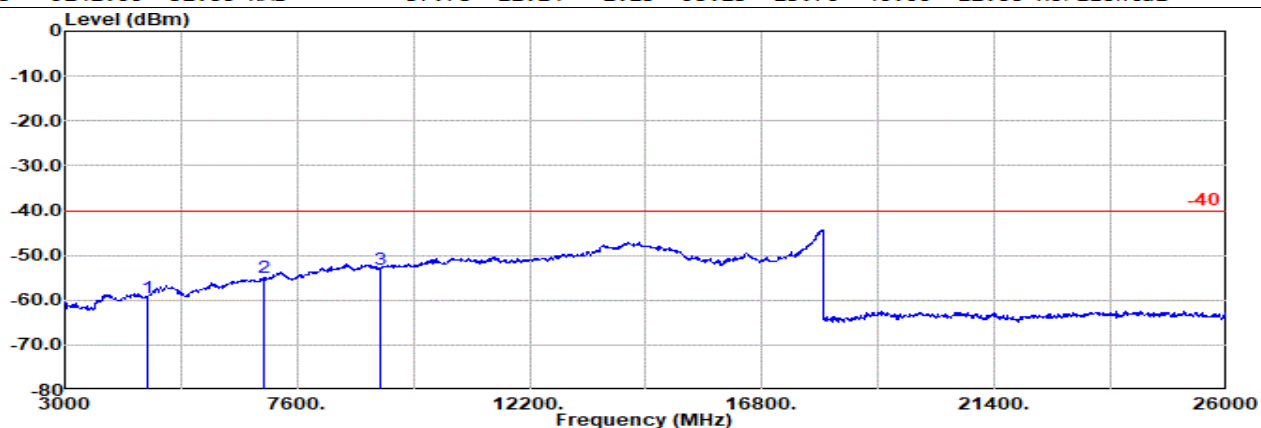
NR SA n30 5M Ch462500 1RB1 BPSK

H



Site : 03CH22-HY  
Condition: -40 1m SHF\_1230\_241025 Horizontal  
: NR n30 5M Ch462500 1RB1 BPSK

|   | Freq    | Level  | Detector | Ant    | Amp\Cb | Filter | EIRPCF | Readin | Limit  | Margin | Pol        |
|---|---------|--------|----------|--------|--------|--------|--------|--------|--------|--------|------------|
|   |         |        |          | Factor | 1      |        |        |        | g      |        |            |
|   | MHz     | dBm    |          | dB/m   | dB     | dB     |        | dBuV   | dBm    | dB     |            |
| 1 | 4621.00 | -59.23 | RMS      | 31.68  | -21.54 | 1.78   | -95.23 | 24.08  | -40.00 | -19.23 | Horizontal |
| 2 | 6932.00 | -54.97 | RMS      | 35.70  | -21.04 | 1.99   | -95.23 | 23.61  | -40.00 | -14.97 | Horizontal |
| 3 | 9242.00 | -52.66 | RMS      | 37.78  | -21.14 | 2.23   | -95.23 | 23.70  | -40.00 | -12.66 | Horizontal |



Site : 03CH22-HY  
Condition: -40 1m SHF\_1230\_241025 Vertical  
: NR n30 5M Ch462500 1RB1 BPSK

|   | Freq    | Level  | Detector | Ant Factor | Amp\Cb<br>l | Filter | EIRPCF | Reading | Limit  | Margin | Pol      |
|---|---------|--------|----------|------------|-------------|--------|--------|---------|--------|--------|----------|
|   | MHz     | dBm    |          | dB/m       | dB          | dB     | dB     | dBuV    | dBm    | dB     |          |
| 1 | 4621.00 | -59.51 | RMS      | 31.68      | -21.54      | 1.78   | -95.23 | 23.80   | -40.00 | -19.51 | Vertical |
| 2 | 6932.00 | -55.06 | RMS      | 35.70      | -21.04      | 1.99   | -95.23 | 23.52   | -40.00 | -15.06 | Vertical |
| 3 | 9242.00 | -53.04 | RMS      | 37.78      | -21.14      | 2.23   | -95.23 | 23.32   | -40.00 | -13.04 | Vertical |



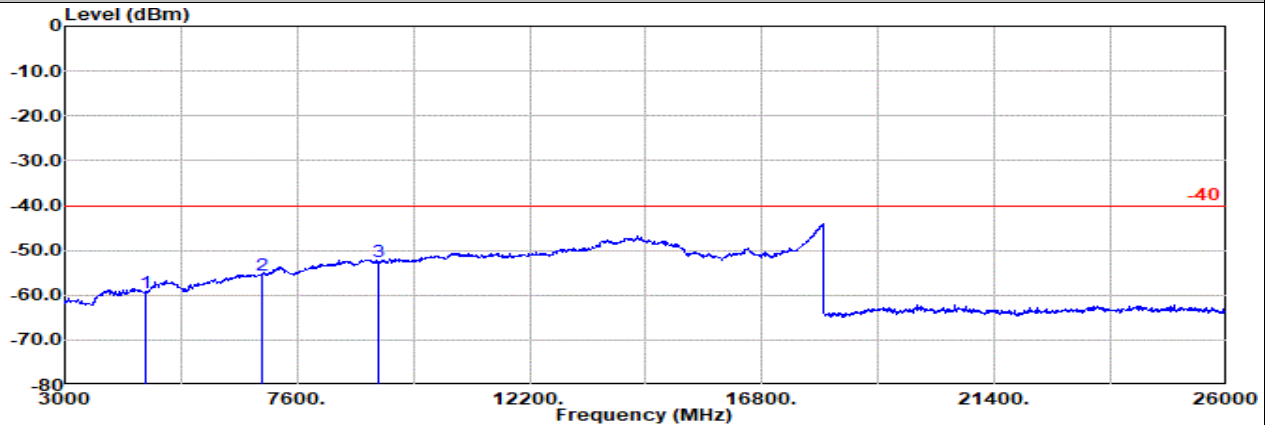


## Main Antenna

## Part 27D Mode 2

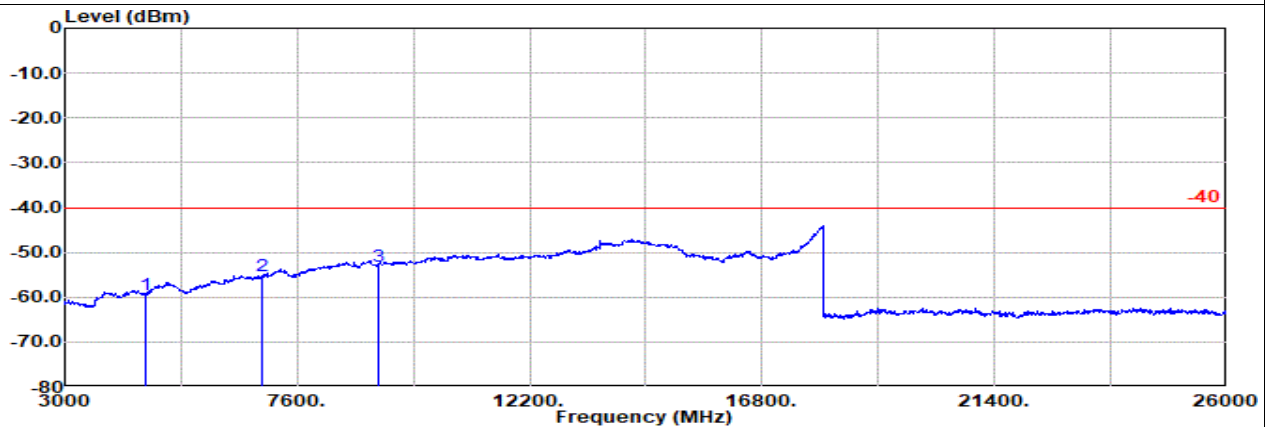
NR SA n30 10M Ch462000 1RB1 BPSK

M



Site : 03CH22-HY  
Condition: -40 1m SHF\_1230\_241025 Horizontal  
: NR n30 10M Ch462000 1RB1 BPSK

|   | Freq Level |        | Detector | Ant Amp\Cb Filter |        | EIRPCF | Readin g | Limit |        | Margin | Pol        |
|---|------------|--------|----------|-------------------|--------|--------|----------|-------|--------|--------|------------|
|   | MHz        | dBm    |          | Factor            | 1      |        |          | dBuV  | dBm    |        |            |
| 1 | 4612.00    | -59.43 | RMS      | 31.65             | -21.56 | 1.75   | -95.23   | 23.96 | -40.00 | -19.43 | Horizontal |
| 2 | 6917.00    | -55.57 | RMS      | 35.70             | -21.03 | 1.99   | -95.23   | 23.00 | -40.00 | -15.57 | Horizontal |
| 3 | 9223.00    | -52.55 | RMS      | 37.75             | -21.13 | 2.22   | -95.23   | 23.84 | -40.00 | -12.55 | Horizontal |



Site : 03CH22-HY  
Condition: -40 1m SHF\_1230\_241025 Vertical  
: NR n30 10M Ch462000 1RB1 BPSK

|   | Freq Level |        | Detector | Ant Amp\Cb Filter |        | EIRPCF | Readin g | Limit |        | Margin | Pol      |
|---|------------|--------|----------|-------------------|--------|--------|----------|-------|--------|--------|----------|
|   | MHz        | dBm    |          | Factor            | 1      |        |          | dBuV  | dBm    |        |          |
| 1 | 4612.00    | -59.42 | RMS      | 31.65             | -21.56 | 1.75   | -95.23   | 23.97 | -40.00 | -19.42 | Vertical |
| 2 | 6917.00    | -55.31 | RMS      | 35.70             | -21.03 | 1.99   | -95.23   | 23.26 | -40.00 | -15.31 | Vertical |
| 3 | 9223.00    | -53.03 | RMS      | 37.75             | -21.13 | 2.22   | -95.23   | 23.36 | -40.00 | -13.03 | Vertical |

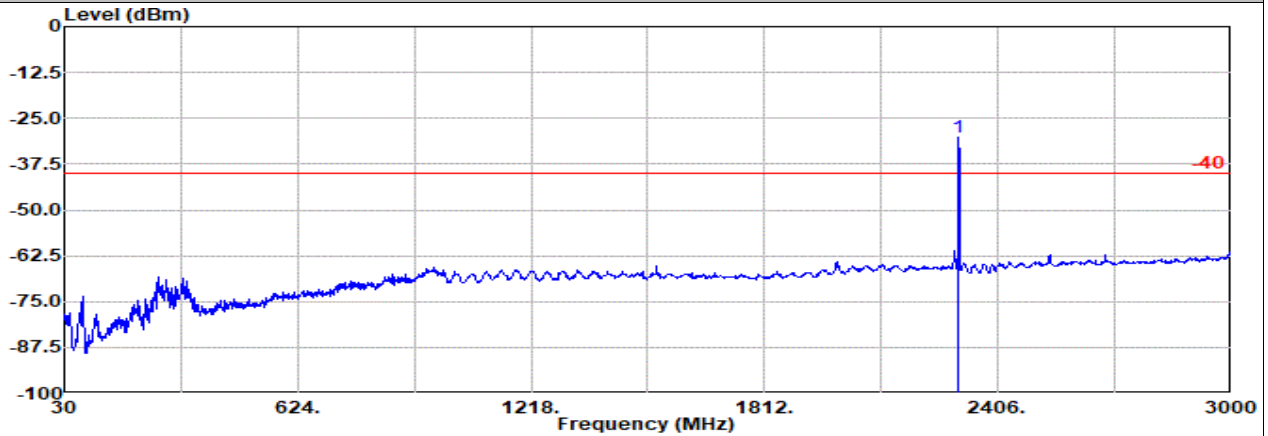


## Main Antenna

## Part 27D Mode 2

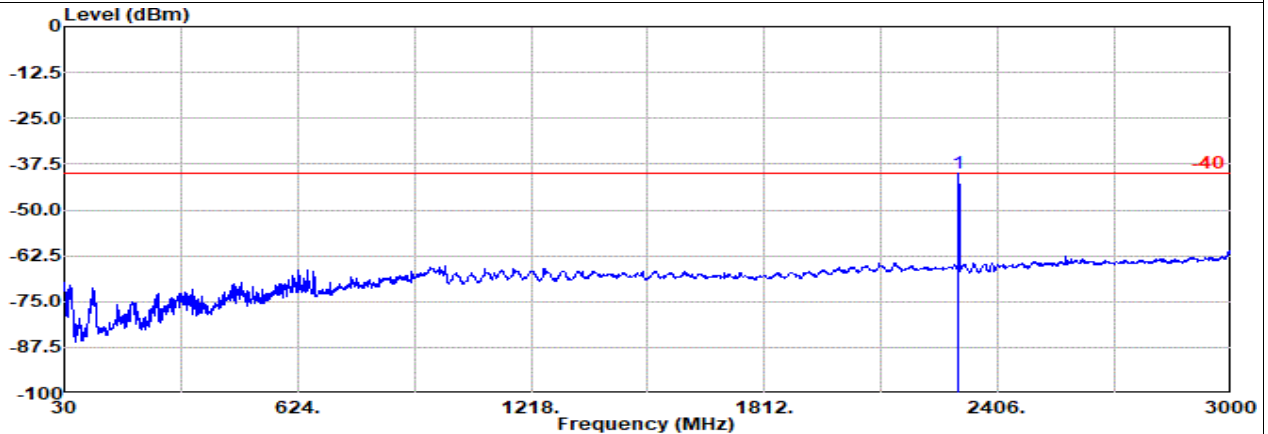
NR SA n30 10M Ch462000 1RB1 BPSK

M



Site : 03CH22-HY  
Condition: -40 3m 9120D\_02038\_240729 Horizontal  
: NR SA n30 10M Ch462000 1RB1 BPSK  
: #1 is fundamental signal which can be ignored.

| 1 | Freq    | Level  | Detector | Ant Factor | Amp\Cb | Filter | EIRPCF | Readin | Limit  | Margin | Pol        |
|---|---------|--------|----------|------------|--------|--------|--------|--------|--------|--------|------------|
|   | MHz     | dBm    |          |            |        |        |        | g      | dBm    |        |            |
| 1 | 2306.00 | -30.12 | RMS      | 27.16      | -24.06 | 1.02   | -95.23 | 60.99  | -40.00 | 9.88   | Horizontal |



Site : 03CH22-HY  
Condition: -40 3m 9120D\_02038\_240729 Vertical  
: NR SA n30 10M Ch462000 1RB1 BPSK  
: #1 is fundamental signal which can be ignored.

| 1 | Freq    | Level  | Detector | Ant Factor | Amp\Cb | Filter | EIRPCF | Readin | Limit  | Margin | Pol      |
|---|---------|--------|----------|------------|--------|--------|--------|--------|--------|--------|----------|
|   | MHz     | dBm    |          |            |        |        |        | g      | dBm    |        |          |
| 1 | 2306.00 | -40.10 | RMS      | 27.16      | -24.06 | 1.02   | -95.23 | 51.01  | -40.00 | -0.10  | Vertical |

Remark: #1 is fundamental signal which can be ignored.