



# FCC RADIO TEST REPORT

FCC ID : LHJ-FE5NA0010  
Equipment : FE5NA0010, FE5NA0011  
Brand Name : Continental  
Model Name : FE5NA0010, FE5NA0011  
Applicant : Continental Automotive Systems, Inc.  
21440 W Lake Cook Rd., Deer Park, IL 60010, USA  
Manufacturer : Continental Automotive Systems, Inc.  
21440 W Lake Cook Rd., Deer Park, IL 60010, USA  
Standard : FCC 47 CFR Part 2, 22(H), 24(E), 27(L)

The product was received on Nov. 22, 2022 and testing was performed from Jan. 17, 2023 to Nov. 22, 2023. 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 given in ANSI / TIA-603-E 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**

No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.)



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## History of this test report

| Report No.   | Version | Description             | Issue Date    |
|--------------|---------|-------------------------|---------------|
| FG2N2201-06A | 01      | Initial issue of report | Jan. 08, 2024 |
|              |         |                         |               |
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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               | -                                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | §22.913 (a)(5)                                      | Effective Radiated Power (WCDMA Band V)                                             |                    |                                         |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | §24.232 (c)                                         | Equivalent Isotropic Radiated Power (WCDMA Band II)                                 |                    |                                         |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | §27.50 (d)(4)                                       | Equivalent Isotropic Radiated Power (WCDMA Band IV)                                 |                    |                                         |
| -                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | §24.232 (d)                                         | Peak-to-Average Ratio                                                               | Not Required       | -                                       |
| -                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | §2.1049<br>§22.917 (b)<br>§24.238 (b)<br>§27.53 (g) | Occupied Bandwidth (WCDMA Band V) (WCDMA Band II) (WCDMA Band IV)                   | Not Required       | -                                       |
| -                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | §2.1051<br>§22.917 (a)<br>§24.238 (a)<br>§27.53 (g) | Band Edge Measurement (WCDMA Band V) (WCDMA Band II) (WCDMA Band IV)                | Not Required       | -                                       |
| -                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | §2.1051<br>§22.917 (a)<br>§24.238 (a)<br>§27.53 (g) | Conducted Emission (WCDMA Band V) (WCDMA Band II) (WCDMA Band IV)                   | Not Required       | -                                       |
| -                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | §2.1055<br>§22.355<br>§24.235<br>§27.54             | Frequency Stability Temperature & Voltage                                           | Not Required       | -                                       |
| 4.4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | §2.1053<br>§22.917 (a)<br>§24.238 (a)<br>§27.53 (h) | Field Strength of Spurious Radiation (WCDMA Band V) (WCDMA Band II) (WCDMA Band IV) | Pass               | 31.84 dB under the limit at 7520.00 MHz |
| <b>Remark:</b><br>1. Not required means after assessing, test items are not necessary to carry out.<br>2. This is a variant report by adding external antenna (Model: 42808214, 42808215, 42808227). All the test cases were performed on original report which can be referred to Sporton Report Number FG2N2201-03A. Based on the original report, only worst case was verified.<br>3. The FG2N2201-06A report reuses Conducted output power from the FG2N2201A report.<br>4. The difference of the external antennas is that the antenna 42808214 and 42808215 are for TCU variant with L1/L5, and antenna 42808227 is for TCU with L1 only. Since the gain value and type are the same, the test result only performed with antenna 42808215. Antenna 42808214 and 42808215, only the color is different. |                                                     |                                                                                     |                    |                                         |

**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: Yun Huang**

**Report Producer: Rachel Hsieh**

# 1 General Description

## 1.1 Product Feature of Equipment Under Test

| Product Feature                 |                                                                                                     |
|---------------------------------|-----------------------------------------------------------------------------------------------------|
| Equipment                       | FE5NA0010, FE5NA0011                                                                                |
| Brand Name                      | Continental                                                                                         |
| Model Name                      | FE5NA0010, FE5NA0011                                                                                |
| FCC ID                          | LHJ-FE5NA0010                                                                                       |
| Installed into the Host         | Equipment name: G12N510G1, G12N500G1<br>Brand name: Continental<br>Model name: G12N510G1, G12N500G1 |
| EUT supports Radios application | WCDMA/HSPA/LTE/5G NR/GNSS                                                                           |
| EUT Stage                       | Identical Prototype                                                                                 |

| Sample Information |           |             |                                                                       |
|--------------------|-----------|-------------|-----------------------------------------------------------------------|
| Sample             | TA-code   | L2/L5 GNSS  | Band Difference                                                       |
| 1                  | FE5NA0010 | Support     | /                                                                     |
| 2                  | FE5NA0011 | Not Support | BOM change: depopulated passive components from the GNSS RF front-end |

**Remark:** The above EUT's information was declared by manufacturer.

## 1.2 Product Specification of Equipment Under Test

| Product Specification is subject to this standard |                                                                                                                        |
|---------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|
| Tx Frequency                                      | <b>WCDMA:</b><br>Band V: 826.4 MHz ~ 846.6 MHz<br>Band II: 1852.4 MHz ~ 1907.6 MHz<br>Band IV: 1712.4 MHz ~ 1752.6 MHz |
| Rx Frequency                                      | <b>WCDMA:</b><br>Band V: 871.4 MHz ~ 891.6 MHz<br>Band II: 1932.4 MHz ~ 1987.6 MHz<br>Band IV: 2112.4 MHz ~ 2152.6 MHz |
| Maximum Output Power to Antenna                   | <b>WCDMA:</b><br>Band V: 23.11 dBm<br>Band II: 22.68 dBm<br>Band IV: 23.00 dBm                                         |
| Antenna Type                                      | <External (Model: 42808214/42808215/42808227)>:<br>external sharkfin antenna                                           |



| Product Specification is subject to this standard |                                                                                                                     |
|---------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| Antenna Gain                                      | <External (Model: 42808214/42808215/42808227)>:<br>Cellular Band: 1.7 dBi<br>PCS Band: 6.7 dBi<br>AWS Band: 3.9 dBi |
| Type of Modulation                                | WCDMA: QPSK (Uplink)<br>HSDPA: 64QAM (Downlink)<br>HSUPA: QPSK (Uplink)                                             |

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

### 1.3 Modification of EUT

No modifications made to the EUT during the testing.

### 1.4 Testing Location

|                       |                                                                                                                        |
|-----------------------|------------------------------------------------------------------------------------------------------------------------|
| Test Site             | Sporton International Inc. EMC & Wireless Communications Laboratory                                                    |
| Test Site Location    | No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.)<br>TEL: +886-3-327-3456<br>FAX: +886-3-328-4978 |
| Test Site No.         | <b>Sporton Site No.</b>                                                                                                |
|                       | TH03-HY                                                                                                                |
| Test Engineer         | Cotty Hsu and Luffy Lin                                                                                                |
| Temperature (°C)      | 22.1~22.8                                                                                                              |
| Relative Humidity (%) | 53~55                                                                                                                  |

|                       |                                                                                                                                                  |
|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| Test Site             | Sporton International Inc. Wensan Laboratory                                                                                                     |
| Test Site Location    | No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist.,<br>Taoyuan City 333010, Taiwan (R.O.C.)<br>TEL: +886-3-327-0868<br>FAX: +886-3-327-0855 |
| Test Site No.         | <b>Sporton Site No.</b>                                                                                                                          |
|                       | 03CH12-HY (TAF Code:3786)                                                                                                                        |
| Test Engineer         | Bill Chang, Tim Lee and Wilson Wu                                                                                                                |
| Temperature (°C)      | 20~25                                                                                                                                            |
| Relative Humidity (%) | 50~60                                                                                                                                            |
| Remark                | 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
- ♦ ANSI / TIA-603-E
- ♦ FCC 47 CFR Part 2, 22(H), 24(E), 27(L)
- ♦ 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. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.
3. 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 were performed according to KDB 971168 D01 Power Meas. License Digital Systems v03r01 with maximum output power.

Radiated emissions were investigated as following frequency range:

1. 30 MHz to 9000 MHz for WCDMA Band V
2. 30 MHz to 18000 MHz for WCDMA Band IV
3. 30 MHz to 19100 MHz for WCDMA Band II

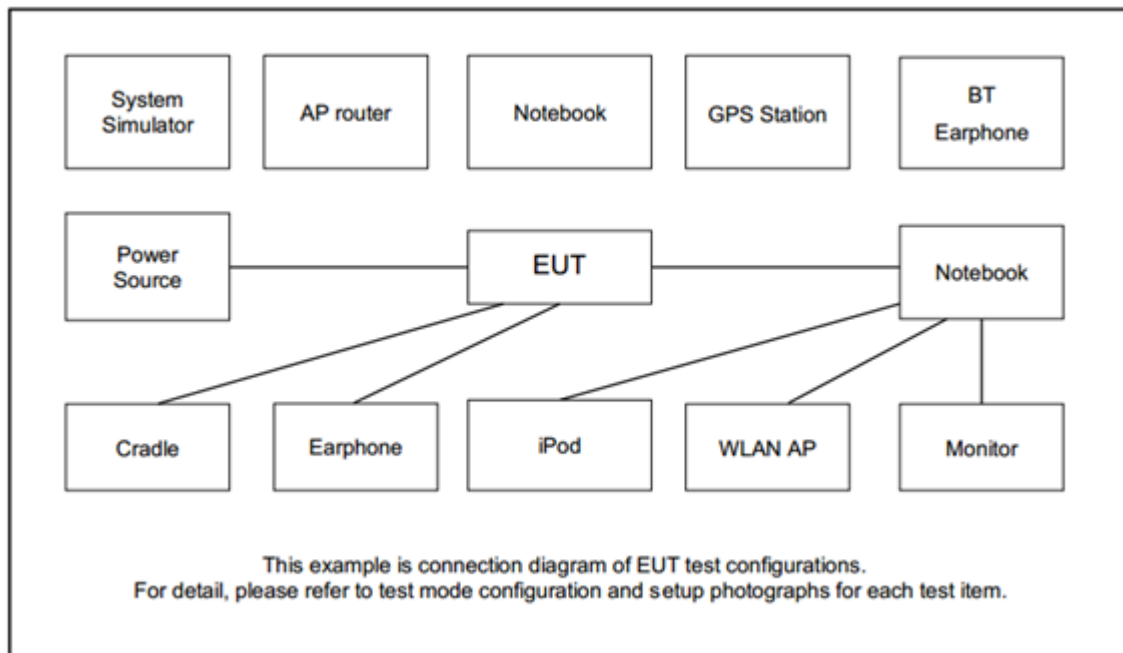
All modes, data rates and positions were investigated.

Test modes are chosen to be reported as the worst case configuration below:

| Test Modes    |                     |                     |
|---------------|---------------------|---------------------|
| Band          | Radiated TCs        | Conducted TCs       |
| WCDMA Band V  | ■ RMC 12.2Kbps Link | ■ RMC 12.2Kbps Link |
| WCDMA Band II | ■ RMC 12.2Kbps Link | ■ RMC 12.2Kbps Link |
| WCDMA Band IV | ■ RMC 12.2Kbps Link | ■ RMC 12.2Kbps Link |

**Remark:** All the radiated test cases were performed with Sample 1.

### 2.2 Connection Diagram of Test System





## 2.3 Support Unit used in test configuration

| Item | Equipment         | Brand Name  | Model No. | FCC ID | Data Cable | Power Cord        |
|------|-------------------|-------------|-----------|--------|------------|-------------------|
| 1.   | WWAN Antenna      | Continental | 42808215  | N/A    | N/A        | N/A               |
| 2.   | Metal Plate       | N/A         | N/A       | N/A    | N/A        | Unshielded, 1.8 m |
| 3.   | Adapter           | TePoo       | PT-WC-03  | N/A    | N/A        | N/A               |
| 4.   | Teddy Jr Load Box | Continental | N/A       | N/A    | N/A        | N/A               |
| 5.   | DC Power Supply   | GW Instek   | GPE-2323  | N/A    | N/A        | N/A               |
| 6.   | System Simulator  | Anritsu     | MT8821C   | N/A    | N/A        | N/A               |

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

| Frequency List   |                        |        |        |         |
|------------------|------------------------|--------|--------|---------|
| Band             | Channel/Frequency(MHz) | Lowest | Middle | Highest |
| WCDMA<br>Band V  | Channel                | 4132   | 4182   | 4233    |
|                  | Frequency              | 826.4  | 836.4  | 846.6   |
| WCDMA<br>Band II | Channel                | 9262   | 9400   | 9538    |
|                  | Frequency              | 1852.4 | 1880.0 | 1907.6  |
| WCDMA<br>Band IV | Channel                | 1312   | 1413   | 1513    |
|                  | Frequency              | 1712.4 | 1732.6 | 1752.6  |

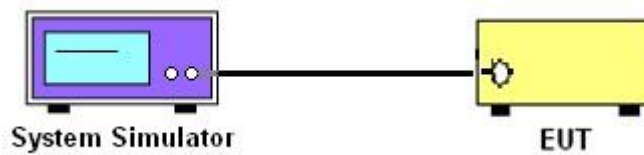
### 3 Conducted Test Result

#### 3.1 Measuring Instruments

Please refer to the measuring equipment list in 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 and ERP/EIRP

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

The ERP of mobile transmitters must not exceed 7 Watts for WCDMA Band V

The EIRP of mobile transmitters must not exceed 2 Watts for WCDMA Band II

The EIRP of mobile transmitters must not exceed 1 Watts for WCDMA Band IV

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 is connected to the system simulator.
2. Set EUT at maximum power through system simulator.
3. Select the lowest, middle, and the highest channels for each band and different modulation.
4. Measure the maximum burst average power for GSM and maximum average power for other modulation signal.

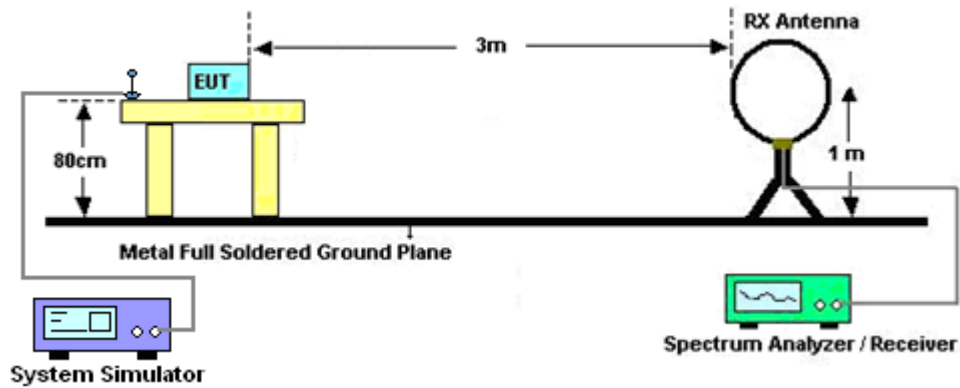
## 4 Radiated Test Items

### 4.1 Measuring Instruments

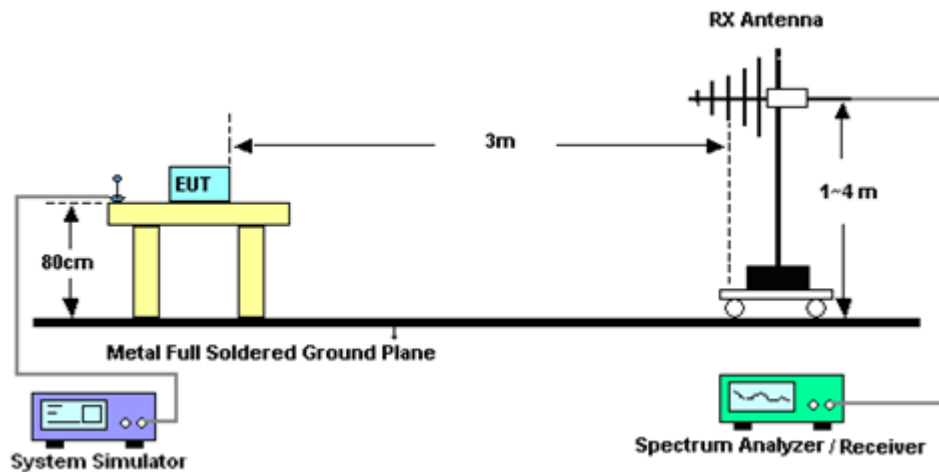
Please refer to the measuring equipment list in this test report.

### 4.2 Test Setup

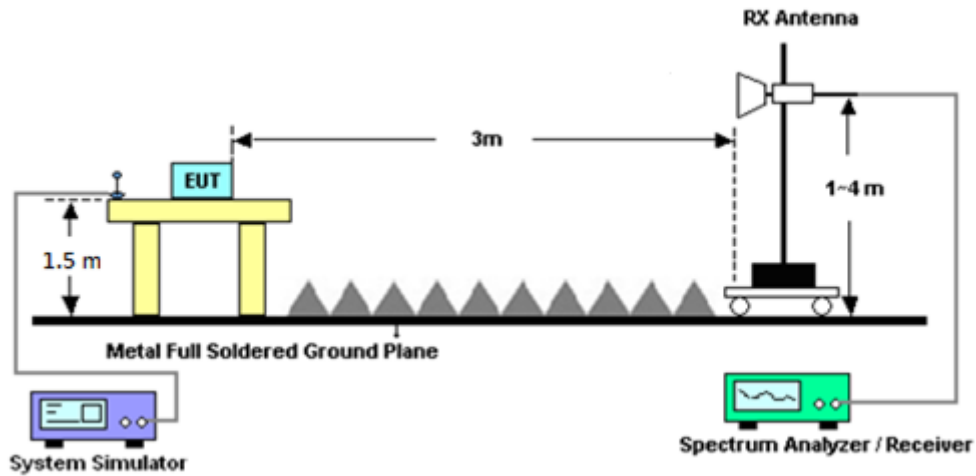
For radiated test below 30MHz



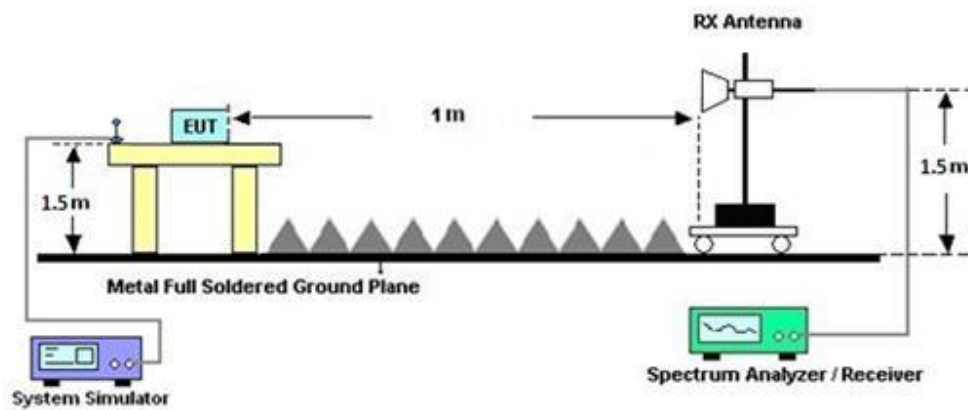
For radiated test from 30MHz to 1GHz



For radiated test from 1GHz to 18GHz



For radiated test above 18GHz



### 4.3 Test Result of Radiated Test

Please refer to Appendix B.

#### Note:

The low frequency, which starts from 9 kHz to 30 MHz, is pre-scanned and the result which is 20 dB lower than the limit line is 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.

## 4.4 Field Strength of Spurious Radiation Measurement

### 4.4.1 Description of Field Strength of Spurious Radiated Measurement

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

### 4.4.2 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 is placed on a rotatable wooden table 0.8 meters for frequency below 1 GHz and 1.5 meter for frequency above 1 GHz above the ground.
2. The EUT is set 3 meters away from the receiving antenna, which is mounted on the antenna tower.
3. The table is 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 for the maximum spurious emission for both horizontal and vertical polarizations.
5. Make the measurement with the spectrum analyzer's RBW = 1 MHz, VBW = 3 MHz, taking 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 shall be excluded against the limit line in the operating frequency band.
10. The limit line is derived from  $43 + 10\log(P)$  dB below the transmitter power P(Watts)



## 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                          | 100315      | 9 kHz~30 MHz                     | Feb. 28, 2023    | Nov. 10, 2023~<br>Nov. 22, 2023 | Feb. 27, 2024 | Radiation<br>(03CH12-HY) |
| Bilog Antenna           | TESEQ                      | CBL 6111D &<br>00800N1D01N-06    | 37059 & 01  | 30MHz~1GHz                       | Nov. 03, 2023    | Nov. 10, 2023~<br>Nov. 22, 2023 | Nov. 02, 2024 | Radiation<br>(03CH12-HY) |
| Bilog Antenna           | TESEQ                      | CBL 6111D &<br>00800N1D01N-06    | 40103 & 07  | 30MHz~1GHz                       | Apr. 23, 2023    | Nov. 10, 2023~<br>Nov. 22, 2023 | Apr. 22, 2024 | Radiation<br>(03CH12-HY) |
| Horn Antenna            | SCHWARZBE<br>CK            | BBHA 9120 D                      | 9120D-1328  | 1GHz~18GHz                       | Dec. 15, 2022    | Nov. 10, 2023~<br>Nov. 22, 2023 | Dec. 14, 2023 | Radiation<br>(03CH12-HY) |
| Horn Antenna            | SCHWARZBE<br>CK            | BBHA 9120 D                      | 9120D-02114 | 1GHz~18GHz                       | Jul. 31, 2023    | Nov. 10, 2023~<br>Nov. 22, 2023 | Jul. 30, 2024 | Radiation<br>(03CH12-HY) |
| SHF-EHF Horn<br>Antenna | SCHWARZBE<br>CK            | BBHA9170                         | 1224        | 18GHz~40GHz                      | Jul. 10, 2023    | Nov. 10, 2023~<br>Nov. 22, 2023 | Jul. 09, 2024 | Radiation<br>(03CH12-HY) |
| SHF-EHF Horn<br>Antenna | SCHWARZBE<br>CK            | BBHA9170                         | 00993       | 18GHz~40GHz                      | Nov. 24, 2022    | Nov. 10, 2023~<br>Nov. 22, 2023 | Nov. 23, 2023 | Radiation<br>(03CH12-HY) |
| Preamplifier            | COM-POWER                  | PA-103A                          | 161075      | 10MHz~1GHz                       | Mar. 21, 2023    | Nov. 10, 2023~<br>Nov. 22, 2023 | Mar. 20, 2024 | Radiation<br>(03CH12-HY) |
| Preamplifier            | Agilent                    | 8449B                            | 3008A02375  | 1GHz~26.5GHz                     | May 23, 2023     | Nov. 10, 2023~<br>Nov. 22, 2023 | May 22, 2024  | Radiation<br>(03CH12-HY) |
| Preamplifier            | E-INSTRUME<br>NT TECH LTD. | ERA-100M-18G-5<br>6-01-A70       | EC1900249   | 1GHz~18GHz                       | Dec. 21, 2022    | Nov. 10, 2023~<br>Nov. 22, 2023 | Dec. 20, 2023 | Radiation<br>(03CH12-HY) |
| Preamplifier            | EMEC                       | EM18G40G                         | 060715      | 18GHz~40GHz                      | Dec. 07, 2022    | Nov. 10, 2023~<br>Nov. 22, 2023 | Dec. 06, 2023 | Radiation<br>(03CH12-HY) |
| Spectrum<br>Analyzer    | Agilent                    | N9010A                           | MY53470118  | 10Hz~44GHz                       | Jan. 10, 2023    | Nov. 10, 2023~<br>Nov. 22, 2023 | Jan. 09, 2024 | Radiation<br>(03CH12-HY) |
| Filter                  | Wainwright                 | WHKX12-900-100<br>0-15000-60SS   | SN12        | 1GHz High<br>Pass Filter         | Nov. 02, 2023    | Nov. 10, 2023~<br>Nov. 22, 2023 | Nov. 01, 2024 | Radiation<br>(03CH12-HY) |
| Filter                  | Wainwright                 | WHKX12-2700-30<br>00-18000-60ST  | SN2         | 3GHz High<br>Pass Filter         | Mar. 14, 2023    | Nov. 10, 2023~<br>Nov. 22, 2023 | Mar. 13, 2024 | Radiation<br>(03CH12-HY) |
| Filter                  | Wainwright                 | WHKX8-5872.5-6<br>750-18000-40ST | SN2         | 6.75GHz High<br>Pass Filter      | Mar. 14, 2023    | Nov. 10, 2023~<br>Nov. 22, 2023 | Mar. 13, 2024 | Radiation<br>(03CH12-HY) |
| RF Cable                | HUBER +<br>SUHNER          | SUCOFLEX 102                     | 803951/2    | 9kHz~30MHz                       | Mar. 07, 2023    | Nov. 10, 2023~<br>Nov. 22, 2023 | Mar. 06, 2024 | Radiation<br>(03CH12-HY) |
| RF Cable                | HUBER +<br>SUHNER          | SUCOFLEX 126E                    | 0058/126E   | 30MHz~18GHz                      | Dec. 20, 2022    | Nov. 10, 2023~<br>Nov. 22, 2023 | Dec. 19, 2023 | Radiation<br>(03CH12-HY) |
| RF Cable                | HUBER +<br>SUHNER          | SUCOFLEX 102                     | 505134/2    | 30MHz~40GHz                      | Dec. 20, 2022    | Nov. 10, 2023~<br>Nov. 22, 2023 | Dec. 19, 2023 | Radiation<br>(03CH12-HY) |
| RF Cable                | HUBER +<br>SUHNER          | SUCOFLEX 102                     | 803953/2    | 30MHz~40GHz                      | Dec. 20, 2022    | Nov. 10, 2023~<br>Nov. 22, 2023 | Dec. 19, 2023 | Radiation<br>(03CH12-HY) |
| Hygrometer              | TECPEL                     | DTM-303B                         | TP210117    | N/A                              | Oct. 19, 2023    | Nov. 10, 2023~<br>Nov. 22, 2023 | Oct. 18, 2024 | Radiation<br>(03CH12-HY) |
| Controller              | EMEC                       | EM1000                           | N/A         | Control Turn<br>table & Ant Mast | N/A              | Nov. 10, 2023~<br>Nov. 22, 2023 | N/A           | Radiation<br>(03CH12-HY) |
| Antenna Mast            | EMEC                       | AM-BS-4500-B                     | N/A         | 1m~4m                            | N/A              | Nov. 10, 2023~<br>Nov. 22, 2023 | N/A           | Radiation<br>(03CH12-HY) |
| Turn Table              | EMEC                       | TT2000                           | N/A         | 0~360 Degree                     | N/A              | Nov. 10, 2023~<br>Nov. 22, 2023 | N/A           | Radiation<br>(03CH12-HY) |
| Software                | Audix                      | E3 6.2009-8-24                   | RK-000989   | N/A                              | N/A              | Nov. 10, 2023~<br>Nov. 22, 2023 | N/A           | Radiation<br>(03CH12-HY) |



| Instrument                   | Brand Name | Model No.                              | Serial No. | Characteristics                     | Calibration Date | Test Date                       | Due Date      | Remark              |
|------------------------------|------------|----------------------------------------|------------|-------------------------------------|------------------|---------------------------------|---------------|---------------------|
| Radio Communication Analyzer | Anritsu    | MT8821C                                | 6262025353 | LTE FDD/TDD<br>LTE-2CC<br>DLCA/ULCA | Oct. 13, 2022    | Jan. 17 2023~<br>Mar. 23, 2023  | Oct. 12, 2023 | Conducted (TH03-HY) |
| Thermal Chamber              | ESPEC      | SH-641                                 | 92013720   | -40°C~90°C                          | Sep. 07, 2022    | Jan. 17, 2023~<br>Mar. 23, 2023 | Sep. 06, 2023 | Conducted (TH03-HY) |
| DC Power Supply              | GW Instek  | GPP-2323                               | GES906037  | 0V~64V : 0A~6A                      | Dec. 29, 2022    | Jan. 17, 2023~<br>Mar. 23, 2023 | Dec. 28, 2023 | Conducted (TH03-HY) |
| Coupler                      | Warison    | 20dB 25W SMA<br>Directional<br>Coupler | #B         | 1~18GHz                             | Jan. 06, 2023    | Jan. 17, 2023~<br>Mar. 23, 2023 | Jan. 05, 2024 | Conducted (TH03-HY) |
| Base Station (Measure)       | Anritsu    | MT8000A                                | 6262134933 | FR1                                 | Jun. 13, 2022    | Jan. 17 2023~<br>Mar. 23, 2023  | Jun. 12, 2023 | Conducted (TH03-HY) |



## 6 Measurement Uncertainty

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

|                                                                            |         |
|----------------------------------------------------------------------------|---------|
| Measuring Uncertainty for a Level of<br>Confidence of 95% ( $U = 2Uc(y)$ ) | 3.07 dB |
|----------------------------------------------------------------------------|---------|

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

|                                                                            |         |
|----------------------------------------------------------------------------|---------|
| Measuring Uncertainty for a Level of<br>Confidence of 95% ( $U = 2Uc(y)$ ) | 3.63 dB |
|----------------------------------------------------------------------------|---------|

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

|                                                                            |         |
|----------------------------------------------------------------------------|---------|
| Measuring Uncertainty for a Level of<br>Confidence of 95% ( $U = 2Uc(y)$ ) | 4.14 dB |
|----------------------------------------------------------------------------|---------|



## Appendix A. Test Results of Conducted Test

## Conducted Output Power(Average power) &amp; ERP / EIRP

| WCDMA Band V Maximum Average Power [dBm] (GT - LC = 1.7 dB) |          |       |       |           |         |
|-------------------------------------------------------------|----------|-------|-------|-----------|---------|
| Channel                                                     | 4132     | 4182  | 4233  | ERP (dBm) | ERP (W) |
| Frequency                                                   | 826.4    | 836.4 | 846.6 |           |         |
| RMC 12.2K                                                   | 23.11    | 23.00 | 23.03 | 22.66     | 0.1845  |
| HSDPA Subtest-1                                             | 22.13    | 22.06 | 22.05 |           |         |
| HSDPA Subtest-2                                             | 22.10    | 22.11 | 22.05 |           |         |
| HSDPA Subtest-3                                             | 21.61    | 21.58 | 21.55 |           |         |
| HSDPA Subtest-4                                             | 21.59    | 21.56 | 21.55 |           |         |
| HSUPA Subtest-1                                             | 22.10    | 22.05 | 21.95 |           |         |
| HSUPA Subtest-2                                             | 20.10    | 20.00 | 20.00 |           |         |
| HSUPA Subtest-3                                             | 21.12    | 21.03 | 20.97 |           |         |
| HSUPA Subtest-4                                             | 20.09    | 20.02 | 19.99 |           |         |
| HSUPA Subtest-5                                             | 22.10    | 22.00 | 22.00 |           |         |
| Limit                                                       | ERP < 7W |       |       | Result    | Pass    |

| WCDMA Band II Maximum Average Power [dBm] (GT - LC = 6.7 dB) |           |       |        |            |          |
|--------------------------------------------------------------|-----------|-------|--------|------------|----------|
| Channel                                                      | 9262      | 9400  | 9538   | EIRP (dBm) | EIRP (W) |
| Frequency                                                    | 1852.4    | 1880  | 1907.6 |            |          |
| RMC 12.2K                                                    | 22.68     | 22.59 | 22.65  | 29.38      | 0.8670   |
| HSDPA Subtest-1                                              | 21.66     | 21.61 | 21.66  |            |          |
| HSDPA Subtest-2                                              | 21.72     | 21.63 | 21.61  |            |          |
| HSDPA Subtest-3                                              | 21.20     | 21.11 | 21.11  |            |          |
| HSDPA Subtest-4                                              | 21.20     | 21.11 | 21.13  |            |          |
| HSUPA Subtest-1                                              | 21.70     | 21.64 | 21.63  |            |          |
| HSUPA Subtest-2                                              | 19.73     | 19.55 | 19.66  |            |          |
| HSUPA Subtest-3                                              | 20.67     | 20.61 | 20.65  |            |          |
| HSUPA Subtest-4                                              | 19.70     | 19.58 | 19.64  |            |          |
| HSUPA Subtest-5                                              | 21.70     | 21.60 | 21.60  |            |          |
| Limit                                                        | EIRP < 2W |       |        | Result     | Pass     |

| WCDMA Band IV Maximum Average Power [dBm] (GT - LC = 3.9 dB) |           |        |        |            |          |
|--------------------------------------------------------------|-----------|--------|--------|------------|----------|
| Channel                                                      | 1312      | 1413   | 1513   | EIRP (dBm) | EIRP (W) |
| Frequency                                                    | 1712.4    | 1732.6 | 1752.6 |            |          |
| RMC 12.2K                                                    | 22.98     | 23.00  | 22.57  | 26.90      | 0.4898   |
| HSDPA Subtest-1                                              | 21.98     | 22.06  | 21.58  |            |          |
| HSDPA Subtest-2                                              | 22.01     | 22.06  | 21.57  |            |          |
| HSDPA Subtest-3                                              | 21.15     | 21.56  | 21.10  |            |          |
| HSDPA Subtest-4                                              | 21.47     | 21.51  | 21.05  |            |          |
| HSUPA Subtest-1                                              | 21.97     | 21.99  | 21.58  |            |          |
| HSUPA Subtest-2                                              | 19.98     | 20.01  | 19.59  |            |          |
| HSUPA Subtest-3                                              | 20.97     | 21.00  | 20.58  |            |          |
| HSUPA Subtest-4                                              | 19.99     | 19.96  | 19.55  |            |          |
| HSUPA Subtest-5                                              | 22.00     | 21.50  | 21.60  |            |          |
| Limit                                                        | EIRP < 1W |        |        | Result     | Pass     |



## Appendix B. Summary of each worse mode

| Part     | Mode | Ch | Freq (MHz) | Level (dBm) | Detector | Ant Factor (dB/m) | Amp\Cbl (dB) | Filter (dB) | EIRP CF (dB) | Reading (dBuV) | Limit (dBm) | Margin (dB) | Pol | Ant |
|----------|------|----|------------|-------------|----------|-------------------|--------------|-------------|--------------|----------------|-------------|-------------|-----|-----|
| Part 22H | 1    | M  | 3345.000   | -53.52      | RMS      | 29.71             | -24.80       | 0.33        | -95.23       | 36.47          | -13.00      | -40.52      | H   | 4   |
| Part 24E | 1    | M  | 7520.000   | -44.84      | RMS      | 36.46             | -22.19       | 0.72        | -95.23       | 35.40          | -13.00      | -31.84      | H   | 4   |
| Part 27L | 7    | M  | 6930.000   | -45.00      | RMS      | 36.00             | -22.52       | 0.71        | -95.23       | 36.04          | -13.00      | -32.00      | H   | 4   |

**Remark:** Ant 4 = Primary cell antenna

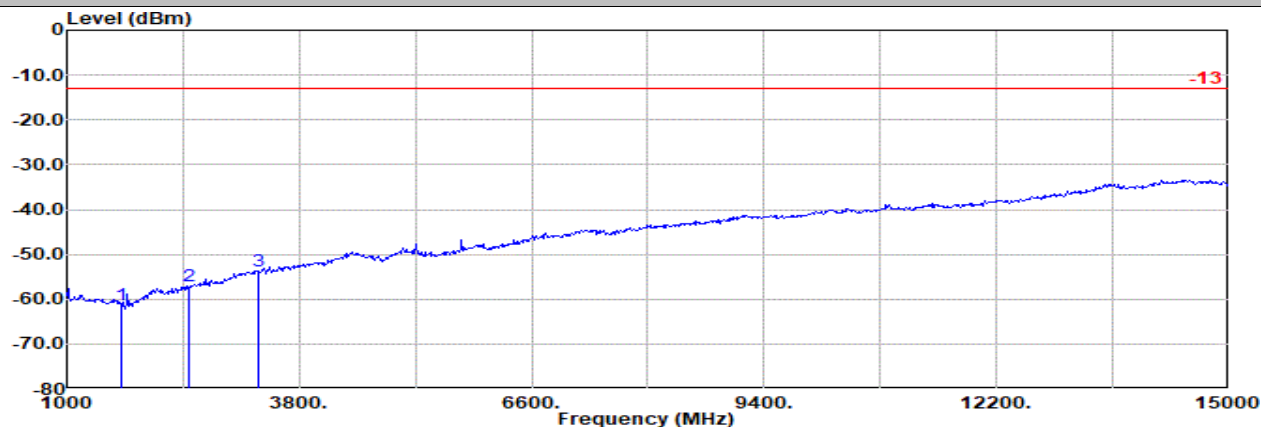


## Ant 4(Primary cell antenna)

## Part 22H Mode 1

## WCDMA B5 WCDMA B5 Ch4132

## L

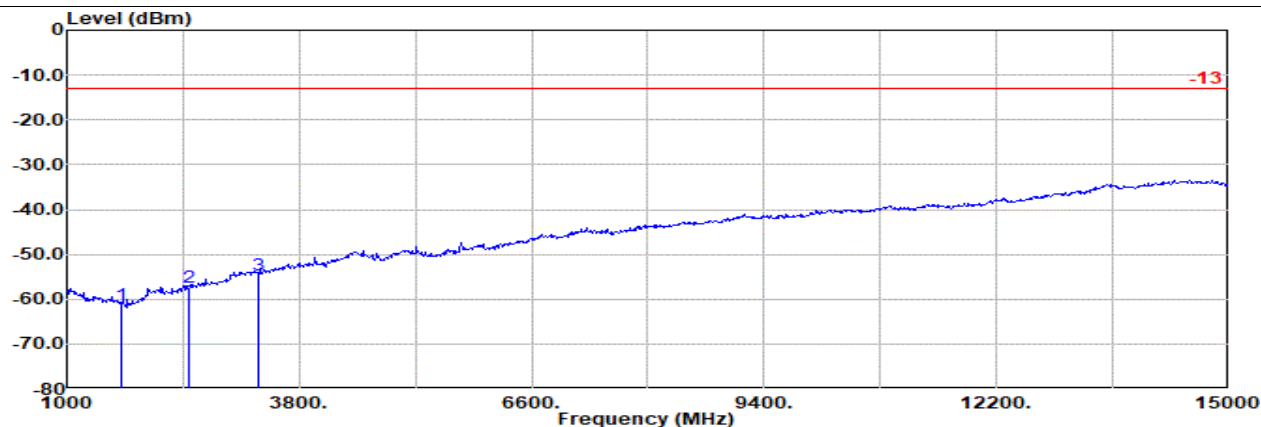


Site : 03CH12-HY

Condition: -13 3m 9120D-02114-230731 Horizontal

: WCDMA Ch4132

|   | Freq<br>MHz | Level<br>dBm | Detector | Ant Amp\Cb Filter |        | EIRPCF | Readin<br>g | Limit | Margin | Pol               |
|---|-------------|--------------|----------|-------------------|--------|--------|-------------|-------|--------|-------------------|
|   |             |              |          | Factor            | 1      |        |             |       |        |                   |
|   |             |              |          |                   |        |        |             |       |        |                   |
| 1 | 1652.00     | -61.17       | RMS      | 25.40             | -28.27 | 0.56   | -95.23      | 36.37 | -13.00 | -48.17 Horizontal |
| 2 | 2479.00     | -57.01       | RMS      | 27.89             | -26.77 | 0.37   | -95.23      | 36.73 | -13.00 | -44.01 Horizontal |
| 3 | 3305.00     | -53.82       | RMS      | 29.79             | -24.94 | 0.32   | -95.23      | 36.24 | -13.00 | -40.82 Horizontal |



Site : 03CH12-HY

Condition: -13 3m 9120D-02114-230731 Vertical

: WCDMA Ch4132

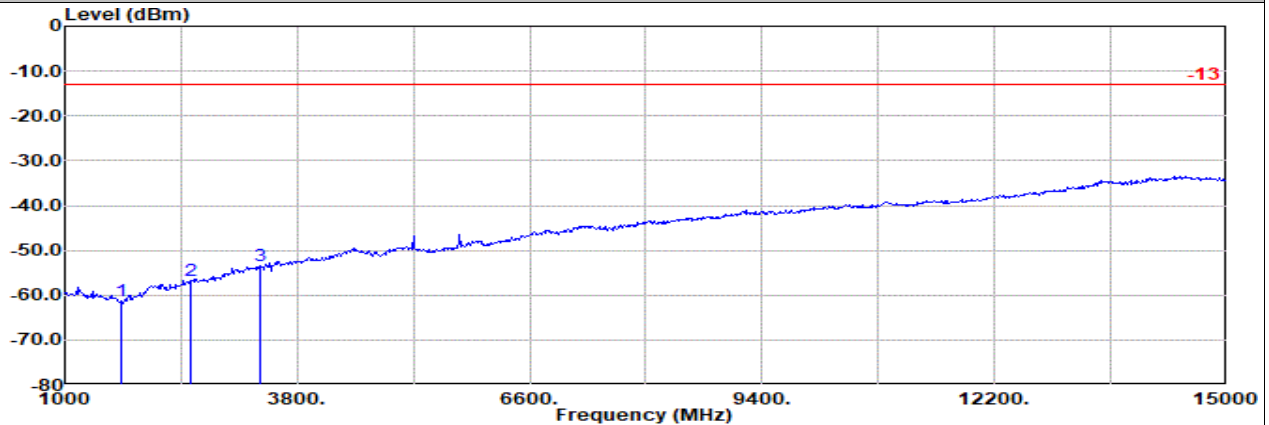
|   | Freq<br>MHz | Level<br>dBm | Detector | Ant Amp\Cb Filter |        | EIRPCF | Readin<br>g | Limit | Margin | Pol             |
|---|-------------|--------------|----------|-------------------|--------|--------|-------------|-------|--------|-----------------|
|   |             |              |          | Factor            | 1      |        |             |       |        |                 |
|   |             |              |          |                   |        |        |             |       |        |                 |
| 1 | 1652.00     | -61.31       | RMS      | 25.40             | -28.27 | 0.56   | -95.23      | 36.23 | -13.00 | -48.31 Vertical |
| 2 | 2479.00     | -57.35       | RMS      | 27.89             | -26.77 | 0.37   | -95.23      | 36.39 | -13.00 | -44.35 Vertical |
| 3 | 3305.00     | -54.61       | RMS      | 29.79             | -24.94 | 0.32   | -95.23      | 35.45 | -13.00 | -41.61 Vertical |



## Part 22H Mode 1

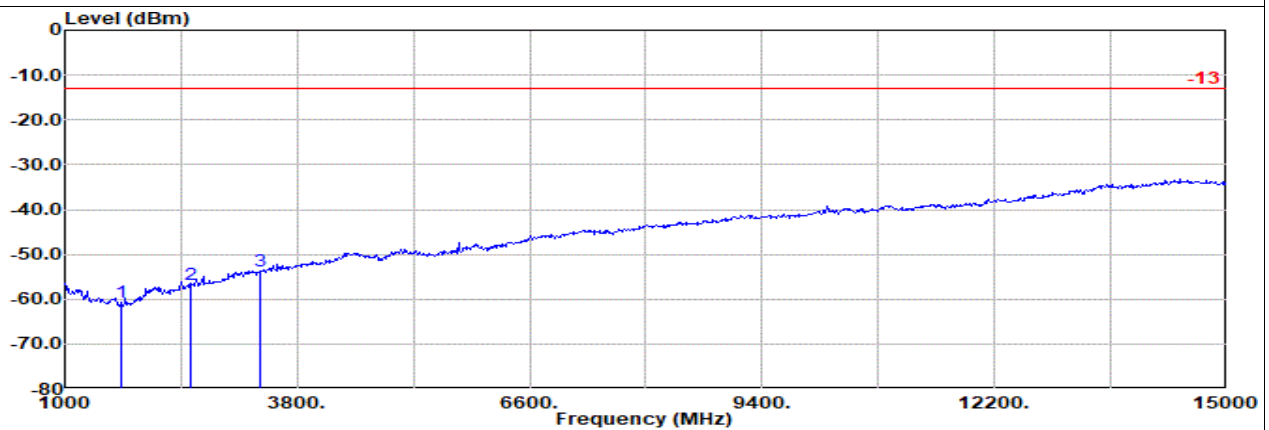
## WCDMA B5 WCDMA B5 Ch4183

## M



Site : 03CH12-HY  
Condition: -13 3m 9120D-02114-230731 Horizontal  
: WCDMA Ch4183

|   | 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 | 1672.00 | -61.22 | RMS      | 25.40             | -28.23 | 0.56   | -95.23 | 36.28 | -13.00 | -48.22 Horizontal |
| 2 | 2509.00 | -56.66 | RMS      | 28.09             | -26.72 | 0.36   | -95.23 | 36.84 | -13.00 | -43.66 Horizontal |
| 3 | 3345.00 | -53.52 | RMS      | 29.71             | -24.80 | 0.33   | -95.23 | 36.47 | -13.00 | -40.52 Horizontal |



Site : 03CH12-HY  
Condition: -13 3m 9120D-02114-230731 Vertical  
: WCDMA Ch4183

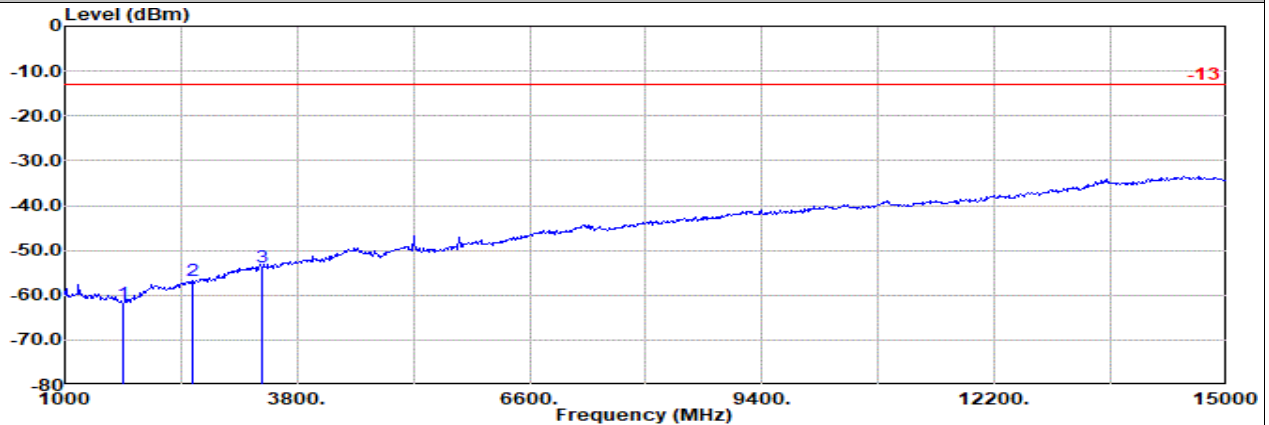
|   | Freq    | Level  | Detector | Ant Amp\Cb Filter |        | EIRPCF | Readin | Limit | Margin | Pol             |
|---|---------|--------|----------|-------------------|--------|--------|--------|-------|--------|-----------------|
|   |         |        |          | Factor            | 1      |        | g      |       |        |                 |
|   | MHz     | dBm    |          | dB/m              | dB     | dB     | dBuV   | dBm   | dB     |                 |
| 1 | 1672.00 | -60.73 | RMS      | 25.40             | -28.23 | 0.56   | -95.23 | 36.77 | -13.00 | -47.73 Vertical |
| 2 | 2509.00 | -56.79 | RMS      | 28.09             | -26.72 | 0.36   | -95.23 | 36.71 | -13.00 | -43.79 Vertical |
| 3 | 3345.00 | -53.83 | RMS      | 29.71             | -24.80 | 0.33   | -95.23 | 36.16 | -13.00 | -40.83 Vertical |



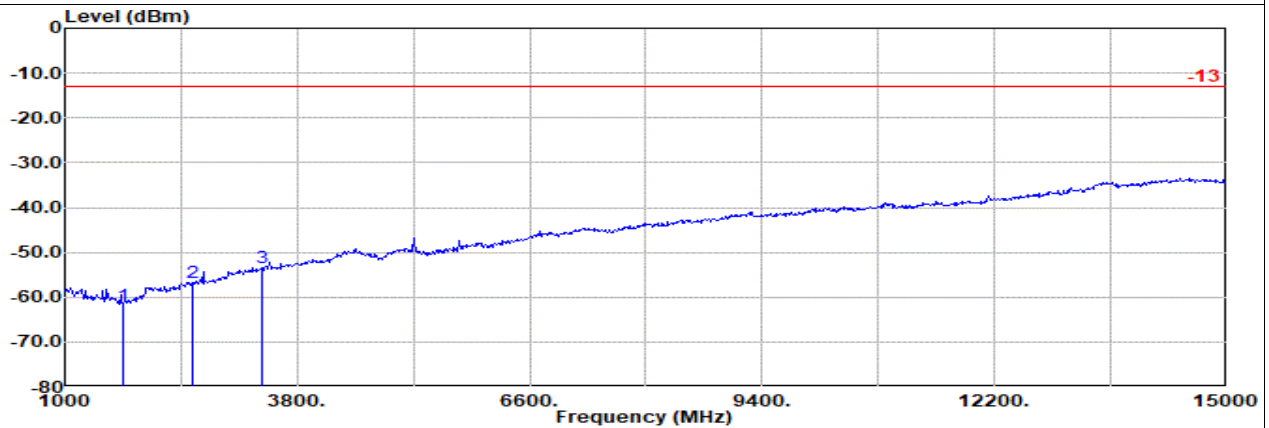
## Part 22H Mode 1

## WCDMA B5 WCDMA B5 Ch4233

## H



|   | Freq    | Level  | Detector | Ant Amp\Cb Filter |        |        |        | Readin | Limit  | Margin | Pol        |
|---|---------|--------|----------|-------------------|--------|--------|--------|--------|--------|--------|------------|
|   |         |        |          | Factor            | 1      | EIRPCF |        | g      |        |        |            |
|   | MHz     | dBm    |          | dB/m              | dB     | dB     | dB     | dBuV   | dBm    | dB     |            |
| 1 | 1693.00 | -61.74 | RMS      | 25.27             | -28.18 | 0.56   | -95.23 | 35.84  | -13.00 | -48.74 | Horizontal |
| 2 | 2539.00 | -56.77 | RMS      | 28.20             | -26.66 | 0.35   | -95.23 | 36.57  | -13.00 | -43.77 | Horizontal |
| 3 | 3386.00 | -53.70 | RMS      | 29.70             | -24.67 | 0.34   | -95.23 | 36.16  | -13.00 | -40.70 | Horizontal |



|   | Freq    | Level  | Detector | Ant Amp\Cb Filter |        |        |        | Readin | Limit  | Margin | Pol      |
|---|---------|--------|----------|-------------------|--------|--------|--------|--------|--------|--------|----------|
|   |         |        |          | Factor            | 1      | EIRPCF |        | g      |        |        |          |
|   | MHz     | dBm    |          | dB/m              | dB     | dB     | dB     | dBuV   | dBm    | dB     |          |
| 1 | 1693.00 | -61.84 | RMS      | 25.27             | -28.18 | 0.56   | -95.23 | 35.74  | -13.00 | -48.84 | Vertical |
| 2 | 2539.00 | -56.62 | RMS      | 28.20             | -26.66 | 0.35   | -95.23 | 36.72  | -13.00 | -43.62 | Vertical |
| 3 | 3386.00 | -53.56 | RMS      | 29.70             | -24.67 | 0.34   | -95.23 | 36.30  | -13.00 | -40.56 | Vertical |

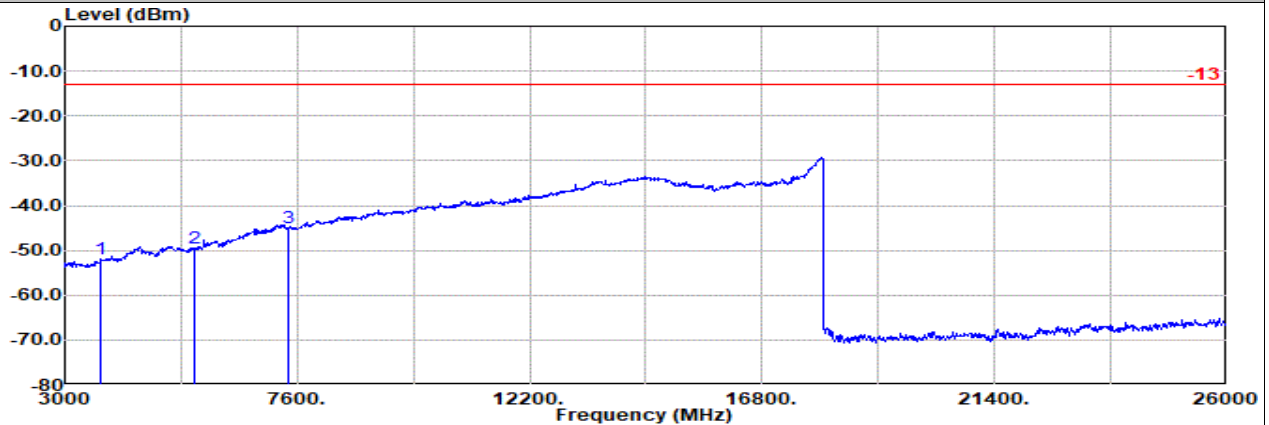


## Ant 4(Primary cell antenna)

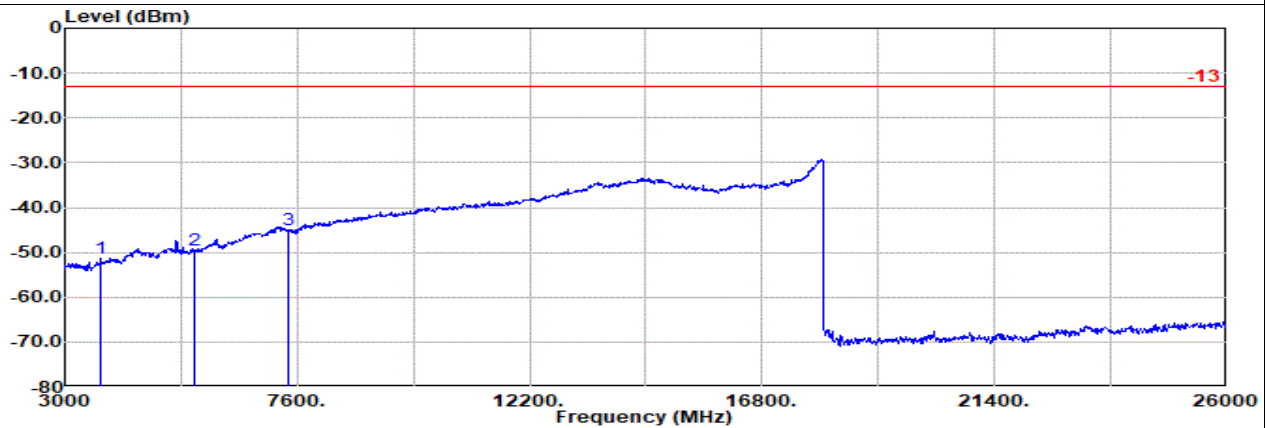
## Part 24E Mode 1

## WCDMA B2 WCDMA B2 Ch9262

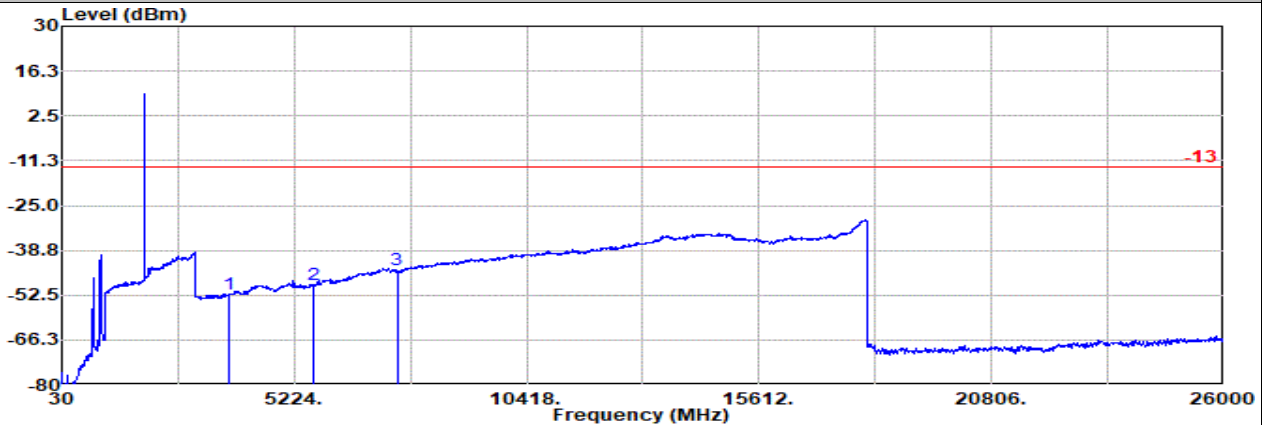
## L



|   | Freq    | Level  | Detector | Ant Factor | Amp\Cb | Filter | EIRPCF | Readin | Limit  | Margin | Pol        |
|---|---------|--------|----------|------------|--------|--------|--------|--------|--------|--------|------------|
|   | MHz     | dBm    |          |            | dB     | dB     | dB     | dBuV   | dBm    | dB     |            |
| 1 | 3704.00 | -51.79 | RMS      | 29.72      | -24.09 | 1.14   | -95.23 | 36.67  | -13.00 | -38.79 | Horizontal |
| 2 | 5557.00 | -49.44 | RMS      | 33.11      | -23.30 | 0.66   | -95.23 | 35.32  | -13.00 | -36.44 | Horizontal |
| 3 | 7409.00 | -44.85 | RMS      | 36.70      | -22.24 | 0.64   | -95.23 | 35.28  | -13.00 | -31.85 | Horizontal |

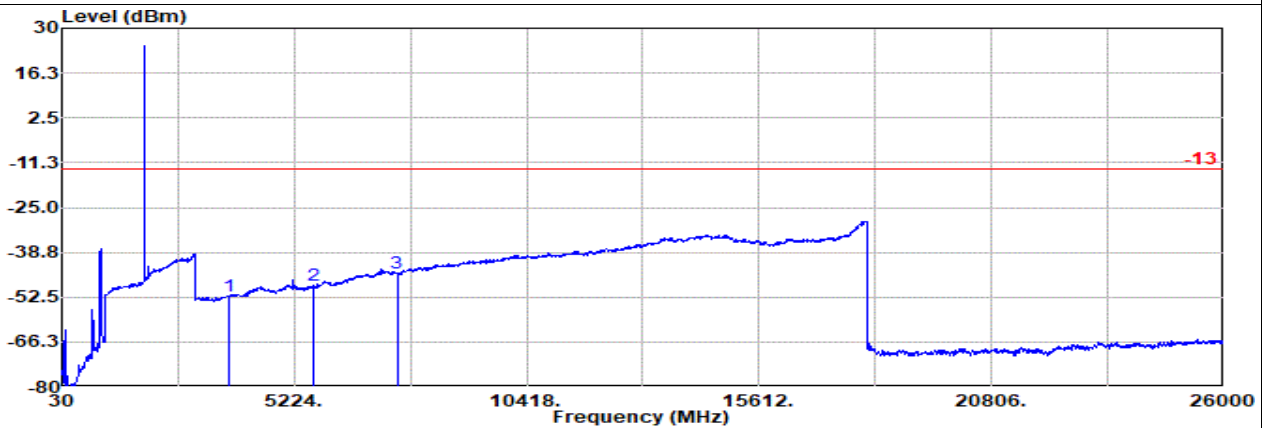


|   | Freq    | Level  | Detector | Ant Factor | Amp\Cb | Filter | EIRPCF | Readin | Limit  | Margin | Pol      |
|---|---------|--------|----------|------------|--------|--------|--------|--------|--------|--------|----------|
|   | MHz     | dBm    |          |            | dB     | dB     | dB     | dBuV   | dBm    | dB     |          |
| 1 | 3704.00 | -51.39 | RMS      | 29.72      | -24.09 | 1.14   | -95.23 | 37.07  | -13.00 | -38.39 | Vertical |
| 2 | 5557.00 | -49.65 | RMS      | 33.11      | -23.30 | 0.66   | -95.23 | 35.11  | -13.00 | -36.65 | Vertical |
| 3 | 7409.00 | -44.94 | RMS      | 36.70      | -22.24 | 0.64   | -95.23 | 35.19  | -13.00 | -31.94 | Vertical |

**Part 24E Mode 1**
**WCDMA B2 WCDMA B2 Ch9400**
**M**


Site : 03CH12-HY  
Condition: -13 3m 9120D-02114-230731 Horizontal  
: WCDMA CH9400

|   | Freq    | Level  | Detector | Ant Factor | Amp\Cb | Filter 1 | EIRPCF | Readin g | Limit  | Margin | Pol        |
|---|---------|--------|----------|------------|--------|----------|--------|----------|--------|--------|------------|
|   | MHz     | dBm    |          |            |        | dB       | dB     | dBuV     | dBm    | dB     |            |
| 1 | 3760.00 | -52.19 | RMS      | 29.96      | -23.98 | 1.08     | -95.23 | 35.98    | -13.00 | -39.19 | Horizontal |
| 2 | 5640.00 | -49.27 | RMS      | 33.20      | -23.31 | 0.62     | -95.23 | 35.45    | -13.00 | -36.27 | Horizontal |
| 3 | 7520.00 | -44.84 | RMS      | 36.46      | -22.19 | 0.72     | -95.23 | 35.40    | -13.00 | -31.84 | Horizontal |



Site : 03CH12-HY  
Condition: -13 3m 9120D-02114-230731 Vertical  
: WCDMA CH9400

|   | Freq    | Level  | Detector | Ant Factor | Amp\Cb | Filter 1 | EIRPCF | Readin g | Limit  | Margin | Pol      |
|---|---------|--------|----------|------------|--------|----------|--------|----------|--------|--------|----------|
|   | MHz     | dBm    |          |            |        | dB       | dB     | dBuV     | dBm    | dB     |          |
| 1 | 3760.00 | -52.13 | RMS      | 29.96      | -23.98 | 1.08     | -95.23 | 36.04    | -13.00 | -39.13 | Vertical |
| 2 | 5640.00 | -49.05 | RMS      | 33.20      | -23.31 | 0.62     | -95.23 | 35.67    | -13.00 | -36.05 | Vertical |
| 3 | 7520.00 | -45.01 | RMS      | 36.46      | -22.19 | 0.72     | -95.23 | 35.23    | -13.00 | -32.01 | Vertical |

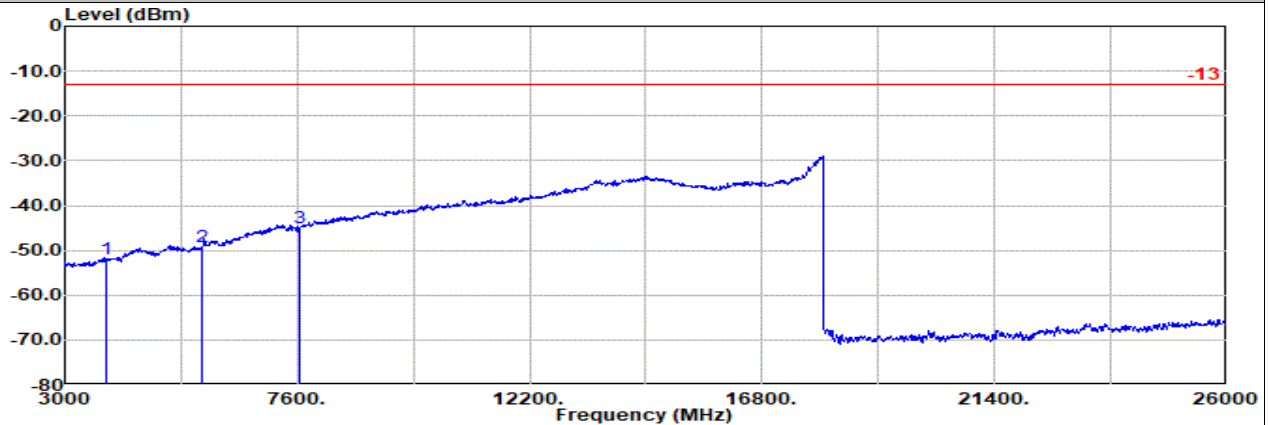
**Remark:** The limit signal before #1 is fundamental signal which can be ignored.



## Part 24E Mode 1

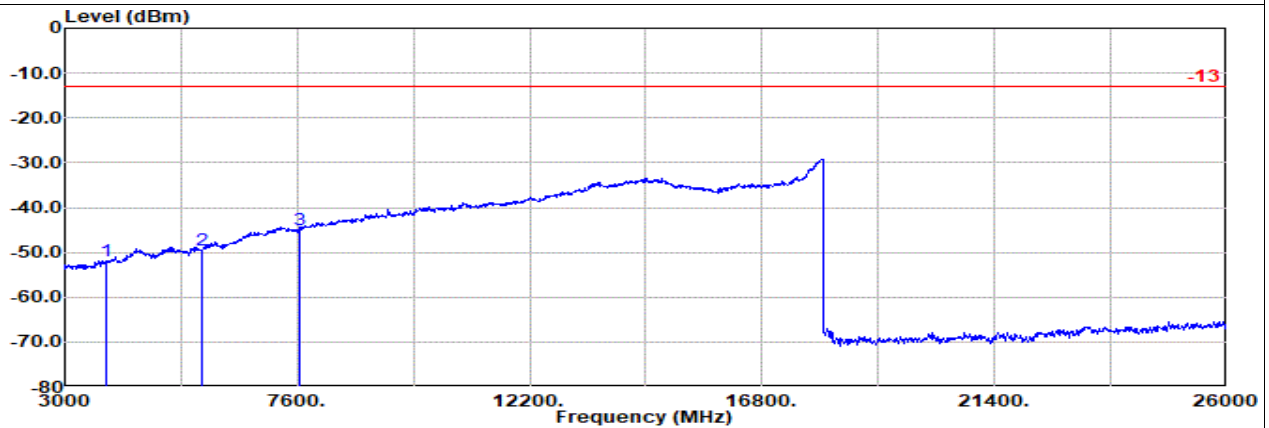
## WCDMA B2 WCDMA B2 Ch9538

## H



Site : 03CH12-HY  
Condition: -13 3m 9120D-02114-230731 Horizontal  
: WCDMA CH9538

|   | Freq    | Level  | Detector | Ant Amp\Cb Filter |        | EIRPCF | Readin | Limit | Margin Pol |                   |
|---|---------|--------|----------|-------------------|--------|--------|--------|-------|------------|-------------------|
|   |         |        |          | Factor            | 1      |        |        |       |            |                   |
|   | MHz     | dBm    |          | dB/m              | dB     | dB     | dBuV   | dBm   | dB         |                   |
| 1 | 3815.00 | -51.93 | RMS      | 30.29             | -23.88 | 1.02   | -95.23 | 35.87 | -13.00     | -38.93 Horizontal |
| 2 | 5722.00 | -49.14 | RMS      | 33.28             | -23.27 | 0.59   | -95.23 | 35.49 | -13.00     | -36.14 Horizontal |
| 3 | 7630.00 | -44.93 | RMS      | 36.46             | -22.17 | 0.79   | -95.23 | 35.22 | -13.00     | -31.93 Horizontal |



Site : 03CH12-HY  
Condition: -13 3m 9120D-02114-230731 Vertical  
: WCDMA CH9538

|   | Freq    | Level  | Detector | Ant Amp\Cb Filter |        | EIRPCF | Readin | Limit | Margin Pol |                 |
|---|---------|--------|----------|-------------------|--------|--------|--------|-------|------------|-----------------|
|   |         |        |          | Factor            | 1      |        |        |       |            |                 |
|   | MHz     | dBm    |          | dB/m              | dB     | dB     | dBuV   | dBm   | dB         |                 |
| 1 | 3815.00 | -51.81 | RMS      | 30.29             | -23.88 | 1.02   | -95.23 | 35.99 | -13.00     | -38.81 Vertical |
| 2 | 5722.00 | -49.58 | RMS      | 33.28             | -23.27 | 0.59   | -95.23 | 35.05 | -13.00     | -36.58 Vertical |
| 3 | 7630.00 | -44.88 | RMS      | 36.46             | -22.17 | 0.79   | -95.23 | 35.27 | -13.00     | -31.88 Vertical |

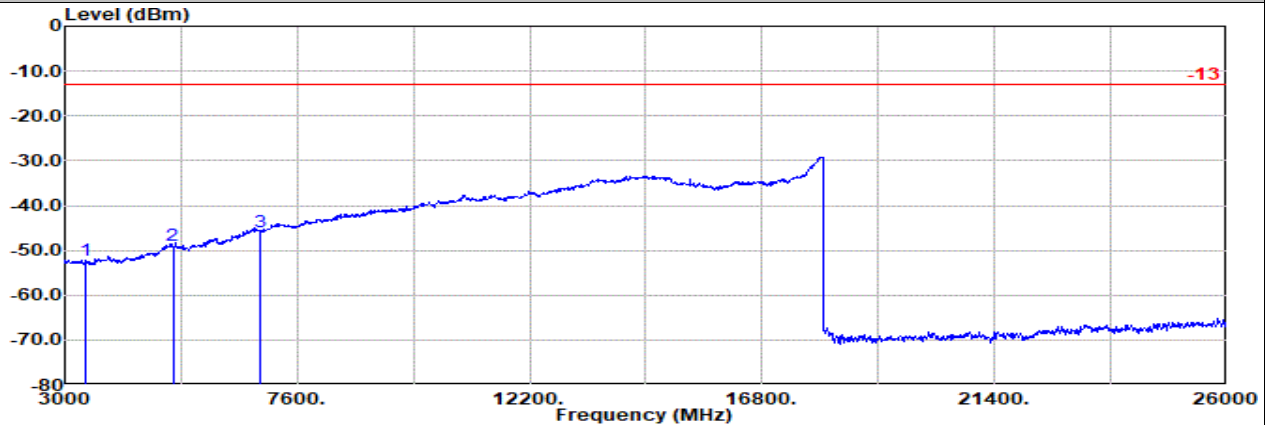


## Ant 4(Primary cell antenna)

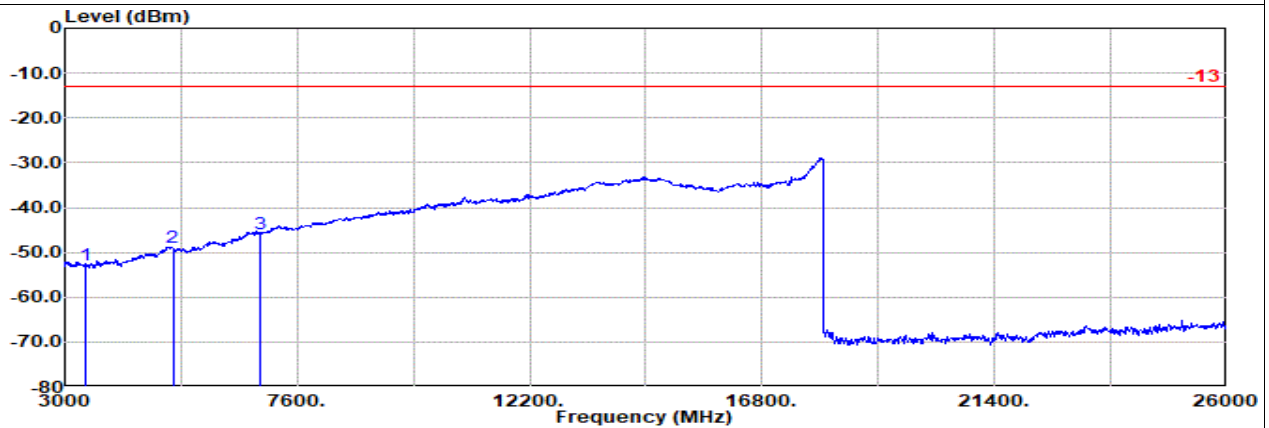
Part 27L Mode 7

WCDMA B4 WCDMA B4 Ch1312

L



|   | Freq    | Level  | Detector | Ant Factor | Amp\Cb | Filter | EIRPCF | Readin | Limit  | Margin | Pol        |
|---|---------|--------|----------|------------|--------|--------|--------|--------|--------|--------|------------|
|   | MHz     | dBm    |          |            | dB     | dB     | dB     | dBuV   | dBm    | dB     |            |
| 1 | 3425.00 | -52.34 | RMS      | 29.75      | -24.55 | 1.20   | -95.23 | 36.49  | -13.00 | -39.34 | Horizontal |
| 2 | 5137.00 | -49.03 | RMS      | 33.28      | -23.67 | 0.68   | -95.23 | 35.91  | -13.00 | -36.03 | Horizontal |
| 3 | 6850.00 | -45.77 | RMS      | 36.20      | -22.53 | 0.73   | -95.23 | 35.06  | -13.00 | -32.77 | Horizontal |



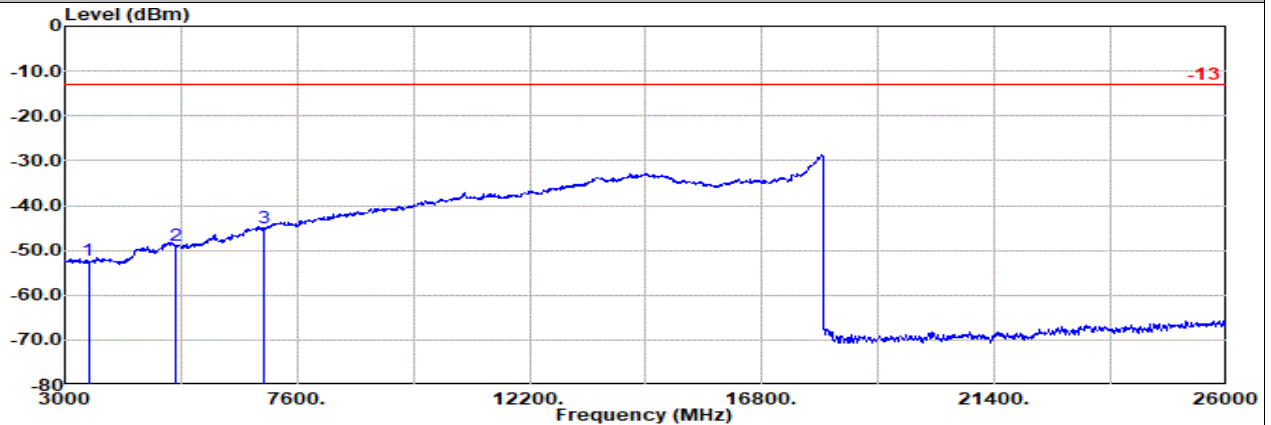
|   | Freq    | Level  | Detector | Ant Factor | Amp\Cb | Filter | EIRPCF | Readin | Limit  | Margin | Pol      |
|---|---------|--------|----------|------------|--------|--------|--------|--------|--------|--------|----------|
|   | MHz     | dBm    |          |            | dB     | dB     | dB     | dBuV   | dBm    | dB     |          |
| 1 | 3425.00 | -52.89 | RMS      | 29.75      | -24.55 | 1.20   | -95.23 | 35.94  | -13.00 | -39.89 | Vertical |
| 2 | 5137.00 | -48.90 | RMS      | 33.28      | -23.67 | 0.68   | -95.23 | 36.04  | -13.00 | -35.90 | Vertical |
| 3 | 6850.00 | -45.76 | RMS      | 36.20      | -22.53 | 0.73   | -95.23 | 35.07  | -13.00 | -32.76 | Vertical |



## Part 27L Mode 7

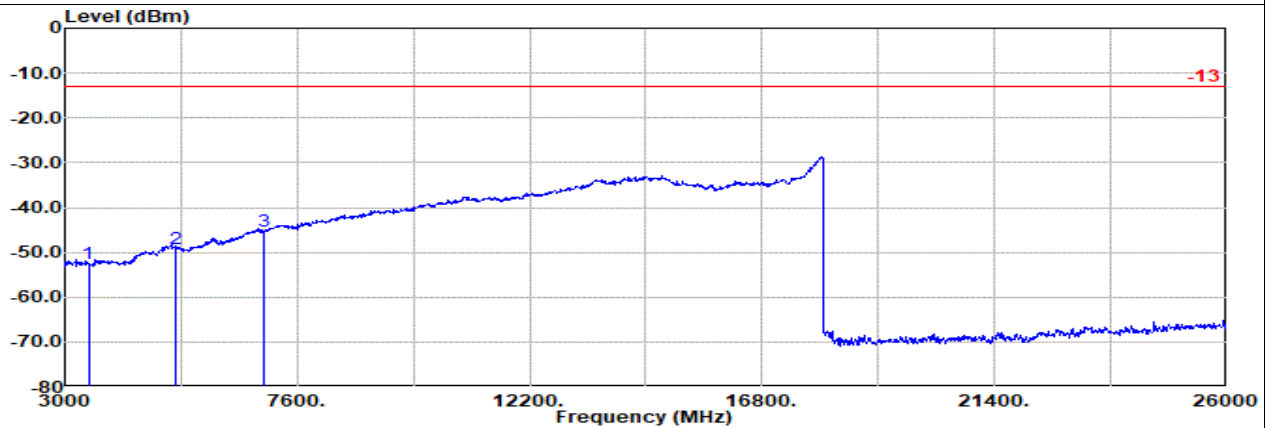
## WCDMA B4 WCDMA B4 Ch1413

## M



Site : 03CH12-HY  
Condition: -13 3m 9120D-02114-230731 Horizontal  
: WCDMA CH1413

|   | Freq<br>MHz | Level<br>dBm | Detector | Ant Amp\Cb Filter |        | EIRPCF      | Readin<br>g | Limit  | Margin | Pol        |
|---|-------------|--------------|----------|-------------------|--------|-------------|-------------|--------|--------|------------|
|   |             |              |          | Factor            | 1      |             |             |        |        |            |
|   |             |              |          |                   |        |             |             |        |        |            |
| 1 | 3465.00     | -52.34       | RMS      | 29.74             | -24.45 | 1.21 -95.23 | 36.39       | -13.00 | -39.34 | Horizontal |
| 2 | 5198.00     | -48.79       | RMS      | 33.10             | -23.58 | 0.71 -95.23 | 36.21       | -13.00 | -35.79 | Horizontal |
| 3 | 6930.00     | -45.00       | RMS      | 36.00             | -22.52 | 0.71 -95.23 | 36.04       | -13.00 | -32.00 | Horizontal |



Site : 03CH12-HY  
Condition: -13 3m 9120D-02114-230731 Vertical  
: WCDMA CH1413

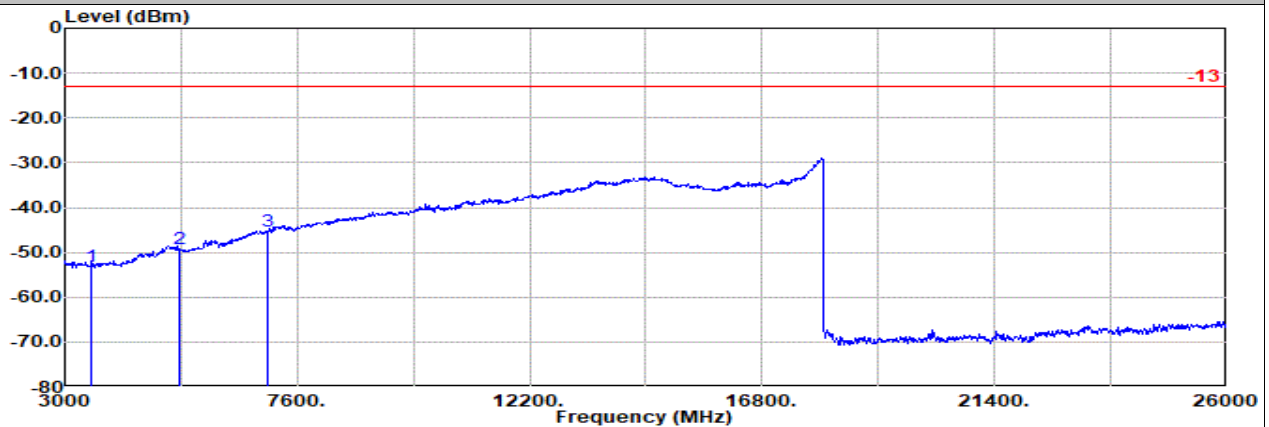
|   | Freq<br>MHz | Level<br>dBm | Detector | Ant Amp\Cb Filter |        | EIRPCF      | Readin<br>g | Limit  | Margin | Pol      |
|---|-------------|--------------|----------|-------------------|--------|-------------|-------------|--------|--------|----------|
|   |             |              |          | Factor            | 1      |             |             |        |        |          |
|   |             |              |          |                   |        |             |             |        |        |          |
| 1 | 3465.00     | -52.56       | RMS      | 29.74             | -24.45 | 1.21 -95.23 | 36.17       | -13.00 | -39.56 | Vertical |
| 2 | 5198.00     | -49.07       | RMS      | 33.10             | -23.58 | 0.71 -95.23 | 35.93       | -13.00 | -36.07 | Vertical |
| 3 | 6930.00     | -45.24       | RMS      | 36.00             | -22.52 | 0.71 -95.23 | 35.80       | -13.00 | -32.24 | Vertical |



## Part 27L Mode 7

## WCDMA B4 WCDMA B4 Ch1513

## H

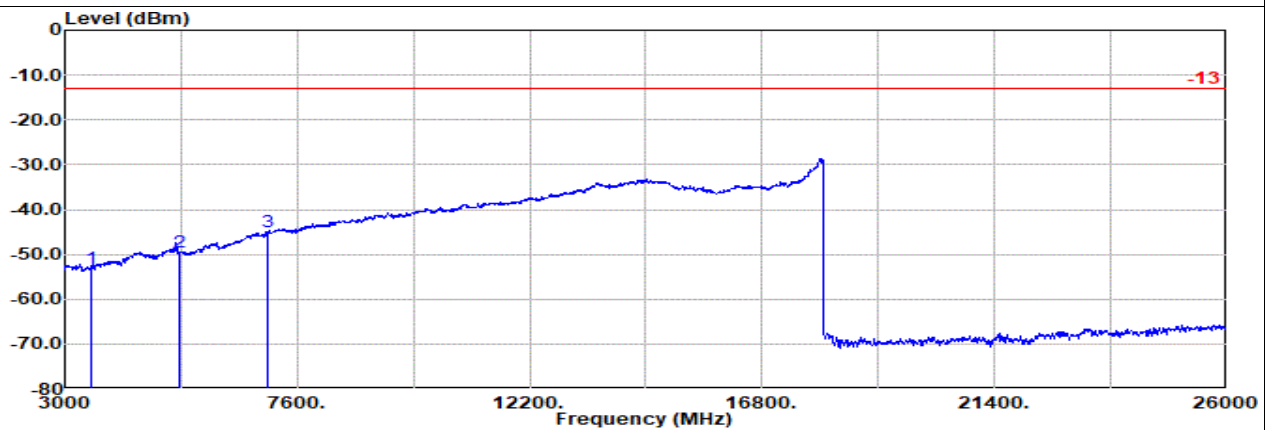


Site : 03CH12-HY

Condition: -13 3m 9120D-02114-230731 Horizontal

: WCDMA CH1513

|   | Freq    | Level  | Detector | Ant Factor | Amp\Cb | Filter 1 | EIRPCF | Reading | Limit  | Margin | Pol        |
|---|---------|--------|----------|------------|--------|----------|--------|---------|--------|--------|------------|
|   | MHz     | dBm    |          |            |        | dB       | dB     | dBuV    | dBm    | dB     |            |
| 1 | 3505.00 | -53.04 | RMS      | 29.60      | -24.36 | 1.22     | -95.23 | 35.73   | -13.00 | -40.04 | Horizontal |
| 2 | 5258.00 | -49.17 | RMS      | 33.20      | -23.50 | 0.73     | -95.23 | 35.63   | -13.00 | -36.17 | Horizontal |
| 3 | 7010.00 | -45.36 | RMS      | 36.14      | -22.50 | 0.70     | -95.23 | 35.53   | -13.00 | -32.36 | Horizontal |



Site : 03CH12-HY

Condition: -13 3m 9120D-02114-230731 Vertical

: WCDMA CH1513

|   | Freq    | Level  | Detector | Ant Factor | Amp\Cb | Filter 1 | EIRPCF | Reading | Limit  | Margin | Pol      |
|---|---------|--------|----------|------------|--------|----------|--------|---------|--------|--------|----------|
|   | MHz     | dBm    |          |            |        | dB       | dB     | dBuV    | dBm    | dB     |          |
| 1 | 3505.00 | -52.98 | RMS      | 29.60      | -24.36 | 1.22     | -95.23 | 35.79   | -13.00 | -39.98 | Vertical |
| 2 | 5258.00 | -49.42 | RMS      | 33.20      | -23.50 | 0.73     | -95.23 | 35.38   | -13.00 | -36.42 | Vertical |
| 3 | 7010.00 | -45.06 | RMS      | 36.14      | -22.50 | 0.70     | -95.23 | 35.83   | -13.00 | -32.06 | Vertical |