

## FCC Test Report

### (PART 24)

**Report No.:** RFBASM-WTW-P20120917-5

**FCC ID:** QYLEM7511K

**Test Model:** EM7511

**Received Date:** Dec. 29, 2020

**Test Date:** Jan. 14 ~ Jan. 26, 2021

**Issued Date:** Jun. 09, 2021

**Applicant:** Getac Technology Corporation.

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11568, Taiwan, R.O.C.

**Issued By:** Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch  
Lin Kou Laboratories

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**Test Location (1):** No.19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City  
33383, Taiwan

**Test Location (2):** B2F., No.215, Sec. 3, Beixin Rd., Xindian Dist., New Taipei City 231,  
Taiwan

**FCC Registration /** 788550 / TW0003

**Designation Number:** 427177 / TW0011



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### Release Control Record

| Issue No.              | Description      | Date Issued   |
|------------------------|------------------|---------------|
| RFBASM-WTW-P20120917-5 | Original Release | Jun. 09, 2021 |

## 1 Certificate of Conformity

**Product:** Wireless Modules

**Brand:** Sierra Wireless, Inc.

**Test Model:** EM7511

**Sample Status:** Mass product

**Applicant:** Getac Technology Corporation.

**Test Date:** Jan. 14 ~ Jan. 26, 2021

**Standards:** FCC Part 24, Subpart E

The above equipment has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's RF characteristics under the conditions specified in this report.

**Prepared by :** Gina Liu, **Date:** Jun. 09, 2021  
Gina Liu / Specialist

**Approved by :** Dylan Chiou, **Date:** Jun. 09, 2021  
Dylan Chiou / Senior Project Engineer

## 2 Summary of Test Results

| Applied Standard: FCC Part 24 & Part 2 |                                    |        |                                                                                       |
|----------------------------------------|------------------------------------|--------|---------------------------------------------------------------------------------------|
| FCC Clause                             | Test Item                          | Result | Remarks                                                                               |
| 2.1046<br>24.232(c)                    | Effective Isotropic Radiated Power | Pass   | Meet the requirement of limit.                                                        |
| 2.1047                                 | Modulation Characteristics         | N/A    | Refer to Note                                                                         |
| 2.1046<br>24.232(d)                    | Peak to Average Ratio              | N/A    | Refer to Note                                                                         |
| 2.1055<br>24.235                       | Frequency Stability                | N/A    | Refer to Note                                                                         |
| 2.1049                                 | Occupied Bandwidth                 | N/A    | Refer to Note                                                                         |
| 24.238                                 | Band Edge Measurements             | N/A    | Refer to Note                                                                         |
| 2.1051<br>24.238                       | Conducted Spurious Emissions       | N/A    | Refer to Note                                                                         |
| 2.1053<br>24.238                       | Radiated Spurious Emissions        | Pass   | Meet the requirement of limit.<br>Minimum passing margin is -37.05 dB at 3760.00 MHz. |

Note:

1. This report is a partial report, only test item of Effective Isotropic Radiated Power & Radiated Emissions were performed for this report. Other testing data please refer to TTL report no.: FG791919B for module (Brand: Sierra, Model: EM7511).
2. Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

### 2.1 Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

| Measurement                    | Frequency          | Expanded Uncertainty (k=2) (±) |
|--------------------------------|--------------------|--------------------------------|
| Radiated Emissions up to 1 GHz | 9 kHz ~ 30 MHz     | 3.0400 dB                      |
|                                | 30 MHz ~ 200 MHz   | 2.0153 dB                      |
|                                | 200 MHz ~ 1000 MHz | 2.0224 dB                      |
| Radiated Emissions above 1 GHz | 1 GHz ~ 18 GHz     | 1.0121 dB                      |
|                                | 18 GHz ~ 40 GHz    | 1.1508 dB                      |

## 2.2 Test Site and Instruments

| Description & Manufacturer                     | Model No.       | Serial No.                                            | Date of Calibration | Due Date of Calibration |
|------------------------------------------------|-----------------|-------------------------------------------------------|---------------------|-------------------------|
| Test Receiver<br>Agilent Technologies          | N9038A          | MY52260177                                            | Aug. 24, 2020       | Aug. 23, 2021           |
| Spectrum Analyzer<br>ROHDE & SCHWARZ           | FSU43           | 101261                                                | Apr. 16, 2020       | Apr. 15, 2021           |
| HORN Antenna<br>ETS-Lindgren                   | 3117            | 00143293                                              | Nov. 22, 2020       | Nov. 21, 2021           |
| BILOG Antenna<br>SCHWARZBECK                   | VULB 9168       | 9168-616                                              | Nov. 09, 2020       | Nov. 08, 2021           |
| HORN Antenna<br>SCHWARZBECK                    | BBHA 9170       | 9170-480                                              | Nov. 22, 2020       | Nov. 21, 2021           |
| Fixed Attenuator<br>Mini-Circuits              | MDCS18N-10      | MDCS18N-10-01                                         | Apr. 14, 2020       | Apr. 13, 2021           |
| MXG Vector signal generator<br>Agilent         | N5182B          | MY53050430                                            | Nov. 25, 2020       | Nov. 24, 2021           |
| Preamplifier<br>Agilent                        | 310N            | 187226                                                | Jun. 17, 2020       | Jun. 16, 2021           |
| Preamplifier<br>Agilent                        | 83017A          | MY39501357                                            | Jun. 17, 2020       | Jun. 16, 2021           |
| Preamplifier<br>EMCI                           | EMC 184045      | 980116                                                | Oct. 07, 2020       | Oct. 06, 2021           |
| RF signal cable<br>ETS-LINDGREN                | 5D-FB           | Cable-CH1-01(RFC-SMS-100-SMS-120+RFC-SMS-100-SMS-400) | Jun. 17, 2020       | Jun. 16, 2021           |
| RF signal cable<br>ETS-LINDGREN                | 8D-FB           | Cable-CH1-02(RFC-SMS-100-SMS-24)                      | Jun. 17, 2020       | Jun. 17, 2021           |
| Boresight Antenna Fixture                      | FBA-01          | FBA-SIP01                                             | NA                  | NA                      |
| Software<br>BV ADT                             | E3<br>8.130425b | NA                                                    | NA                  | NA                      |
| Antenna Tower<br>MF                            | NA              | NA                                                    | NA                  | NA                      |
| Turn Table<br>MF                               | NA              | NA                                                    | NA                  | NA                      |
| Antenna Tower & Turn Table<br>Controller<br>MF | MF-7802         | NA                                                    | NA                  | NA                      |
| Radio Communication<br>Analyzer<br>Anritsu     | MT8820C         | 6201010284                                            | Dec. 28, 2020       | Dec. 27, 2021           |

- Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in HsinTien Chamber 1.
3. The horn antenna and preamplifier (model: 83017A) are used only for the measurement of emission frequency above 1 GHz if tested.

### 3 General Information

#### 3.1 General Description of EUT

|                            |                                         |                     |
|----------------------------|-----------------------------------------|---------------------|
| <b>Product</b>             | Wireless Modules                        |                     |
| <b>Brand</b>               | Sierra Wireless, Inc.                   |                     |
| <b>Test Model</b>          | EM7511                                  |                     |
| <b>Status of EUT</b>       | Mass product                            |                     |
| <b>Power Supply Rating</b> | 19 Vdc (adapter)<br>11.1 Vdc (battery)  |                     |
| <b>Modulation Type</b>     | WCDMA                                   | QPSK                |
|                            | LTE                                     | QPSK, 16QAM, 64QAM  |
| <b>Frequency Range</b>     | WCDMA                                   | 1852.4 ~ 1907.6 MHz |
|                            | LTE Band 2 (Channel Bandwidth: 1.4 MHz) | 1850.7 ~ 1909.3 MHz |
|                            | LTE Band 2 (Channel Bandwidth: 3 MHz)   | 1851.5 ~ 1908.5 MHz |
|                            | LTE Band 2 (Channel Bandwidth: 5 MHz)   | 1852.5 ~ 1907.5 MHz |
|                            | LTE Band 2 (Channel Bandwidth: 10 MHz)  | 1855.0 ~ 1905.0 MHz |
|                            | LTE Band 2 (Channel Bandwidth: 15 MHz)  | 1857.5 ~ 1902.5 MHz |
|                            | LTE Band 2 (Channel Bandwidth: 20 MHz)  | 1860.0 ~ 1900.0 MHz |
| <b>Max. EIRP Power</b>     | WCDMA                                   | 224.91 mW           |
|                            | LTE Band 2 (Channel Bandwidth: 1.4 MHz) | 131.52 mW           |
|                            | LTE Band 2 (Channel Bandwidth: 3 MHz)   | 127.44 mW           |
|                            | LTE Band 2 (Channel Bandwidth: 5 MHz)   | 131.01 mW           |
|                            | LTE Band 2 (Channel Bandwidth: 10 MHz)  | 111.69 mW           |
|                            | LTE Band 2 (Channel Bandwidth: 15 MHz)  | 112.54 mW           |
|                            | LTE Band 2 (Channel Bandwidth: 20 MHz)  | 135.93 mW           |
| <b>Antenna Type</b>        | PIFA Antenna with 1.28 dBi gain         |                     |
| <b>Accessory Device</b>    | Refer to Note as below                  |                     |
| <b>Data Cable Supplied</b> | Refer to Note as below                  |                     |

Note:

1. The EUT is authorized for use in specific End-product. Please refer to below for more details.

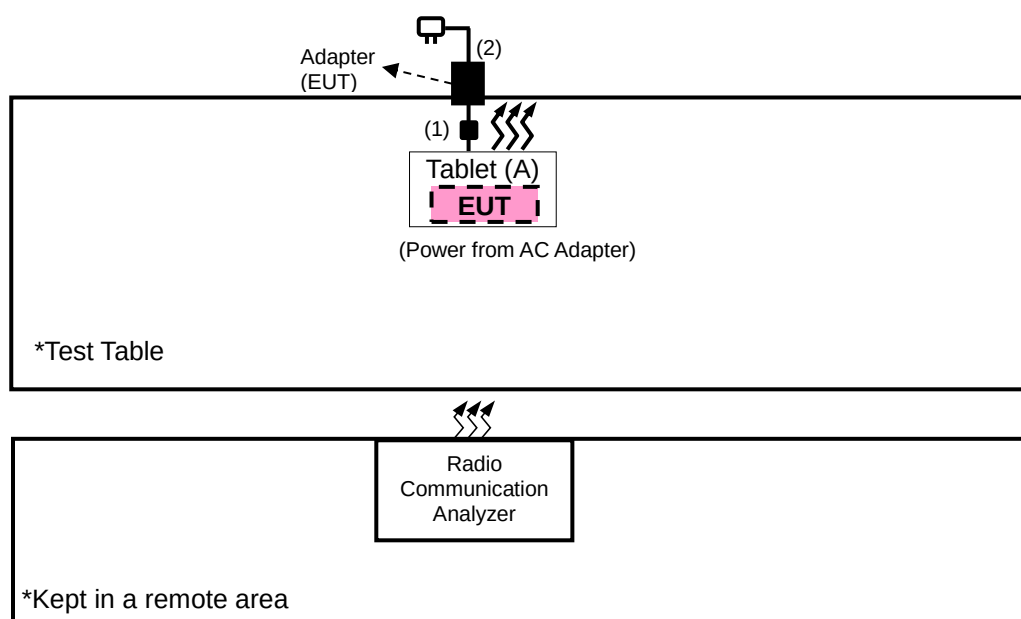
| Product | Brand | Model                                                                                                                                                        | Description           |
|---------|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| Tablet  | Getac | K120                                                                                                                                                         | For marketing purpose |
|         |       | K120G2                                                                                                                                                       |                       |
|         |       | K120Y (Y= 10 characters, Y can be 0-9, a-z, A-Z, "-", "_ " or blank for marketing purpose and no impact safety related critical components and constructions |                       |

2. The End-product contains following accessory devices.

| Product          | Brand   | Model          | Description                                                         |
|------------------|---------|----------------|---------------------------------------------------------------------|
| Adapter          | Chicony | A15-090P1A     | INPUT: 100-240Vac, 1.2A max, 50-60Hz<br>OUTPUT: 19.0Vdc, 4.74A, 90W |
| Battery          | Getac   | BP3S1P2100S-01 | Rating: 11.1Vdc 2040mAh, 23Wh<br>Typical Capacity: 2100mAh, 24Wh    |
| Earphone         | N/A     | N/A            | --                                                                  |
| USB Cable        | N/A     | N/A            | --                                                                  |
| LCD Panel        | Innolux | N125HCE-HN1    | FHD                                                                 |
| Camera           | Foxlink | FN20FF-679H    | FHD                                                                 |
|                  | Foxlink | FN80AF-443H-2  | 8M                                                                  |
|                  | FOXLINK | FO20FF-790H    | FHD                                                                 |
| WiFi & BT Module | Intel   | AX201NGW       | --                                                                  |
| WWAN Module      | Sierra  | EM7511         | --                                                                  |

3. The above Antenna information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications, the laboratory shall not be held responsible.
4. The above EUT information is declared by manufacturer and for more detailed features description, please refers to the manufacturer's specifications or user's manual.

## 3.2 Configuration of System under Test



### 3.2.1 Description of Support Units

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

| ID | Product                      | Brand   | Model No. | Serial No. | FCC ID | Remarks            |
|----|------------------------------|---------|-----------|------------|--------|--------------------|
| A. | Tablet                       | K120    | N/A       | N/A        | N/A    | Provided by Client |
| B. | Radio Communication Analyzer | Anritsu | MT8820C   | 6201010284 | N/A    | -                  |

| ID | Cable Descriptions | Qty. | Length (m) | Shielding (Yes/No) | Cores (Qty.) | Remarks              |
|----|--------------------|------|------------|--------------------|--------------|----------------------|
| 1. | DC Cable           | 1    | 1.5        | N                  | 1            | Accessory of the EUT |
| 2. | AC Power Cable     | 1    | 1.7        | N                  | 0            | Accessory of the EUT |

Note:

1. All power cords of the above support units are non-shielded (1.8m).
2. Item B acted as communication partner to transfer data.

### 3.3 Test Mode Applicability and Tested Channel Detail

Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates, XYZ axis, and antenna ports.

The worst case was found when positioned as the table below. Following channel(s) was (were) selected for the final test as listed below:

| Band       | EIRP    | Radiated Emission |
|------------|---------|-------------------|
| WCDMA      | Z-plane | Y-axis            |
| LTE Band 2 | Z-plane | X-axis            |

#### WCDMA

| EUT Configure Mode | Test Item         | Available Channel | Tested Channel   | Mode  |
|--------------------|-------------------|-------------------|------------------|-------|
| -                  | EIRP              | 9262 to 9538      | 9262, 9400, 9538 | WCDMA |
| -                  | Radiated Emission | 9262 to 9538      | 9262, 9400, 9538 | WCDMA |

**Note:** For radiated emissions below 1 GHz, select the worst radiated emission channel for final testing.

#### LTE Band 2

| EUT Configure Mode | Test Item         | Available Channel | Tested Channel      | Channel Bandwidth | Modulation         | Mode               |
|--------------------|-------------------|-------------------|---------------------|-------------------|--------------------|--------------------|
| -                  | EIRP              | 18607 to 19193    | 18607, 18900, 19193 | 1.4 MHz           | QPSK, 16QAM, 64QAM | 1 RB / 0 RB Offset |
|                    |                   | 18615 to 19185    | 18615, 18900, 19185 | 3 MHz             | QPSK, 16QAM, 64QAM | 1 RB / 0 RB Offset |
|                    |                   | 18625 to 19175    | 18625, 18900, 19175 | 5 MHz             | QPSK, 16QAM, 64QAM | 1 RB / 0 RB Offset |
|                    |                   | 18650 to 19150    | 18650, 18900, 19150 | 10 MHz            | QPSK, 16QAM, 64QAM | 1 RB / 0 RB Offset |
|                    |                   | 18675 to 19125    | 18675, 18900, 19125 | 15 MHz            | QPSK, 16QAM, 64QAM | 1 RB / 0 RB Offset |
|                    |                   | 18700 to 19100    | 18700, 18900, 19100 | 20 MHz            | QPSK, 16QAM, 64QAM | 1 RB / 0 RB Offset |
| -                  | Radiated Emission | 18607 to 19193    | 18607, 18900, 19193 | 1.4 MHz           | QPSK               | 1 RB / 0 RB Offset |
|                    |                   | 18625 to 19175    | 18625, 18900, 19175 | 5 MHz             | QPSK               | 1 RB / 0 RB Offset |
|                    |                   | 18700 to 19100    | 18700, 18900, 19100 | 20 MHz            | QPSK               | 1 RB / 0 RB Offset |

**Note:**

1. This device was tested under all bandwidths, RB configurations and modulations. The worst case was found in QPSK modulation.
2. For radiated emission above 1 GHz, according to 3GPP 36.521 Section 6.6.3.1.4, choose the lowest, 5 MHz & highest channel bandwidth for final test.
3. For radiated emissions below 1 GHz, select the worst radiated emission channel for final testing.

**Test Condition:**

| Test Item         | Environmental Conditions | Input Power    | Tested By |
|-------------------|--------------------------|----------------|-----------|
| EIRP              | 26 deg. C, 58 % RH       | 120 Vac, 60 Hz | Karl Lee  |
| Radiated Emission | 25 deg. C, 65 % RH       | 120 Vac, 60 Hz | Karl Lee  |

### **3.4 EUT Operating Conditions**

The EUT makes a call to the communication simulator. The communication simulator station system controlled a EUT to export maximum output power under transmission mode and specific channel frequency

### **3.5 General Description of Applied Standards**

The EUT is a RF Product. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

**Test Standard:**

**FCC 47 CFR Part 2**

**FCC 47 CFR Part 24**

**ANSI 63.26-2015**

**NOTE:** All test items have been performed and recorded as per the above standards.

**References Test Guidance:**

**KDB 971168 D01 Power Meas License Digital Systems v03r01**

**ANSI/TIA/EIA-603-E 2016**

**NOTE:** All test items have been performed as a reference to the above KDB test guidance.

## 4 Test Types and Results

### 4.1 Output Power Measurement

#### 4.1.1 Limits of Output Power Measurement

Mobile / Portable station are limited to 2 watts e.i.r.p.

#### 4.1.2 Test Procedures

##### **EIRP / ERP Measurement:**

- a. All measurements were done at low, middle and high operational frequency range. RBW and VBW is 5 MHz for WCDMA and 10 MHz for LTE mode.
- b. Substitution method is used for E.I.R.P measurement. In the semi-anechoic chamber, EUT placed on the 0.8 m (below or equal 1 GHz) and/or 1.5 m (above 1 GHz) height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1 m to 4 m to find the maximum polar radiated power. The "Read Value" is the spectrum reading the maximum power value.
- c. The substitution horn antenna is substituted for EUT at the same position and signals generator export the CW signal to the substitution antenna via a tx cable. Rotated the Turn Table and moved receiving antenna to find the maximum radiation power. Adjust output power level of S.G to get a Value of spectrum reading equal to "Read Value" of step b. Record the power level of S.G.
- d.  $EIRP = \text{Output power level of S.G} - \text{TX cable loss} + \text{Antenna gain of substitution horn}$ . E.R.P power can be calculated form E.I.R.P power by subtracting the gain of dipole,  $E.R.P \text{ power} = E.I.R.P \text{ power} - 2.15 \text{ dB}$ .

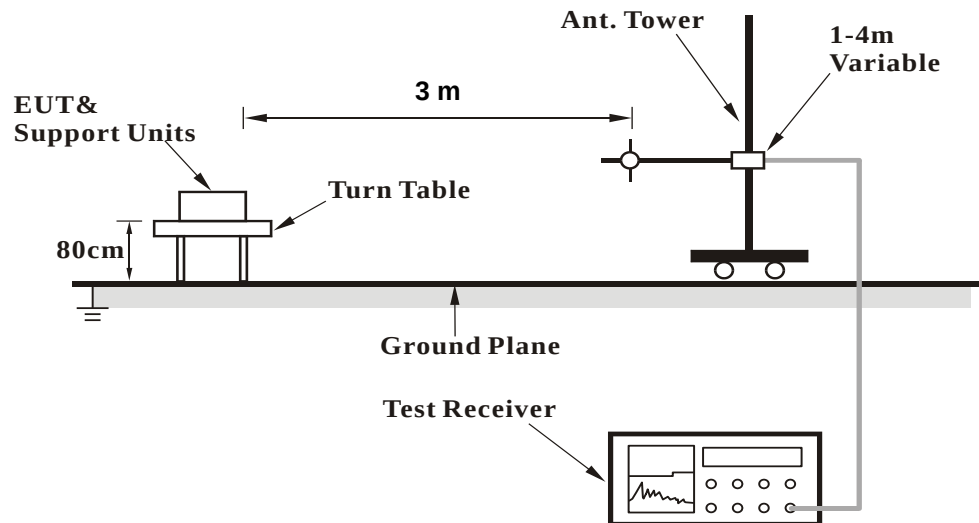
##### **Conducted Power Measurement:**

The EUT was set up for the maximum power with WCDMA and LTE link data modulation and link up with simulator. Set the EUT to transmit under low, middle and high channel and record the power level shown on simulator.

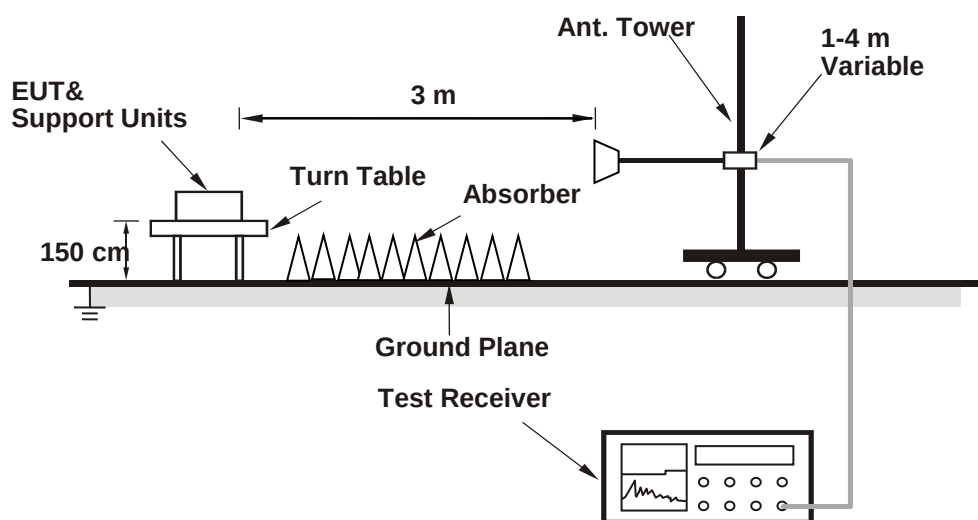
#### 4.1.3 Test Setup

##### EIRP / ERP Measurement:

<Radiated Emission below or equal 1 GHz>



<Radiated Emission above 1 GHz>



For the actual test configuration, please refer to the attached file (Test Setup Photo).

#### 4.1.4 Test Results

##### EIRP Power (dBm)

| WCDMA |         |                 |               |                        |            |           |                    |
|-------|---------|-----------------|---------------|------------------------|------------|-----------|--------------------|
| Plane | Channel | Frequency (MHz) | Reading (dBm) | Correction Factor (dB) | EIRP (dBm) | EIRP (mW) | Polarization (H/V) |
| Z     | 9262    | 1852.4          | -14.67        | 38.19                  | 23.52      | 224.91    | H                  |
|       | 9400    | 1880.0          | -15.41        | 38.70                  | 23.29      | 213.30    |                    |
|       | 9538    | 1907.6          | -16.00        | 39.35                  | 23.35      | 216.27    |                    |
|       | 9262    | 1852.4          | -17.00        | 38.48                  | 21.48      | 140.60    | V                  |
|       | 9400    | 1880.0          | -17.26        | 38.59                  | 21.33      | 135.83    |                    |
|       | 9538    | 1907.6          | -17.60        | 38.87                  | 21.27      | 133.97    |                    |

Note: EIRP (dBm) = Reading (dBm) + Correction Factor (dB)

| LTE Band 2                         |         |                 |               |                        |            |           |                    |
|------------------------------------|---------|-----------------|---------------|------------------------|------------|-----------|--------------------|
| Channel Bandwidth: 1.4 MHz / QPSK  |         |                 |               |                        |            |           |                    |
| Plane                              | Channel | Frequency (MHz) | Reading (dBm) | Correction Factor (dB) | EIRP (dBm) | EIRP (mW) | Polarization (H/V) |
| Z                                  | 18607   | 1850.7          | -23.51        | 44.70                  | 21.19      | 131.52    | H                  |
|                                    | 18900   | 1880.0          | -23.52        | 44.70                  | 21.18      | 131.22    |                    |
|                                    | 19193   | 1909.3          | -24.22        | 44.57                  | 20.35      | 108.47    |                    |
|                                    | 18607   | 1850.7          | -25.16        | 44.27                  | 19.11      | 81.47     | V                  |
|                                    | 18900   | 1880.0          | -25.57        | 44.87                  | 19.30      | 85.11     |                    |
|                                    | 19193   | 1909.3          | -25.57        | 44.61                  | 19.04      | 80.22     |                    |
| Channel Bandwidth: 1.4 MHz / 16QAM |         |                 |               |                        |            |           |                    |
| Z                                  | 18607   | 1850.7          | -24.46        | 44.70                  | 20.24      | 105.68    | H                  |
|                                    | 18900   | 1880.0          | -25.21        | 44.70                  | 19.49      | 88.92     |                    |
|                                    | 19193   | 1909.3          | -24.98        | 44.57                  | 19.59      | 91.05     |                    |
|                                    | 18607   | 1850.7          | -26.18        | 44.27                  | 18.09      | 64.42     | V                  |
|                                    | 18900   | 1880.0          | -27.27        | 44.87                  | 17.60      | 57.54     |                    |
|                                    | 19193   | 1909.3          | -27.27        | 44.61                  | 17.34      | 54.24     |                    |
| Channel Bandwidth: 1.4 MHz / 64QAM |         |                 |               |                        |            |           |                    |
| Z                                  | 18607   | 1850.7          | -25.44        | 44.70                  | 19.26      | 84.33     | H                  |
|                                    | 18900   | 1880.0          | -25.87        | 44.70                  | 18.83      | 76.38     |                    |
|                                    | 19193   | 1909.3          | -26.15        | 44.57                  | 18.42      | 69.55     |                    |
|                                    | 18607   | 1850.7          | -27.45        | 44.27                  | 16.82      | 48.08     | V                  |
|                                    | 18900   | 1880.0          | -27.57        | 44.87                  | 17.30      | 53.70     |                    |
|                                    | 19193   | 1909.3          | -27.99        | 44.61                  | 16.62      | 45.95     |                    |

Note: EIRP (dBm) = Reading (dBm) + Correction Factor (dB)

| LTE Band 2                       |         |                 |               |                        |            |           |                    |
|----------------------------------|---------|-----------------|---------------|------------------------|------------|-----------|--------------------|
| Channel Bandwidth: 3 MHz / QPSK  |         |                 |               |                        |            |           |                    |
| Plane                            | Channel | Frequency (MHz) | Reading (dBm) | Correction Factor (dB) | EIRP (dBm) | EIRP (mW) | Polarization (H/V) |
| Z                                | 18615   | 1851.5          | -24.00        | 44.70                  | 20.70      | 117.49    | H                  |
|                                  | 18900   | 1880.0          | -23.75        | 44.70                  | 20.95      | 124.45    |                    |
|                                  | 19185   | 1908.5          | -23.52        | 44.57                  | 21.05      | 127.44    |                    |
|                                  | 18615   | 1851.5          | -25.40        | 44.27                  | 18.87      | 77.09     | V                  |
|                                  | 18900   | 1880.0          | -25.87        | 44.87                  | 19.00      | 79.43     |                    |
|                                  | 19185   | 1908.5          | -26.01        | 44.61                  | 18.60      | 72.49     |                    |
| Channel Bandwidth: 3 MHz / 16QAM |         |                 |               |                        |            |           |                    |
| Z                                | 18615   | 1851.5          | -24.43        | 44.70                  | 20.27      | 106.41    | H                  |
|                                  | 18900   | 1880.0          | -25.23        | 44.70                  | 19.47      | 88.51     |                    |
|                                  | 19185   | 1908.5          | -24.38        | 44.57                  | 20.19      | 104.54    |                    |
|                                  | 18615   | 1851.5          | -26.83        | 44.27                  | 17.44      | 55.46     | V                  |
|                                  | 18900   | 1880.0          | -26.64        | 44.87                  | 18.23      | 66.53     |                    |
|                                  | 19185   | 1908.5          | -26.51        | 44.61                  | 18.10      | 64.61     |                    |
| Channel Bandwidth: 3 MHz / 64QAM |         |                 |               |                        |            |           |                    |
| Z                                | 18615   | 1851.5          | -25.40        | 44.70                  | 19.30      | 85.11     | H                  |
|                                  | 18900   | 1880.0          | -25.66        | 44.70                  | 19.04      | 80.17     |                    |
|                                  | 19185   | 1908.5          | -25.80        | 44.57                  | 18.77      | 75.39     |                    |
|                                  | 18615   | 1851.5          | -27.47        | 44.27                  | 16.80      | 47.86     | V                  |
|                                  | 18900   | 1880.0          | -27.64        | 44.87                  | 17.23      | 52.84     |                    |
|                                  | 19185   | 1908.5          | -27.57        | 44.61                  | 17.04      | 50.62     |                    |

Note: EIRP (dBm) = Reading (dBm) + Correction Factor (dB)

| LTE Band 2                       |         |                 |               |                        |            |           |                    |
|----------------------------------|---------|-----------------|---------------|------------------------|------------|-----------|--------------------|
| Channel Bandwidth: 5 MHz / QPSK  |         |                 |               |                        |            |           |                    |
| Plane                            | Channel | Frequency (MHz) | Reading (dBm) | Correction Factor (dB) | EIRP (dBm) | EIRP (mW) | Polarization (H/V) |
| Z                                | 18625   | 1852.5          | -23.69        | 44.70                  | 21.01      | 126.18    | H                  |
|                                  | 18900   | 1880.0          | -23.56        | 44.70                  | 21.14      | 130.02    |                    |
|                                  | 19175   | 1907.5          | -23.40        | 44.57                  | 21.17      | 131.01    |                    |
|                                  | 18625   | 1852.5          | -25.70        | 44.27                  | 18.57      | 71.94     | V                  |
|                                  | 18900   | 1880.0          | -25.55        | 44.87                  | 19.32      | 85.51     |                    |
|                                  | 19175   | 1907.5          | -25.86        | 44.61                  | 18.75      | 75.04     |                    |
| Channel Bandwidth: 5 MHz / 16QAM |         |                 |               |                        |            |           |                    |
| Z                                | 18625   | 1852.5          | -24.55        | 44.70                  | 20.15      | 103.56    | H                  |
|                                  | 18900   | 1880.0          | -24.52        | 44.70                  | 20.18      | 104.23    |                    |
|                                  | 19175   | 1907.5          | -24.90        | 44.57                  | 19.67      | 92.75     |                    |
|                                  | 18625   | 1852.5          | -26.83        | 44.27                  | 17.44      | 55.46     | V                  |
|                                  | 18900   | 1880.0          | -27.21        | 44.87                  | 17.66      | 58.34     |                    |
|                                  | 19175   | 1907.5          | -26.77        | 44.61                  | 17.84      | 60.86     |                    |
| Channel Bandwidth: 5 MHz / 64QAM |         |                 |               |                        |            |           |                    |
| Z                                | 18625   | 1852.5          | -26.06        | 44.70                  | 18.64      | 73.11     | H                  |
|                                  | 18900   | 1880.0          | -25.81        | 44.70                  | 18.89      | 77.45     |                    |
|                                  | 19175   | 1907.5          | -26.21        | 44.57                  | 18.36      | 68.60     |                    |
|                                  | 18625   | 1852.5          | -27.45        | 44.27                  | 16.82      | 48.08     | V                  |
|                                  | 18900   | 1880.0          | -27.57        | 44.87                  | 17.30      | 53.70     |                    |
|                                  | 19175   | 1907.5          | -27.97        | 44.61                  | 16.64      | 46.16     |                    |

Note: EIRP (dBm) = Reading (dBm) + Correction Factor (dB)

| LTE Band 2                        |         |                 |               |                        |            |           |                    |
|-----------------------------------|---------|-----------------|---------------|------------------------|------------|-----------|--------------------|
| Channel Bandwidth: 10 MHz / QPSK  |         |                 |               |                        |            |           |                    |
| Plane                             | Channel | Frequency (MHz) | Reading (dBm) | Correction Factor (dB) | EIRP (dBm) | EIRP (mW) | Polarization (H/V) |
| Z                                 | 18650   | 1855.0          | -24.22        | 44.70                  | 20.48      | 111.69    | H                  |
|                                   | 18900   | 1880.0          | -24.26        | 44.70                  | 20.44      | 110.66    |                    |
|                                   | 19150   | 1905.0          | -24.10        | 44.57                  | 20.47      | 111.51    |                    |
|                                   | 18650   | 1855.0          | -25.47        | 44.27                  | 18.80      | 75.86     | V                  |
|                                   | 18900   | 1880.0          | -25.55        | 44.87                  | 19.32      | 85.51     |                    |
|                                   | 19150   | 1905.0          | -25.91        | 44.61                  | 18.70      | 74.18     |                    |
| Channel Bandwidth: 10 MHz / 16QAM |         |                 |               |                        |            |           |                    |
| Z                                 | 18650   | 1855.0          | -24.33        | 44.70                  | 20.37      | 108.89    | H                  |
|                                   | 18900   | 1880.0          | -24.88        | 44.70                  | 19.82      | 95.94     |                    |
|                                   | 19150   | 1905.0          | -25.16        | 44.57                  | 19.41      | 87.36     |                    |
|                                   | 18650   | 1855.0          | -26.62        | 44.27                  | 17.65      | 58.21     | V                  |
|                                   | 18900   | 1880.0          | -27.18        | 44.87                  | 17.69      | 58.75     |                    |
|                                   | 19150   | 1905.0          | -27.00        | 44.61                  | 17.61      | 57.70     |                    |
| Channel Bandwidth: 10 MHz / 64QAM |         |                 |               |                        |            |           |                    |
| Z                                 | 18650   | 1855.0          | -25.50        | 44.70                  | 19.20      | 83.18     | H                  |
|                                   | 18900   | 1880.0          | -25.92        | 44.70                  | 18.78      | 75.51     |                    |
|                                   | 19150   | 1905.0          | -25.75        | 44.57                  | 18.82      | 76.26     |                    |
|                                   | 18650   | 1855.0          | -27.45        | 44.27                  | 16.82      | 48.08     | V                  |
|                                   | 18900   | 1880.0          | -27.57        | 44.87                  | 17.30      | 53.70     |                    |
|                                   | 19150   | 1905.0          | -27.57        | 44.61                  | 17.04      | 50.62     |                    |

Note: EIRP (dBm) = Reading (dBm) + Correction Factor (dB)

| LTE Band 2                        |         |                 |               |                        |            |           |                    |
|-----------------------------------|---------|-----------------|---------------|------------------------|------------|-----------|--------------------|
| Channel Bandwidth: 15 MHz / QPSK  |         |                 |               |                        |            |           |                    |
| Plane                             | Channel | Frequency (MHz) | Reading (dBm) | Correction Factor (dB) | EIRP (dBm) | EIRP (mW) | Polarization (H/V) |
| Z                                 | 18675   | 1857.5          | -24.24        | 44.70                  | 20.46      | 111.17    | H                  |
|                                   | 18900   | 1880.0          | -24.22        | 44.70                  | 20.48      | 111.69    |                    |
|                                   | 19125   | 1902.5          | -24.06        | 44.57                  | 20.51      | 112.54    |                    |
|                                   | 18675   | 1857.5          | -25.85        | 44.27                  | 18.42      | 69.50     | V                  |
|                                   | 18900   | 1880.0          | -25.67        | 44.87                  | 19.20      | 83.18     |                    |
|                                   | 19125   | 1902.5          | -25.73        | 44.61                  | 18.88      | 77.32     |                    |
| Channel Bandwidth: 15 MHz / 16QAM |         |                 |               |                        |            |           |                    |
| Z                                 | 18675   | 1857.5          | -25.00        | 44.70                  | 19.70      | 93.33     | H                  |
|                                   | 18900   | 1880.0          | -24.66        | 44.70                  | 20.04      | 100.93    |                    |
|                                   | 19125   | 1902.5          | -25.06        | 44.57                  | 19.51      | 89.39     |                    |
|                                   | 18675   | 1857.5          | -26.61        | 44.27                  | 17.66      | 58.34     | V                  |
|                                   | 18900   | 1880.0          | -27.21        | 44.87                  | 17.66      | 58.34     |                    |
|                                   | 19125   | 1902.5          | -26.54        | 44.61                  | 18.07      | 64.17     |                    |
| Channel Bandwidth: 15 MHz / 64QAM |         |                 |               |                        |            |           |                    |
| Z                                 | 18675   | 1857.5          | -26.13        | 44.70                  | 18.57      | 71.94     | H                  |
|                                   | 18900   | 1880.0          | -26.29        | 44.70                  | 18.41      | 69.34     |                    |
|                                   | 19125   | 1902.5          | -26.16        | 44.57                  | 18.41      | 69.39     |                    |
|                                   | 18675   | 1857.5          | -27.25        | 44.27                  | 17.02      | 50.35     | V                  |
|                                   | 18900   | 1880.0          | -27.55        | 44.87                  | 17.32      | 53.95     |                    |
|                                   | 19125   | 1902.5          | -27.47        | 44.61                  | 17.14      | 51.80     |                    |

Note: EIRP (dBm) = Reading (dBm) + Correction Factor (dB)

| LTE Band 2                        |         |                 |               |                        |            |           |                    |
|-----------------------------------|---------|-----------------|---------------|------------------------|------------|-----------|--------------------|
| Channel Bandwidth: 20 MHz / QPSK  |         |                 |               |                        |            |           |                    |
| Plane                             | Channel | Frequency (MHz) | Reading (dBm) | Correction Factor (dB) | EIRP (dBm) | EIRP (mW) | Polarization (H/V) |
| Z                                 | 18700   | 1860.0          | -24.20        | 44.70                  | 20.50      | 112.20    | H                  |
|                                   | 18900   | 1880.0          | -24.12        | 44.70                  | 20.58      | 114.29    |                    |
|                                   | 19100   | 1900.0          | -23.24        | 44.57                  | 21.33      | 135.93    |                    |
|                                   | 18700   | 1860.0          | -25.61        | 44.27                  | 18.66      | 73.45     | V                  |
|                                   | 18900   | 1880.0          | -26.28        | 44.87                  | 18.59      | 72.28     |                    |
|                                   | 19100   | 1900.0          | -25.75        | 44.61                  | 18.86      | 76.97     |                    |
| Channel Bandwidth: 20 MHz / 16QAM |         |                 |               |                        |            |           |                    |
| Z                                 | 18700   | 1860.0          | -25.19        | 44.70                  | 19.51      | 89.33     | H                  |
|                                   | 18900   | 1880.0          | -24.97        | 44.70                  | 19.73      | 93.97     |                    |
|                                   | 19100   | 1900.0          | -25.35        | 44.57                  | 19.22      | 83.62     |                    |
|                                   | 18700   | 1860.0          | -26.85        | 44.27                  | 17.42      | 55.21     | V                  |
|                                   | 18900   | 1880.0          | -27.51        | 44.87                  | 17.36      | 54.45     |                    |
|                                   | 19100   | 1900.0          | -26.94        | 44.61                  | 17.67      | 58.52     |                    |
| Channel Bandwidth: 20 MHz / 64QAM |         |                 |               |                        |            |           |                    |
| Z                                 | 18700   | 1860.0          | -26.05        | 44.70                  | 18.65      | 73.28     | H                  |
|                                   | 18900   | 1880.0          | -25.39        | 44.70                  | 19.31      | 85.31     |                    |
|                                   | 19100   | 1900.0          | -25.50        | 44.57                  | 19.07      | 80.78     |                    |
|                                   | 18700   | 1860.0          | -27.61        | 44.27                  | 16.66      | 46.34     | V                  |
|                                   | 18900   | 1880.0          | -27.55        | 44.87                  | 17.32      | 53.95     |                    |
|                                   | 19100   | 1900.0          | -27.54        | 44.61                  | 17.07      | 50.97     |                    |

Note: EIRP (dBm) = Reading (dBm) + Correction Factor (dB)

## 4.2 Radiated Emission Measurement

### 4.2.1 Limits of Radiated Emission Measurement

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least  $43 + 10 \log(P)$  dB. The emission limit is equal to -13 dBm.

### 4.2.2 Test Procedure

- a. Substitution method is used for E.I.R.P measurement. In the semi-anechoic chamber, EUT placed on the 0.8 m (below or equal 1 GHz) and/or 1.5 m (above 1 GHz) height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1 m to 4 m to find the maximum polar radiated power. The "Read Value" is the spectrum reading the maximum power value.
- b. EIRP = Output power level of S.G – TX cable loss + Antenna gain of substitution horn.
- c. E.R.P power can be calculated form E.I.R.P power by subtracting the gain of dipole, E.R.P power = E.I.R.P power - 2.15 dB.

#### NOTE:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1 MHz/3 MHz.
2. The emission levels were against the limit of frequency range 9 kHz ~ 30 MHz:

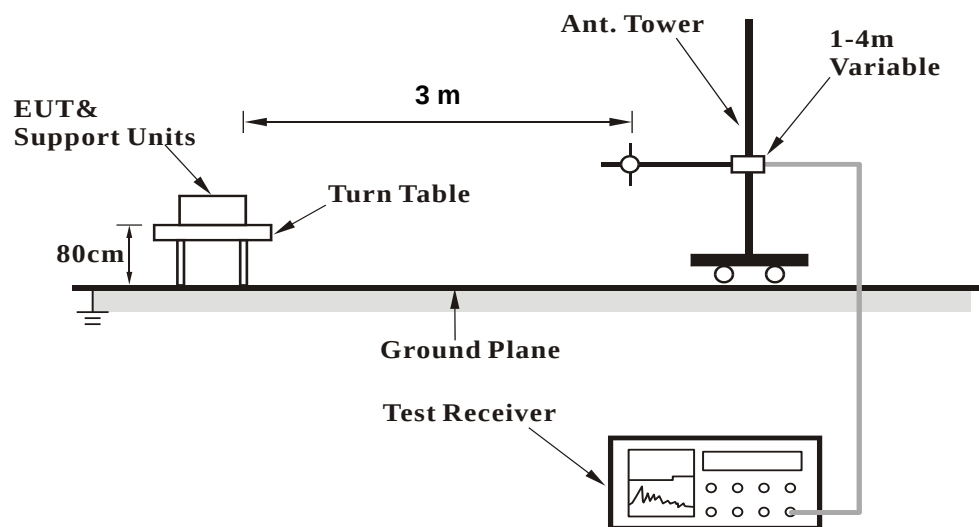
The amplitude of spurious emissions attenuated more than 20 dB below the permissible value is not required to be report.

### 4.2.3 Deviation from Test Standard

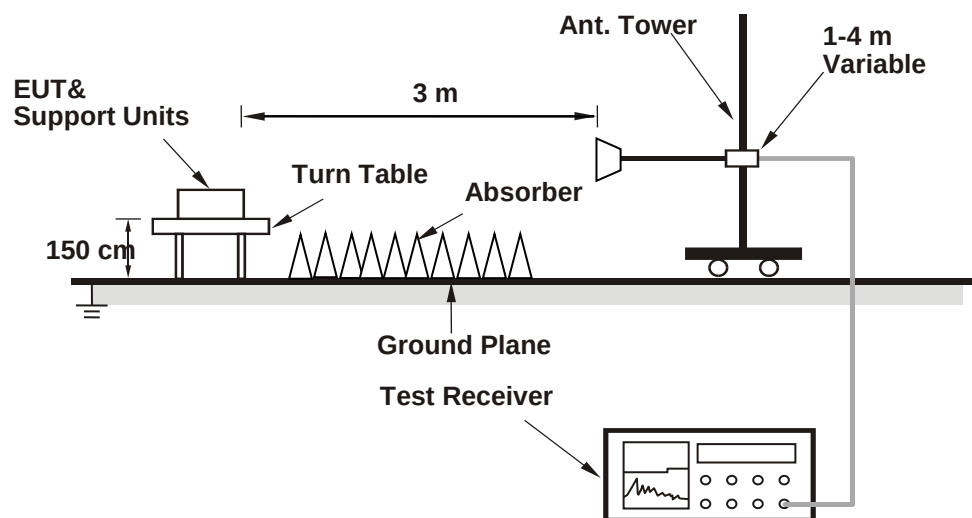
No deviation.

#### 4.2.4 Test Setup

##### <Radiated Emission below or equal 1 GHz>



##### <Radiated Emission above 1 GHz>



For the actual test configuration, please refer to the attached file (Test Setup Photo).

# 4.2.5 Test Results

WCDMA:

Low Channel

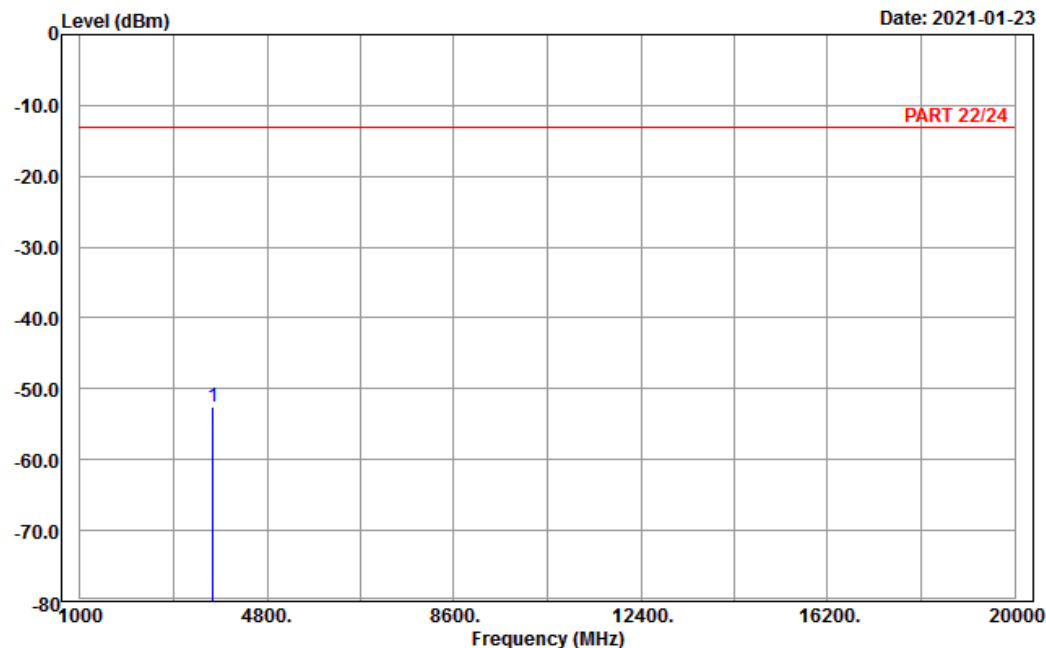


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A D T

Data: 3

Date: 2021-01-23



Site : 966 chamber 1  
Condition: PART 22/24 Horizontal  
Remark : Band II\_Link\_L-Ch  
Tested by: Charles Hsiao

|              |        | Read   |        | Limit  | Over   |        |
|--------------|--------|--------|--------|--------|--------|--------|
| Freq         | Level  | Level  | Factor | Line   | Limit  | Remark |
| MHz          | dBm    | dBm    | dB     | dBm    | dB     |        |
| 1 pp 3704.80 | -52.46 | -68.34 | 15.88  | -13.00 | -39.46 | Peak   |

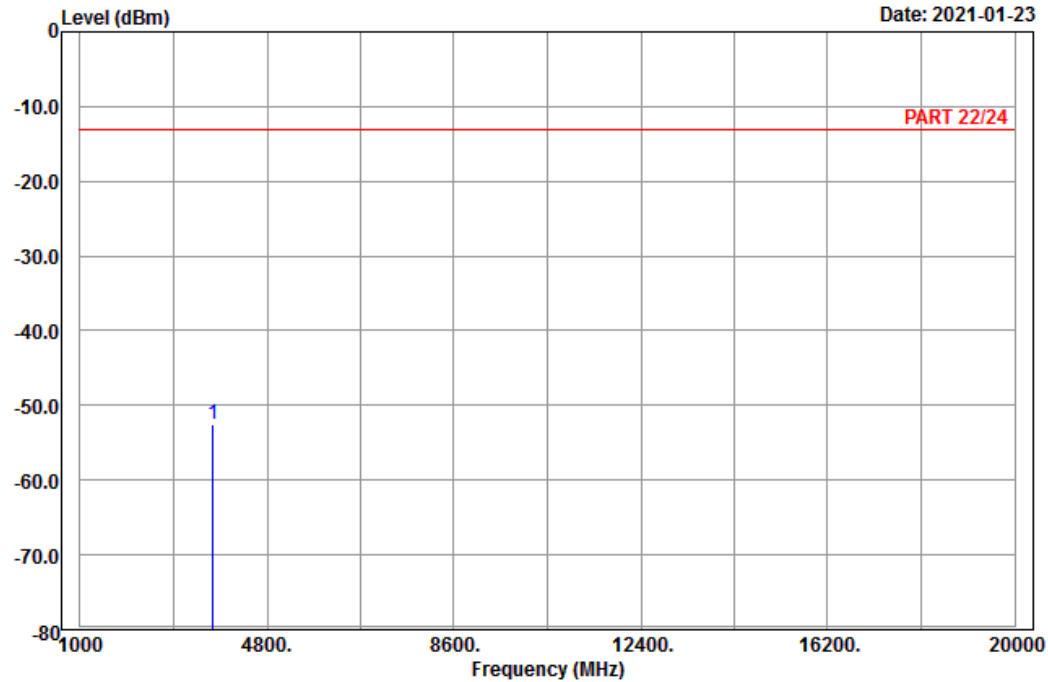


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A D T

Data: 4

Date: 2021-01-23



Site : 966 chamber 1  
Condition: PART 22/24 Vertical  
Remark : Band II\_Link\_L-Ch  
Tested by: Charles Hsiao

| Freq         | Level  | Read   | Factor | Limit  | Over   | Remark |
|--------------|--------|--------|--------|--------|--------|--------|
|              |        | Level  |        | Line   | Limit  |        |
| MHz          | dBm    | dBm    | dB     | dBm    | dB     |        |
| 1 pp 3704.80 | -52.57 | -68.45 | 15.88  | -13.00 | -39.57 | Peak   |

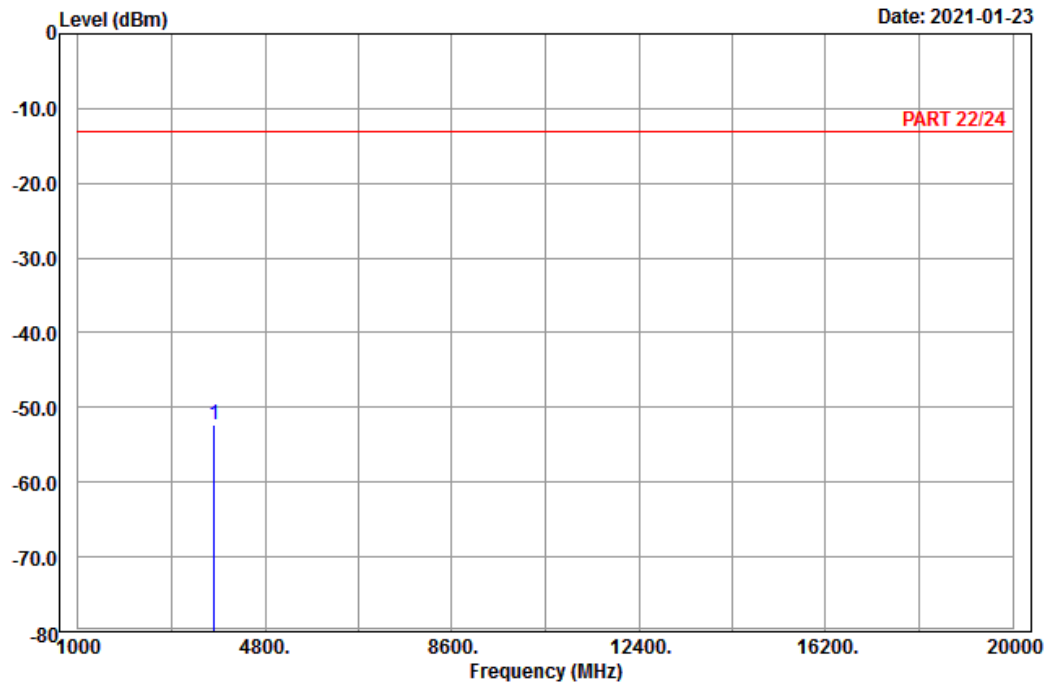
# Middle Channel



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A D T

Data: 9



Site : 966 chamber 1  
Condition: PART 22/24 Horizontal  
Remark : Band II\_Link\_M-Ch  
Tested by: Charles Hsiao

| Freq         | Level  | Read         | Limit | Over   | Remark      |
|--------------|--------|--------------|-------|--------|-------------|
|              |        | Level Factor |       |        |             |
| MHz          | dBm    | dBm          | dB    | dBm    | dB          |
| 1 pp 3760.00 | -52.26 | -68.40       | 16.14 | -13.00 | -39.26 Peak |

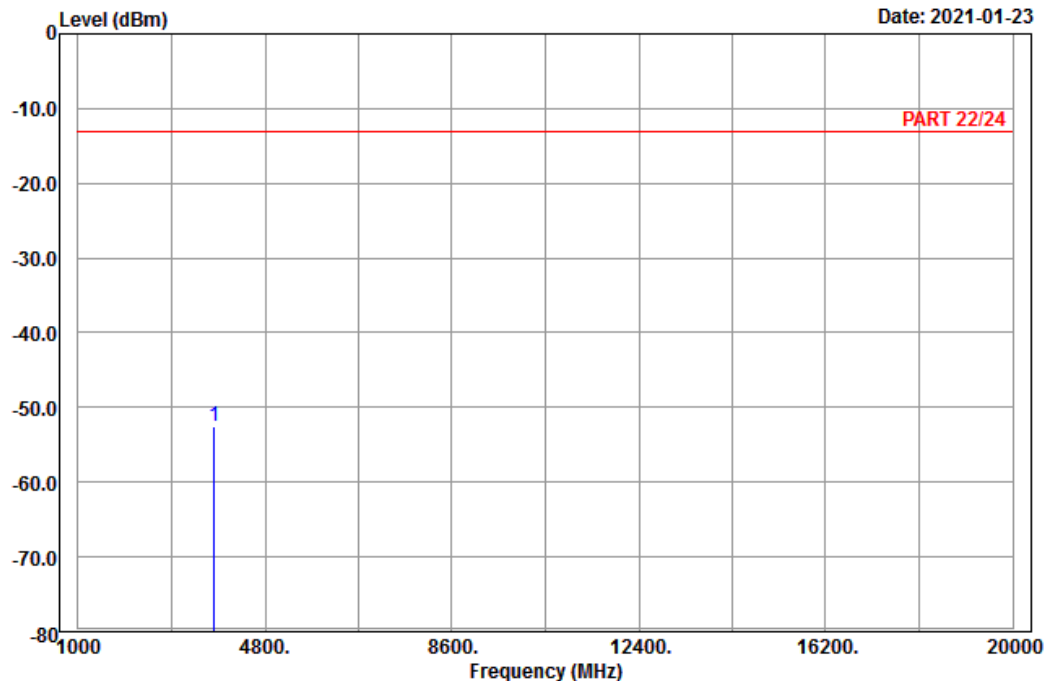


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A D T

Data: 10

Date: 2021-01-23



Site : 966 chamber 1

Condition: PART 22/24 Vertical

Remark : Band II\_Link\_M-Ch

Tested by: Charles Hsiao

|      |       | Read  |        | Limit | Over  |        |
|------|-------|-------|--------|-------|-------|--------|
| Freq | Level | Level | Factor | Line  | Limit | Remark |
| MHz  | dBm   | dBm   | dB     | dBm   | dB    |        |

1 pp 3760.00 -52.45 -68.59 16.14 -13.00 -39.45 Peak

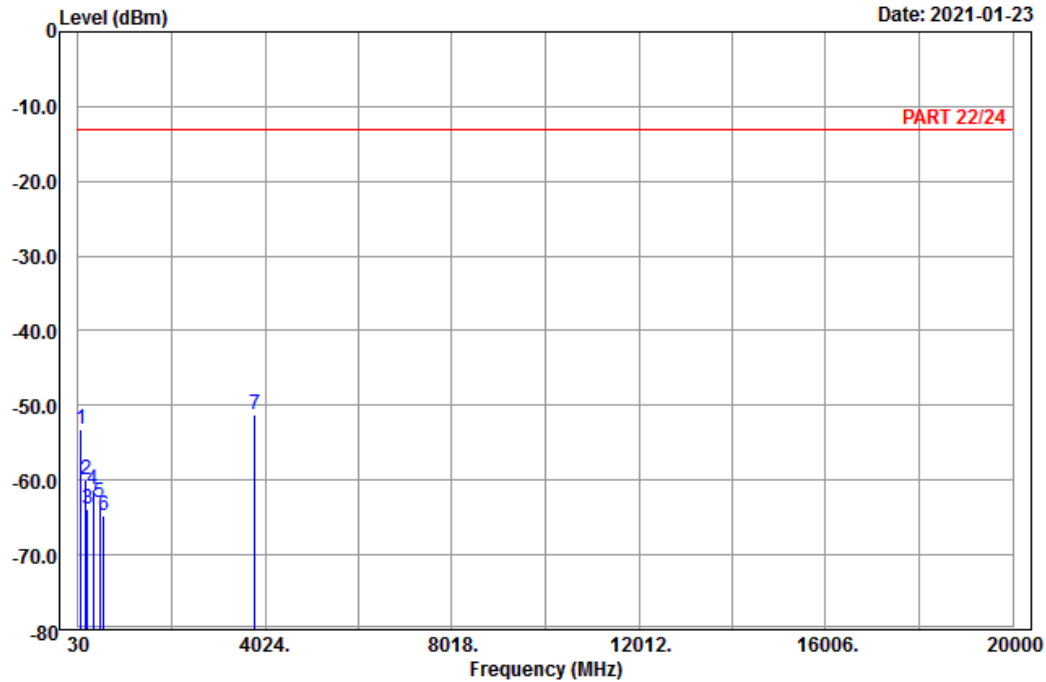
# High Channel



Bureau Veritas Consumer Products Services Ltd.,Taoyuan Branch

A D T

Data: 7



Site : 966 chamber 1  
Condition: PART 22/24 Horizontal  
Remark : Band II\_Link\_H-Ch  
Tested by: Charles Hsiao

|      |         | Read   | Limit  | Over   |                    |
|------|---------|--------|--------|--------|--------------------|
| Freq | Level   | Level  | Factor | Line   | Limit Remark       |
| MHz  | dBm     | dBm    | dB     | dBm    | dB                 |
| 1    | 97.50   | -53.23 | -43.00 | -10.23 | -13.00 -40.23 Peak |
| 2    | 197.13  | -59.91 | -53.86 | -6.05  | -13.00 -46.91 Peak |
| 3    | 233.58  | -63.98 | -58.25 | -5.73  | -13.00 -50.98 Peak |
| 4    | 352.50  | -61.34 | -56.07 | -5.27  | -13.00 -48.34 Peak |
| 5    | 497.40  | -62.90 | -57.70 | -5.20  | -13.00 -49.90 Peak |
| 6    | 583.50  | -64.75 | -64.49 | -0.26  | -13.00 -51.75 Peak |
| 7 pp | 3815.20 | -51.31 | -67.72 | 16.41  | -13.00 -38.31 Peak |

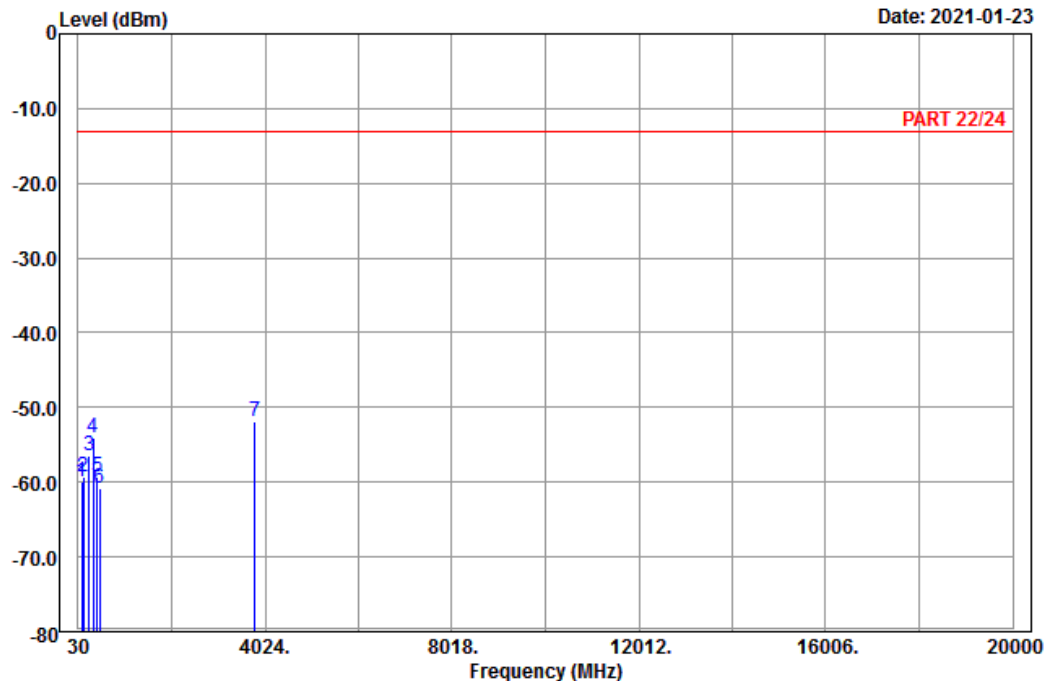


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 8

Date: 2021-01-23



Site : 966 chamber 1  
Condition: PART 22/24 Vertical  
Remark : Band II\_Link\_H-Ch  
Tested by: Charles Hsiao

|      | Freq    | Level  | Read Level | Factor | Limit Line | Over Limit | Remark |
|------|---------|--------|------------|--------|------------|------------|--------|
|      | MHz     | dBm    | dBm        | dB     | dBm        | dB         |        |
| 1    | 107.22  | -59.91 | -50.73     | -9.18  | -13.00     | -46.91     | Peak   |
| 2    | 134.49  | -59.33 | -51.66     | -7.67  | -13.00     | -46.33     | Peak   |
| 3    | 268.41  | -56.41 | -50.73     | -5.68  | -13.00     | -43.41     | Peak   |
| 4    | 357.40  | -54.05 | -49.09     | -4.96  | -13.00     | -41.05     | Peak   |
| 5    | 442.10  | -59.35 | -55.67     | -3.68  | -13.00     | -46.35     | Peak   |
| 6    | 482.70  | -60.81 | -56.02     | -4.79  | -13.00     | -47.81     | Peak   |
| 7 pp | 3815.20 | -51.96 | -68.37     | 16.41  | -13.00     | -38.96     | Peak   |

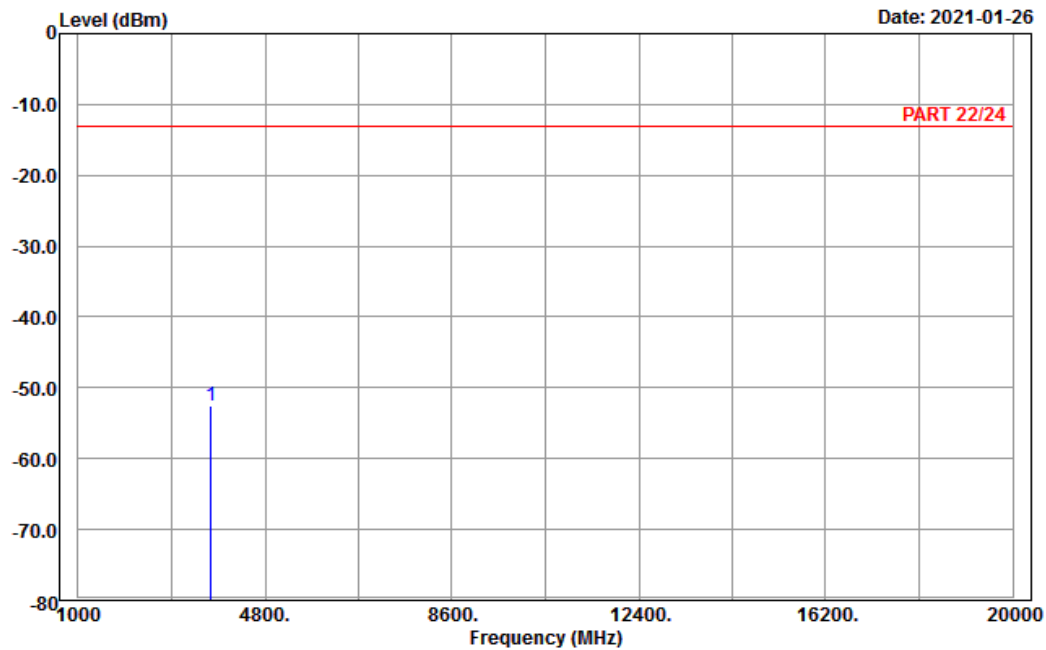
LTE Band 2  
Channel Bandwidth: 1.4 MHz / QPSK  
Low Channel



Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 3



Site : 966 chamber 1  
Condition: PART 22/24 Horizontal  
Remark : LTE\_Band 2\_Link\_L-Ch  
Tested by: Karl Lee

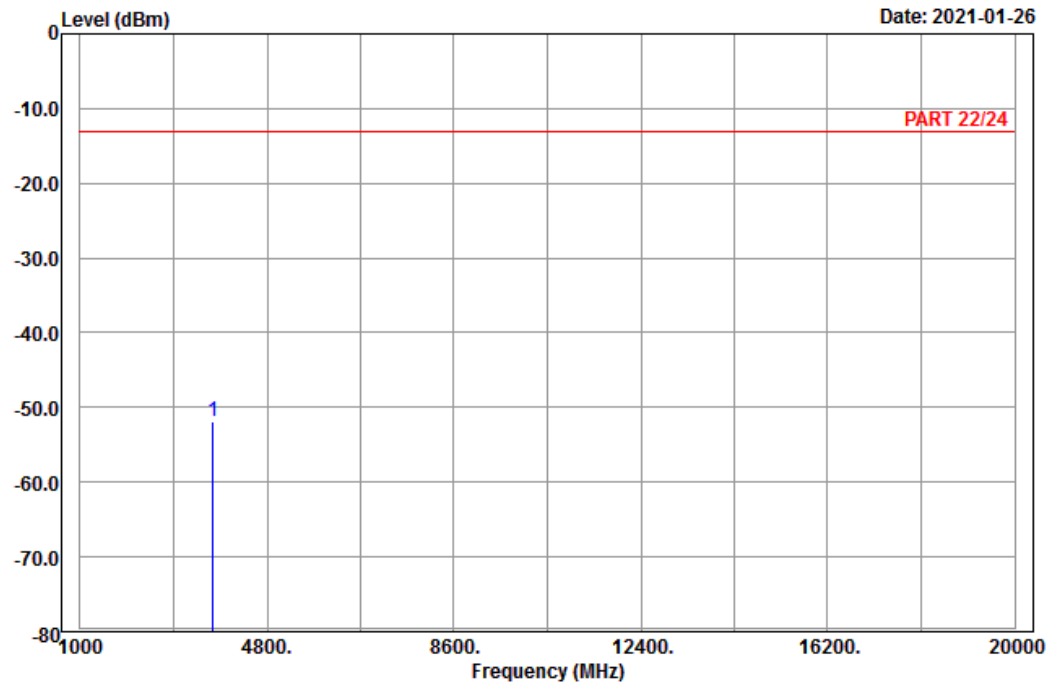
|      | Freq    | Level  | Read<br>Level | Factor | Limit<br>Line | Over<br>Limit | Remark |
|------|---------|--------|---------------|--------|---------------|---------------|--------|
|      | MHz     | dBm    | dBm           | dB     | dBm           | dB            |        |
| 1 pp | 3701.40 | -52.56 | -68.44        | 15.88  | -13.00        | -39.56        | Peak   |



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A D T

Data: 4



Site : 966 chamber 1  
 Condition: PART 22/24 Vertical  
 Remark : LTE\_Band 2\_Link\_L-Ch  
 Tested by: Karl Lee

|              |        | Read   | Limit  | Over   |              |
|--------------|--------|--------|--------|--------|--------------|
| Freq         | Level  | Level  | Factor | Line   | Limit Remark |
| MHz          | dBm    | dBm    | dB     | dBm    | dB           |
| 1 pp 3701.40 | -51.95 | -67.83 | 15.88  | -13.00 | -38.95 Peak  |

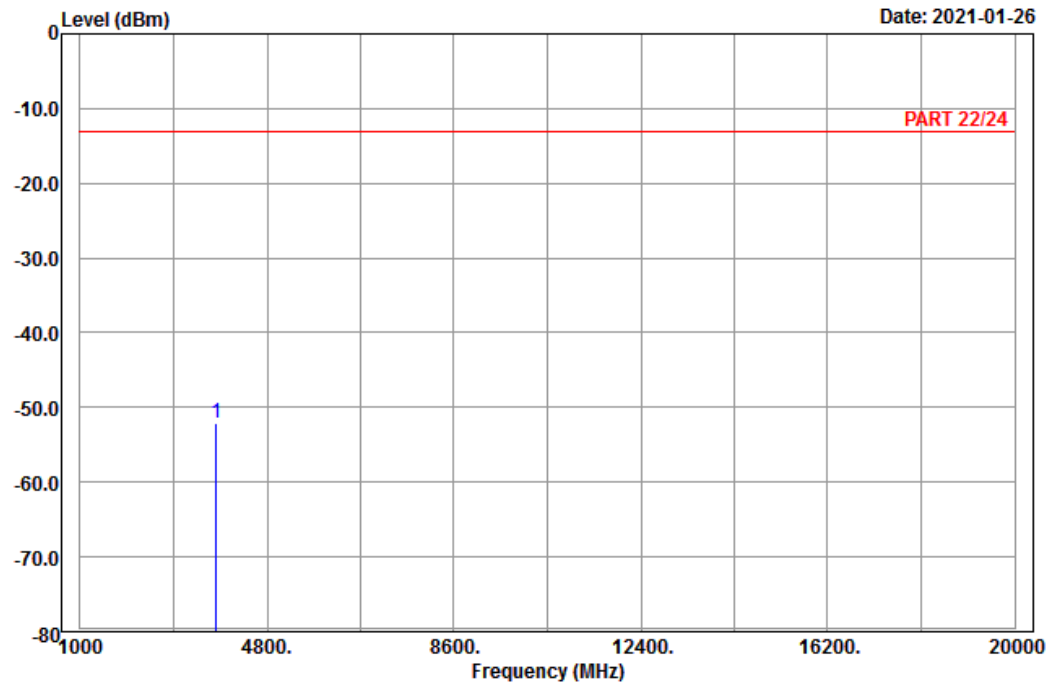
## Middle Channel



Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 3



Site : 966 chamber 1  
 Condition: PART 22/24 Horizontal  
 Remark : LTE\_Band 2\_Link\_M-Ch  
 Tested by: Karl Lee

| Freq         | Level  | Read         | Limit | Over   | Remark      |
|--------------|--------|--------------|-------|--------|-------------|
|              |        | Level Factor |       |        |             |
| MHz          | dBm    | dBm          | dB    | dBm    | dB          |
| 1 pp 3760.00 | -52.11 | -68.25       | 16.14 | -13.00 | -39.11 Peak |

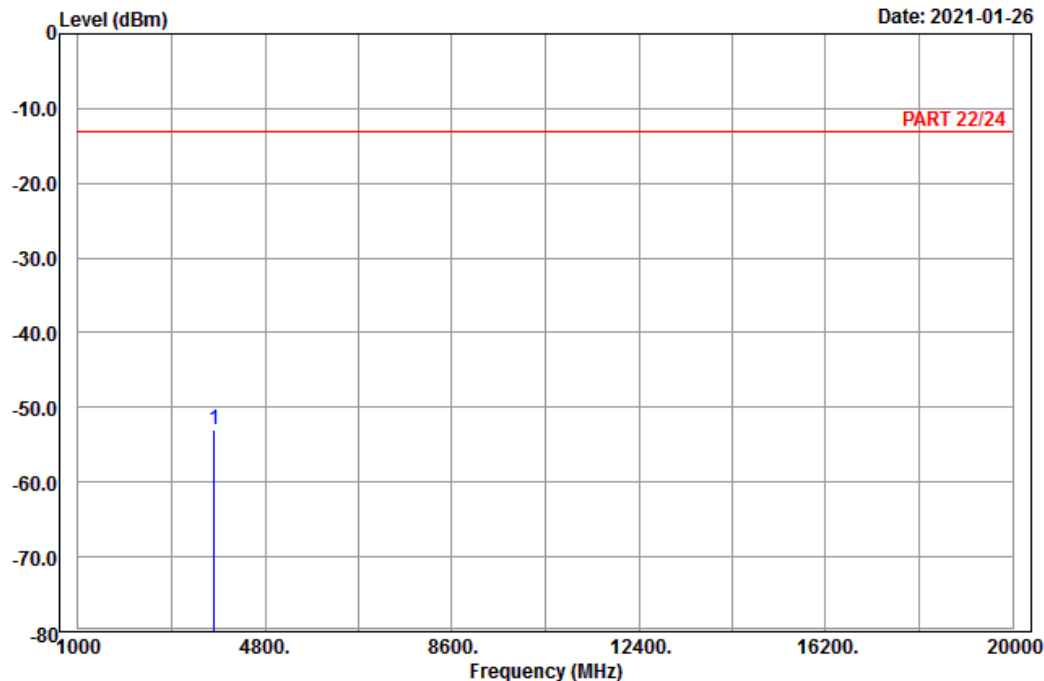


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 4

Date: 2021-01-26



Site : 966 chamber 1

Condition: PART 22/24 Vertical

Remark : LTE\_Band 2\_Link\_M-Ch

Tested by: Karl Lee

| Freq | Level | Read Level | Factor | Limit Line | Over Limit | Remark |
|------|-------|------------|--------|------------|------------|--------|
| MHz  | dBm   | dBm        | dB     | dBm        | dB         |        |

1 pp 3760.00 -53.00 -69.14 16.14 -13.00 -40.00 Peak

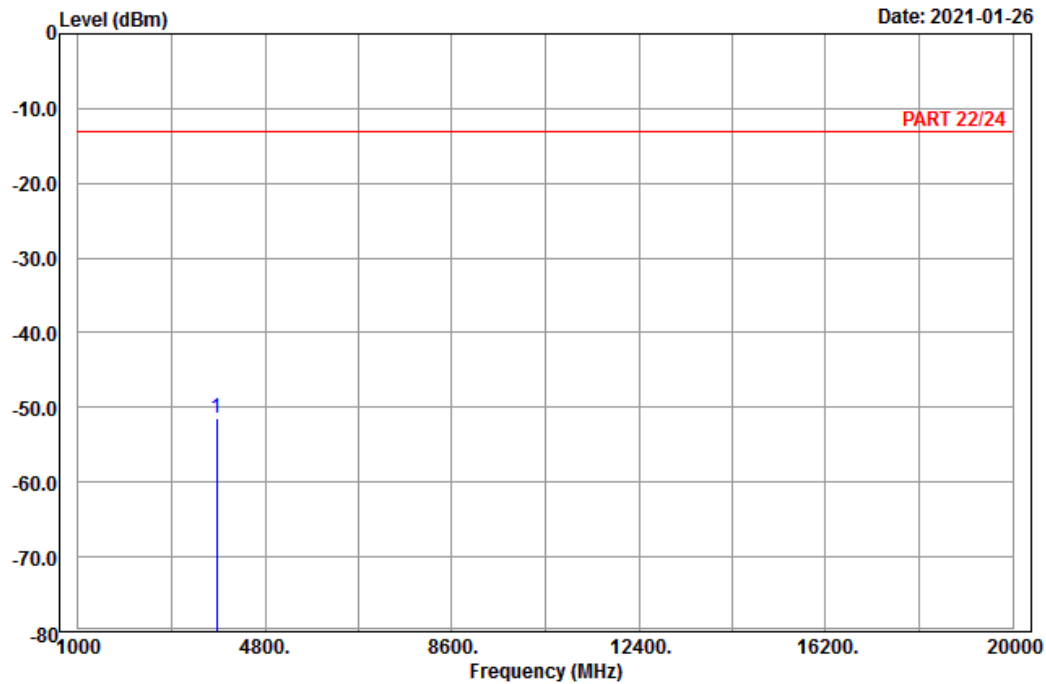
## High Channel



Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 3



Site : 966 chamber 1  
 Condition: PART 22/24 Horizontal  
 Remark : LTE\_Band 2\_Link\_H-Ch  
 Tested by: Karl Lee

|              |        | Read   | Limit  | Over   |              |
|--------------|--------|--------|--------|--------|--------------|
| Freq         | Level  | Level  | Factor | Line   | Limit Remark |
| MHz          | dBm    | dBm    | dB     | dBm    | dB           |
| 1 pp 3818.60 | -51.52 | -68.02 | 16.50  | -13.00 | -38.52 Peak  |

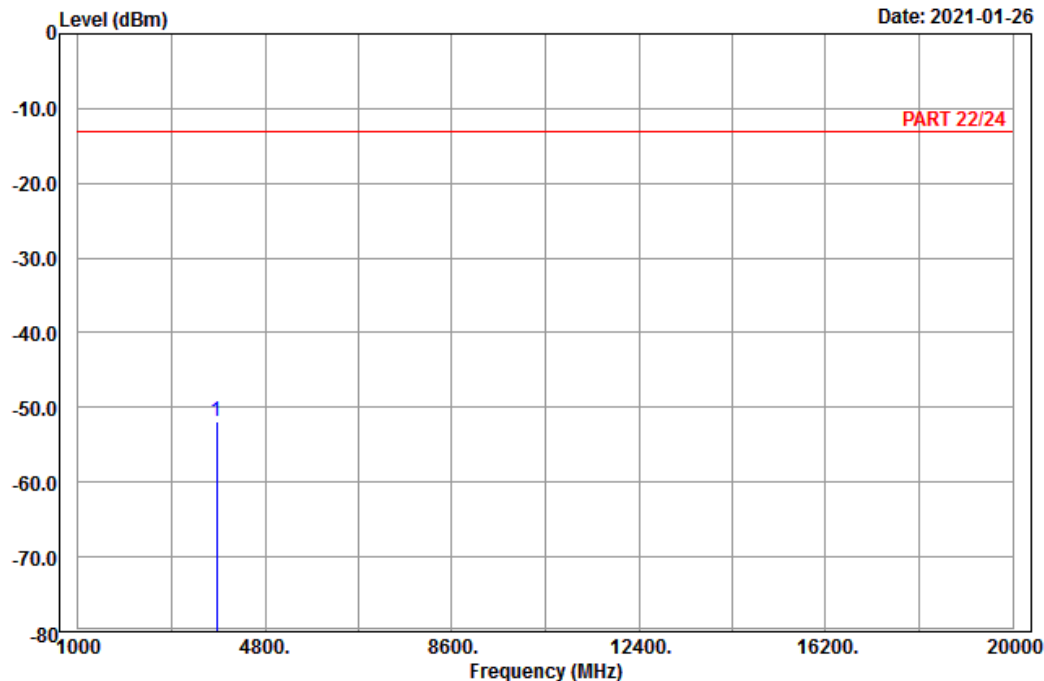


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 4

Date: 2021-01-26



Site : 966 chamber 1

Condition: PART 22/24 Vertical

Remark : LTE\_Band 2\_Link\_H-Ch

Tested by: Karl Lee

| Freq | Level | Read  | Limit | Over  |        |
|------|-------|-------|-------|-------|--------|
| MHz  | dBm   | Level | Line  | Limit | Remark |
|      |       | dBm   | dB    | dBm   | dB     |

1 pp 3818.60 -51.94 -68.44 16.50 -13.00 -38.94 Peak

Channel Bandwidth: 5 MHz / QPSK

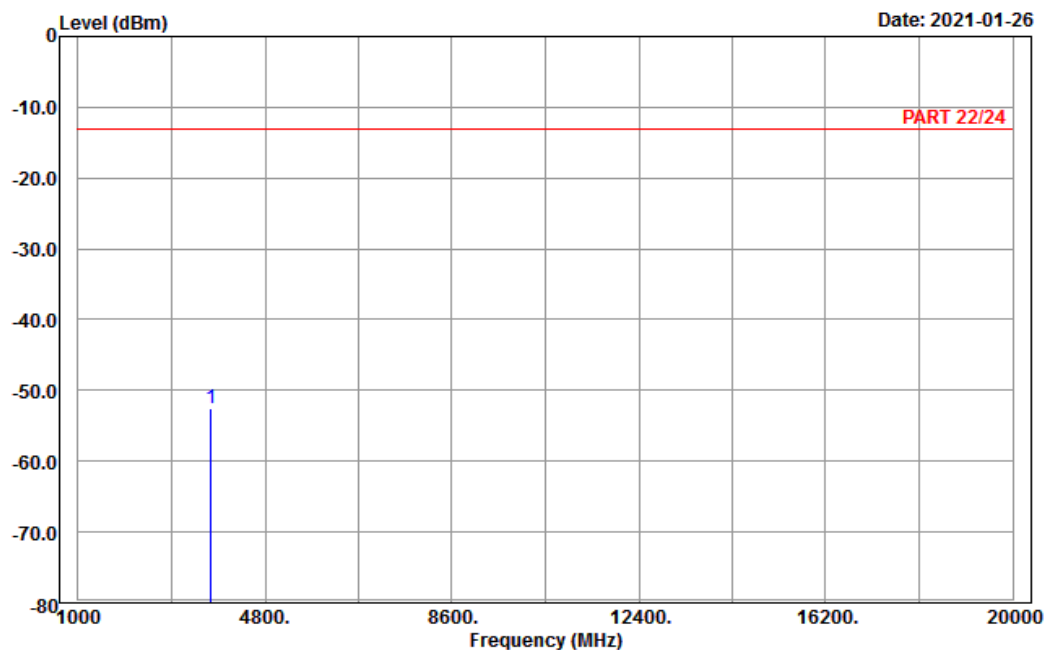
Low Channel



Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 3



Site : 966 chamber 1  
 Condition: PART 22/24 Horizontal  
 Remark : LTE\_Band 2\_Link\_L-Ch  
 Tested by: Karl Lee

|      | Freq    | Level  | Read Level | Factor | Limit  | Over Limit | Remark |
|------|---------|--------|------------|--------|--------|------------|--------|
|      | MHz     | dBm    | dBm        | dB     | dBm    | dB         |        |
| 1 pp | 3705.00 | -52.53 | -68.41     | 15.88  | -13.00 | -39.53     | Peak   |

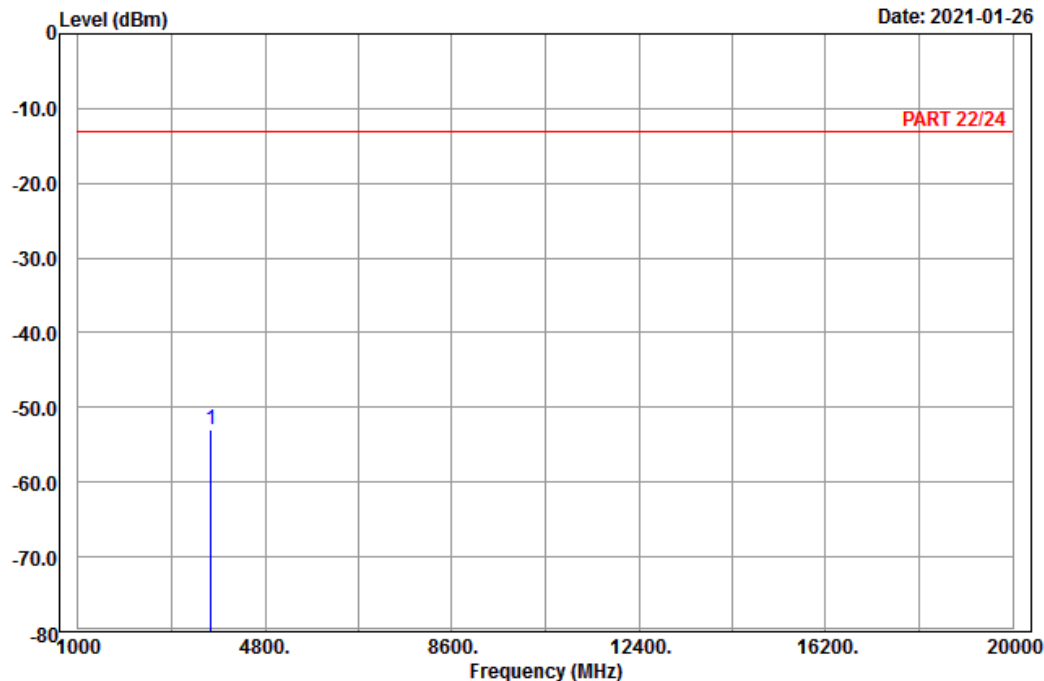


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 4

Date: 2021-01-26



Site : 966 chamber 1

Condition: PART 22/24 Vertical

Remark : LTE\_Band 2\_Link\_L-Ch

Tested by: Karl Lee

| Freq | Level | Read Level | Factor | Limit Line | Over Limit | Remark |
|------|-------|------------|--------|------------|------------|--------|
| MHz  | dBm   | dBm        | dB     | dBm        | dB         |        |

1 pp 3705.00 -52.94 -68.82 15.88 -13.00 -39.94 Peak

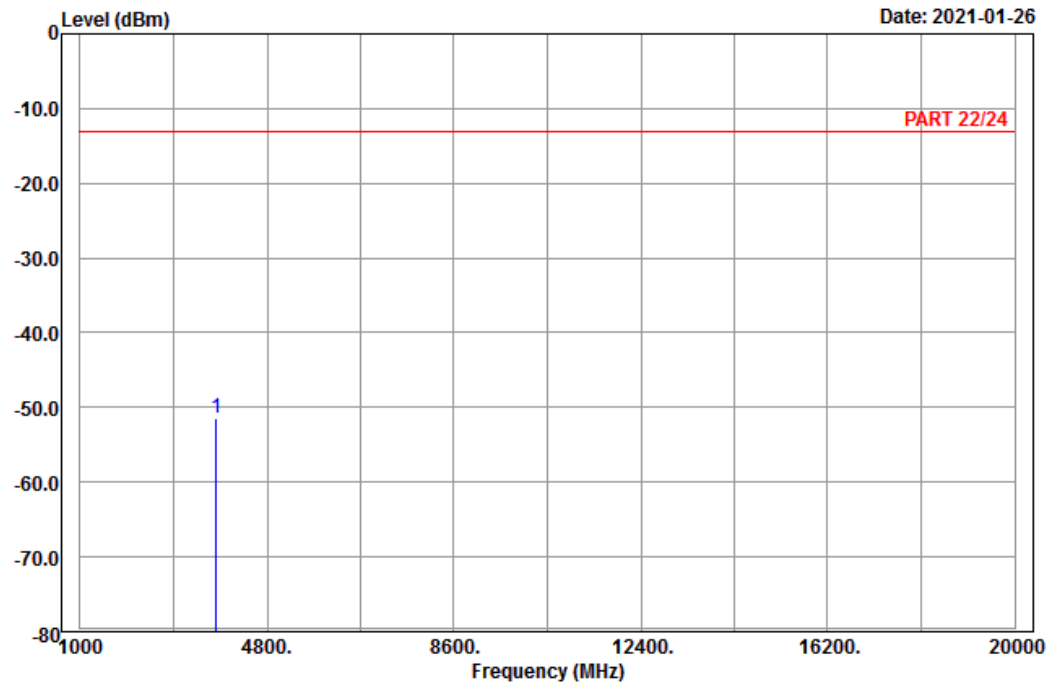
## Middle Channel



Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 3



Site : 966 chamber 1  
 Condition: PART 22/24 Horizontal  
 Remark : LTE\_Band 2\_Link\_M-Ch  
 Tested by: Karl Lee

|              |        | Read   | Limit  | Over   |              |
|--------------|--------|--------|--------|--------|--------------|
| Freq         | Level  | Level  | Factor | Line   | Limit Remark |
| MHz          | dBm    | dBm    | dB     | dBm    | dB           |
| 1 pp 3760.00 | -51.52 | -67.66 | 16.14  | -13.00 | -38.52 Peak  |

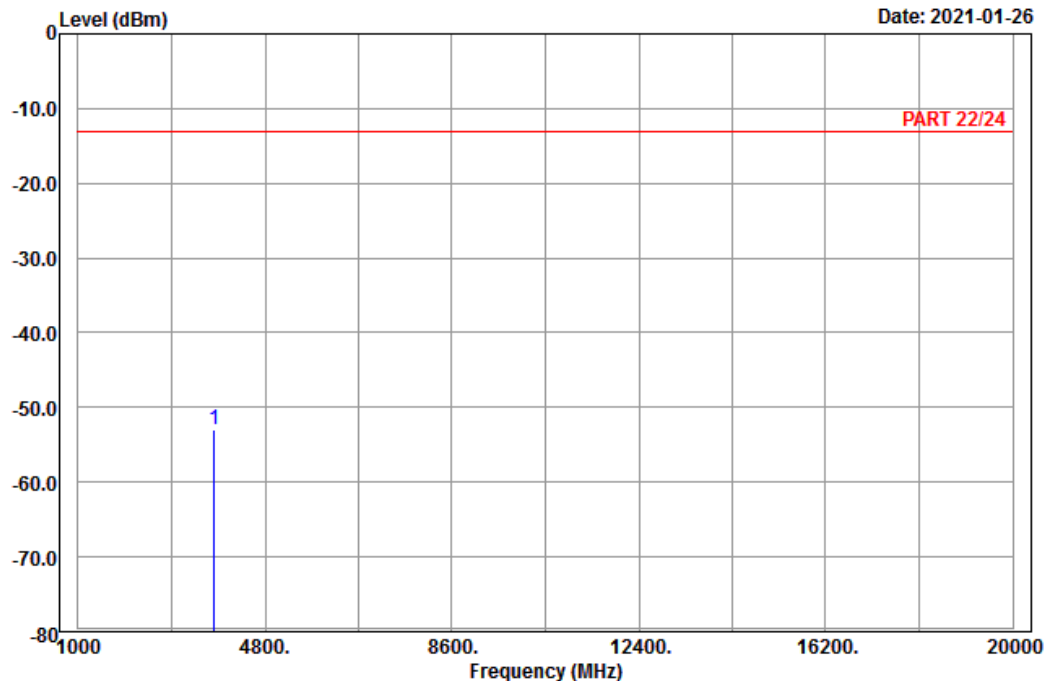


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 4

Date: 2021-01-26



Site : 966 chamber 1

Condition: PART 22/24 Vertical

Remark : LTE\_Band 2\_Link\_M-Ch

Tested by: Karl Lee

| Freq | Level | Read Level | Factor | Limit Line | Over Limit | Remark |
|------|-------|------------|--------|------------|------------|--------|
| MHz  | dBm   | dBm        | dB     | dBm        | dB         |        |

1 pp 3760.00 -52.87 -69.01 16.14 -13.00 -39.87 Peak

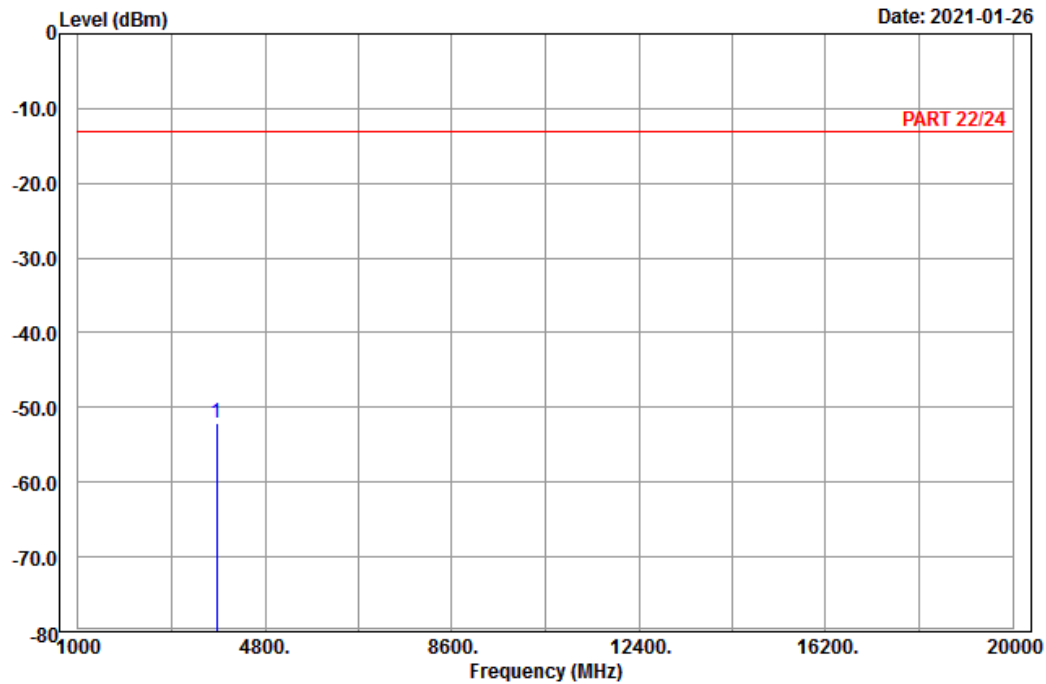
## High Channel



Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 3



Site : 966 chamber 1  
 Condition: PART 22/24 Horizontal  
 Remark : LTE\_Band 2\_Link\_H-Ch  
 Tested by: Karl Lee

|   | Freq | Level   | Read<br>Level | Factor | Limit<br>Line | Over<br>Limit | Remark      |
|---|------|---------|---------------|--------|---------------|---------------|-------------|
|   | MHz  | dBm     | dBm           | dB     | dBm           | dB            |             |
| 1 | pp   | 3815.00 | -52.20        | -68.61 | 16.41         | -13.00        | -39.20 Peak |

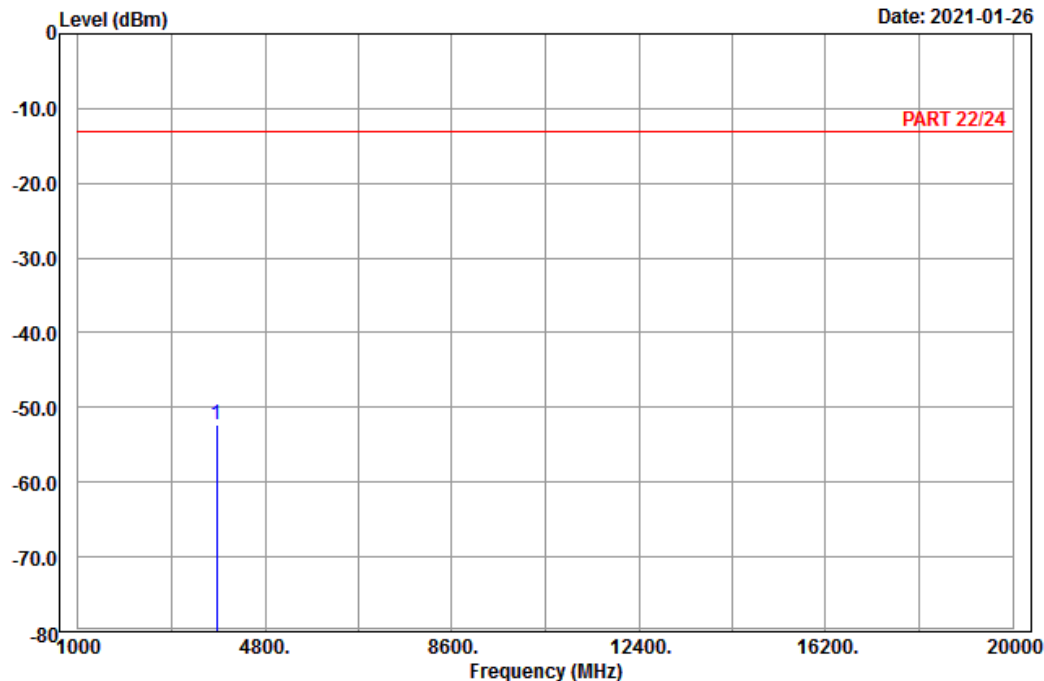


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 4

Date: 2021-01-26



Site : 966 chamber 1

Condition: PART 22/24 Vertical

Remark : LTE\_Band 2\_Link\_H-Ch

Tested by: Karl Lee

| Freq | Level | Read   | Limit | Over  |        |
|------|-------|--------|-------|-------|--------|
| MHz  | dBm   | Level  | Line  | Limit | Remark |
|      |       | Factor |       |       |        |
|      |       | dB     |       |       |        |

1 pp 3815.00 -52.35 -68.76 16.41 -13.00 -39.35 Peak

Channel Bandwidth: 20 MHz / QPSK  
Low Channel

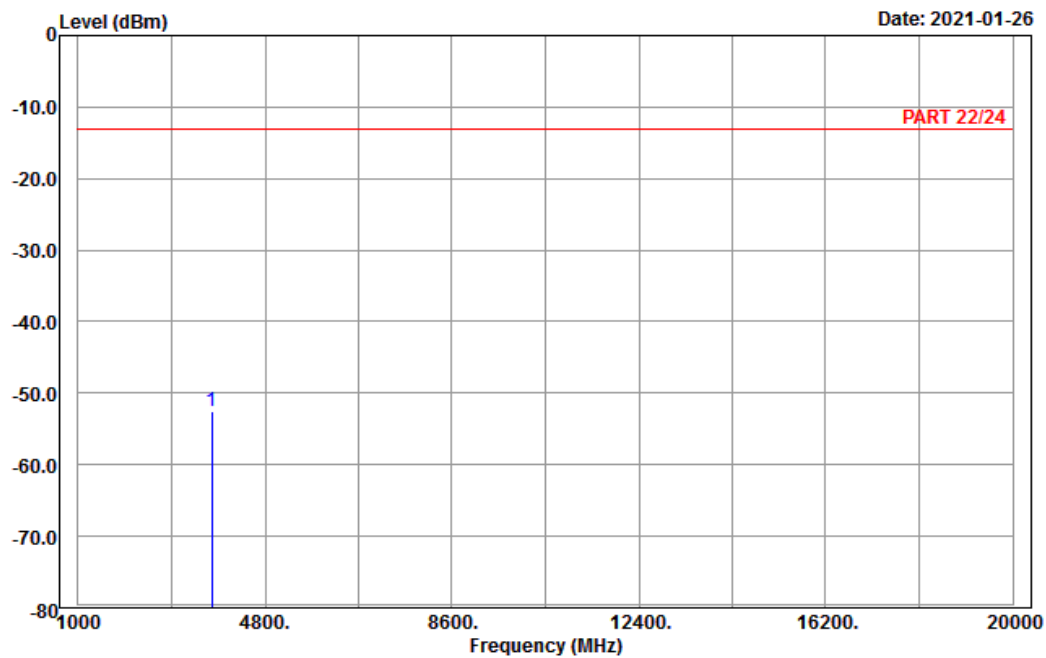


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 3

Date: 2021-01-26



Site : 966 chamber 1  
Condition: PART 22/24 Horizontal  
Remark : LTE\_Band 2\_Link\_L-Ch  
Tested by: Karl Lee

|      | Freq    | Level  | Read<br>Level | Factor | Limit<br>Line | Over<br>Limit | Remark |
|------|---------|--------|---------------|--------|---------------|---------------|--------|
|      | MHz     | dBm    | dBm           | dB     | dBm           | dB            |        |
| 1 pp | 3720.00 | -52.43 | -68.40        | 15.97  | -13.00        | -39.43        | Peak   |

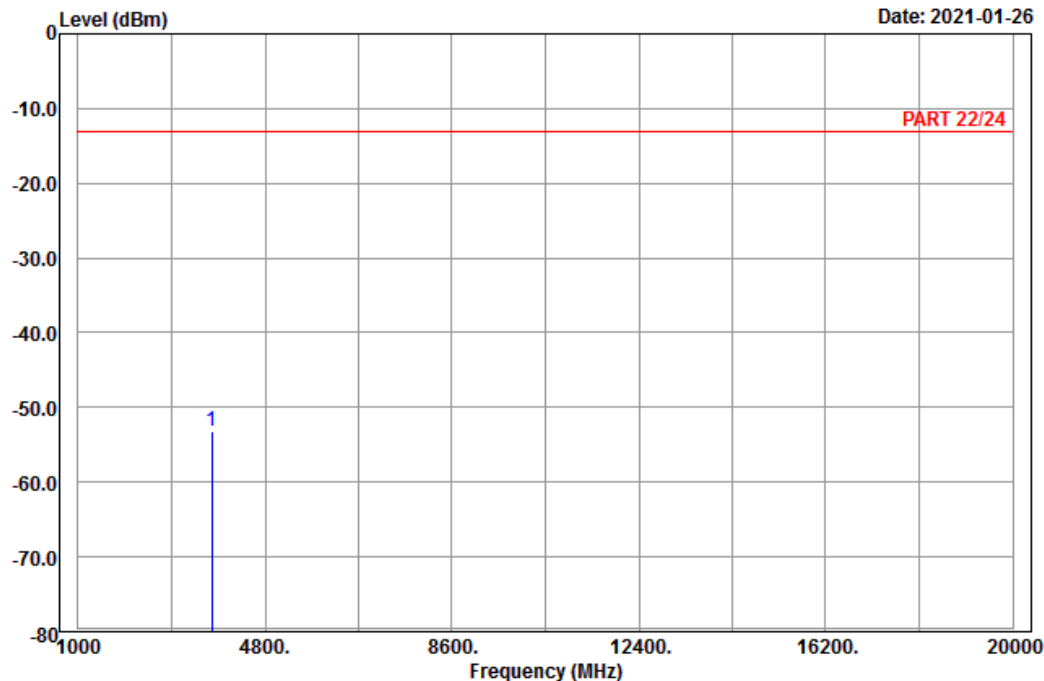


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 4

Date: 2021-01-26



Site : 966 chamber 1

Condition: PART 22/24 Vertical

Remark : LTE\_Band 2\_Link\_L-Ch

Tested by: Karl Lee

|      | Freq    | Level  | Read<br>Level | Factor | Limit<br>Line | Over<br>Limit | Remark |
|------|---------|--------|---------------|--------|---------------|---------------|--------|
|      | MHz     | dBm    | dBm           | dB     | dBm           | dB            |        |
| 1 pp | 3720.00 | -53.08 | -69.05        | 15.97  | -13.00        | -40.08        | Peak   |

Middle Channel

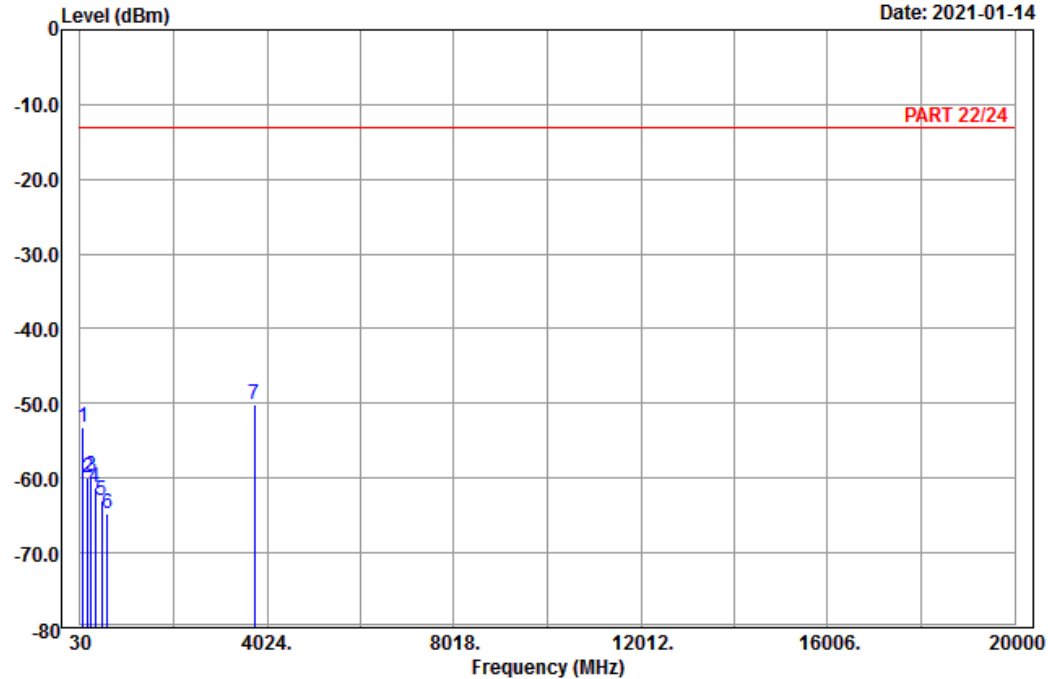


# Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 13

Date: 2021-01-14



Site : 966 chamber 1  
Condition: PART 22/24 Horizontal  
Remark : LTE\_Band 2\_Link\_M-Ch  
Tested by: Karl Lee

|      | Freq    | Level  | Read Level | Factor | Limit Line | Over Limit | Remark |
|------|---------|--------|------------|--------|------------|------------|--------|
|      | MHz     | dBm    | dBm        | dB     | dBm        | dB         |        |
| 1    | 97.50   | -53.23 | -43.00     | -10.23 | -13.00     | -40.23     | Peak   |
| 2    | 197.13  | -59.91 | -53.86     | -6.05  | -13.00     | -46.91     | Peak   |
| 3    | 263.55  | -59.74 | -54.11     | -5.63  | -13.00     | -46.74     | Peak   |
| 4    | 352.50  | -61.34 | -56.07     | -5.27  | -13.00     | -48.34     | Peak   |
| 5    | 497.40  | -62.90 | -57.70     | -5.20  | -13.00     | -49.90     | Peak   |
| 6    | 608.70  | -64.70 | -65.03     | 0.33   | -13.00     | -51.70     | Peak   |
| 7 pp | 3760.00 | -50.05 | -66.19     | 16.14  | -13.00     | -37.05     | Peak   |

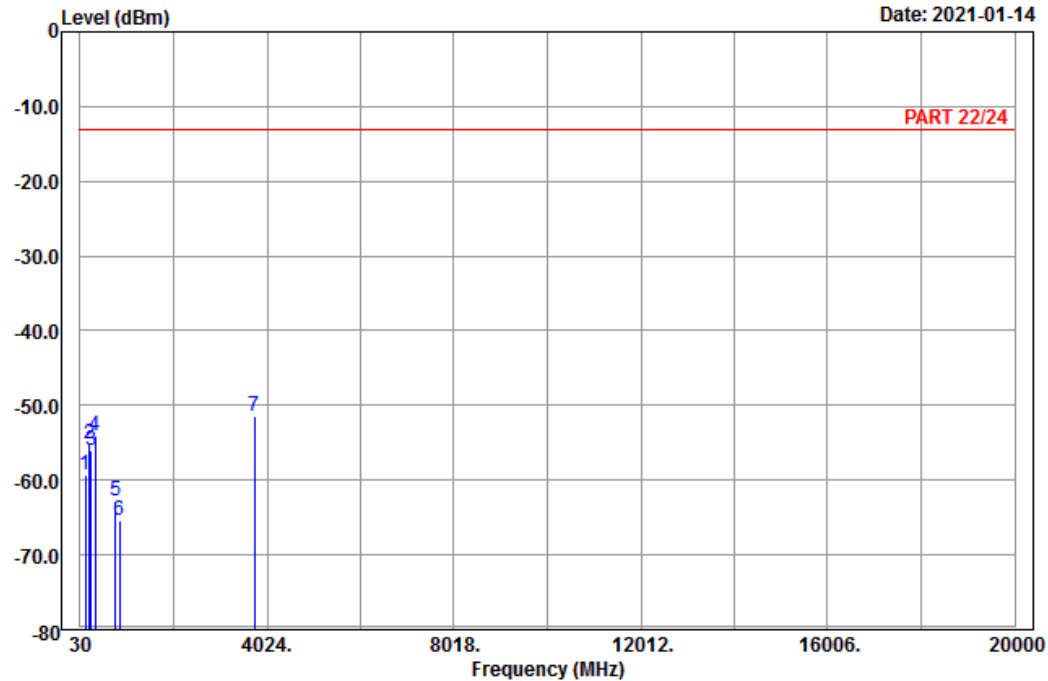


# Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 14

Date: 2021-01-14



Site : 966 chamber 1  
Condition: PART 22/24 Vertical  
Remark : LTE\_Band 2\_Link\_M-Ch  
Tested by: Karl Lee

|      | Freq    | Level  | Read Level | Factor | Limit Line | Over Limit | Remark |
|------|---------|--------|------------|--------|------------|------------|--------|
|      | MHz     | dBm    | dBm        | dB     | dBm        | dB         |        |
| 1    | 134.49  | -59.33 | -51.66     | -7.67  | -13.00     | -46.33     | Peak   |
| 2    | 224.94  | -55.19 | -49.34     | -5.85  | -13.00     | -42.19     | Peak   |
| 3    | 266.52  | -56.03 | -50.37     | -5.66  | -13.00     | -43.03     | Peak   |
| 4    | 357.40  | -54.05 | -49.09     | -4.96  | -13.00     | -41.05     | Peak   |
| 5    | 789.30  | -62.68 | -63.99     | 1.31   | -13.00     | -49.68     | Peak   |
| 6    | 880.30  | -65.32 | -67.65     | 2.33   | -13.00     | -52.32     | Peak   |
| 7 pp | 3760.00 | -51.37 | -67.51     | 16.14  | -13.00     | -38.37     | Peak   |

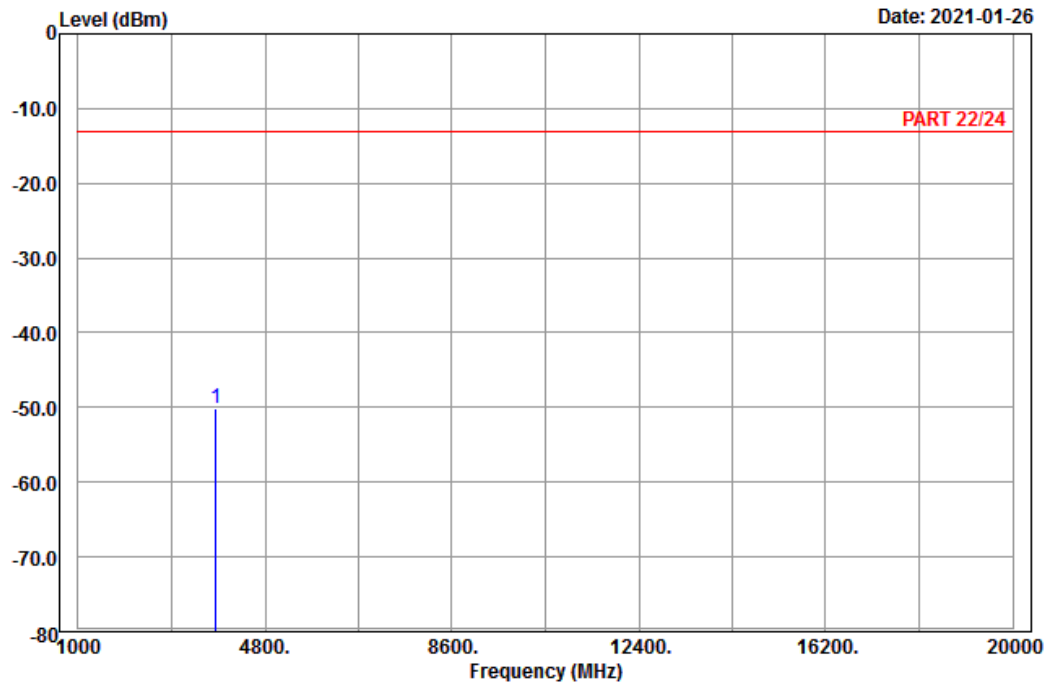
## High Channel



Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 3



Site : 966 chamber 1  
 Condition: PART 22/24 Horizontal  
 Remark : LTE\_Band 2\_Link\_H-Ch  
 Tested by: Karl Lee

| Freq         | Level  | Read   | Limit | Over   | Remark      |
|--------------|--------|--------|-------|--------|-------------|
|              |        | Level  |       |        |             |
| MHz          | dBm    | dBm    | dB    | dB     |             |
| 1 pp 3800.00 | -50.13 | -66.54 | 16.41 | -13.00 | -37.13 Peak |

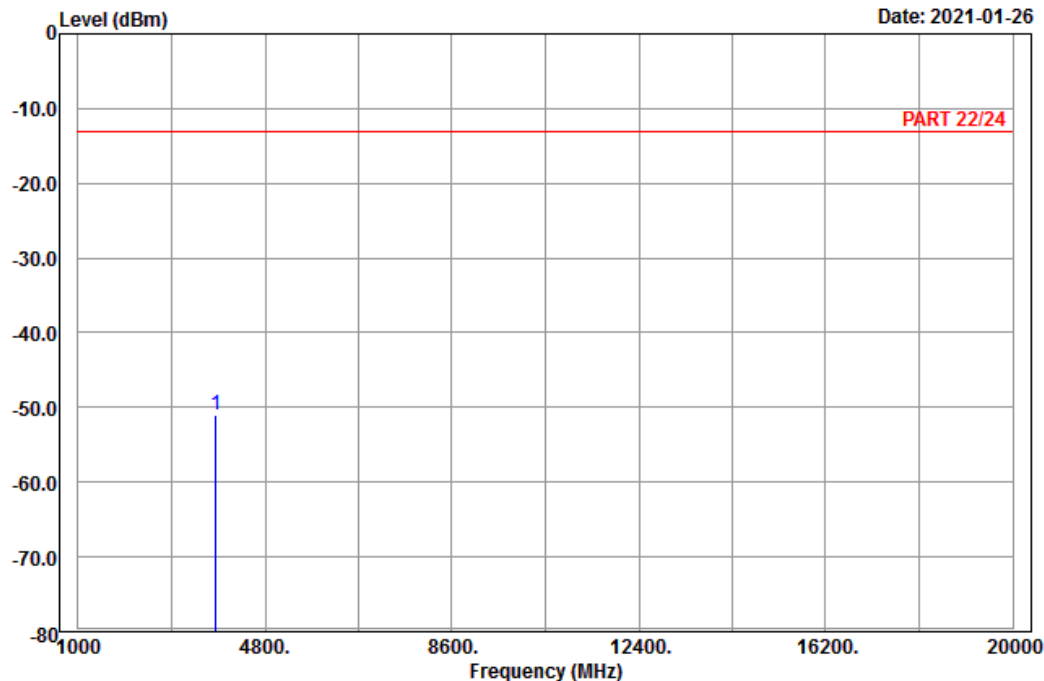


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 4

Date: 2021-01-26



Site : 966 chamber 1

Condition: PART 22/24 Vertical

Remark : LTE\_Band 2\_Link\_H-Ch

Tested by: Karl Lee

| Freq | Level | Read   | Limit | Over  |        |
|------|-------|--------|-------|-------|--------|
| MHz  | dBm   | Level  | Line  | Limit | Remark |
|      |       | Factor |       |       |        |
|      |       | dB     |       | dB    |        |

1 pp 3800.00 -51.06 -67.47 16.41 -13.00 -38.06 Peak

## 5 Pictures of Test Arrangements

Please refer to the attached file (Test Setup Photo).

## Appendix – Information of the Testing Laboratories

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are FCC recognized accredited test firms and accredited according to ISO/IEC 17025.

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The address and road map of all our labs can be found in our web site also.

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