

# FCC TEST REPORT

## (PART 22)

|            |                                                      |
|------------|------------------------------------------------------|
| Applicant: | NCXX Inc.                                            |
| Address:   | 2-32-1,Kunuginome,Hanamaki,Iwate-Pref 025-0323,Japan |

|                           |                                                      |
|---------------------------|------------------------------------------------------|
| Manufacturer or Supplier: | NCXX Inc.                                            |
| Address:                  | 2-32-1,Kunuginome,Hanamaki,Iwate-Pref 025-0323,Japan |
| Product:                  | LTE USB Modem                                        |
| Brand Name:               | NCXX Inc.                                            |
| Model Name:               | UX302NC-R                                            |
| FCC ID:                   | SLKUX302NC-R                                         |
| Date of tests:            | Sep. 15, 2020 ~ Sep. 27, 2020                        |

The tests have been carried out according to the requirements of the following standard:

- |                                                            |                                                      |
|------------------------------------------------------------|------------------------------------------------------|
| <input checked="" type="checkbox"/> FCC PART 22, Subpart H | <input checked="" type="checkbox"/> FCC Part 2       |
| <input checked="" type="checkbox"/> ANSI/TIA/EIA-603-D     | <input checked="" type="checkbox"/> ANSI C63.26-2015 |
| <input checked="" type="checkbox"/> ANSI/TIA/EIA-603-E     |                                                      |

CONCLUSION: The submitted sample was found to COMPLY with the test requirement

|                                                                                                            |                                                                                                              |
|------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Prepared by Alex Chen<br>Engineer / Mobile Department                                                      | Approved by Luke Lu<br>Manager / Mobile Department                                                           |
| <br>Date: Sep. 28, 2020 | <br>Date: Sep. 28, 2020 |

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**BUREAU  
VERITAS**

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|          |                                                                                                 |           |
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## RELEASE CONTROL RECORD

| ISSUE NO.      | REASON FOR CHANGE                                                                                                                                                   | DATE ISSUED   |
|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| RF200914W002-1 | Based on the original product, In this report verify RSE worst case, power & ERP date. Other test data re-use original test report FG6D1201 (FCC ID: SLKUX302NC-R). | Sep. 28, 2020 |

## 1 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

| APPLIED STANDARD: FCC Part 22 & Part 2 |                              |            |
|----------------------------------------|------------------------------|------------|
| STANDARD SECTION                       | TEST TYPE                    | RESULT     |
| 2.1046<br>22.913 (a)                   | Effective Radiated Power     | Compliance |
| 2.1055<br>22.355                       | Frequency Stability          | See Note   |
| 2.1049<br>22.917 (b)                   | Occupied Bandwidth           | See Note   |
| 22.913 (d)                             | Peak to average ratio*       | See Note   |
| 22.917                                 | Band Edge Measurements       | See Note   |
| 2.1051<br>22.917                       | Conducted Spurious Emissions | See Note   |
| 2.1053<br>22.917                       | Radiated Spurious Emissions  | Compliance |

\* Refer to KDB 971168 D01 Power Meas License Digital Systems v03r01.

Note: Test data re-use from certified Report FC6D1201, more details please refer test report FG6D1201 (FCC ID: SLKUX302NC-R).

## 1.1 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                         | UNCERTAINTY           |
|-------------------------------------|-----------------------|
| Maximum Peak Output Power           | $\pm 2.06\text{dB}$   |
| Frequency Stability                 | $\pm 76.97\text{Hz}$  |
| Radiated emissions (30MHz~1GMHz)    | $\pm 4.98\text{dB}$   |
| Radiated emissions (1GMHz ~6GMHz)   | $\pm 4.70\text{dB}$   |
| Radiated emissions (6GMHz ~18GMHz)  | $\pm 4.60\text{dB}$   |
| Radiated emissions (18GMHz ~40GMHz) | $\pm 4.12\text{dB}$   |
| Conducted emissions                 | $\pm 4.01\text{dB}$   |
| Occupied Channel Bandwidth          | $\pm 43.58\text{KHz}$ |
| Band Edge Measurements              | $\pm 4.70\text{dB}$   |
| Peak to average ratio               | $\pm 0.76\text{dB}$   |

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of  $k=2$ .

## 1.2 TEST SITE AND INSTRUMENTS

| Equipment                                   | Manufacturer | Model No.                           | Serial No.                      | Last Cal.   | Next Cal.   |
|---------------------------------------------|--------------|-------------------------------------|---------------------------------|-------------|-------------|
| MXE EMI Receiver                            | KEYSIGHT     | N9038A-544                          | MY54450026                      | Apr. 27,20  | Apr. 26,21  |
| EXA Signal Analyzer                         | KEYSIGHT     | N9010A-526                          | MY54510322                      | Feb. 26,20  | Feb. 25,21  |
| Bilog Antenna                               | ETS-LINDGREN | 3143B                               | 00161965                        | Mar. 27,20  | Mar. 26,21  |
| Horn Antenna<br>(1GHz-18GHz)                | ETS-LINDGREN | 3117                                | 00168692                        | Mar. 27,20  | Mar. 26,21  |
| Horn Antenna<br>(18GHz-40GHz)               | N/A          | QWH-SL-18-40<br>-K-SG/QMS-00<br>361 | 15433                           | Nov. 24, 19 | Nov. 23, 20 |
| Radio<br>Communication<br>Analyzer          | ANRITSU      | MT8820C                             | 6201465426                      | Feb. 27,20  | Feb. 26,21  |
| Signal Pre-Amplifier                        | EMSI         | EMC 9135                            | 980249                          | Jun. 02,20  | Jun. 01,21  |
| Signal Pre-Amplifier                        | EMSI         | EMC 012645B                         | 980257                          | Jun. 02,20  | Jun. 01,21  |
| Signal Pre-Amplifier                        | EMSI         | EMC 184045B                         | 980259                          | Apr. 30,20  | Apr. 29,21  |
| 3m Semi-anechoic<br>Chamber                 | ETS-LINDGREN | 9m*6m*6m                            | Euroshieldpn-<br>CT0001143-1216 | May. 19,20  | May. 18,23  |
| Test Software                               | E3           | V 9.160323                          | N/A                             | N/A         | N/A         |
| Test Software                               | ADT          | ADT_Radiated<br>_V7.6.15.9.2        | N/A                             | N/A         | N/A         |
| 10dB Attenuator                             | JFW/USA      | 50HF-010-SM<br>A                    | 1505                            | Jun. 03,20  | Jun. 02,21  |
| Power Meter                                 | Anritsu      | ML2495A                             | 1506002                         | Feb. 26,20  | Feb. 25,21  |
| Power Sensor                                | Anritsu      | MA2411B                             | 1339352                         | Feb. 26,20  | Feb. 25,21  |
| Humid & Temp<br>Programmable Tester         | Juyi         | ITH-120-45-CP<br>-AR                | IAA1504-001                     | Jun. 02,20  | Jun. 01,21  |
| MXG Analog<br>Microwave<br>Signal Generator | KEYSIGHT     | N5183A                              | MY50143024                      | Mar. 11,20  | Mar. 10,21  |
| Power Divider                               | MCLI/USA     | PS2-15                              | 24880                           | N/A         | N/A         |

**NOTE:** 1. The calibration interval of the above test instruments is 12 months or 36 months and the calibrations are traceable to CEPREI/CHINA, GRGT/CHINA and NIM/CHINA.

2. The test was performed in 3m Semi-anechoic Chamber and RF Oven Room.

3. The horn antenna is used only for the measurement of emission frequency above 1GHz if tested.

4. The FCC Site Registration No. is 525120; The Designation No. is CN1171.

## 2 GENERAL INFORMATION

### 2.1 GENERAL DESCRIPTION OF EUT

|                                 |                                                              |                     |
|---------------------------------|--------------------------------------------------------------|---------------------|
| <b>PRODUCT</b>                  | LTE USB Modem                                                |                     |
| <b>BRAND NAME</b>               | NCXX Inc.                                                    |                     |
| <b>MODEL NAME</b>               | UX302NC-R                                                    |                     |
| <b>NOMINAL VOLTAGE</b>          | DC 5.0V                                                      |                     |
| <b>MODULATION TYPE</b>          | <b>GPRS/EDGE</b>                                             | GMSK, 8PSK          |
|                                 | <b>WCDMA</b>                                                 | BPSK, QPSK          |
| <b>FREQUENCY RANGE</b>          | <b>GPRS/EDGE</b>                                             | 824.2MHz ~ 848.8MHz |
|                                 | <b>WCDMA</b>                                                 | 826.4MHz ~ 846.6MHz |
| <b>MAX. ERP POWER</b>           | <b>GPRS</b>                                                  | 1122mW              |
|                                 | <b>EDGE</b>                                                  | 259mW               |
|                                 | <b>WCDMA</b>                                                 | 144mW               |
| <b>EMISSION DESIGNATOR GOGN</b> | <b>GPRS</b>                                                  | 243KGXW             |
|                                 | <b>EDGE</b>                                                  | 246KG7W             |
|                                 | <b>WCDMA</b>                                                 | 4M17F9W             |
| <b>ANTENNA TYPE</b>             | Fixed Internal Antenna with 1.0dBi gain for GSM 850/WCDMA B5 |                     |
| <b>HW VERSION</b>               | LWDM130A2-1                                                  |                     |
| <b>SW VERSION</b>               | v2.0.0.j                                                     |                     |
| <b>I/O PORTS</b>                | Refer to user's manual                                       |                     |
| <b>CABLE SUPPLIED</b>           | N/A                                                          |                     |

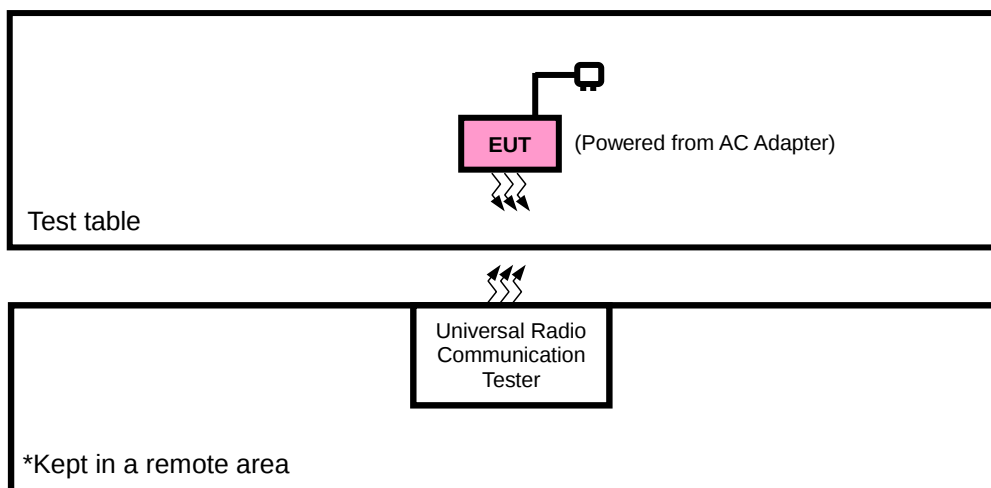
**NOTE:**

- For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.
- The EUT incorporates a SISO function. Physically, the EUT provides one completed transmitter and one receiver.

| MODULATION MODE  | TX FUNCTION |
|------------------|-------------|
| <b>GPRS/EDGE</b> | 1TX/1RX     |
| <b>WCDMA</b>     | 1TX/1RX     |

- For the test results, the EUT had been tested with all conditions. But only the worst case was shown in test report.

## 2.2 CONFIGURATION OF SYSTEM UNDER TEST FOR RADIATION EMISSION



## 2.3 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.

| NO. | PRODUCT   | BRAND    | MODEL NO. | SERIAL NO. | FCC ID |
|-----|-----------|----------|-----------|------------|--------|
| 1   | DC source | LONG WEI | PS-6403D  | 010934269  | N/A    |

| NO. | SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS |
|-----|-----------------------------------------------------|
| 1   | DC Line: Unshielded, Detachable 1.8m                |

## 2.4 TEST ITEM AND TEST CONFIGURATION

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 in ERP and radiated emission was found when positioned on X-plane for GSM /EDGE /WCDMA. Following channel(s) was (were) selected for the final test as listed below:

| EUT<br>CONFIGURE<br>MODE | DESCRIPTION                                    |
|--------------------------|------------------------------------------------|
| A                        | EUT + Adapter + USB Cable with GSM ,WCDMA link |
| B                        | EUT + Battery with GSM ,WCDMA link             |

**GSM MODE**

| EUT<br>CONFIGURE<br>MODE | TEST ITEM         | AVAILABLE CHANNEL | TESTED CHANNEL | MODE      |
|--------------------------|-------------------|-------------------|----------------|-----------|
| B                        | ERP               | 128 to 251        | 128, 189, 251  | GSM, EDGE |
| A                        | RADIATED EMISSION | 128 to 251        | 189            | GSM, EDGE |

**WCDMA MODE**

| EUT<br>CONFIGURE<br>MODE | TEST ITEM         | AVAILABLE CHANNEL | TESTED CHANNEL   | MODE  |
|--------------------------|-------------------|-------------------|------------------|-------|
| B                        | ERP               | 4132 to 4233      | 4132, 4182, 4233 | WCDMA |
| A                        | RADIATED EMISSION | 4132 to 4233      | 4182             | WCDMA |

**Note:** This device was tested under all bandwidths, RB configurations and modulations. The worst case was found in QPSK modulation.

| TEST ITEM         | ENVIRONMENTAL CONDITIONS | INPUT POWER | TESTED BY |
|-------------------|--------------------------|-------------|-----------|
| RADIATED EMISSION | 23deg. C, 70%RH          | DC 5V       | Jace      |
| ERP               | 23deg. C, 70%RH          | DC 5V       | Jace      |

**2.5 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



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## 2.6 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:

**FCC 47 CFR Part 2**

**FCC 47 CFR Part 22**

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

**ANSI/TIA/EIA-603-D**

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

**ANSI C63.26-2015**

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

### 3 TEST TYPES AND RESULTS

#### 3.1 OUTPUT POWER MEASUREMENT

##### 3.1.1 LIMITS OF OUTPUT POWER MEASUREMENT

Mobile / Portable station are limited to 7 watts e.r.p.

##### 3.1.2 TEST PROCEDURES

###### EIRP / ERP MEASUREMENT:

Per KDB 971168 D01 Power Meas License Digital Systems v03r01 or subclause 5.2.5.5 of ANSI C63.26-2015, the relevant equation for determining the ERP or EIRP from the conducted RF output power measured using the guidance provided above is:

$$\text{ERP or EIRP} = P_{\text{Meas}} + G_{\text{T}} - L_{\text{C}}$$

Where:

ERP or EIRP = effective radiated power or equivalent isotropically radiated power, respectively

(expressed in the same units as  $P_{\text{Meas}}$ , typically dBW or dBm);

$P_{\text{Meas}}$  = measured transmitter output power or PSD, in dBm or dBW;

$G_{\text{T}}$  = gain of the transmitting antenna, in dBd (ERP) or dBi (EIRP);

$L_{\text{C}}$  = signal attenuation in the connecting cable between the transmitter and antenna, in dB.

###### CONDUCTED POWER MEASUREMENT:

The EUT was set up for the maximum power with WCDMA 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.

### 3.1.3 TEST SETUP

EIRP / ERP Measurement:

CONDUCTED POWER MEASUREMENT:



### 3.1.4 TEST RESULTS

#### CONDUCTED OUTPUT POWER (dBm)

| Band                  | GSM850 |              |       |
|-----------------------|--------|--------------|-------|
| Channel               | 128    | 190          | 251   |
| Frequency             | 824.2  | 836.6        | 848.8 |
| GPRS (GMSK, 1Tx-slot) | 31.63  | <b>31.65</b> | 31.61 |
| GPRS (GMSK, 2Tx-slot) | 29.53  | 29.55        | 29.51 |
| GPRS (GMSK, 3Tx-slot) | 27.27  | 27.29        | 27.25 |
| GPRS (GMSK, 4Tx-slot) | 25.28  | 25.30        | 25.26 |
| EDGE (8PSK, 1Tx-slot) | 25.26  | 25.28        | 25.24 |
| EDGE (8PSK, 2Tx-slot) | 24.50  | 24.52        | 24.48 |
| EDGE (8PSK, 3Tx-slot) | 22.46  | 22.48        | 22.44 |
| EDGE (8PSK, 4Tx-slot) | 20.57  | 20.59        | 20.55 |

| Band            | WCDMA V      |       |       |
|-----------------|--------------|-------|-------|
| Channel         | 4132         | 4182  | 4233  |
| Rx Channel      | 4357         | 4407  | 4458  |
| Frequency       | 826.4        | 836.4 | 846.6 |
| AMR             | -            | -     | -     |
| RMC 12.2K       | <b>22.74</b> | 22.72 | 22.66 |
| HSDPA Subtest-1 | 21.58        | 21.56 | 21.50 |
| HSDPA Subtest-2 | 21.62        | 21.6  | 21.54 |
| HSDPA Subtest-3 | 20.94        | 20.92 | 20.86 |
| HSDPA Subtest-4 | 21.06        | 21.04 | 20.98 |
| HSUPA Subtest-1 | 21.47        | 21.38 | 21.32 |
| HSUPA Subtest-2 | 19.78        | 19.69 | 19.63 |
| HSUPA Subtest-3 | 20.33        | 20.24 | 20.18 |
| HSUPA Subtest-4 | 19.81        | 19.72 | 19.66 |
| HSUPA Subtest-5 | 21.48        | 21.39 | 21.33 |

## ERP POWER (dBm)

### GPRS

| Channel | Frequency (MHz) | Conducted Power (dBm) | G <sub>T</sub> -L <sub>C</sub> (dB) | ERP (dBm) | ERP (mW)       | Limit (W) |
|---------|-----------------|-----------------------|-------------------------------------|-----------|----------------|-----------|
| 128     | 824.2           | 31.63                 | 1.00                                | 30.48     | 1116.86        | 7         |
| 189     | 836.4           | 31.65                 | 1.00                                | 30.50     | <b>1122.02</b> | 7         |
| 251     | 848.8           | 31.61                 | 1.00                                | 30.46     | 1111.73        | 7         |

**REMARKS:** ERP Output Power (dBm) = EIRP (dBm) -2.15(dB).

### EDGE

| Channel | Frequency (MHz) | Conducted Power (dBm) | G <sub>T</sub> -L <sub>C</sub> (dB) | ERP (dBm) | ERP (mW)      | Limit (W) |
|---------|-----------------|-----------------------|-------------------------------------|-----------|---------------|-----------|
| 128     | 824.2           | 25.26                 | 1.00                                | 24.11     | 257.63        | 7         |
| 189     | 836.4           | 25.28                 | 1.00                                | 24.13     | <b>258.82</b> | 7         |
| 251     | 848.8           | 25.24                 | 1.00                                | 24.09     | 256.45        | 7         |

**REMARKS:** ERP Output Power (dBm) = EIRP (dBm) -2.15(dB).

### WCDMA

| Channel | Frequency (MHz) | Conducted Power (dBm) | G <sub>T</sub> -L <sub>C</sub> (dB) | ERP (dBm) | ERP (mW)      | Limit (W) |
|---------|-----------------|-----------------------|-------------------------------------|-----------|---------------|-----------|
| 4132    | 826.4           | 22.74                 | 1.00                                | 21.59     | <b>144.21</b> | 7         |
| 4182    | 836.4           | 22.72                 | 1.00                                | 21.57     | 143.55        | 7         |
| 4233    | 846.6           | 22.66                 | 1.00                                | 21.51     | 141.58        | 7         |

**REMARKS:** ERP Output Power (dBm) = EIRP (dBm) -2.15(dB).

## 3.2 FREQUENCY STABILITY MEASUREMENT

### 3.2.1 LIMITS OF FREQUENCY STABILITY MEASUREMENT

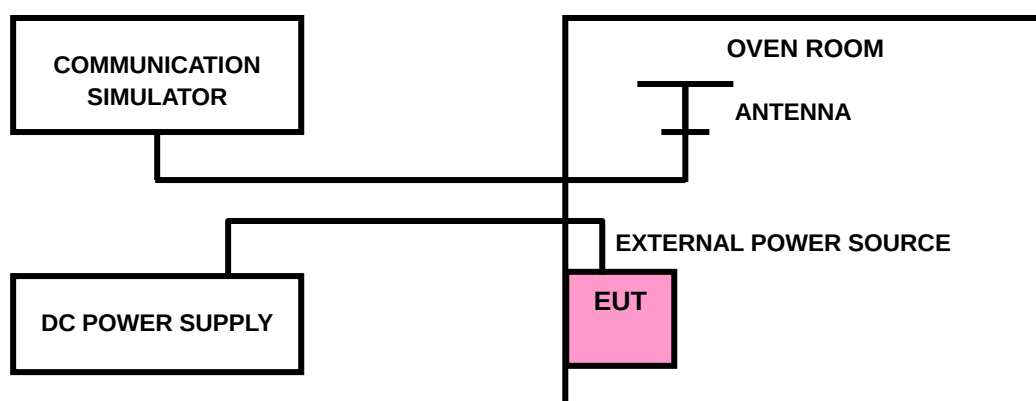
1.5 ppm is for base and fixed station. 2.5 ppm is for mobile station.

### 3.2.2 TEST PROCEDURE

- Device is placed at the oven room. The oven room could control the temperatures and humidity. Power warm up is at least 15 min and power applied should perform before recording frequency error.
- EUT is connected the external power supply to control the DC input power. The test voltage range is from minimum to maximum working voltage. Each step shall be record the frequency error rate.
- The temperature range step is 10 degrees in this test items. All temperature levels shall be hold the  $\pm 0.5^{\circ}\text{C}$  during the measurement testing. The each temperature step shall be at least 0.5 hours, consider the EUT could be test under the stability condition.

**NOTE:** The frequency error was recorded frequency error from the communication simulator.

### 3.2.3 TEST SETUP



### 3.2.4 TEST RESULTS

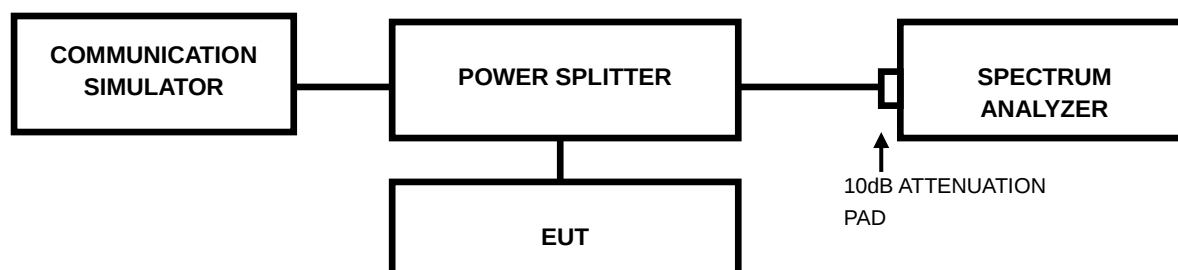
The test results was recorded in Report No.: FG6D1201 (FCC ID: SLKUX302NC-R).

### 3.3 OCCUPIED BANDWIDTH MEASUREMENT

#### 3.3.1 TEST PROCEDURES

The EUT makes a call to the communication simulator. All measurements were done at low, middle and high operational frequency range. The communication simulator station system controlled a EUT to export maximum output power under transmission mode and specific channel frequency. Use OBW measurement function of Spectrum analyzer to measure 99 % occupied bandwidth.

#### 3.3.2 TEST SETUP



#### 3.3.3 TEST RESULTS

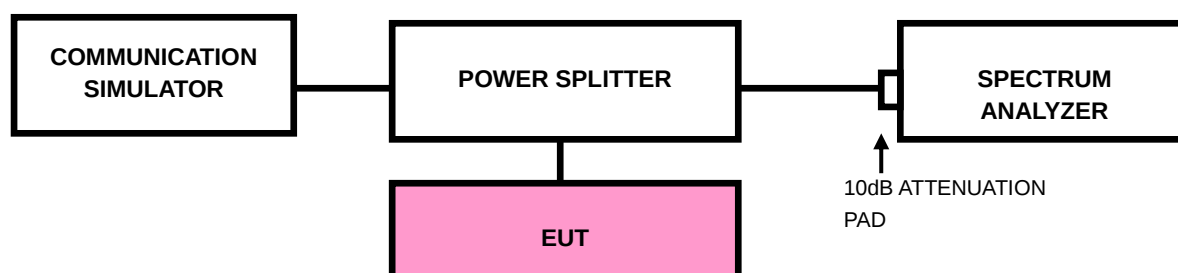
The test results was recorded in Report No.: FG6D1201 (FCC ID: SLKUX302NC-R).

### 3.4 BAND EDGE MEASUREMENT

#### 3.4.1 LIMITS OF BAND EDGE MEASUREMENT

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. In the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

#### 3.4.2 TEST SETUP





Test Report No.: RF200914W002-1

### 3.4.3 TEST PROCEDURES

- a. All measurements were done at low and high operational frequency range.
- b. The center frequency of spectrum is the band edge frequency and span is 1.5MHz.  
RBW of the spectrum is 10kHz and VBW of the spectrum is 30kHz (GSM/GPRS/EDGE).
- c. The center frequency of spectrum is the band edge frequency and span is 10MHz.  
RBW of the spectrum is 100kHz and VBW of the spectrum is 300kHz (WCDMA).
- d. Record the max trace plot into the test report.

### 3.4.4 TEST RESULTS

The test results was recorded in Report No.: FG6D1201 (FCC ID: SLKUX302NC-R).

### 3.5 CONDUCTED SPURIOUS EMISSIONS

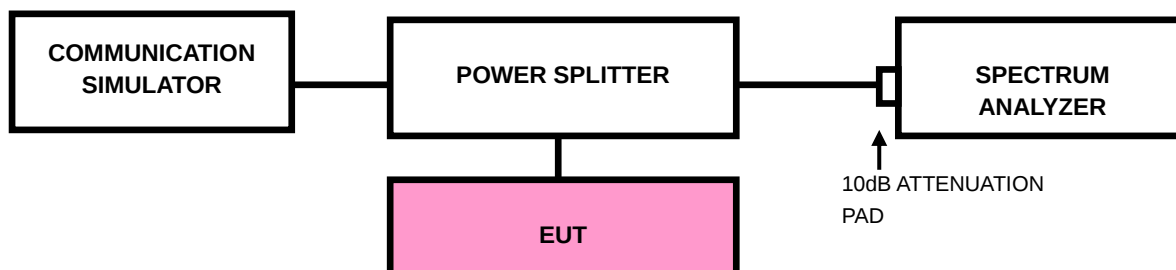
#### 3.5.1 LIMITS OF CONDUCTED SPURIOUS EMISSIONS MEASUREMENT

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 equal to  $-13\text{dBm}$ .

#### 3.5.2 TEST PROCEDURE

- The EUT makes a phone call to the communication simulator. All measurements were done at low, middle and high operational frequency range.
- Measuring frequency range is from 9 kHz to 9GHz. 10dB attenuation pad is connected with spectrum. RBW=1MHz and VBW=3MHz is used for conducted emission measurement.

#### 3.5.3 TEST SETUP



#### 3.5.4 TEST RESULTS

The test results was recorded in Report No.: FG6D1201 (FCC ID: SLKUX302NC-R).

### 3.6 RADIATED EMISSION MEASUREMENT

#### 3.6.1 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 equal to  $-13\text{dBm}$ .

#### 3.6.2 TEST PROCEDURES

- a. Substitution method is used for E.I.R.P measurement. In the semi-anechoic chamber, EUT placed on the 0.8m 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 1m to 4m to find the maximum polar radiated power. The "Read Value" is the spectrum reading the maximum power value.
- b. 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 a. Record the power level of S.G
- c.  $\text{EIRP} = \text{Output power level of S.G} - \text{TX cable loss} + \text{Antenna gain of substitution horn}$ .
- d. E.R.P power can be calculated form E.I.R.P power by subtracting the gain of dipole,  
 $\text{E.R.P power} = \text{E.I.P.R power} - 2.15\text{dBi}$ .

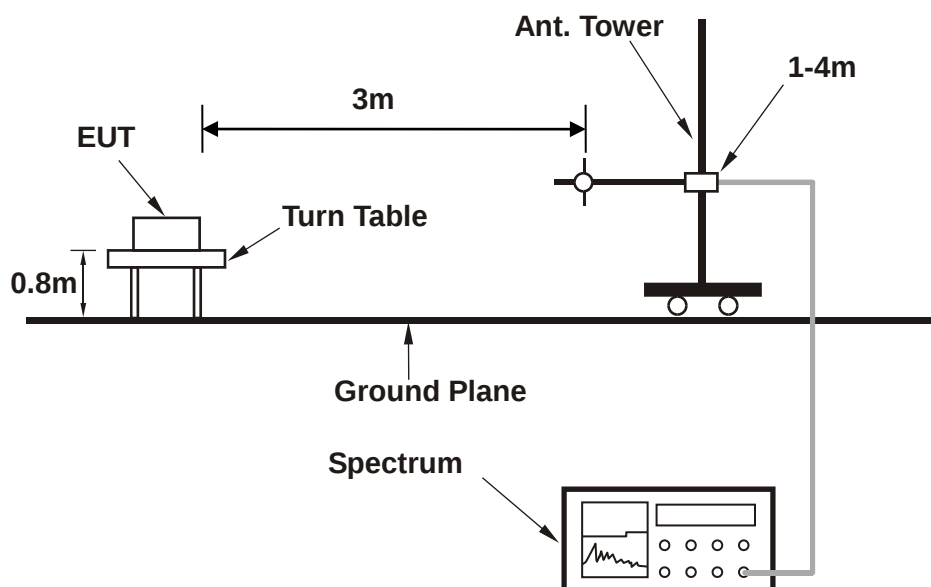
**NOTE:** The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1MHz/3MHz.

#### 3.6.3 DEVIATION FROM TEST STANDARD

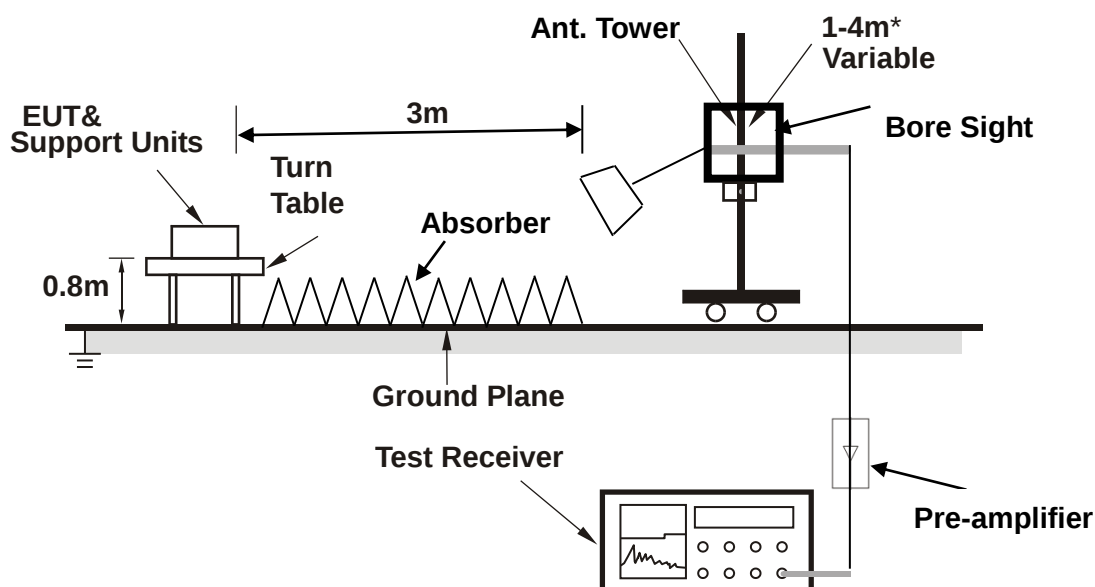
No deviation

### 3.6.4 TEST SETUP

#### < Frequency Range 30MHz~1GHz >



#### <Frequency Range above 1GHz>



**Note:** Above 1G is a directional antenna

Depends on the EUT height and the antenna 3dB beamwidth both, refer to section 7.3 of CISPR 16-2-3.

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

### 3.6.5 TEST RESULTS

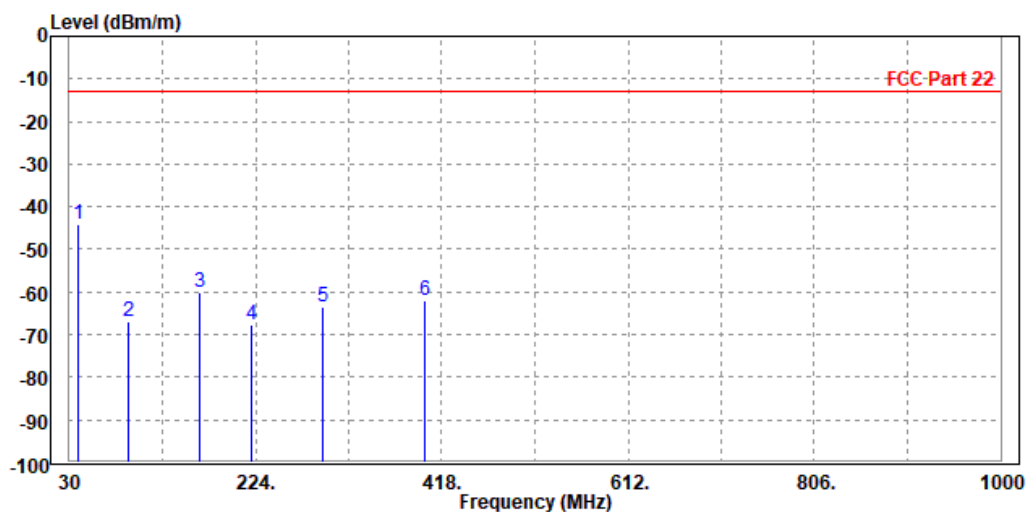
#### BELOW 1GHz WORST-CASE DATA

30 MHz – 1GHz data:

#### EDGE 850

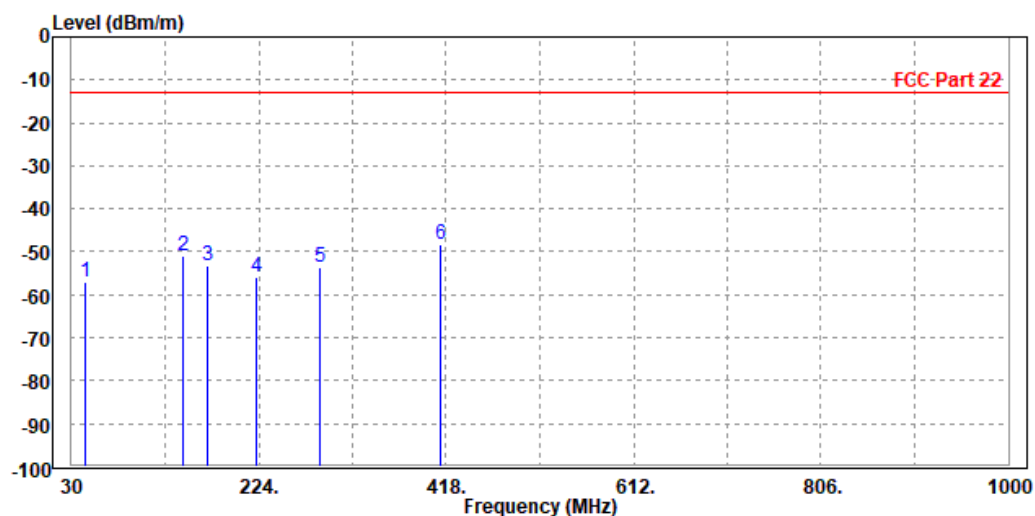
|                                                     |                 |                 |               |
|-----------------------------------------------------|-----------------|-----------------|---------------|
| MODE                                                | TX channel 189  | FREQUENCY RANGE | Below 1000MHz |
| ENVIRONMENTAL CONDITIONS                            | 23deg. C, 70%RH | INPUT POWER     | DC 5V         |
| TESTED BY                                           | Jace            |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                 |                 |               |

|      | Freq    | Level  | Read Level | Limit Line | Over Limit | Factor | Remark | Pol/Phase  |
|------|---------|--------|------------|------------|------------|--------|--------|------------|
|      | MHz     | dBm/m  | dBm        | dBm/m      | dB         | dB/m   |        |            |
| 1 PP | 39.700  | -43.94 | -56.02     | -13.00     | -30.94     | 12.08  | Peak   | Horizontal |
| 2    | 92.080  | -66.75 | -57.26     | -13.00     | -53.75     | -9.49  | Peak   | Horizontal |
| 3    | 165.800 | -60.03 | -41.77     | -13.00     | -47.03     | -18.26 | Peak   | Horizontal |
| 4    | 220.120 | -67.66 | -50.81     | -13.00     | -54.66     | -16.85 | Peak   | Horizontal |
| 5    | 293.840 | -63.33 | -49.22     | -13.00     | -50.33     | -14.11 | Peak   | Horizontal |
| 6    | 399.570 | -61.93 | -51.46     | -13.00     | -48.93     | -10.47 | Peak   | Horizontal |



|                                                   |                 |                 |               |
|---------------------------------------------------|-----------------|-----------------|---------------|
| MODE                                              | TX channel 189  | FREQUENCY RANGE | Below 1000MHz |
| ENVIRONMENTAL CONDITIONS                          | 23deg. C, 70%RH | INPUT POWER     | DC 5V         |
| TESTED BY                                         | Jace            |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M |                 |                 |               |

|      | Freq    | Level  | Read Level | Limit Line | Over Limit | Factor | Remark | Pol/Phase |
|------|---------|--------|------------|------------|------------|--------|--------|-----------|
|      | MHz     | dBm/m  | dBm        | dBm/m      | dB         | dB/m   |        |           |
| 1    | 44.550  | -56.99 | -53.98     | -13.00     | -43.99     | -3.01  | Peak   | Vertical  |
| 2    | 146.400 | -51.07 | -35.10     | -13.00     | -38.07     | -15.97 | Peak   | Vertical  |
| 3    | 171.620 | -53.25 | -39.20     | -13.00     | -40.25     | -14.05 | Peak   | Vertical  |
| 4    | 222.060 | -55.95 | -44.92     | -13.00     | -42.95     | -11.03 | Peak   | Vertical  |
| 5    | 287.050 | -53.52 | -42.17     | -13.00     | -40.52     | -11.35 | Peak   | Vertical  |
| 6 PP | 412.180 | -48.24 | -37.75     | -13.00     | -35.24     | -10.49 | Peak   | Vertical  |





# **ABOVE 1GHz DATA**

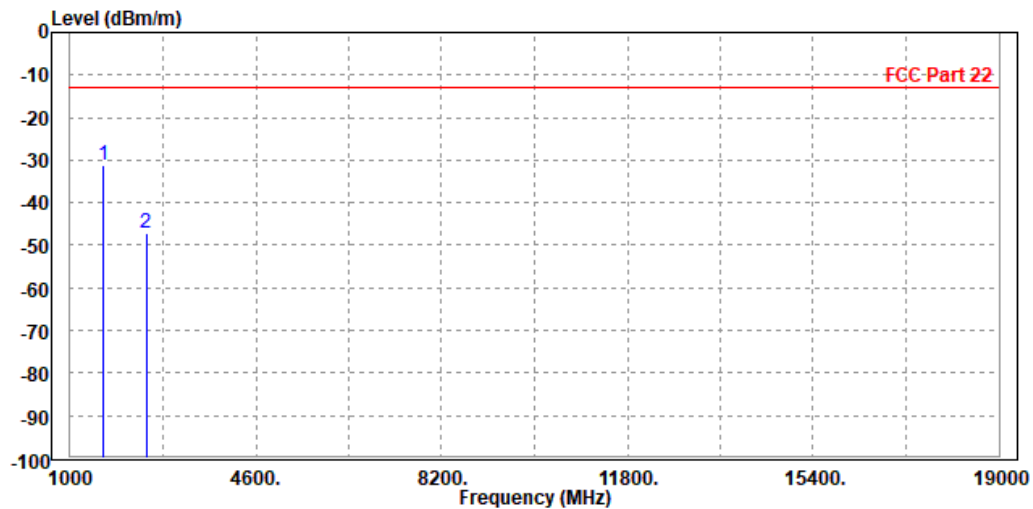
**Note:** For higher frequency, the emission is too low to be detected.

## **GSM 850**

## **CH 128:**

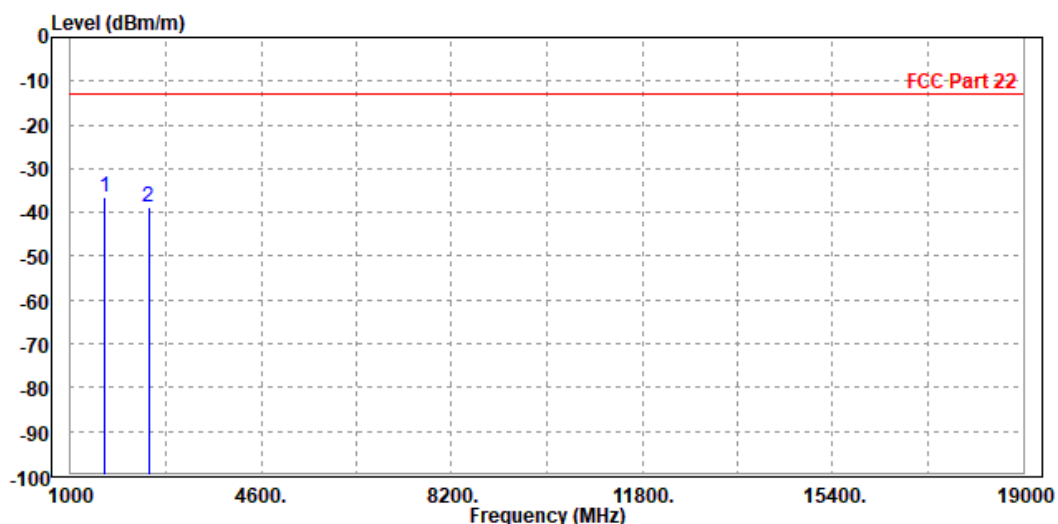
|                                                     |                 |                 |               |
|-----------------------------------------------------|-----------------|-----------------|---------------|
| MODE                                                | TX channel 128  | FREQUENCY RANGE | Above 1000MHz |
| ENVIRONMENTAL CONDITIONS                            | 23deg. C, 70%RH | INPUT POWER     | DC 5V         |
| TESTED BY                                           | Jace            |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                 |                 |               |

|      | Freq     | Level  | Read Level | Limit Line | Over Limit | Factor | Remark | Pol/Phase  |
|------|----------|--------|------------|------------|------------|--------|--------|------------|
|      | MHz      | dBm/m  | dBm        | dBm/m      | dB         | dB/m   |        |            |
| 1 PP | 1648.000 | -31.31 | -34.56     | -13.00     | -18.31     | 3.25   | Peak   | Horizontal |
| 2    | 2472.600 | -46.96 | -54.98     | -13.00     | -33.96     | 8.02   | Peak   | Horizontal |



|                                                   |                 |                 |               |
|---------------------------------------------------|-----------------|-----------------|---------------|
| MODE                                              | TX channel 128  | FREQUENCY RANGE | Above 1000MHz |
| ENVIRONMENTAL CONDITIONS                          | 23deg. C, 70%RH | INPUT POWER     | DC 5V         |
| TESTED BY                                         | Jace            |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M |                 |                 |               |

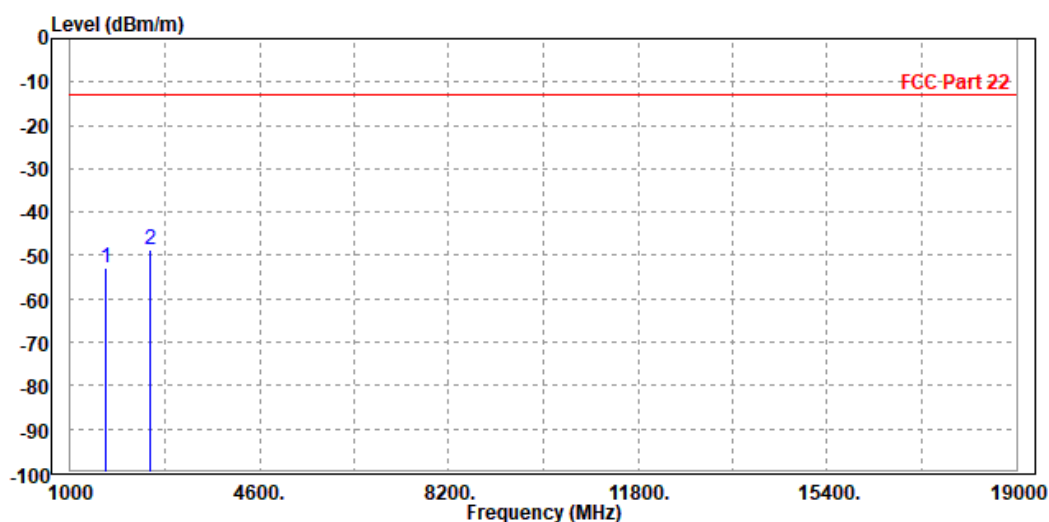
|   |    | Freq     | Level  | Read Level | Limit Line | Over Limit | Factor | Remark | Pol/Phase |
|---|----|----------|--------|------------|------------|------------|--------|--------|-----------|
|   |    | MHz      | dBm/m  | dBm        | dBm/m      | dB         | dB/m   |        |           |
| 1 | PP | 1648.000 | -36.63 | -40.01     | -13.00     | -23.63     | 3.38   | Peak   | Vertical  |
| 2 |    | 2472.600 | -38.73 | -45.77     | -13.00     | -25.73     | 7.04   | Peak   | Vertical  |



CH 189:

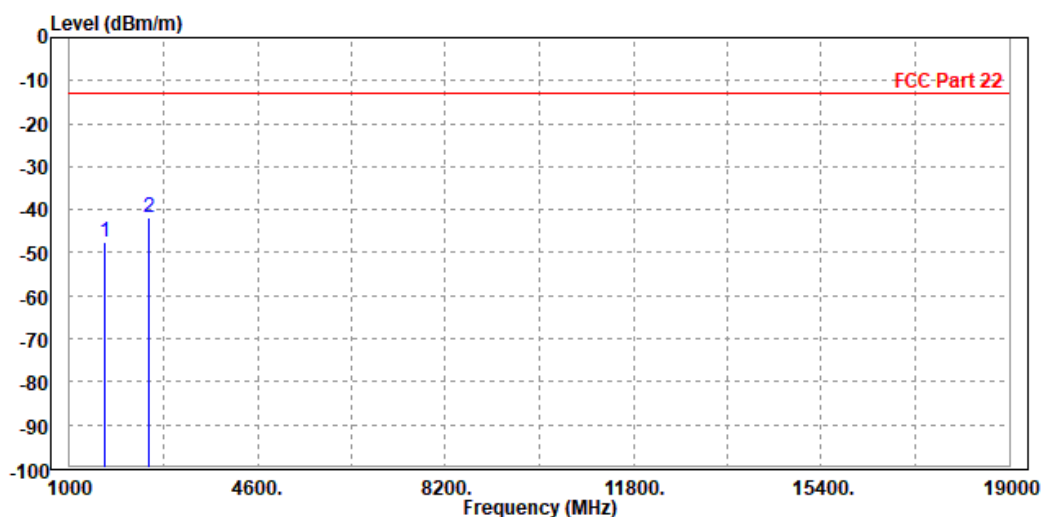
|                                                     |                 |                 |               |
|-----------------------------------------------------|-----------------|-----------------|---------------|
| MODE                                                | TX channel 189  | FREQUENCY RANGE | Above 1000MHz |
| ENVIRONMENTAL CONDITIONS                            | 23deg. C, 70%RH | INPUT POWER     | DC 5V         |
| TESTED BY                                           | Jace            |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                 |                 |               |

|      | Freq     | Level  | Read Level | Limit Line | Over Limit | Factor | Remark | Pol/Phase  |
|------|----------|--------|------------|------------|------------|--------|--------|------------|
|      | MHz      | dBm/m  | dBm        | dBm/m      | dB         | dB/m   |        |            |
| 1    | 1666.000 | -52.82 | -56.29     | -13.00     | -39.82     | 3.47   | Peak   | Horizontal |
| 2 PP | 2509.200 | -48.53 | -56.59     | -13.00     | -35.53     | 8.06   | Peak   | Horizontal |



|                                                   |                 |                 |               |
|---------------------------------------------------|-----------------|-----------------|---------------|
| MODE                                              | TX channel 189  | FREQUENCY RANGE | Above 1000MHz |
| ENVIRONMENTAL CONDITIONS                          | 23deg. C, 70%RH | INPUT POWER     | DC 5V         |
| TESTED BY                                         | Jace            |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M |                 |                 |               |

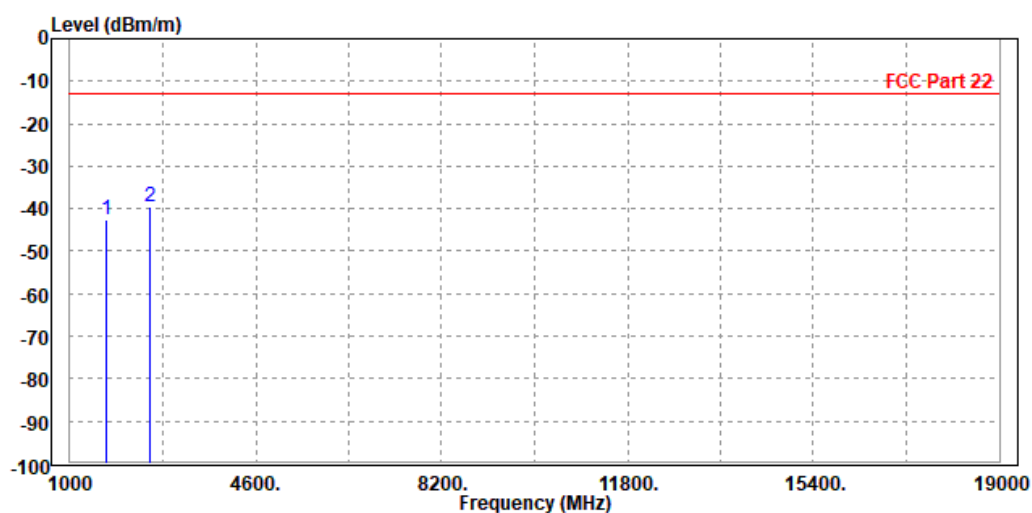
|      | Freq     | Level  | Read Level | Limit Line | Over Limit | Factor | Remark | Pol/Phase |
|------|----------|--------|------------|------------|------------|--------|--------|-----------|
|      | MHz      | dBm/m  | dBm        | dBm/m      | dB         | dB/m   |        |           |
| 1    | 1666.000 | -47.64 | -51.18     | -13.00     | -34.64     | 3.54   | Peak   | Vertical  |
| 2 PP | 2509.200 | -41.86 | -48.96     | -13.00     | -28.86     | 7.10   | Peak   | Vertical  |



CH 251:

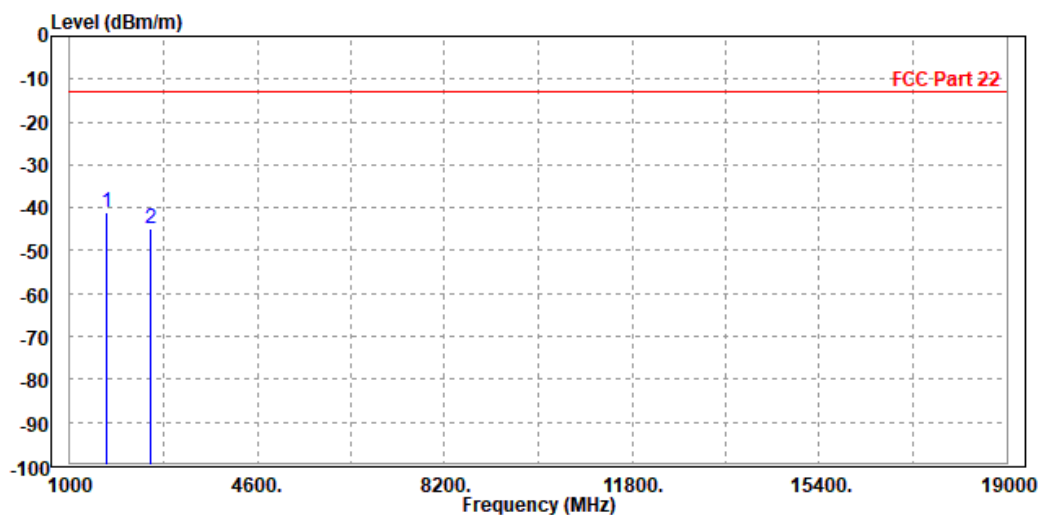
|                                                     |                 |                 |               |
|-----------------------------------------------------|-----------------|-----------------|---------------|
| MODE                                                | TX channel 251  | FREQUENCY RANGE | Above 1000MHz |
| ENVIRONMENTAL CONDITIONS                            | 23deg. C, 70%RH | INPUT POWER     | DC 5V         |
| TESTED BY                                           | Jace            |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                 |                 |               |

|      | Freq     | Level  | Read Level | Limit Line | Over Limit | Factor | Remark | Pol/Phase  |
|------|----------|--------|------------|------------|------------|--------|--------|------------|
|      | MHz      | dBm/m  | dBm        | dBm/m      | dB         | dB/m   |        |            |
| 1    | 1702.000 | -42.45 | -46.36     | -13.00     | -29.45     | 3.91   | Peak   | Horizontal |
| 2 PP | 2546.400 | -39.72 | -47.83     | -13.00     | -26.72     | 8.11   | Peak   | Horizontal |



|                                                   |                 |                 |               |
|---------------------------------------------------|-----------------|-----------------|---------------|
| MODE                                              | TX channel 251  | FREQUENCY RANGE | Above 1000MHz |
| ENVIRONMENTAL CONDITIONS                          | 23deg. C, 70%RH | INPUT POWER     | DC 5V         |
| TESTED BY                                         | Jace            |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M |                 |                 |               |

|      | Freq     | Level  | Read Level | Limit Line | Over Limit | Factor | Remark | Pol/Phase |
|------|----------|--------|------------|------------|------------|--------|--------|-----------|
|      | MHz      | dBm/m  | dBm        | dBm/m      | dB         | dB/m   |        |           |
| 1 PP | 1702.000 | -41.08 | -44.95     | -13.00     | -28.08     | 3.87   | Peak   | Vertical  |
| 2    | 2546.400 | -44.85 | -52.07     | -13.00     | -31.85     | 7.22   | Peak   | Vertical  |





BUREAU  
VERITAS

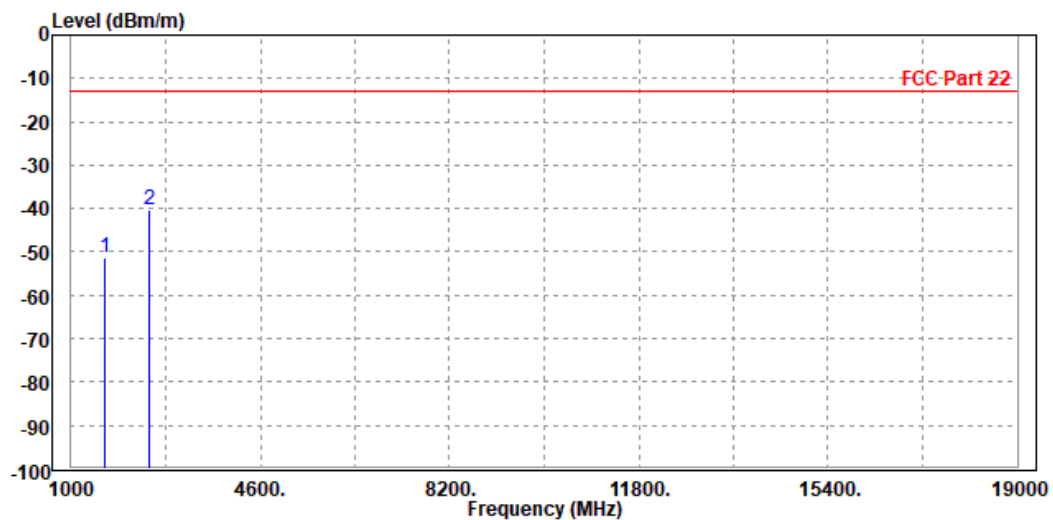
Test Report No.: RF200914W002-1

WCDMA Band V:

CH 4132:

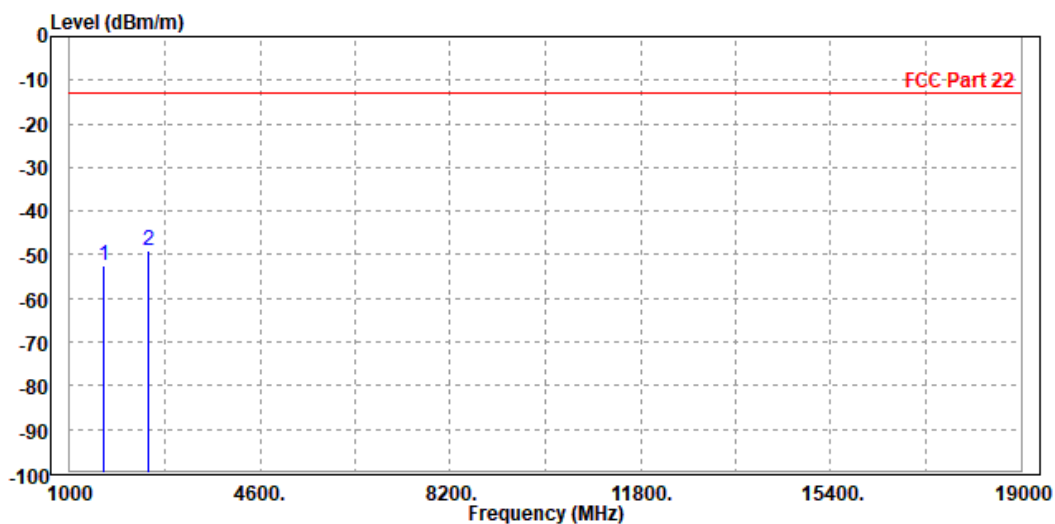
|                                                     |                 |                 |               |
|-----------------------------------------------------|-----------------|-----------------|---------------|
| MODE                                                | TX channel 4132 | FREQUENCY RANGE | Above 1000MHz |
| ENVIRONMENTAL CONDITIONS                            | 23deg. C, 70%RH | INPUT POWER     | DC 5V         |
| TESTED BY                                           | Jace            |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                 |                 |               |

|      | Freq     | Level  | Read Level | Limit Line | Over Limit | Factor | Remark | Pol/Phase  |
|------|----------|--------|------------|------------|------------|--------|--------|------------|
|      | MHz      | dBm/m  | dBm        | dBm/m      | dB         | dB/m   |        |            |
| 1    | 1648.000 | -51.39 | -54.64     | -13.00     | -38.39     | 3.25   | Peak   | Horizontal |
| 2 PP | 2479.200 | -40.13 | -48.16     | -13.00     | -27.13     | 8.03   | Peak   | Horizontal |



|                                                   |                 |                 |               |
|---------------------------------------------------|-----------------|-----------------|---------------|
| MODE                                              | TX channel 4132 | FREQUENCY RANGE | Above 1000MHz |
| ENVIRONMENTAL CONDITIONS                          | 23deg. C, 70%RH | INPUT POWER     | DC 5V         |
| TESTED BY                                         | Jace            |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M |                 |                 |               |

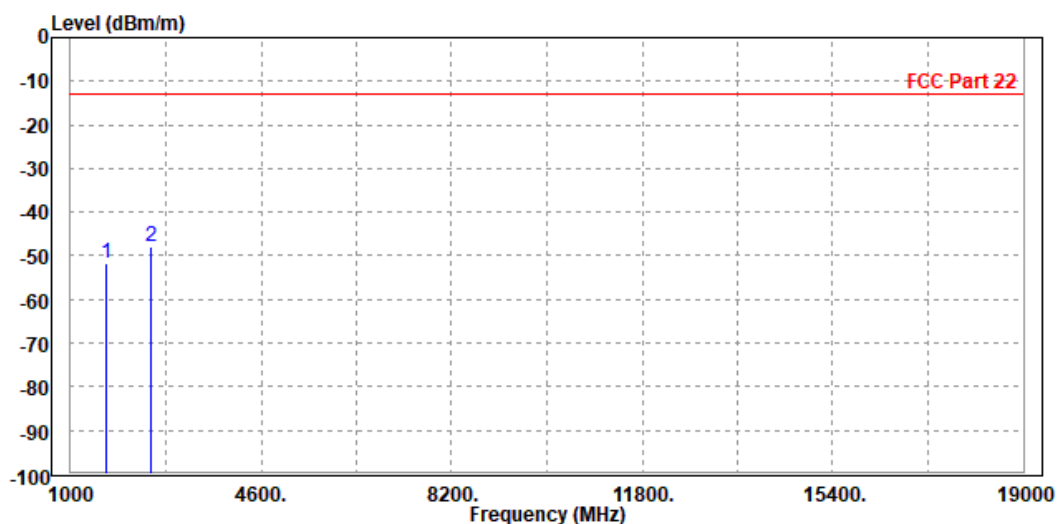
|      | Freq     | Level  | Read Level | Limit Line | Over Limit | Factor | Remark | Pol/Phase |
|------|----------|--------|------------|------------|------------|--------|--------|-----------|
|      | MHz      | dBm/m  | dBm        | dBm/m      | dB         | dB/m   |        |           |
| 1    | 1648.000 | -52.61 | -55.99     | -13.00     | -39.61     | 3.38   | Peak   | Vertical  |
| 2 PP | 2479.200 | -49.05 | -56.10     | -13.00     | -36.05     | 7.05   | Peak   | Vertical  |



CH 4182:

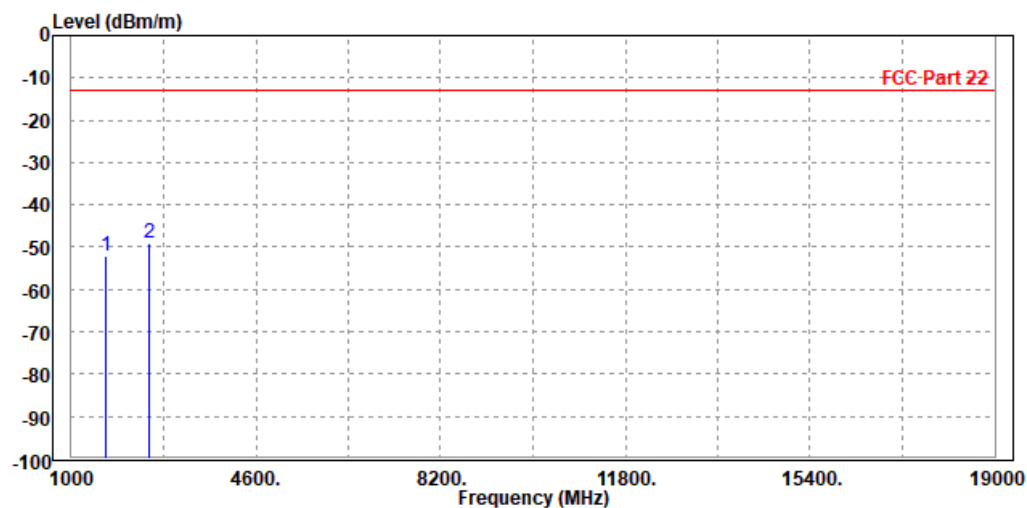
|                                                     |                 |                 |               |
|-----------------------------------------------------|-----------------|-----------------|---------------|
| MODE                                                | TX channel 4182 | FREQUENCY RANGE | Above 1000MHz |
| ENVIRONMENTAL CONDITIONS                            | 23deg. C, 70%RH | INPUT POWER     | DC 5V         |
| TESTED BY                                           | Jace            |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                 |                 |               |

|      | Freq     | Level  | Read Level | Limit Line | Over Limit | Factor | Remark | Pol/Phase  |
|------|----------|--------|------------|------------|------------|--------|--------|------------|
|      | MHz      | dBm/m  | dBm        | dBm/m      | dB         | dB/m   |        |            |
| 1    | 1666.000 | -51.83 | -55.30     | -13.00     | -38.83     | 3.47   | Peak   | Horizontal |
| 2 PP | 2509.200 | -47.88 | -55.94     | -13.00     | -34.88     | 8.06   | Peak   | Horizontal |



|                                                   |                 |                 |               |
|---------------------------------------------------|-----------------|-----------------|---------------|
| MODE                                              | TX channel 4182 | FREQUENCY RANGE | Above 1000MHz |
| ENVIRONMENTAL CONDITIONS                          | 23deg. C, 70%RH | INPUT POWER     | DC 5V         |
| TESTED BY                                         | Jace            |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M |                 |                 |               |

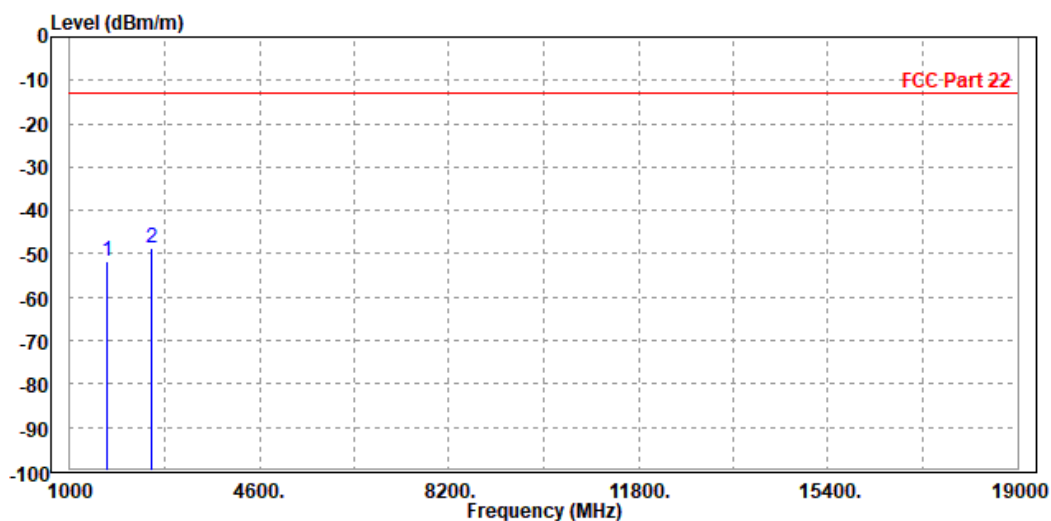
|      | Freq     | Level  | Read Level | Limit Line | Over Limit | Factor | Remark | Pol/Phase |
|------|----------|--------|------------|------------|------------|--------|--------|-----------|
|      | MHz      | dBm/m  | dBm        | dBm/m      | dB         | dB/m   |        |           |
| 1    | 1666.000 | -51.99 | -55.53     | -13.00     | -38.99     | 3.54   | Peak   | Vertical  |
| 2 PP | 2509.200 | -49.07 | -56.17     | -13.00     | -36.07     | 7.10   | Peak   | Vertical  |



CH 4233:

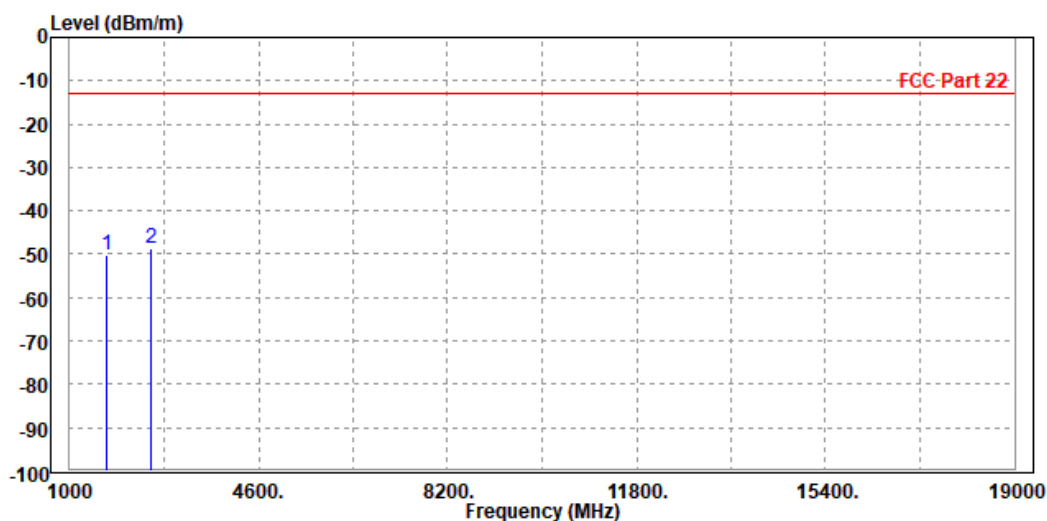
|                                                     |                 |                 |               |
|-----------------------------------------------------|-----------------|-----------------|---------------|
| MODE                                                | TX channel 4233 | FREQUENCY RANGE | Above 1000MHz |
| ENVIRONMENTAL CONDITIONS                            | 23deg. C, 70%RH | INPUT POWER     | DC 5V         |
| TESTED BY                                           | Jace            |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                 |                 |               |

|      | Freq     | Level  | Read Level | Limit Line | Over Limit | Factor | Remark | Pol/Phase  |
|------|----------|--------|------------|------------|------------|--------|--------|------------|
|      | MHz      | dBm/m  | dBm        | dBm/m      | dB         | dB/m   |        |            |
| 1    | 1702.000 | -51.70 | -55.61     | -13.00     | -38.70     | 3.91   | Peak   | Horizontal |
| 2 PP | 2539.800 | -48.55 | -56.65     | -13.00     | -35.55     | 8.10   | Peak   | Horizontal |



|                                                   |                 |                 |               |
|---------------------------------------------------|-----------------|-----------------|---------------|
| MODE                                              | TX channel 4233 | FREQUENCY RANGE | Above 1000MHz |
| ENVIRONMENTAL CONDITIONS                          | 23deg. C, 70%RH | INPUT POWER     | DC 5V         |
| TESTED BY                                         | Jace            |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M |                 |                 |               |

|      | Freq     | Level  | Read Level | Limit Line | Over Limit | Factor | Remark | Pol/Phase |
|------|----------|--------|------------|------------|------------|--------|--------|-----------|
|      | MHz      | dBm/m  | dBm        | dBm/m      | dB         | dB/m   |        |           |
| 1    | 1702.000 | -50.32 | -54.19     | -13.00     | -37.32     | 3.87   | Peak   | Vertical  |
| 2 PP | 2539.800 | -48.60 | -55.80     | -13.00     | -35.60     | 7.20   | Peak   | Vertical  |

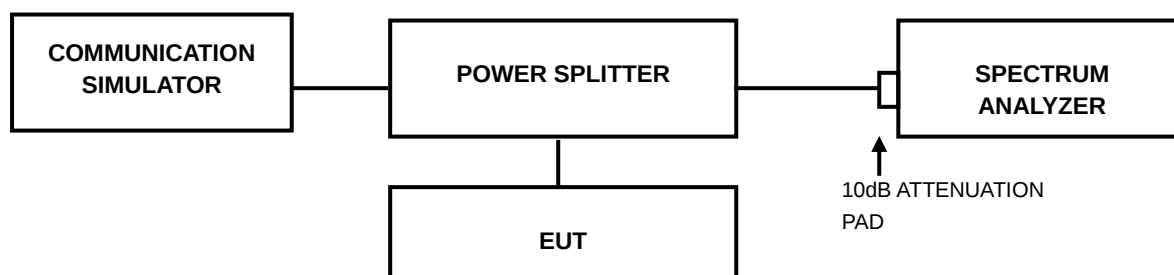


### 3.7 PEAK TO AVERAGE RATIO

#### 3.7.1 LIMITS OF PEAK TO AVERAGE RATIO MEASUREMENT

In measuring transmissions in this band using an average power technique, the peak to-average ratio (PAR) of the transmission may not exceed 13 dB

#### 3.7.2 TEST SETUP



#### 3.7.3 TEST PROCEDURES

1. Set resolution/measurement bandwidth  $\geq$  signal's occupied bandwidth;
2. Set the number of counts to a value that stabilizes the measured CCDF curve;
3. Record the maximum PAPR level associated with a probability of 0.1%.

#### 3.7.4 TEST RESULTS

The test results was recorded in Report No.: FG6D1201 (FCC ID: SLKUX302NC-R).



Test Report No.: RF200914W002-1

## 4 PHOTOGRAPHS OF THE TEST CONFIGURATION

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



Test Report No.: RF200914W002-1

## 5 INFORMATION ON THE TESTING LABORATORIES

We, BV 7LAYERS COMMUNICATIONS TECHNOLOGY (SHENZHEN) CO. LTD., were founded in 2015 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are accredited and approved according to ISO/IEC 17025.

If you have any comments, please feel free to contact us at the following:

**Shenzhen EMC/RF Lab:**

Tel: +86-755-88696566

Fax: +86-755-88696577

**Email:** [customerservice.dg@cn.bureauveritas.com](mailto:customerservice.dg@cn.bureauveritas.com)

**Web Site:** [www.adt.com.tw](http://www.adt.com.tw)

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

## **6 APPENDIX A – MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB**

No any modifications are made to the EUT by the lab during the test.

**---END---**