

# FCC TEST REPORT

## (PART 22)

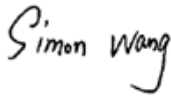
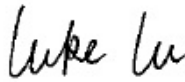
|            |                                            |
|------------|--------------------------------------------|
| Applicant: | HMD Global Oy                              |
| Address:   | Bertel Jungin aukio 9,02600 Espoo, Finland |

|                           |                                            |
|---------------------------|--------------------------------------------|
| Manufacturer or Supplier: | HMD Global Oy                              |
| Address:                  | Bertel Jungin aukio 9,02600 Espoo, Finland |
| Product:                  | Smart phone                                |
| Brand Name:               | HMD                                        |
| Model Name:               | TA-1600/TA-1688                            |
| FCC ID:                   | 2AJOTTA-1600                               |
| Date of tests:            | Apr. 08, 2024 ~ May. 31, 2024              |

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

- ☒ **FCC PART 22, Subpart H**    ☒ **FCC Part 2**  
☒ **ANSI/TIA/EIA-603-D**    ☒ **ANSI C63.26-2015**  
☒ **ANSI/TIA/EIA-603-E**

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

|                                                                                                            |                                                                                                              |
|------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Prepared by Simon Wang<br>Engineer / Mobile Department                                                     | Approved by Luke Lu<br>Manager / Mobile Department                                                           |
| <br>Date: May. 31, 2024 | <br>Date: May. 31, 2024 |

This report is governed by, and incorporates by reference, the Conditions of Testing as posted at the date of issuance of this report at <http://www.bureauveritas.com/home/about-us/our-business/cps/about-us/terms-conditions/> and is intended for your exclusive use. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. This report sets forth our findings solely with respect to the test samples identified herein. The results set forth in this report are not indicative or representative of the quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof based upon the information that you provided to us. Measurement uncertainty is only provided upon request for accredited tests. Statements of conformity are based on simple acceptance criteria without taking measurement uncertainty into account, unless otherwise requested in writing. You have 60 days from date of issuance of this report to notify us of any material error or omission caused by our negligence or if you require measurement uncertainty; provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.

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## RELEASE CONTROL RECORD

| ISSUE NO.             | REASON FOR CHANGE | DATE ISSUED   |
|-----------------------|-------------------|---------------|
| PSU-NQN2403180115RF05 | Original release  | May. 31, 2024 |

## 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     | Test lab* |
| §2.1046                                | Conducted Output Power       | Compliance | B         |
| §22.913 (a)(5)<br>§22.913(a)(2)        | Effective Radiated Power     | Compliance | B         |
| §2.1055<br>§22.355                     | Frequency Stability          | Compliance | A         |
| §2.1049<br>§22.917(b)                  | Occupied Bandwidth           | Compliance | A         |
| §22.913 (d)                            | Peak to average ratio*       | Compliance | A         |
| §22.917(a)                             | Band Edge Measurements       | Compliance | A         |
| §2.1051<br>§22.917(a)                  | Conducted Spurious Emissions | Compliance | A         |
| §2.1053<br>§22.917(a)                  | Radiated Spurious Emissions  | Compliance | B         |

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

### \*Test Lab Information Reference

#### Lab A:

BV 7Layers Communications Technology (Shenzhen) Co. Ltd

#### Lab Address:

Room B37, Warehouse A5, No.3 Chiwan 4th Road, Zhaoshang Street, Nanshan District  
Shenzhen, Guangdong, People's Republic of China

**Accredited Test Lab Cert 3939.01**

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

#### Lab B:

Huarui 7Layers High Technology (Suzhou) Co., Ltd.

#### Lab Address:

Tower N, Innovation Center, 88 Zhuyi Road, High-tech District, Suzhou City, Anhui Province

**Accredited Test Lab Cert 6613.01**

The FCC Site Registration No. is 434559; The Designation No. is CN1325.

## 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 (9KHz~30MHz)   | $\pm 2.68\text{dB}$   |
| Radiated emissions (30MHz~1GHz)   | $\pm 4.98\text{dB}$   |
| Radiated emissions (1GHz ~6GHz)   | $\pm 4.70\text{dB}$   |
| Radiated emissions (6GHz ~18GHz)  | $\pm 4.60\text{dB}$   |
| Radiated emissions (18GHz ~40GHz) | $\pm 4.12\text{dB}$   |
| 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                          | Mar. 28,23 | Mar. 27,24 |
| MXE EMI Receiver                            | KEYSIGHT          | N9038A-544                      | MY54450026                          | Mar. 27,24 | Mar. 26,25 |
| EXA Signal Analyzer                         | KEYSIGHT          | N9010A-544                      | MY54510355                          | May. 10,23 | May. 09,24 |
| EXA Signal Analyzer                         | KEYSIGHT          | N9010A-544                      | MY54510355                          | May. 09,24 | May. 08,25 |
| Loop Antenna                                | Schwarzbeck       | FMZB 1519B                      | 00173                               | Sep. 02,23 | Sep. 01,24 |
| Bilog Antenna                               | ETS-LINDGRE<br>N  | 3143B                           | 00161965                            | Feb. 17,24 | Feb. 16,25 |
| Horn Antenna                                | ETS-LINDGRE<br>N  | 3117                            | 00168692                            | Feb. 17,24 | Feb. 16,25 |
| Horn Antenna<br>(18GHz-40GHz)               | N/A               | QWH-SL-18-40-K-<br>SG/QMS-00361 | 15433                               | Sep. 03,23 | Sep. 03,24 |
| Radio Communication<br>Analyzer             | ANRITSU           | MT8820C                         | 6201465426                          | Feb. 13,24 | Feb. 12,25 |
| Signal Pre-Amplifier                        | EMSI              | EMC 9135                        | 980249                              | May. 06,23 | May. 05,24 |
| Signal Pre-Amplifier                        | EMSI              | EMC 9135                        | 980249                              | May. 05,24 | May. 04,25 |
| Signal Pre-Amplifier                        | EMSI              | EMC 012645B                     | 980257                              | May. 10,23 | May.09,24  |
| Signal Pre-Amplifier                        | EMSI              | EMC 012645B                     | 980257                              | May. 09,24 | May.08,25  |
| Signal Pre-Amplifier                        | EMSI              | EMC 184045B                     | 980259                              | Feb. 16,24 | Feb. 15,25 |
| 3m<br>Semi-anechoic<br>Chamber              | ETS-LINDGRE<br>N  | 9m*6m*6m                        | Euroshieldpn-<br>CT0001143-121<br>6 | Nov. 14,23 | Nov. 13,26 |
| Test Software                               | E3                | V 9.160323                      | N/A                                 | N/A        | N/A        |
| Test Software                               | JS1120            | 3.1.36                          | N/A                                 | N/A        | N/A        |
| 10dB Attenuator                             | JFW/USA           | 50HF-010-SMA                    | 50HF-010-SMA                        | May. 06,23 | May. 05,24 |
| 10dB Attenuator                             | JFW/USA           | 50HF-010-SMA                    | 50HF-010-SMA                        | May. 05,24 | May. 04,25 |
| Power Meter                                 | Anritsu           | ML2495A                         | 1506002                             | Feb. 13,24 | Feb. 12,25 |
| Power Sensor                                | Anritsu           | MA2411B                         | 1339352                             | Feb. 13,24 | Feb. 12,25 |
| Temperature Chamber                         | ESPEC             | SH-242                          | 93000855                            | May. 06,23 | May. 05,24 |
| Temperature Chamber                         | ESPEC             | SH-242                          | 93000855                            | May. 05,24 | May. 04,25 |
| MXG<br>Analog Microvave<br>Signal Generator | KEYSIGHT          | N5183A                          | MY50143024                          | Feb. 13,24 | Feb. 12,25 |
| Base station R&S<br>CMW500                  | Rohde&Schwa<br>rz | CMW500                          | 153085                              | May.10,23  | May.09,24  |
| Base station R&S<br>CMW500                  | Rohde&Schwa<br>rz | CMW500                          | 153085                              | May. 09,24 | May.08,25  |
| DC Source                                   | Kikusui/Jp        | PMX18-5A                        | N/A                                 | Aug. 11,23 | Aug. 10,24 |

- 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.



| Equipment                          | Manufacturer            | Model No.         | Serial No.             | Last Cal. | Next Cal. |
|------------------------------------|-------------------------|-------------------|------------------------|-----------|-----------|
| Pre-Amplifier                      | R&S                     | SCU18F1           | 100815                 | Aug.30,22 | Aug.29,24 |
| Pre-Amplifier                      | R&S                     | SCU08F1           | 101028                 | Sep.16,22 | Sep.15,24 |
| Vector Signal Generator            | R&S                     | SMBV100B          | 102176                 | Feb.15,24 | Feb.14,26 |
| Signal Generator                   | R&S                     | SMB100A           | 182185                 | Feb.15,24 | Feb.14,26 |
| 3m Fully-anechoic Chamber          | TDK                     | 9m*6m*6m          | HRSW-SZ-E MC-01Chamber | Nov.25,22 | Nov.24,25 |
| 3m Semi-anechoic Chamber           | TDK                     | 9m*6m*6m          | HRSW-SZ-E MC-02Chamber | Nov.25,22 | Nov.24,25 |
| EMI TEST Receiver                  | R&S                     | ESR26             | 101734                 | Feb.24,24 | Feb.23,26 |
| EMI TEST Receiver                  | R&S                     | ESW44             | 101973                 | Feb.24,24 | Feb.23,26 |
| Bilog Antenna                      | SCHWARZBECK             | VULB 9163         | 1264                   | Feb.27,24 | Feb.26,26 |
| Horn Antenna                       | ETS-LINDGREN            | 3117              | 227836                 | Aug.22,22 | Aug.21,24 |
| Horn Antenna (18GHz-40GHz)         | Steatite Q-par Antennas | QMS 00880         | 23486                  | Feb.22,24 | Feb.21,26 |
| Horn Antenna                       | Steatite Q-par Antennas | QMS 00208         | 23485                  | Aug.22,22 | Aug.21,24 |
| Loop Antenna                       | SCHWARZ                 | HFH2-Z2/Z2E       | 100976                 | Feb.22,24 | Feb.21,26 |
| WIDEBANDRADIO COMMUNICATION TESTER | R&S                     | CMW500            | 169399                 | Jun.27,22 | Jun.26,24 |
| Test Software                      | EMC32                   | EMC32             | N/A                    | N/A       | N/A       |
| Test Software                      | ELEKTRA                 | ELEKTRA4.32       | N/A                    | N/A       | N/A       |
| Open Switch and Control Unit       | R&S                     | OSP220            | 101964                 | Oct.01,22 | Sep.30,24 |
| DC Source                          | HYELEC                  | HY3010B           | 551016                 | Aug.31,22 | Aug.30,24 |
| Hygrothermograph                   | DELI                    | 20210528          | SZ014                  | Sep.06,22 | Sep.05,24 |
| PC                                 | LENOVO                  | E14               | HRSW0024               | N/A       | N/A       |
| TMC-AMI18843A(CABLE)               | R&S                     | HF290-NMNM-7.0 OM | N/A                    | N/A       | N/A       |
| TMC-AMI18843A(CABLE)               | R&S                     | HF290-NMNM-4.0 OM | N/A                    | N/A       | N/A       |
| CABLE                              | R&S                     | W13.02            | N/A                    | Apr.28,23 | Apr.27,24 |
| CABLE                              | R&S                     | W13.02            | N/A                    | Apr.27,24 | Apr.26,25 |
| CABLE                              | R&S                     | W12.14            | N/A                    | Apr.28,23 | Apr.27,24 |
| CABLE                              | R&S                     | W12.14            | N/A                    | Apr.27,24 | Apr.26,25 |
| CABLE                              | R&S                     | J12J103539-00-1   | SEP-03-20-069          | Apr.28,23 | Apr.27,24 |
| CABLE                              | R&S                     | J12J103539-00-1   | SEP-03-20-069          | Apr.27,24 | Apr.26,25 |
| CABLE                              | R&S                     | J12J103539-00-1   | SEP-03-20-070          | Apr.28,23 | Apr.27,24 |
| CABLE                              | R&S                     | J12J103539-00-1   | SEP-03-20-070          | Apr.27,24 | Apr.26,25 |
| Temperature Chamber                | votsch                  | VT4002            | 58566078100050         | May.31,22 | May.30,24 |

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|                     |        |        |                    |           |           |
|---------------------|--------|--------|--------------------|-----------|-----------|
| Temperature Chamber | votsch | VT4002 | 5856607810<br>0050 | May.30,24 | May.29,26 |
|---------------------|--------|--------|--------------------|-----------|-----------|

- NOTE:**
1. The calibration interval of the above test instruments is 12/ 24 / 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 434559; The Designation No. is CN1325.



## 2 GENERAL INFORMATION

### 2.1 GENERAL DESCRIPTION OF EUT

|                 |                                                      |                     |
|-----------------|------------------------------------------------------|---------------------|
| PRODUCT         | Smart phone                                          |                     |
| BRAND NAME      | HMD                                                  |                     |
| MODEL NAME      | TA-1600/TA-1688                                      |                     |
| NOMINAL VOLTAGE | 5.0Vdc/9.0Vdc /12.0Vdc(adapter)<br>3.89Vdc (battery) |                     |
| MODULATION TYPE | GSM/EDGE                                             | GMSK, 8PSK          |
|                 | WCDMA                                                | BPSK, QPSK          |
|                 | LTE                                                  | QPSK, 16QAM, 64QAM  |
|                 | LTE CA                                               | CA_2A-5A/ CA_4A-5A  |
| FREQUENCY RANGE | GSM/EDGE                                             | 824.2MHz ~ 848.8MHz |
|                 | WCDMA                                                | 826.4MHz ~ 846.6MHz |
|                 | LTE Band 5<br>(Channel Bandwidth: 1.4MHz)            | 824.7MHz ~ 848.3MHz |
|                 | LTE Band 5<br>(Channel Bandwidth: 3MHz)              | 825.5MHz ~ 847.5MHz |
|                 | LTE Band 5<br>(Channel Bandwidth: 5MHz)              | 826.5MHz ~ 846.5MHz |
|                 | LTE Band 5<br>(Channel Bandwidth: 10MHz)             | 829MHz ~ 844MHz     |
|                 | LTE Band 26<br>(Channel Bandwidth: 1.4MHz)           | 824.7MHz ~ 848.3MHz |
|                 | LTE Band 26<br>(Channel Bandwidth: 3MHz)             | 825.5MHz ~ 847.5MHz |
|                 | LTE Band 26<br>(Channel Bandwidth: 5MHz)             | 826.5MHz ~ 846.5MHz |
|                 | LTE Band 26<br>(Channel Bandwidth: 10MHz)            | 829MHz ~ 844MHz     |
|                 | LTE Band 26<br>(Channel Bandwidth: 15MHz)            | 831.5MHz ~ 841.5MHz |
|                 | LTE Band 26<br>(Channel Bandwidth: 15MHz)            | 831.5MHz ~ 841.5MHz |
| MAX. ERP POWER  | GSM                                                  | 271.64mW            |
|                 | EDGE                                                 | 52.36mW             |
|                 | WCDMA                                                | 33.11mW             |
|                 | LTE Band 5<br>(Channel Bandwidth: 1.4MHz)            | 30.69mW             |
|                 | LTE Band 5<br>(Channel Bandwidth: 3MHz)              | 30.55mW             |
|                 | LTE Band 5<br>(Channel Bandwidth: 5MHz)              | 30.69mW             |



|                                     |                                                                            |                |
|-------------------------------------|----------------------------------------------------------------------------|----------------|
|                                     | <b>LTE Band 5<br/>(Channel Bandwidth: 10MHz)</b>                           | 31.19mW        |
| <b>MAX. ERP POWER</b>               | <b>LTE Band 26<br/>(Channel Bandwidth: 1.4MHz)</b>                         | 28.12mW        |
|                                     | <b>LTE Band 26<br/>(Channel Bandwidth: 3MHz)</b>                           | 27.67mW        |
|                                     | <b>LTE Band 26<br/>(Channel Bandwidth: 5MHz)</b>                           | 27.8mW         |
|                                     | <b>LTE Band 26<br/>(Channel Bandwidth: 10MHz)</b>                          | 27.8mW         |
|                                     | <b>LTE Band 26<br/>(Channel Bandwidth: 15MHz)</b>                          | 28.18mW        |
| <b>EMISSION<br/>DESIGNATOR GOGN</b> | <b>GSM</b>                                                                 | 249KGXW        |
|                                     | <b>EDGE</b>                                                                | 248KG7W        |
|                                     | <b>WCDMA</b>                                                               | 4M14F9W        |
|                                     | <b>LTE Band 26<br/>(Channel Bandwidth: 1.4MHz)</b>                         | QPSK: 1M10G7D  |
|                                     |                                                                            | 16QAM: 1M10W7D |
|                                     | <b>LTE Band 26<br/>(Channel Bandwidth: 3MHz)</b>                           | QPSK: 2M70G7D  |
|                                     |                                                                            | 16QAM: 2M71W7D |
|                                     | <b>LTE Band 26<br/>(Channel Bandwidth: 5MHz)</b>                           | QPSK: 4M52G7D  |
|                                     |                                                                            | 16QAM: 4M52W7D |
|                                     | <b>LTE Band 26<br/>(Channel Bandwidth: 10MHz)</b>                          | QPSK: 9M00G7D  |
|                                     |                                                                            | 16QAM: 9M00W7D |
|                                     | <b>LTE Band 26<br/>(Channel Bandwidth: 15MHz)</b>                          | QPSK: 13M5G7D  |
|                                     |                                                                            | 16QAM: 13M5W7D |
| <b>ANTENNA TYPE</b>                 | ANT0:<br>PIFA Antenna with -7.18dBi gain for GSM850/WCDMA V/LTE B5/LTE B26 |                |
| <b>HW VERSION</b>                   | V2                                                                         |                |
| <b>SW VERSION</b>                   | 00WW_0_340                                                                 |                |
| <b>I/O PORTS</b>                    | Refer to user's manual                                                     |                |
| <b>CABLE SUPPLIED</b>               | N/A                                                                        |                |
| <b>EXTREME TEMPERATURE</b>          | -10-55°C                                                                   |                |
| <b>EXTREME VOLTAGE</b>              | 3.5V - 4.48V                                                               |                |

**NOTE:**

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

| MODULATION MODE | TX FUNCTION |
|-----------------|-------------|
| GSM/GPRS/EDGE   | 1TX/4RX     |
| WCDMA           | 1TX/4RX     |
| LTE             | 1TX/4RX     |

3. For the test results, the EUT had been tested with all conditions. But only the worst case was shown in test report.
4. Antenna gain and EUT conducted cable loss are provided by the customer, and the laboratory will record the results based on these items that involve these two parameters.
5. The worst-case scenario for all measurements is based on an engineering evaluation made on different modulations. Then, QPSK and 16QAM were observed as the worst mode to LTE bands respectively and set for all conducted and radiated. Output power measurements were measured on QPSK, 16QAM, 64QAM, and 256QAM modulations, and tests other than output power are performed only in worse-case QPSK and 16QAM modulations.

**6. List of Accessory:**

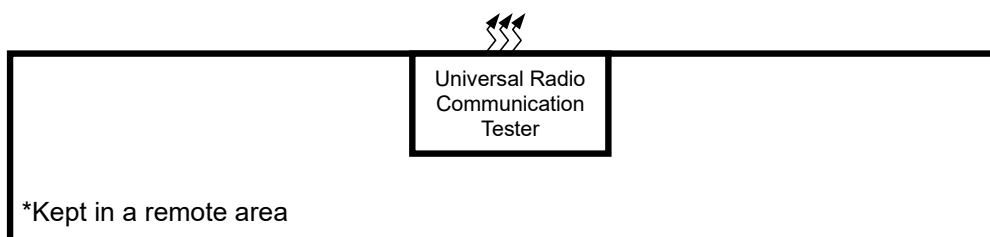
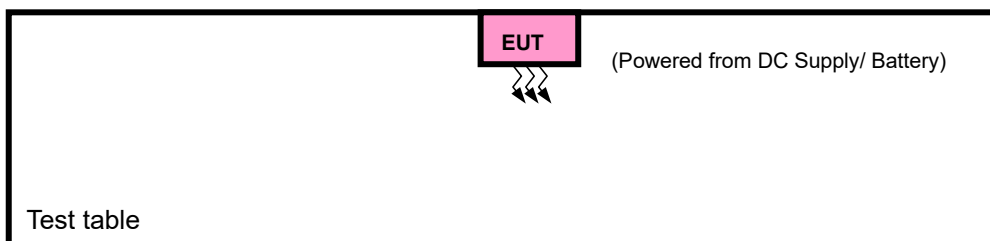
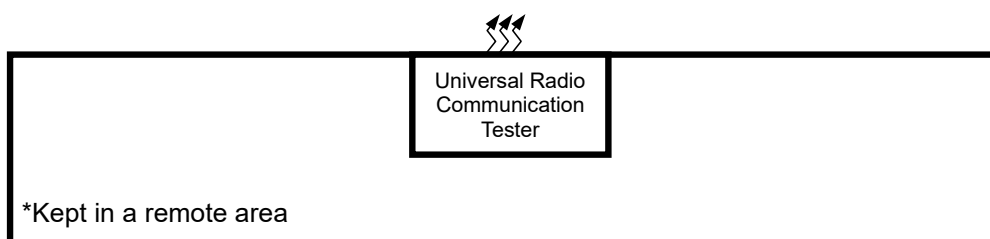
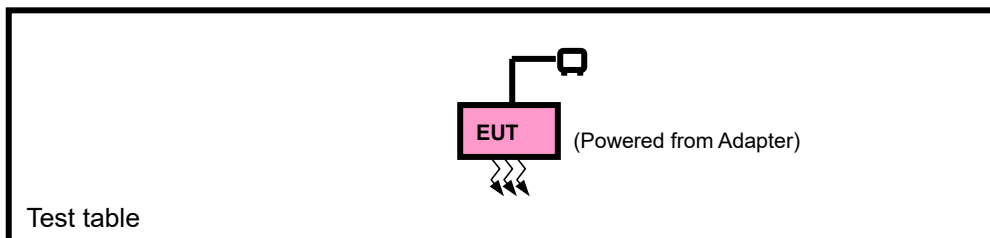
| ACCESSORIES    | BRAND    | MANUFACTURER | MODEL                        | SPECIFICATION                              |
|----------------|----------|--------------|------------------------------|--------------------------------------------|
| LCD Panel      | BOE      | BOE          | BF066XMM-TL4-F900            | 6.55inch, AMOLED;                          |
| Back cover     | BIEL     | BIEL         | Panda-X                      | 158 mm*73 mm*0.6 mm                        |
| Bezel          | BIEL     | BIEL         | 6103HG02-T6                  | 160 mm_76 mm_8.5 mm                        |
| Photo Camera 1 | AAC      | AAC          | P50AD01                      | 50MP,AF                                    |
| Photo Camera 2 | AAC      | AAC          | W13FD02                      | 13MP Ultra Wide, FF                        |
| Video Camera 1 | AAC      | AAC          | T50AD01                      | 50MP Tele, AF                              |
| Video Camera 2 | AAC      | AAC          | MA8SD01                      | 108MP+OIS, AF                              |
| CPU            | Qualcomm | Qualcomm     | SM-7435-1-PSP1026-TR-00-0-AB | Platform Baseband Chip_PSP_mmW_8 core_SMT  |
| eMMC1 (=ROM1)  | Samsung  | Samsung      | KM8L9001JM-B624T07           | uMCP_254-ball FBGA_128GB_LPDD R4X_64Gb_SMT |
| eMMC2 (=ROM2)  | Samsung  | Samsung      | KM8F9001JM-B813T07           | uMCP_254-ball FBGA_256GB_LPDD R4X_64Gb_SMT |
| eMMC3 (=ROM3)  | Samsung  | Samsung      | KM8F9001MM-B830T07           | uMCP_254-ball FBGA_256GB_LPDD R4X_96Gb_SMT |
| Battery        | HMD      | Gaoyuan      | HBA4633AA                    | RatedCapacity:4500mAh/17.51Wh              |



7. The differences between the first and second supply as follows and the specifications and RF parameters are the same.

| Key Component list |                                     |                            |              |                                                                                                                                                  |                       |                                                                                                                                                        |
|--------------------|-------------------------------------|----------------------------|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| No.                | Component                           | Description                | First supply |                                                                                                                                                  | Second supply         |                                                                                                                                                        |
|                    |                                     |                            | Supplier     | Spec                                                                                                                                             | Supplier              | Spec                                                                                                                                                   |
| 1                  | USB/<br>Analog<br>audio<br>headsets | Analog<br>Audio<br>Switch  | Dioo         | DIO4480WL25<br>Analog switch &<br>MUX_WLCSP25_2.7-<br>5.5V_3-Channel_1000MHz<br>_SMT                                                             | Will                  | WAS4780C-25/TR<br>Analog switch &<br>MUX_CSP-<br>25L_2.7-5.5V_2-<br>Channel_950MHz_<br>SMT                                                             |
| 2                  | Wireless<br>charge                  | Load<br>Switch             | SGM          | SGM2575ADYG/TR<br>Load Switch_34 mΩ_11<br>W_WLCSP_SGM2575ADY<br>G/TR_SGM                                                                         | Dioo                  | DIO7290WL4<br>Load Switch_85<br>mΩ_11<br>W_WLCSP-4                                                                                                     |
| 3                  | Sensor                              | Barometer                  | Bosch        | BMP580<br>Baroceptor_LGA-10_±0.05<br>hPa_48 bit_SMT                                                                                              | Go<br>er<br>mic<br>ro | SPL07-003<br>Baroceptor_10pin<br>LGA_0.5Pa/°C_24<br>bit_SMT                                                                                            |
| 4                  | Sensor                              | eCOMPASS                   | VTC          | AF6837<br>Magnetic field<br>sensor_WLCSP_10<br>LSB/μT_16 bit_I2C_SMT                                                                             | Memsic                | MMC5603NJL<br>Ecompass_MMC56<br>03NJL_M<br>EMSIC_MCOs                                                                                                  |
| 5                  | RF IC                               | LNA                        | Will         | WS7916DF-6/TR<br>RF_LNA_6-pin DFN_1150<br>MHz to 1615_SMT                                                                                        | Awinic                | AW5005EDNR<br>RF_LNA_AW5005<br>EDNR_Awi<br>nic                                                                                                         |
| 6                  | Receiver                            | SP2T                       | Will         | WS78022D-6/TR<br>DFN-6_0.1GHz -<br>3.8GHz_SPDT_GPIO_SMT                                                                                          | Champ<br>hill         | QX8612GD<br>0.7 to<br>2.7GHz_SPDT_2<br>W_GPIO                                                                                                          |
| 7                  | USB<br>connector                    | USB<br>type-C<br>connector | LETCON       | 15-16815-105-M1<br>USB TYPE C<br>Connector_0.9 mm_16<br>pin_Female Head (elastic<br>end)_Horizontal_None-<br>waterproof_4.27<br>mm_Gold_SMT_480M | HRD                   | UC141-0B100DR0<br>USB TYPE C<br>Connector_0.9<br>mm_16 pin_Female<br>Head (elastic<br>end)_Horizontal_No<br>ne- waterproof_4.3<br>mm_Gold_SMT_48<br>0M |

## 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 | Kikusui/JP | PMX18-5A  | 0000001    | N/A    |

| NO. | SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS |
|-----|-----------------------------------------------------|
| 1   | DC Line: Unshielded, Detachable 1.0m                |

## 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 /LTE. Following channel(s) was (were) selected for the final test as listed below:

| EUT<br>CONFIGURE<br>MODE | DESCRIPTION                                   |
|--------------------------|-----------------------------------------------|
| A                        | EUT + Adapter with GSM or WCDMA or LTE link   |
| B                        | EUT + DC Supply with GSM or WCDMA or LTE link |

**GSM MODE**

| EUT<br>CONFIGURE<br>MODE | TEST ITEM             | AVAILABLE CHANNEL | TESTED CHANNEL | MODE     |
|--------------------------|-----------------------|-------------------|----------------|----------|
| A                        | ERP                   | 128 to 251        | 128, 189, 251  | GSM,EDGE |
| B                        | FREQUENCY STABILITY   | 128 to 251        | 128, 189, 251  | GSM,EDGE |
| A                        | OCCUPIED BANDWIDTH    | 128 to 251        | 128, 189, 251  | GSM,EDGE |
| A                        | BAND EDGE             | 128 to 251        | 128, 251       | GSM,EDGE |
| A                        | CONDUCTED EMISSION    | 128 to 251        | 128, 189, 251  | GSM,EDGE |
| A                        | RADIATED EMISSION     | 128 to 251        | 128, 189, 251  | GSM,EDGE |
| A                        | PEAK TO AVERAGE RATIO | 128 to 251        | 128, 189, 251  | GSM,EDGE |

**WCDMA MODE**

| EUT<br>CONFIGURE<br>MODE | TEST ITEM             | AVAILABLE CHANNEL | TESTED CHANNEL   | MODE  |
|--------------------------|-----------------------|-------------------|------------------|-------|
| A                        | ERP                   | 4132 to 4233      | 4132, 4182, 4233 | WCDMA |
| B                        | FREQUENCY STABILITY   | 4132 to 4233      | 4132, 4182, 4233 | WCDMA |
| A                        | OCCUPIED BANDWIDTH    | 4132 to 4233      | 4132, 4182, 4233 | WCDMA |
| A                        | BAND EDGE             | 4132 to 4233      | 4132, 4233       | WCDMA |
| A                        | CONDUCTED EMISSION    | 4132 to 4233      | 4132, 4182, 4233 | WCDMA |
| A                        | RADIATED EMISSION     | 4132 to 4233      | 4132, 4182, 4233 | WCDMA |
| A                        | PEAK TO AVERAGE RATIO | 4132 to 4233      | 4132, 4182, 4233 | WCDMA |



## LTE BAND 5 MODE

| EUT CONFIGURE MODE | TEST ITEM | Available Channel | Tested Channel      | Channel bandwidth | modulation       | mode               |
|--------------------|-----------|-------------------|---------------------|-------------------|------------------|--------------------|
| A                  | ERP       | 20407 to 20643    | 20407, 20525, 20643 | 1.4MHz            | QPSK,16QAM,64QAM | 1 RB / 0 RB Offset |
|                    |           | 20415 to 20635    | 20415, 20525, 20635 | 3MHz              | QPSK,16QAM,64QAM | 1 RB / 0 RB Offset |
|                    |           | 20425 to 20625    | 20425, 20525, 20625 | 5MHz              | QPSK,16QAM,64QAM | 1 RB / 0 RB Offset |
|                    |           | 20450 to 20600    | 20450, 20525, 20600 | 10MHz             | QPSK,16QAM,64QAM | 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. LTE Band 5 are covered by LTE Band 26, Because it is a subset of LTE Band 26 with the same output power and supported bandwidths, So the test data please refer to LTE Band 26

## LTE BAND 26 MODE

| EUT CONFIGURE MODE | TEST ITEM             | Available Channel | Tested Channel      | Channel bandwidth | modulation         | mode                                      |
|--------------------|-----------------------|-------------------|---------------------|-------------------|--------------------|-------------------------------------------|
| A                  | ERP                   | 26797 to 27033    | 26797, 26915, 27033 | 1.4MHz            | QPSK, 16QAM, 64QAM | 1 RB / 0 RB Offset                        |
|                    |                       | 26805 to 27025    | 26805, 26915, 27025 | 3MHz              | QPSK, 16QAM, 64QAM | 1 RB / 0 RB Offset                        |
|                    |                       | 26815 to 27015    | 26815, 26915, 27015 | 5MHz              | QPSK, 16QAM, 64QAM | 1 RB / 0 RB Offset                        |
|                    |                       | 26840 to 26990    | 26840, 26915, 26990 | 10MHz             | QPSK, 16QAM, 64QAM | 1 RB / 0 RB Offset                        |
|                    |                       | 26865 to 26965    | 26865, 26915, 26965 | 15MHz             | QPSK, 16QAM, 64QAM | 1 RB / 0 RB Offset                        |
| B                  | FREQUENCY STABILITY   | 26865 to 26965    | 26865, 26915, 26965 | 10MHz             | QPSK, 16QAM, 64QAM | 75 RB / 0 RB Offset                       |
| A                  | OCCUPIED BANDWIDTH    | 26797 to 27033    | 26797, 26915, 27033 | 1.4MHz            | QPSK, 16QAM, 64QAM | 6 RB / 0 RB Offset                        |
|                    |                       | 26805 to 27025    | 26805, 26915, 27025 | 3MHz              | QPSK, 16QAM, 64QAM | 15 RB / 0 RB Offset                       |
|                    |                       | 26815 to 27015    | 26815, 26915, 27015 | 5MHz              | QPSK, 16QAM, 64QAM | 25 RB / 0 RB Offset                       |
|                    |                       | 26840 to 26990    | 26840, 26915, 26990 | 10MHz             | QPSK, 16QAM, 64QAM | 50 RB / 0 RB Offset                       |
|                    |                       | 26865 to 26965    | 26865, 26915, 26965 | 15MHz             | QPSK, 16QAM, 64QAM | 75 RB / 0 RB Offset                       |
| A                  | PEAK TO AVERAGE RATIO | 26865 to 26965    | 26865, 26915, 26965 | 15MHz             | QPSK, 16QAM, 64QAM | 1 RB / 0 RB Offset<br>75 RB / 0 RB Offset |
| A                  | BAND EDGE             | 26797 to 27033    | 26797               | 1.4 MHz           | QPSK, 16QAM, 64QAM | 1 RB / 0 RB Offset                        |
|                    |                       |                   |                     |                   |                    | 6 RB / 0 RB Offset                        |
|                    |                       | 26797 to 27033    | 27033               | 1.4 MHz           | QPSK, 16QAM, 64QAM | 1 RB / 5 RB Offset                        |
|                    |                       |                   |                     |                   |                    | 6 RB / 0 RB Offset                        |
|                    |                       | 26805 to 27025    | 26805               | 3 MHz             | QPSK, 16QAM, 64QAM | 1 RB / 0 RB Offset                        |



|   |                       |                |                        |        |                    |                     |
|---|-----------------------|----------------|------------------------|--------|--------------------|---------------------|
|   |                       |                |                        |        |                    | 15 RB / 0 RB Offset |
|   |                       | 26805 to 27025 | 27025                  | 3 MHz  | QPSK, 16QAM, 64QAM | 1 RB / 14 RB Offset |
|   |                       |                |                        |        |                    | 15 RB / 0 RB Offset |
|   |                       | 26815 to 27015 | 26815                  | 5MHz   | QPSK, 16QAM, 64QAM | 1 RB / 0 RB Offset  |
|   |                       |                |                        |        |                    | 25 RB / 0 RB Offset |
|   |                       | 26815 to 27015 | 27015                  | 5MHz   | QPSK, 16QAM, 64QAM | 1 RB / 24 RB Offset |
|   |                       |                |                        |        |                    | 25 RB / 0 RB Offset |
|   |                       | 26840 to 26990 | 26840                  | 10MHz  | QPSK, 16QAM, 64QAM | 1 RB / 0 RB Offset  |
|   |                       |                |                        |        |                    | 50 RB / 0 RB Offset |
|   |                       | 26840 to 26990 | 26990                  | 10MHz  | QPSK, 16QAM, 64QAM | 1 RB / 49 RB Offset |
| A | CONDUCTED<br>EMISSION | 26797 to 27033 | 26797, 26915,<br>27033 | 1.4MHz | QPSK, 16QAM, 64QAM | 1 RB / 0 RB Offset  |
|   |                       | 26805 to 27025 | 26805, 26915,<br>27025 | 3MHz   | QPSK, 16QAM, 64QAM | 1 RB / 0 RB Offset  |
|   |                       | 26815 to 27015 | 26815, 26915,<br>27015 | 5MHz   | QPSK, 16QAM, 64QAM | 1 RB / 0 RB Offset  |
|   |                       | 26840 to 26990 | 26840, 26915,<br>26990 | 10MHz  | QPSK, 16QAM, 64QAM | 1 RB / 0 RB Offset  |
|   |                       | 26865 to 26965 | 26865, 26915,<br>26965 | 15MHz  | QPSK, 16QAM, 64QAM | 1 RB / 0 RB Offset  |
| A | RADIATED<br>EMISSION  | 26797 to 27033 | 26915                  | 1.4MHz | QPSK               | 1 RB / 0 RB Offset  |
|   |                       | 26805 to 27025 | 26915                  | 3MHz   | QPSK               | 1 RB / 0 RB Offset  |
|   |                       | 26815 to 27015 | 26815, 26915,<br>27015 | 5MHz   | QPSK               | 1 RB / 0 RB Offset  |
|   |                       | 26840 to 26990 | 26915                  | 10MHz  | QPSK               | 1 RB / 0 RB Offset  |
|   |                       | 26865 to 26965 | 26915                  | 15MHz  | QPSK               | 1 RB / 0 RB Offset  |

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

**TEST CONDITION:**

| TEST ITEM             | ENVIRONMENTAL CONDITIONS | INPUT POWER                      | TESTED BY |
|-----------------------|--------------------------|----------------------------------|-----------|
| ERP                   | 23deg. C, 70%RH          | DC 5.0V/9.0V /12.0VBy Adapter    | Jace Hu   |
| FREQUENCY STABILITY   | 23deg. C, 70%RH          | DC 3.5V/3.89V/4.48V By DC Supply | James Fu  |
| OCCUPIED BANDWIDTH    | 23deg. C, 70%RH          | DC 5.0V/9.0V /12.0VBy Adapter    | James Fu  |
| BAND EDGE             | 23deg. C, 70%RH          | DC 5.0V/9.0V /12.0VBy Adapter    | James Fu  |
| CONDUCTED EMISSION    | 23deg. C, 70%RH          | DC 5.0V/9.0V /12.0VBy Adapter    | James Fu  |
| RADIATED EMISSION     | 23deg. C, 70%RH          | DC 5.0V/9.0V /12.0VBy Adapter    | Jace Hu   |
| PEAK TO AVERAGE RATIO | 23deg. C, 70%RH          | DC 5.0V/9.0V /12.0VBy Adapter    | James Fu  |

## 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

## 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:

$$\text{ERP or EIRP} = P_{\text{Meas}} + G_T - L_C$$

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;

$G_T$  = gain of the transmitting antenna, in dBd (ERP) or dBi (EIRP);

$L_C$  = 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    | 189   | 251          |
| Frequency (MHz) | 824.2  | 836.4 | 848.8        |
| GSM             | 32.54  | 33.47 | 33.45        |
| GPRS 1Tx Slot   | 32.53  | 33.46 | <b>33.67</b> |
| GPRS 2Tx Slot   | 30.64  | 31.24 | 31.15        |
| GPRS 3Tx Slot   | 28.52  | 29.16 | 29.02        |
| GPRS 4Tx Slot   | 27.32  | 28.08 | 28.07        |
| EDGE 1Tx Slot   | 26.14  | 26.42 | 26.52        |
| EDGE 2Tx Slot   | 24.52  | 25.53 | 25.43        |
| EDGE 3Tx Slot   | 22.37  | 22.99 | 22.84        |
| EDGE 4Tx Slot   | 21.32  | 22.09 | 21.87        |

| Band               | WCDMA V |              |       |
|--------------------|---------|--------------|-------|
| Channel            | 4132    | 4182         | 4233  |
| Frequency (MHz)    | 826.4   | 836.4        | 846.6 |
| RMC 12.2K          | 24.52   | <b>24.53</b> | 24.48 |
| HSDPA Subtest-1    | 23.86   | 23.72        | 23.81 |
| HSDPA Subtest-2    | 23.84   | 23.78        | 23.66 |
| HSDPA Subtest-3    | 23.26   | 23.29        | 23.24 |
| HSDPA Subtest-4    | 23.24   | 23.29        | 23.12 |
| DC-HSDPA Subtest-1 | 23.73   | 23.64        | 23.74 |
| DC-HSDPA Subtest-2 | 23.58   | 23.73        | 23.70 |
| DC-HSDPA Subtest-3 | 23.24   | 23.16        | 23.13 |
| DC-HSDPA Subtest-4 | 23.30   | 23.13        | 23.21 |
| HSUPA Subtest-1    | 23.63   | 23.85        | 23.73 |
| HSUPA Subtest-2    | 22.71   | 22.68        | 22.61 |
| HSUPA Subtest-3    | 23.13   | 23.18        | 23.18 |
| HSUPA Subtest-4    | 22.81   | 22.78        | 22.71 |
| HSUPA Subtest-5    | 23.70   | 23.78        | 23.72 |



## LTE Band 5

| Band/BW | Modulation | RB Size | RB Offset | Low CH<br>20407        | Mid CH<br>20525        | High CH<br>20643       |
|---------|------------|---------|-----------|------------------------|------------------------|------------------------|
|         |            |         |           | Frequency<br>824.7 MHz | Frequency<br>836.5 MHz | Frequency<br>848.3 MHz |
| 5/ 1.4  | QPSK       | 1       | 0         | 24.11                  | 24.13                  | 24.19                  |
|         |            | 1       | 2         | 24.18                  | 24.18                  | 24.08                  |
|         |            | 1       | 5         | 24.10                  | 24.18                  | 24.10                  |
|         |            | 3       | 0         | 24.09                  | 24.12                  | 24.05                  |
|         |            | 3       | 1         | 24.18                  | 24.14                  | 24.13                  |
|         |            | 3       | 3         | 24.11                  | 24.13                  | 24.20                  |
|         |            | 6       | 0         | 23.17                  | 23.10                  | 23.09                  |
|         | 16QAM      | 1       | 0         | 23.44                  | 23.33                  | 23.43                  |
|         |            | 1       | 2         | 23.28                  | 23.40                  | 23.38                  |
|         |            | 1       | 5         | 23.18                  | 23.39                  | 23.18                  |
|         |            | 3       | 0         | 23.18                  | 23.09                  | 23.07                  |
|         |            | 3       | 1         | 23.23                  | 23.25                  | 23.13                  |
|         |            | 3       | 3         | 23.09                  | 23.21                  | 23.23                  |
|         |            | 6       | 0         | 22.21                  | 22.22                  | 22.16                  |
|         | 64QAM      | 1       | 0         | 22.39                  | 22.32                  | 22.34                  |
|         |            | 1       | 2         | 22.33                  | 22.40                  | 22.15                  |
|         |            | 1       | 5         | 22.12                  | 22.21                  | 22.22                  |
|         |            | 3       | 0         | 22.11                  | 22.23                  | 22.07                  |
|         |            | 3       | 1         | 22.16                  | 22.19                  | 22.10                  |
|         |            | 3       | 3         | 22.21                  | 22.21                  | 22.18                  |
|         |            | 6       | 0         | 21.20                  | 21.15                  | 21.13                  |



| Band/BW | Modulation | RB<br>Size | RB<br>Offset | Low CH<br>20415        | Mid CH<br>20525        | High CH<br>20635       |
|---------|------------|------------|--------------|------------------------|------------------------|------------------------|
|         |            |            |              | Frequency<br>825.5 MHz | Frequency<br>836.5 MHz | Frequency<br>847.5 MHz |
| 5/ 3    | QPSK       | 1          | 0            | 24.12                  | 24.13                  | 24.10                  |
|         |            | 1          | 7            | 24.17                  | 24.17                  | 24.10                  |
|         |            | 1          | 14           | 24.02                  | 24.18                  | 24.08                  |
|         |            | 8          | 0            | 23.16                  | 23.14                  | 23.11                  |
|         |            | 8          | 3            | 23.28                  | 23.21                  | 23.17                  |
|         |            | 8          | 7            | 23.19                  | 23.28                  | 23.13                  |
|         |            | 15         | 0            | 23.17                  | 23.11                  | 23.19                  |
|         | 16QAM      | 1          | 0            | 23.40                  | 23.37                  | 23.34                  |
|         |            | 1          | 7            | 23.23                  | 23.49                  | 23.39                  |
|         |            | 1          | 14           | 23.26                  | 23.36                  | 23.32                  |
|         |            | 8          | 0            | 22.17                  | 22.10                  | 22.17                  |
|         |            | 8          | 3            | 22.20                  | 22.19                  | 22.10                  |
|         |            | 8          | 7            | 22.23                  | 22.23                  | 22.19                  |
|         |            | 15         | 0            | 22.14                  | 22.20                  | 22.15                  |
|         | 64QAM      | 1          | 0            | 22.26                  | 22.27                  | 22.34                  |
|         |            | 1          | 7            | 22.21                  | 22.39                  | 22.22                  |
|         |            | 1          | 14           | 22.23                  | 22.28                  | 22.30                  |
|         |            | 8          | 0            | 21.11                  | 21.17                  | 21.05                  |
|         |            | 8          | 3            | 21.19                  | 21.10                  | 21.18                  |
|         |            | 8          | 7            | 21.19                  | 21.23                  | 21.10                  |
|         |            | 15         | 0            | 21.15                  | 21.16                  | 21.16                  |



| Band/BW | Modulation | RB<br>Size | RB<br>Offset | Low CH<br>20425        | Mid CH<br>20525        | High CH<br>20625       |
|---------|------------|------------|--------------|------------------------|------------------------|------------------------|
|         |            |            |              | Frequency<br>826.5 MHz | Frequency<br>836.5 MHz | Frequency<br>846.5 MHz |
| 5/ 5    | QPSK       | 1          | 0            | 24.09                  | 24.17                  | 24.16                  |
|         |            | 1          | 12           | 24.10                  | 24.20                  | 24.05                  |
|         |            | 1          | 24           | 24.05                  | 24.13                  | 24.09                  |
|         |            | 12         | 0            | 23.18                  | 23.09                  | 23.11                  |
|         |            | 12         | 6            | 23.18                  | 23.23                  | 23.16                  |
|         |            | 12         | 13           | 23.19                  | 23.23                  | 23.15                  |
|         |            | 25         | 0            | 23.20                  | 23.14                  | 23.17                  |
|         | 16QAM      | 1          | 0            | 23.40                  | 23.33                  | 23.44                  |
|         |            | 1          | 12           | 23.24                  | 23.40                  | 23.37                  |
|         |            | 1          | 24           | 23.24                  | 23.38                  | 23.20                  |
|         |            | 12         | 0            | 22.11                  | 22.14                  | 22.09                  |
|         |            | 12         | 6            | 22.18                  | 22.17                  | 22.19                  |
|         |            | 12         | 13           | 22.14                  | 22.09                  | 22.26                  |
|         |            | 25         | 0            | 22.14                  | 22.30                  | 22.13                  |
|         | 64QAM      | 1          | 0            | 22.38                  | 22.33                  | 22.29                  |
|         |            | 1          | 12           | 22.25                  | 22.40                  | 22.09                  |
|         |            | 1          | 24           | 22.16                  | 22.32                  | 22.30                  |
|         |            | 12         | 0            | 21.05                  | 21.20                  | 21.11                  |
|         |            | 12         | 6            | 21.18                  | 21.14                  | 21.12                  |
|         |            | 12         | 13           | 21.20                  | 21.26                  | 21.09                  |
|         |            | 25         | 0            | 21.21                  | 21.20                  | 21.11                  |



| Band/BW | Modulation | RB Size | RB Offset | Low CH<br>20450      | Mid CH<br>20525        | High CH<br>20600     |
|---------|------------|---------|-----------|----------------------|------------------------|----------------------|
|         |            |         |           | Frequency<br>829 MHz | Frequency<br>836.5 MHz | Frequency<br>844 MHz |
| 5/ 10   | QPSK       | 1       | 0         | 24.23                | <b>24.27</b>           | 24.25                |
|         |            | 1       | 24        | 24.21                | 24.25                  | 24.19                |
|         |            | 1       | 49        | 24.11                | 24.19                  | 24.13                |
|         |            | 25      | 0         | 23.30                | 23.31                  | 23.26                |
|         |            | 25      | 12        | 23.26                | 23.26                  | 23.19                |
|         |            | 25      | 25        | 23.23                | 23.23                  | 23.22                |
|         |            | 50      | 0         | 23.25                | 23.28                  | 23.22                |
|         | 16QAM      | 1       | 0         | 23.45                | 23.42                  | 23.46                |
|         |            | 1       | 24        | 23.34                | 23.51                  | 23.47                |
|         |            | 1       | 49        | 23.31                | 23.46                  | 23.33                |
|         |            | 25      | 0         | 22.19                | 22.16                  | 22.19                |
|         |            | 25      | 12        | 22.27                | 22.27                  | 22.25                |
|         |            | 25      | 25        | 22.24                | 22.24                  | 22.27                |
|         |            | 50      | 0         | 22.23                | 22.31                  | 22.23                |
|         | 64QAM      | 1       | 0         | 22.41                | 22.39                  | 22.39                |
|         |            | 1       | 24        | 22.34                | 22.41                  | 22.23                |
|         |            | 1       | 49        | 22.26                | 22.36                  | 22.32                |
|         |            | 25      | 0         | 21.19                | 21.26                  | 21.12                |
|         |            | 25      | 12        | 21.27                | 21.23                  | 21.22                |
|         |            | 25      | 25        | 21.22                | 21.29                  | 21.24                |
|         |            | 50      | 0         | 21.26                | 21.21                  | 21.18                |



**LTE BAND 26**

| Band/BW | Modulation | RB Size | RB Offset | Low CH<br>26797        | Mid CH<br>26915        | High CH<br>27033       |
|---------|------------|---------|-----------|------------------------|------------------------|------------------------|
|         |            |         |           | Frequency<br>824.7 MHz | Frequency<br>836.5 MHz | Frequency<br>848.3 MHz |
| 26/ 1.4 | QPSK       | 1       | 0         | 23.64                  | 23.73                  | 23.66                  |
|         |            | 1       | 2         | 23.80                  | 23.67                  | 23.54                  |
|         |            | 1       | 5         | 23.55                  | 23.82                  | 23.66                  |
|         |            | 3       | 0         | 23.63                  | 23.58                  | 23.81                  |
|         |            | 3       | 1         | 23.51                  | 23.57                  | 23.81                  |
|         |            | 3       | 3         | 23.61                  | 23.54                  | 23.73                  |
|         |            | 6       | 0         | 22.67                  | 22.62                  | 22.69                  |
|         | 16QAM      | 1       | 0         | 23.02                  | 22.89                  | 23.13                  |
|         |            | 1       | 2         | 22.94                  | 23.05                  | 22.90                  |
|         |            | 1       | 5         | 22.89                  | 22.84                  | 22.82                  |
|         |            | 3       | 0         | 22.51                  | 22.57                  | 22.90                  |
|         |            | 3       | 1         | 22.53                  | 22.54                  | 22.85                  |
|         |            | 3       | 3         | 22.62                  | 22.52                  | 22.73                  |
|         |            | 6       | 0         | 21.94                  | 21.71                  | 21.69                  |
|         | 64QAM      | 1       | 0         | 21.86                  | 21.97                  | 21.89                  |
|         |            | 1       | 2         | 21.92                  | 21.78                  | 21.86                  |
|         |            | 1       | 5         | 21.89                  | 21.83                  | 21.74                  |
|         |            | 3       | 0         | 21.72                  | 21.54                  | 21.95                  |
|         |            | 3       | 1         | 21.68                  | 21.54                  | 21.92                  |
|         |            | 3       | 3         | 21.53                  | 21.56                  | 21.89                  |
|         |            | 6       | 0         | 20.71                  | 20.67                  | 20.73                  |



| Band/BW | Modulation | RB<br>Size | RB<br>Offset | Low CH<br>26805        | Mid CH<br>26915        | High CH<br>27025       |
|---------|------------|------------|--------------|------------------------|------------------------|------------------------|
|         |            |            |              | Frequency<br>825.5 MHz | Frequency<br>836.5 MHz | Frequency<br>847.5 MHz |
| 26/ 3   | QPSK       | 1          | 0            | 23.66                  | 23.68                  | 23.56                  |
|         |            | 1          | 7            | 23.62                  | 23.67                  | 23.55                  |
|         |            | 1          | 14           | 23.55                  | 23.75                  | 23.60                  |
|         |            | 8          | 0            | 22.64                  | 22.62                  | 22.75                  |
|         |            | 8          | 3            | 22.67                  | 22.67                  | 22.67                  |
|         |            | 8          | 7            | 22.58                  | 22.67                  | 22.71                  |
|         |            | 15         | 0            | 22.68                  | 22.65                  | 22.65                  |
|         | 16QAM      | 1          | 0            | 22.87                  | 22.81                  | 23.01                  |
|         |            | 1          | 7            | 22.96                  | 22.97                  | 22.83                  |
|         |            | 1          | 14           | 22.89                  | 22.82                  | 22.72                  |
|         |            | 8          | 0            | 21.59                  | 21.58                  | 21.75                  |
|         |            | 8          | 3            | 21.69                  | 21.70                  | 21.73                  |
|         |            | 8          | 7            | 21.74                  | 21.63                  | 21.71                  |
|         |            | 15         | 0            | 21.87                  | 21.64                  | 21.59                  |
|         | 64QAM      | 1          | 0            | 21.80                  | 21.95                  | 21.87                  |
|         |            | 1          | 7            | 21.86                  | 21.67                  | 21.90                  |
|         |            | 1          | 14           | 21.80                  | 21.70                  | 21.60                  |
|         |            | 8          | 0            | 20.64                  | 20.63                  | 20.75                  |
|         |            | 8          | 3            | 20.71                  | 20.66                  | 20.82                  |
|         |            | 8          | 7            | 20.60                  | 20.67                  | 20.69                  |
|         |            | 15         | 0            | 20.72                  | 20.61                  | 20.73                  |



| Band/BW | Modulation | RB<br>Size | RB<br>Offset | Low CH<br>26815        | Mid CH<br>26915        | High CH<br>27015       |
|---------|------------|------------|--------------|------------------------|------------------------|------------------------|
|         |            |            |              | Frequency<br>826.5 MHz | Frequency<br>836.5 MHz | Frequency<br>846.5 MHz |
| 26/ 5   | QPSK       | 1          | 0            | 23.77                  | 23.70                  | 23.60                  |
|         |            | 1          | 12           | 23.74                  | 23.58                  | 23.59                  |
|         |            | 1          | 24           | 23.67                  | 23.71                  | 23.63                  |
|         |            | 12         | 0            | 22.70                  | 22.66                  | 22.71                  |
|         |            | 12         | 6            | 22.65                  | 22.60                  | 22.60                  |
|         |            | 12         | 13           | 22.56                  | 22.63                  | 22.58                  |
|         |            | 25         | 0            | 22.56                  | 22.63                  | 22.67                  |
|         | 16QAM      | 1          | 0            | 22.83                  | 22.84                  | 23.04                  |
|         |            | 1          | 12           | 22.94                  | 22.93                  | 22.86                  |
|         |            | 1          | 24           | 22.82                  | 22.77                  | 22.73                  |
|         |            | 12         | 0            | 21.59                  | 21.60                  | 21.68                  |
|         |            | 12         | 6            | 21.67                  | 21.67                  | 21.76                  |
|         |            | 12         | 13           | 21.72                  | 21.73                  | 21.74                  |
|         |            | 25         | 0            | 21.86                  | 21.68                  | 21.56                  |
|         | 64QAM      | 1          | 0            | 21.75                  | 21.81                  | 21.86                  |
|         |            | 1          | 12           | 21.72                  | 21.67                  | 21.85                  |
|         |            | 1          | 24           | 21.75                  | 21.68                  | 21.62                  |
|         |            | 12         | 0            | 20.57                  | 20.66                  | 20.81                  |
|         |            | 12         | 6            | 20.84                  | 20.61                  | 20.80                  |
|         |            | 12         | 13           | 20.69                  | 20.61                  | 20.80                  |
|         |            | 25         | 0            | 20.72                  | 20.57                  | 20.73                  |



| Band/BW | Modulation | RB<br>Size | RB<br>Offset | Low CH<br>26840      | Mid CH<br>26915        | High CH<br>26990     |
|---------|------------|------------|--------------|----------------------|------------------------|----------------------|
|         |            |            |              | Frequency<br>829 MHz | Frequency<br>836.5 MHz | Frequency<br>844 MHz |
| 26/10   | QPSK       | 1          | 0            | 23.77                | 23.72                  | 23.54                |
|         |            | 1          | 24           | 23.66                | 23.61                  | 23.53                |
|         |            | 1          | 49           | 23.65                | 23.64                  | 23.58                |
|         |            | 25         | 0            | 22.76                | 22.71                  | 22.71                |
|         |            | 25         | 12           | 22.65                | 22.57                  | 22.64                |
|         |            | 25         | 25           | 22.53                | 22.66                  | 22.65                |
|         |            | 50         | 0            | 22.53                | 22.65                  | 22.63                |
|         | 16QAM      | 1          | 0            | 22.93                | 22.91                  | 23.02                |
|         |            | 1          | 24           | 22.86                | 22.95                  | 22.90                |
|         |            | 1          | 49           | 22.88                | 22.79                  | 22.83                |
|         |            | 25         | 0            | 21.55                | 21.63                  | 21.68                |
|         |            | 25         | 12           | 21.68                | 21.67                  | 21.79                |
|         |            | 25         | 25           | 21.69                | 21.73                  | 21.66                |
|         |            | 50         | 0            | 21.83                | 21.57                  | 21.56                |
|         | 64QAM      | 1          | 0            | 21.81                | 21.95                  | 21.89                |
|         |            | 1          | 24           | 21.80                | 21.67                  | 21.87                |
|         |            | 1          | 49           | 21.72                | 21.62                  | 21.56                |
|         |            | 25         | 0            | 20.65                | 20.70                  | 20.82                |
|         |            | 25         | 12           | 20.85                | 20.60                  | 20.79                |
|         |            | 25         | 25           | 20.71                | 20.62                  | 20.81                |
|         |            | 50         | 0            | 20.68                | 20.54                  | 20.73                |



| Band/BW | Modulation | RB<br>Size | RB<br>Offset | Low CH<br>26865        | Mid CH<br>26915        | High CH<br>26965       |
|---------|------------|------------|--------------|------------------------|------------------------|------------------------|
|         |            |            |              | Frequency<br>831.5 MHz | Frequency<br>836.5 MHz | Frequency<br>841.5 MHz |
| 26/ 15  | QPSK       | 1          | 0            | <b>23.83</b>           | 23.78                  | 23.68                  |
|         |            | 1          | 37           | 23.66                  | 23.63                  | 23.59                  |
|         |            | 1          | 74           | 23.78                  | 23.76                  | 23.65                  |
|         |            | 36         | 0            | 22.85                  | 22.73                  | 22.84                  |
|         |            | 36         | 19           | 22.73                  | 22.68                  | 22.75                  |
|         |            | 36         | 39           | 22.77                  | 22.68                  | 22.73                  |
|         |            | 75         | 0            | 22.80                  | 22.68                  | 22.72                  |
|         | 16QAM      | 1          | 0            | 22.95                  | 22.92                  | 23.11                  |
|         |            | 1          | 37           | 23.04                  | 22.98                  | 22.94                  |
|         |            | 1          | 74           | 23.02                  | 22.87                  | 22.84                  |
|         |            | 36         | 0            | 21.82                  | 21.72                  | 21.83                  |
|         |            | 36         | 19           | 21.79                  | 21.76                  | 21.85                  |
|         |            | 36         | 39           | 21.89                  | 21.74                  | 21.77                  |
|         |            | 75         | 0            | 21.74                  | 21.69                  | 21.69                  |
|         | 64QAM      | 1          | 0            | 21.99                  | 21.96                  | 21.95                  |
|         |            | 1          | 37           | 21.91                  | 21.81                  | 21.91                  |
|         |            | 1          | 74           | 21.87                  | 21.77                  | 21.71                  |
|         |            | 36         | 0            | 20.84                  | 20.76                  | 20.83                  |
|         |            | 36         | 19           | 20.70                  | 20.68                  | 20.85                  |
|         |            | 36         | 39           | 20.86                  | 20.75                  | 20.82                  |
|         |            | 75         | 0            | 20.78                  | 20.67                  | 20.76                  |



**ERP POWER (dBm)**

**GSM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | G <sub>T</sub> -L <sub>c</sub> (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---------|-----------------|-----------------------|-------------------------------------|-----------|----------|-----------|
| 128     | 824.2           | 32.54                 | -7.18                               | 23.21     | 209.41   | 7         |
| 189     | 836.4           | 33.47                 | -7.18                               | 24.14     | 259.42   | 7         |
| 251     | 848.8           | 33.67                 | -7.18                               | 24.34     | 271.64   | 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           | 26.14                 | -7.18                               | 16.81     | 47.97    | 7         |
| 189     | 836.4           | 26.42                 | -7.18                               | 17.09     | 51.17    | 7         |
| 251     | 848.8           | 26.52                 | -7.18                               | 17.19     | 52.36    | 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           | 24.52                 | -7.18                               | 15.19     | 33.04    | 7         |
| 4182    | 836.4           | 24.53                 | -7.18                               | 15.2      | 33.11    | 7         |
| 4233    | 846.6           | 24.48                 | -7.18                               | 15.15     | 32.73    | 7         |

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



**LTE BAND 5**

**CHANNEL BANDWIDTH: 1.4MHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | G <sub>T</sub> -L <sub>C</sub> (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---------|-----------------|-----------------------|-------------------------------------|-----------|----------|-----------|
| 20407   | 824.7           | 24.18                 | -7.18                               | 14.85     | 30.55    | 7         |
| 20525   | 836.5           | 24.18                 | -7.18                               | 14.85     | 30.55    | 7         |
| 20643   | 848.3           | 24.2                  | -7.18                               | 14.87     | 30.69    | 7         |

**CHANNEL BANDWIDTH: 1.4MHz 16QAM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | G <sub>T</sub> -L <sub>C</sub> (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---------|-----------------|-----------------------|-------------------------------------|-----------|----------|-----------|
| 20407   | 824.7           | 23.44                 | -7.18                               | 14.11     | 25.76    | 7         |
| 20525   | 836.5           | 23.4                  | -7.18                               | 14.07     | 25.53    | 7         |
| 20643   | 848.3           | 23.43                 | -7.18                               | 14.1      | 25.7     | 7         |

**CHANNEL BANDWIDTH: 1.4MHz 64QAM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | G <sub>T</sub> -L <sub>C</sub> (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---------|-----------------|-----------------------|-------------------------------------|-----------|----------|-----------|
| 20407   | 824.7           | 22.39                 | -7.18                               | 13.06     | 20.23    | 7         |
| 20525   | 836.5           | 22.4                  | -7.18                               | 13.07     | 20.28    | 7         |
| 20643   | 848.3           | 22.34                 | -7.18                               | 13.01     | 20       | 7         |

**CHANNEL BANDWIDTH: 3MHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | G <sub>T</sub> -L <sub>C</sub> (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---------|-----------------|-----------------------|-------------------------------------|-----------|----------|-----------|
| 20415   | 825.5           | 24.17                 | -7.18                               | 14.84     | 30.48    | 7         |
| 20525   | 836.5           | 24.18                 | -7.18                               | 14.85     | 30.55    | 7         |
| 20635   | 847.5           | 24.1                  | -7.18                               | 14.77     | 29.99    | 7         |

**CHANNEL BANDWIDTH: 3MHz 16QAM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | G <sub>T</sub> -L <sub>C</sub> (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---------|-----------------|-----------------------|-------------------------------------|-----------|----------|-----------|
| 20415   | 825.5           | 23.4                  | -7.18                               | 14.07     | 25.53    | 7         |
| 20525   | 836.5           | 23.49                 | -7.18                               | 14.16     | 26.06    | 7         |
| 20635   | 847.5           | 23.39                 | -7.18                               | 14.06     | 25.47    | 7         |

**CHANNEL BANDWIDTH: 3MHz 64QAM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | G <sub>T</sub> -L <sub>C</sub> (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---------|-----------------|-----------------------|-------------------------------------|-----------|----------|-----------|
| 20415   | 825.5           | 22.26                 | -7.18                               | 12.93     | 19.63    | 7         |
| 20525   | 836.5           | 22.39                 | -7.18                               | 13.06     | 20.23    | 7         |
| 20635   | 847.5           | 22.34                 | -7.18                               | 13.01     | 20       | 7         |

**CHANNEL BANDWIDTH: 5MHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | G <sub>T</sub> -L <sub>C</sub> (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---------|-----------------|-----------------------|-------------------------------------|-----------|----------|-----------|
| 20425   | 826.5           | 24.1                  | -7.18                               | 14.77     | 29.99    | 7         |
| 20525   | 836.5           | 24.2                  | -7.18                               | 14.87     | 30.69    | 7         |
| 20625   | 846.5           | 24.16                 | -7.18                               | 14.83     | 30.41    | 7         |

**CHANNEL BANDWIDTH: 5MHz 16QAM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | G <sub>T</sub> -L <sub>C</sub> (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---------|-----------------|-----------------------|-------------------------------------|-----------|----------|-----------|
| 20425   | 826.5           | 23.4                  | -7.18                               | 14.07     | 25.53    | 7         |
| 20525   | 836.5           | 23.4                  | -7.18                               | 14.07     | 25.53    | 7         |
| 20625   | 846.5           | 23.44                 | -7.18                               | 14.11     | 25.76    | 7         |

**CHANNEL BANDWIDTH: 5MHz 64QAM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | G <sub>T</sub> -L <sub>C</sub> (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---------|-----------------|-----------------------|-------------------------------------|-----------|----------|-----------|
| 20425   | 826.5           | 22.38                 | -7.18                               | 13.05     | 20.18    | 7         |
| 20525   | 836.5           | 22.4                  | -7.18                               | 13.07     | 20.28    | 7         |
| 20625   | 846.5           | 22.3                  | -7.18                               | 12.97     | 19.82    | 7         |

**CHANNEL BANDWIDTH: 10MHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | G <sub>T</sub> -L <sub>C</sub> (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---------|-----------------|-----------------------|-------------------------------------|-----------|----------|-----------|
| 20450   | 829.0           | 24.23                 | -7.18                               | 14.9      | 30.9     | 7         |
| 20525   | 836.5           | 24.27                 | -7.18                               | 14.94     | 31.19    | 7         |
| 20600   | 844.0           | 24.25                 | -7.18                               | 14.92     | 31.05    | 7         |

**CHANNEL BANDWIDTH: 10MHz 16QAM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | G <sub>T</sub> -L <sub>C</sub> (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---------|-----------------|-----------------------|-------------------------------------|-----------|----------|-----------|
| 20450   | 829.0           | 23.45                 | -7.18                               | 14.12     | 25.82    | 7         |
| 20525   | 836.5           | 23.51                 | -7.18                               | 14.18     | 26.18    | 7         |
| 20600   | 844.0           | 23.47                 | -7.18                               | 14.14     | 25.94    | 7         |

**CHANNEL BANDWIDTH: 10MHz 64QAM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | G <sub>T</sub> -L <sub>C</sub> (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---------|-----------------|-----------------------|-------------------------------------|-----------|----------|-----------|
| 20450   | 829.0           | 22.41                 | -7.18                               | 13.08     | 20.32    | 7         |
| 20525   | 836.5           | 22.41                 | -7.18                               | 13.08     | 20.32    | 7         |
| 20600   | 844.0           | 22.39                 | -7.18                               | 13.06     | 20.23    | 7         |

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

**LTE BAND 26****CHANNEL BANDWIDTH: 1.4MHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | G <sub>T</sub> -L <sub>C</sub> (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---------|-----------------|-----------------------|-------------------------------------|-----------|----------|-----------|
| 26797   | 824.7           | 23.8                  | -7.18                               | 14.47     | 27.99    | 7         |
| 26915   | 836.5           | 23.82                 | -7.18                               | 14.49     | 28.12    | 7         |
| 27033   | 848.3           | 23.81                 | -7.18                               | 14.48     | 28.05    | 7         |

**CHANNEL BANDWIDTH: 1.4MHz 16QAM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | G <sub>T</sub> -L <sub>C</sub> (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---------|-----------------|-----------------------|-------------------------------------|-----------|----------|-----------|
| 26797   | 824.7           | 23.02                 | -7.18                               | 13.69     | 23.39    | 7         |
| 26915   | 836.5           | 23.05                 | -7.18                               | 13.72     | 23.55    | 7         |
| 27033   | 848.3           | 23.13                 | -7.18                               | 13.8      | 23.99    | 7         |

**CHANNEL BANDWIDTH: 1.4MHz 64QAM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | G <sub>T</sub> -L <sub>C</sub> (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---------|-----------------|-----------------------|-------------------------------------|-----------|----------|-----------|
| 26797   | 824.7           | 21.92                 | -7.18                               | 12.59     | 18.16    | 7         |
| 26915   | 836.5           | 21.97                 | -7.18                               | 12.64     | 18.37    | 7         |
| 27033   | 848.3           | 21.95                 | -7.18                               | 12.62     | 18.28    | 7         |

**CHANNEL BANDWIDTH: 3MHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | G <sub>T</sub> -L <sub>C</sub> (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---------|-----------------|-----------------------|-------------------------------------|-----------|----------|-----------|
| 26805   | 825.5           | 23.66                 | -7.18                               | 14.33     | 27.1     | 7         |
| 26915   | 836.5           | 23.75                 | -7.18                               | 14.42     | 27.67    | 7         |
| 27025   | 847.5           | 23.6                  | -7.18                               | 14.27     | 26.73    | 7         |

**CHANNEL BANDWIDTH: 3MHz 16QAM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | G <sub>T</sub> -L <sub>C</sub> (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---------|-----------------|-----------------------|-------------------------------------|-----------|----------|-----------|
| 26805   | 825.5           | 22.96                 | -7.18                               | 13.63     | 23.07    | 7         |
| 26915   | 836.5           | 22.97                 | -7.18                               | 13.64     | 23.12    | 7         |
| 27025   | 847.5           | 23.01                 | -7.18                               | 13.68     | 23.33    | 7         |

**CHANNEL BANDWIDTH: 3MHz 64QAM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | G <sub>T</sub> -L <sub>C</sub> (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---------|-----------------|-----------------------|-------------------------------------|-----------|----------|-----------|
| 26805   | 825.5           | 21.86                 | -7.18                               | 12.53     | 17.91    | 7         |
| 26915   | 836.5           | 21.95                 | -7.18                               | 12.62     | 18.28    | 7         |
| 27025   | 847.5           | 21.9                  | -7.18                               | 12.57     | 18.07    | 7         |

**CHANNEL BANDWIDTH: 5MHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | G <sub>T</sub> -L <sub>C</sub> (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---------|-----------------|-----------------------|-------------------------------------|-----------|----------|-----------|
| 26815   | 826.5           | 23.77                 | -7.18                               | 14.44     | 27.8     | 7         |
| 26915   | 836.5           | 23.71                 | -7.18                               | 14.38     | 27.42    | 7         |
| 27015   | 846.5           | 23.63                 | -7.18                               | 14.3      | 26.92    | 7         |

**CHANNEL BANDWIDTH: 5MHz 16QAM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | G <sub>T</sub> -L <sub>C</sub> (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---------|-----------------|-----------------------|-------------------------------------|-----------|----------|-----------|
| 26815   | 826.5           | 22.94                 | -7.18                               | 13.61     | 22.96    | 7         |
| 26915   | 836.5           | 22.93                 | -7.18                               | 13.6      | 22.91    | 7         |
| 27015   | 846.5           | 23.04                 | -7.18                               | 13.71     | 23.5     | 7         |

**CHANNEL BANDWIDTH: 5MHz 64QAM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | G <sub>T</sub> -L <sub>C</sub> (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---------|-----------------|-----------------------|-------------------------------------|-----------|----------|-----------|
| 26815   | 826.5           | 21.75                 | -7.18                               | 12.42     | 17.46    | 7         |
| 26915   | 836.5           | 21.81                 | -7.18                               | 12.48     | 17.7     | 7         |
| 27015   | 846.5           | 21.86                 | -7.18                               | 12.53     | 17.91    | 7         |

**CHANNEL BANDWIDTH: 10MHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | G <sub>T</sub> -L <sub>C</sub> (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---------|-----------------|-----------------------|-------------------------------------|-----------|----------|-----------|
| 26840   | 829             | 23.77                 | -7.18                               | 14.44     | 27.8     | 7         |
| 26915   | 836.5           | 23.72                 | -7.18                               | 14.39     | 27.48    | 7         |
| 26990   | 844             | 23.58                 | -7.18                               | 14.25     | 26.61    | 7         |

**CHANNEL BANDWIDTH: 10MHz 16QAM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | G <sub>T</sub> -L <sub>C</sub> (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---------|-----------------|-----------------------|-------------------------------------|-----------|----------|-----------|
| 26840   | 829             | 22.93                 | -7.18                               | 13.6      | 22.91    | 7         |
| 26915   | 836.5           | 22.95                 | -7.18                               | 13.62     | 23.01    | 7         |
| 26990   | 844             | 23.02                 | -7.18                               | 13.69     | 23.39    | 7         |

**CHANNEL BANDWIDTH: 10MHz 64QAM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | G <sub>T</sub> -L <sub>C</sub> (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---------|-----------------|-----------------------|-------------------------------------|-----------|----------|-----------|
| 26840   | 829             | 21.81                 | -7.18                               | 12.48     | 17.7     | 7         |
| 26915   | 836.5           | 21.95                 | -7.18                               | 12.62     | 18.28    | 7         |
| 26990   | 844             | 21.89                 | -7.18                               | 12.56     | 18.03    | 7         |

**CHANNEL BANDWIDTH: 15MHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | G <sub>T</sub> -L <sub>C</sub> (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---------|-----------------|-----------------------|-------------------------------------|-----------|----------|-----------|
| 26865   | 831.5           | 23.83                 | -7.18                               | 14.5      | 28.18    | 7         |
| 26915   | 836.5           | 23.78                 | -7.18                               | 14.45     | 27.86    | 7         |
| 26965   | 841.5           | 23.68                 | -7.18                               | 14.35     | 27.23    | 7         |

**CHANNEL BANDWIDTH: 15MHz 16QAM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | G <sub>T</sub> -L <sub>C</sub> (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---------|-----------------|-----------------------|-------------------------------------|-----------|----------|-----------|
| 26865   | 831.5           | 23.04                 | -7.18                               | 13.71     | 23.5     | 7         |
| 26915   | 836.5           | 22.98                 | -7.18                               | 13.65     | 23.17    | 7         |
| 26965   | 841.5           | 23.11                 | -7.18                               | 13.78     | 23.88    | 7         |

**CHANNEL BANDWIDTH: 15MHz 64QAM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | G <sub>T</sub> -L <sub>C</sub> (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---------|-----------------|-----------------------|-------------------------------------|-----------|----------|-----------|
| 26865   | 831.5           | 21.99                 | -7.18                               | 12.66     | 18.45    | 7         |
| 26915   | 836.5           | 21.96                 | -7.18                               | 12.63     | 18.32    | 7         |
| 26965   | 841.5           | 21.95                 | -7.18                               | 12.62     | 18.28    | 7         |

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

## 3.2 FREQUENCY STABILITY MEASUREMENT

### 3.2.1 LIMITS OF FREQUENCY STABILITY MEASUREMENT

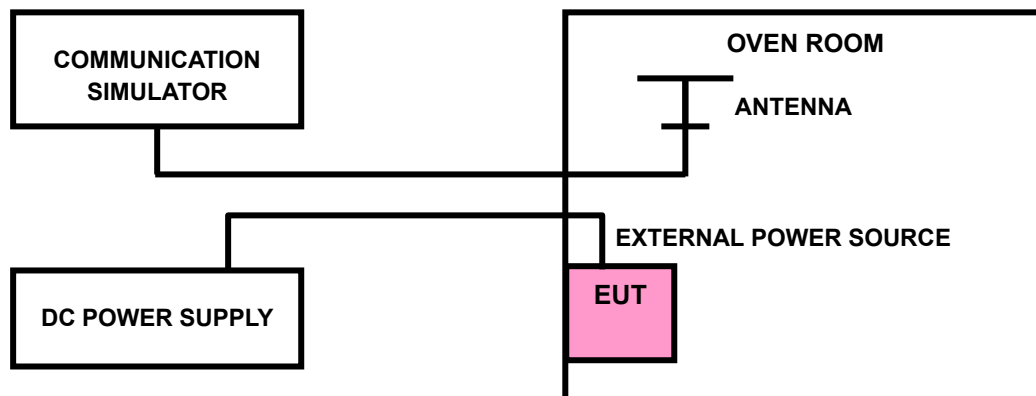
1.5 ppm is for base and fixed station. 2.5 ppm is for mobile station.

### 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





**Test Report No.: PSU-NQN2403180115RF05**

### 3.2.4 TEST RESULTS

Please Refer to Appendix E Of this test report.

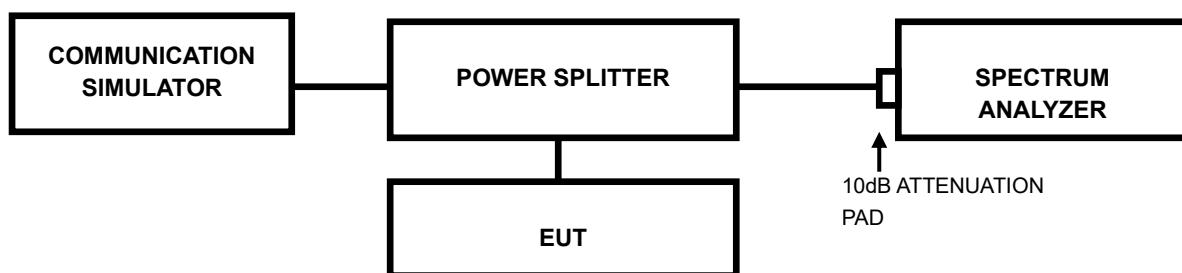
Note: VL = Low voltage(3.5V); VN/NV = Normal voltage(3.89V); VH = High voltage(4.48V);  
NT = Normal temperature (25°C)

### 3.3 OCCUPIED BANDWIDTH MEASUREMENT

#### 3.3.1 LIMITS OF OCCUPIED BANDWIDTH MEASUREMENT

The width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5 % of the total mean power of a given emission.

#### 3.3.2 TEST SETUP



#### 3.3.3 TEST PROCEDURES

- The conducted occupied bandwidth used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer.
- Use OBW measurement function of Spectrum analyzer to measure 99 % occupied bandwidth.



**Test Report No.: PSU-NQN2403180115RF05**

### 3.3.4 TEST RESULTS

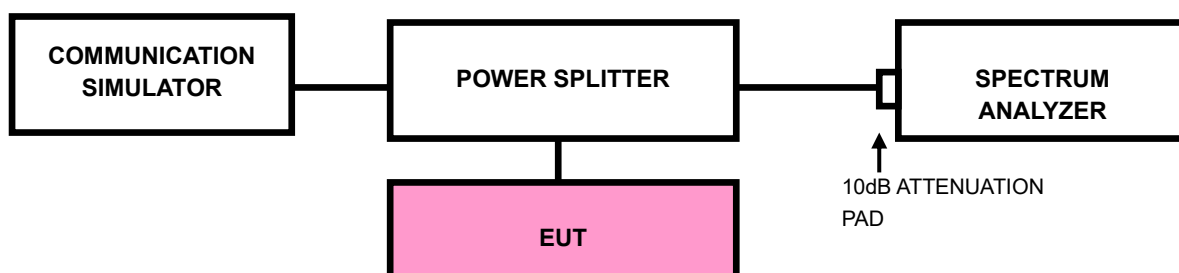
Please Refer to Appendix E Of this test report.

### 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



### 3.4.3 TEST PROCEDURES

- a) All measurements were done at low and high operational frequency range
- b) Connect the transmitter to the spectrum analyzer via coaxial cable while ensuring proper impedance matching.
- c) Tune the analyzer to the nominal center frequency of the emission bandwidth (EBW)
- d) .Set the resolution bandwidth (RBW)  $\geq 1\%$  EBW in the 1MHz band immediately outside and adjacent to the band edge.
- e) Beyond the 1MHz band from the band edge, RBW=1MHz was used.
- f) Set the video bandwidth (VBW) to  $\geq 3 \times$  RBW.
- g) Select the average power (RMS) display detector.
- h) Set the number of measurement points to  $\geq 1001$ .
- i) Use auto-coupled sweep time.
- j) Perform the measurement over an interval of time when the transmission is continuous and at its maximum power level.
- k) The RF fundamental frequency should be excluded against the limit line in the operating frequency band and use RBW is 10KHz or 100KHz.
- l) Record the max trace plot into the test report.



**Test Report No.: PSU-NQN2403180115RF05**

### 3.4.4 TEST RESULTS

Please Refer to Appendix E Of this test report.

### 3.5 CONDUCTED SPURIOUS EMISSIONS

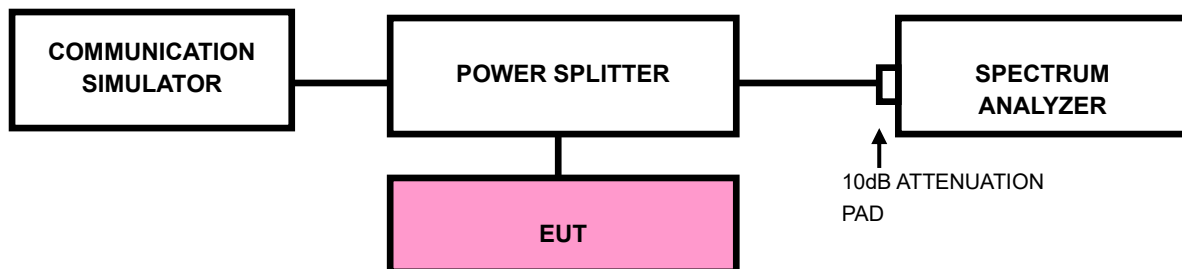
#### 3.5.1 LIMITS OF CONDUCTED SPURIOUS EMISSIONS MEASUREMENT

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

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

#### 3.5.3 TEST SETUP





**Test Report No.: PSU-NQN2403180115RF05**

### 3.5.4 TEST RESULTS

NOTE : The 9K~30MHz amplitude of spurious emissions attenuated more than 20 dB below the permissible value is not required in the report.

Please Refer to Appendix E Of this test report.

### 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,  
 $\text{E.R.P power} = \text{E.I.P.R power} - 2.15\text{dBi}$ .

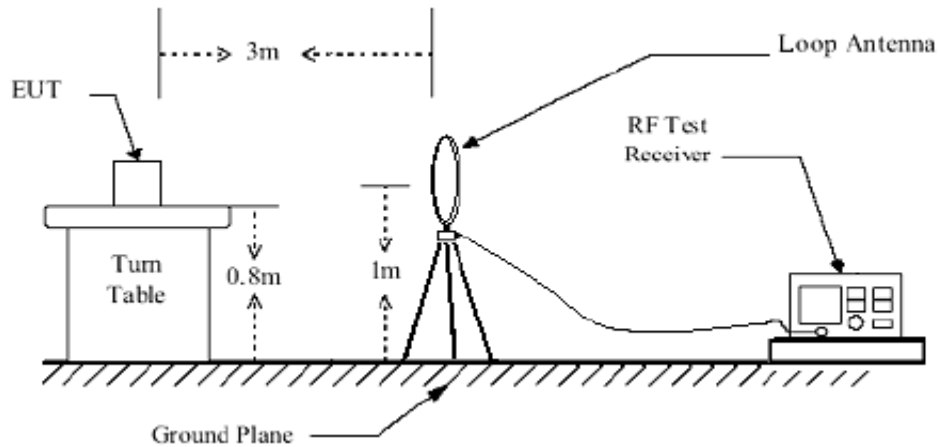
**NOTE:** The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1MHz/3MHz.

#### 3.6.3 DEVIATION FROM TEST STANDARD

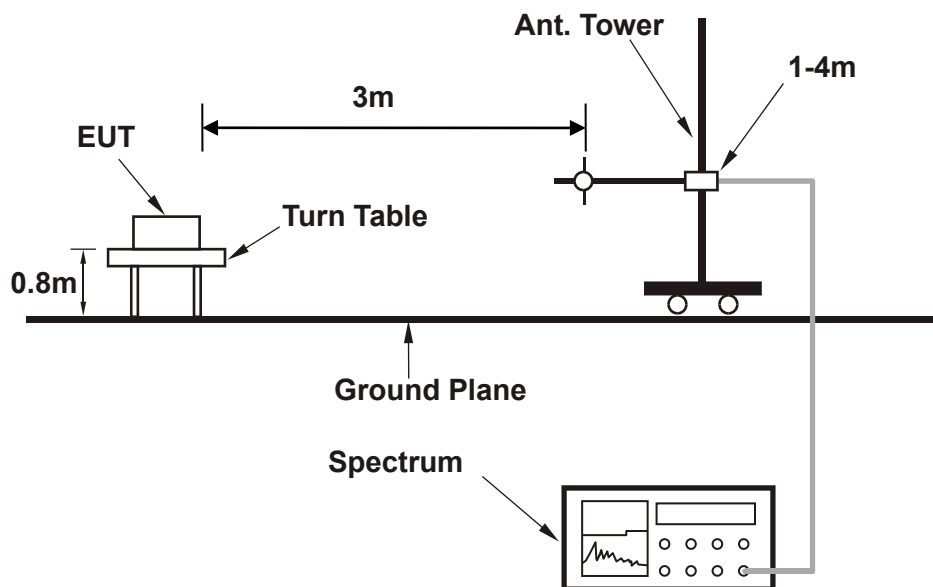
No deviation

### 3.6.4 TEST SETUP

#### < Frequency Range below 30MHz >

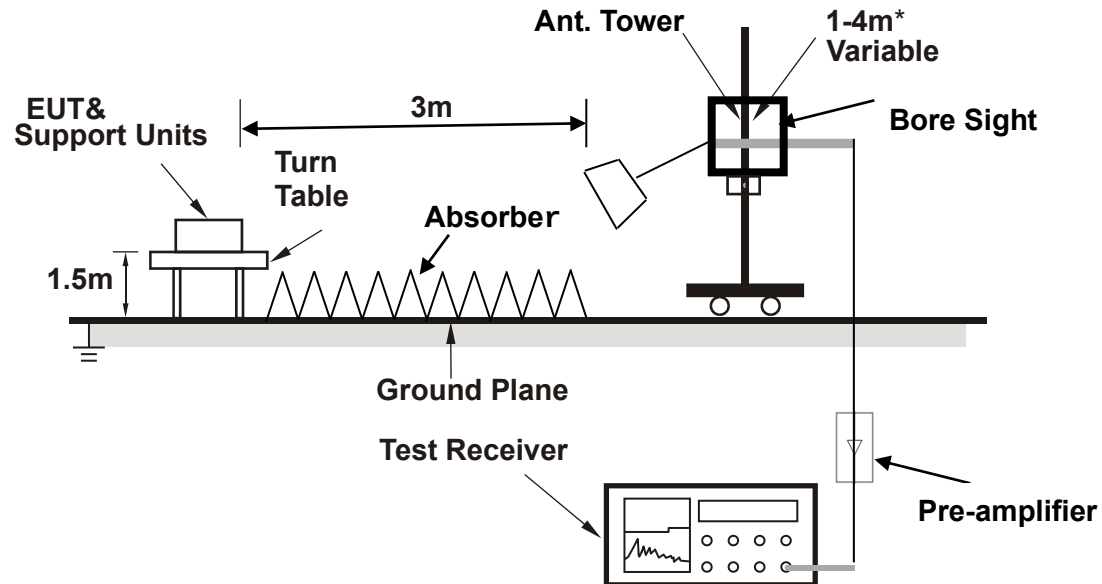


#### < Frequency Range 30MHz~1GHz >





<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

NOTE : The 9K~30MHz amplitude of spurious emissions attenuated more than 20 dB below the permissible value is not required in the report.

#### BELOW 1GHz WORST-CASE DATA

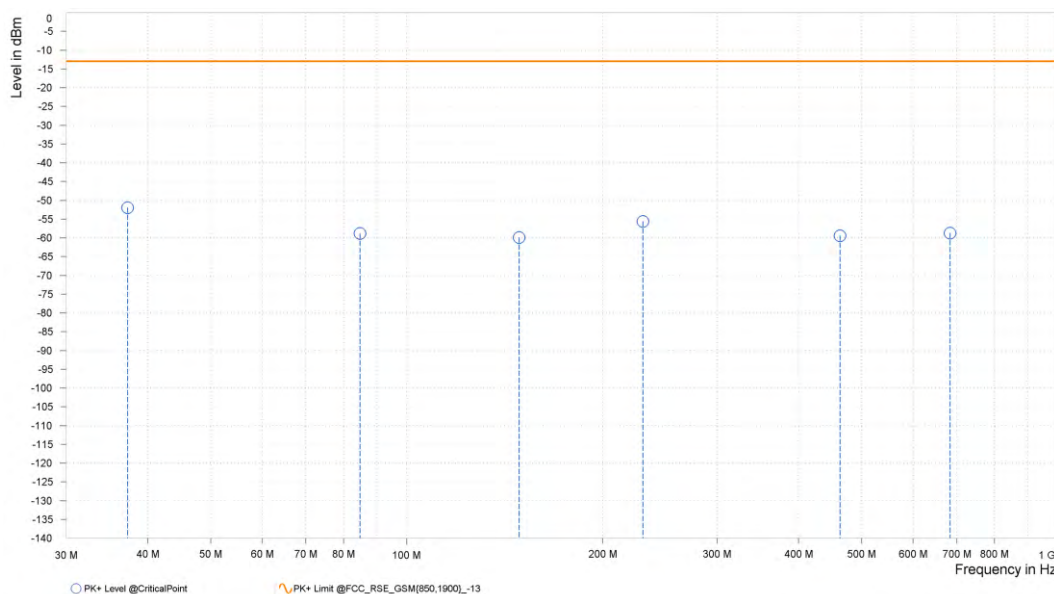
30 MHz – 1GHz data:

GSM 850:

CHANNEL BANDWIDTH: 128 ~ 251

|                                                     |                 |                 |               |
|-----------------------------------------------------|-----------------|-----------------|---------------|
| MODE                                                | TX channel 128  | FREQUENCY RANGE | Below 1000MHz |
| ENVIRONMENTAL CONDITIONS                            | 23deg. C, 70%RH | INPUT POWER     | AC 120V/60HZ  |
| TESTED BY                                           | Jace Hu         |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                 |                 |               |

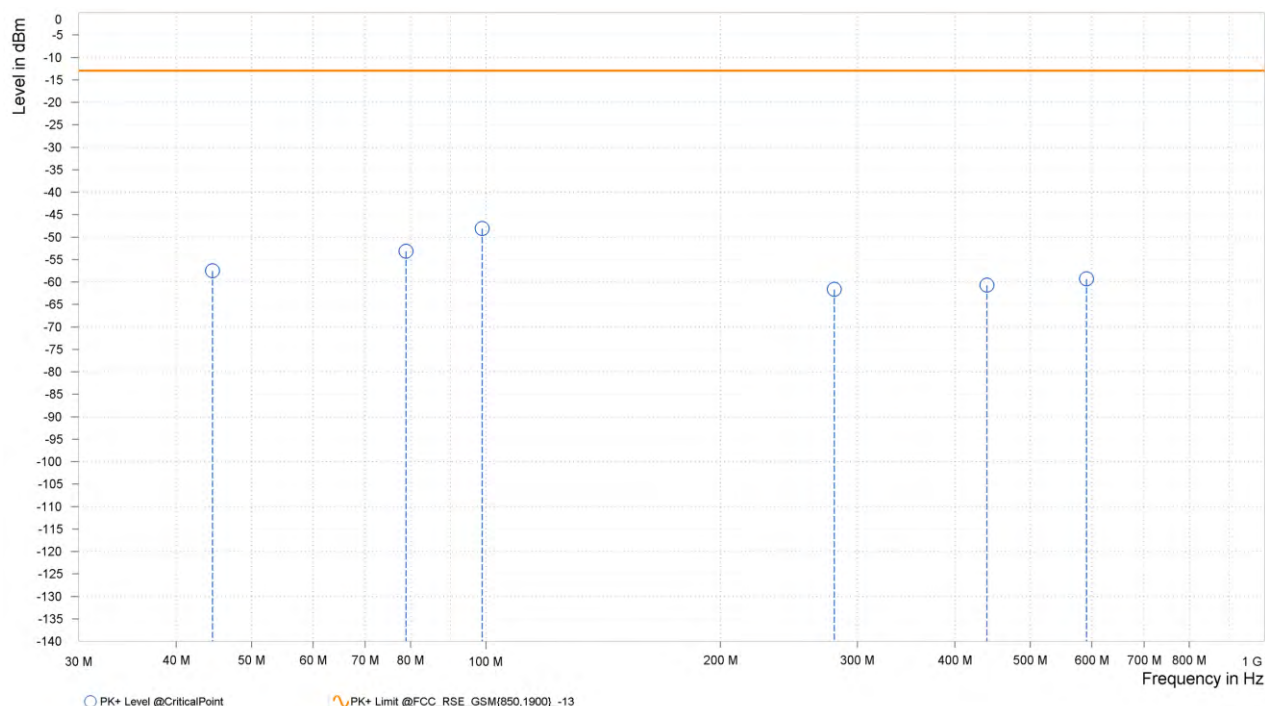
| Rg | Frequency [MHz] | PK+ Level [dBm] | PK+ Limit [dBm] | PK+ Margin [dB] | Correction [dB] | Polarization | Azimuth [deg] | Antenna Height [m] |
|----|-----------------|-----------------|-----------------|-----------------|-----------------|--------------|---------------|--------------------|
| 1  | 37.275          | -51.98          | -13.00          | 38.98           | 3.47            | H            | 359           | 1.00               |
| 1  | 84.805          | -58.86          | -13.00          | 45.86           | -8.89           | H            | 185           | 2.00               |
| 1  | 148.825         | -59.89          | -13.00          | 46.89           | -11.22          | H            | 304.6         | 2.00               |
| 1  | 230.790         | -55.61          | -13.00          | 42.61           | 5.01            | H            | 172.6         | 1.00               |
| 1  | 463.105         | -59.45          | -13.00          | 46.45           | 5.65            | H            | 65.5          | 2.00               |
| 1  | 683.780         | -58.74          | -13.00          | 45.74           | 5.18            | H            | 125.3         | 2.00               |





|                                                   |                 |                 |               |
|---------------------------------------------------|-----------------|-----------------|---------------|
| MODE                                              | TX channel 128  | FREQUENCY RANGE | Below 1000MHz |
| ENVIRONMENTAL CONDITIONS                          | 23deg. C, 70%RH | INPUT POWER     | AC 120V/60HZ  |
| TESTED BY                                         | Jace Hu         |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M |                 |                 |               |

| Rg | Frequency [MHz] | PK+ Level [dBm] | PK+ Limit [dBm] | PK+ Margin [dB] | Correction [dB] | Polarization | Azimuth [deg] | Antenna Height [m] |
|----|-----------------|-----------------|-----------------|-----------------|-----------------|--------------|---------------|--------------------|
| 1  | 44.550          | -57.55          | -13.00          | 44.55           | -3.24           | V            | 234.7         | 1.00               |
| 1  | 78.985          | -53.19          | -13.00          | 40.19           | -7.21           | V            | 114           | 1.00               |
| 1  | 98.870          | -48.12          | -13.00          | 35.12           | 8.58            | V            | 127.6         | 2.00               |
| 1  | 280.260         | -61.64          | -13.00          | 48.64           | 2.48            | V            | 65.4          | 2.00               |
| 1  | 439.825         | -60.72          | -13.00          | 47.72           | 5.99            | V            | 234.7         | 1.00               |
| 1  | 590.660         | -59.33          | -13.00          | 46.33           | 5.26            | V            | 175           | 1.00               |



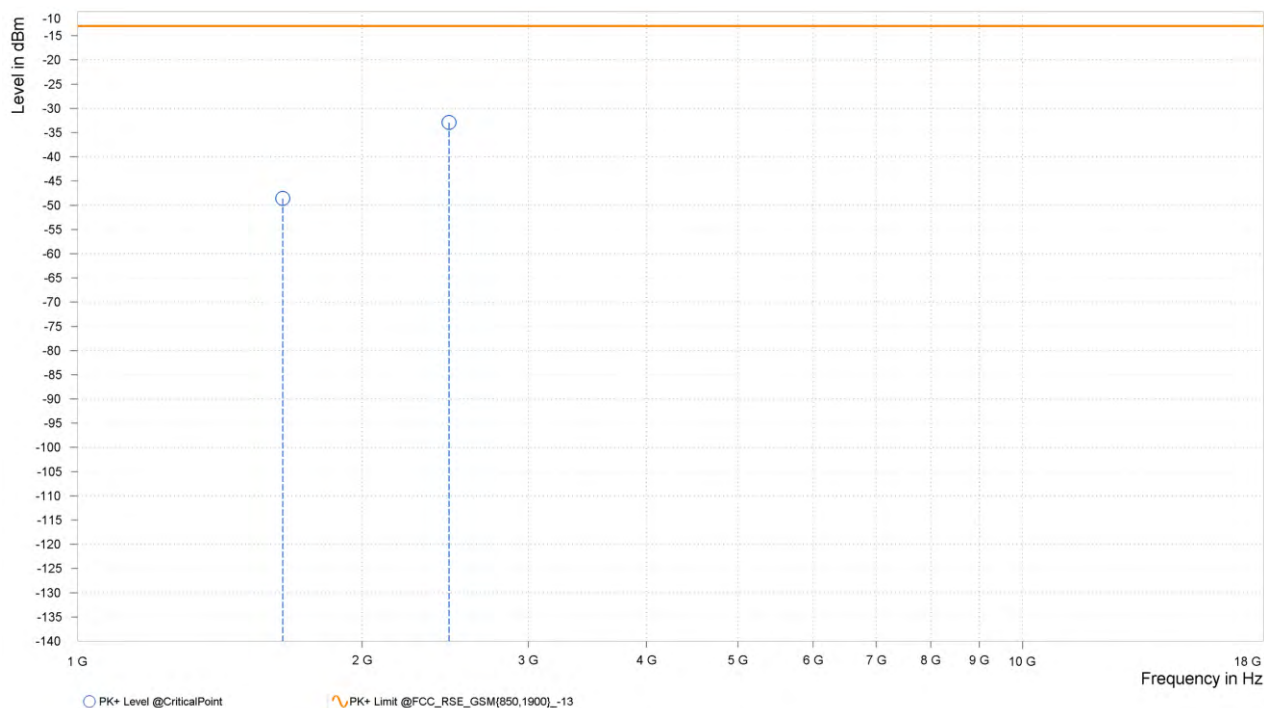
**ABOVE 1GHz DATA**

**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     | AC 120V/60HZ  |
| TESTED BY                                           | Jace Hu         |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                 |                 |               |

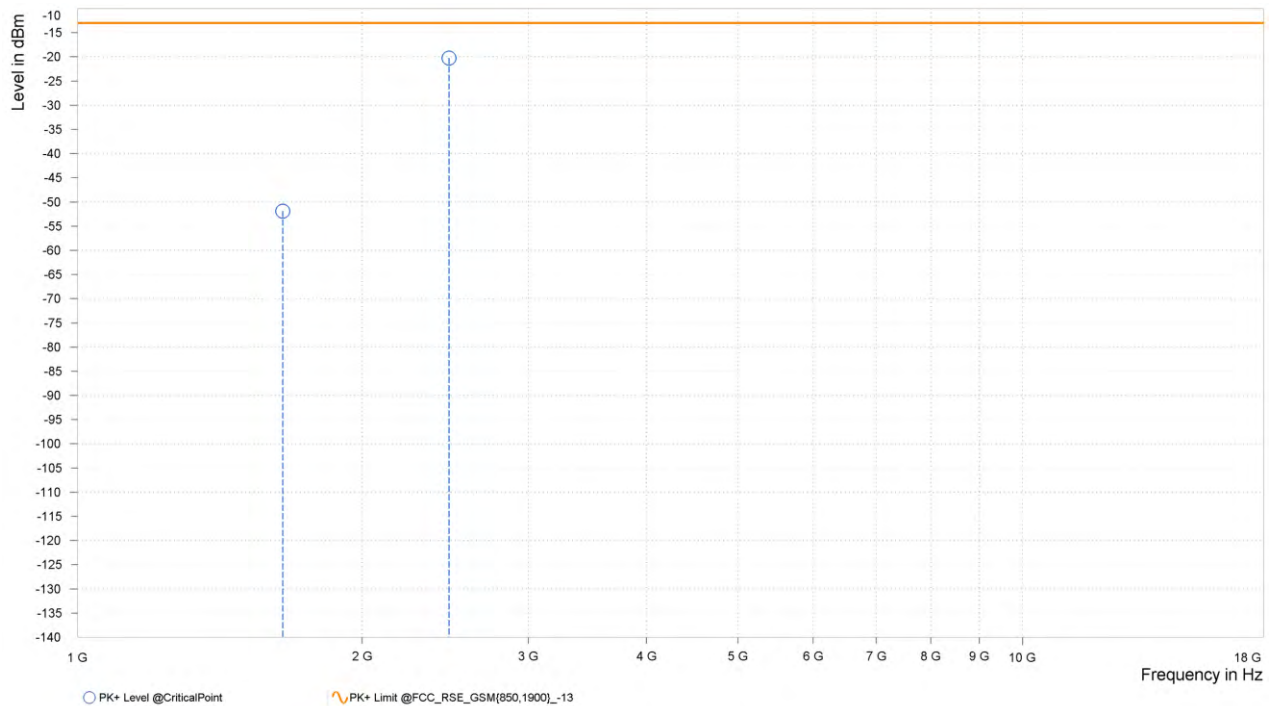
| Rg | Frequency [MHz] | PK+ Level [dBm] | PK+ Limit [dBm] | PK+ Margin [dB] | Correction [dB] | Polarization | Azimuth [deg] | Antenna Height [m] |
|----|-----------------|-----------------|-----------------|-----------------|-----------------|--------------|---------------|--------------------|
| 2  | 1,648.400       | -48.61          | -13.00          | 35.61           | 15.93           | H            | 87.7          | 1.00               |
| 3  | 2,472.000       | -32.94          | -13.00          | 19.94           | 20.69           | H            | 160.6         | 1.00               |





|                                                   |                 |                 |               |
|---------------------------------------------------|-----------------|-----------------|---------------|
| MODE                                              | TX channel 128  | FREQUENCY RANGE | Above 1000MHz |
| ENVIRONMENTAL CONDITIONS                          | 23deg. C, 70%RH | INPUT POWER     | AC 120V/60HZ  |
| TESTED BY                                         | Jace Hu         |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M |                 |                 |               |

| Rg | Frequency [MHz] | PK+ Level [dBm] | PK+ Limit [dBm] | PK+ Margin [dB] | Correction [dB] | Polarization | Azimuth [deg] | Antenna Height [m] |
|----|-----------------|-----------------|-----------------|-----------------|-----------------|--------------|---------------|--------------------|
| 2  | 1,648.400       | -51.88          | -13.00          | 38.88           | 15.51           | V            | 359           | 2.00               |
| 3  | 2,472.000       | -20.24          | -13.00          | 7.24            | 20.94           | V            | 163           | 1.00               |

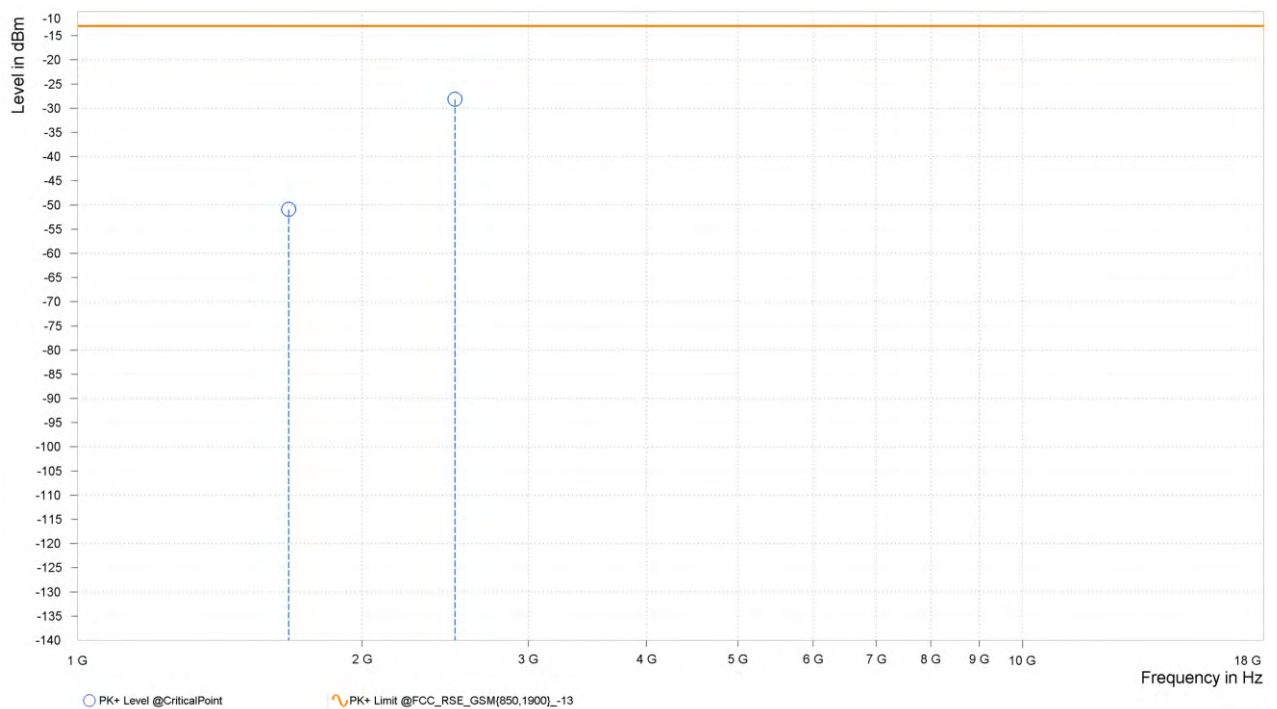




CH 189:

|                                                     |                 |                 |               |
|-----------------------------------------------------|-----------------|-----------------|---------------|
| MODE                                                | TX channel 189  | FREQUENCY RANGE | Above 1000MHz |
| ENVIRONMENTAL CONDITIONS                            | 23deg. C, 70%RH | INPUT POWER     | AC 120V/60HZ  |
| TESTED BY                                           | Jace Hu         |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                 |                 |               |

| Rg | Frequency [MHz] | PK+ Level [dBm] | PK+ Limit [dBm] | PK+ Margin [dB] | Correction [dB] | Polarization | Azimuth [deg] | Antenna Height [m] |
|----|-----------------|-----------------|-----------------|-----------------|-----------------|--------------|---------------|--------------------|
| 2  | 1,673.000       | -50.93          | -13.00          | 37.93           | 16.68           | H            | 1.3           | 2.00               |
| 3  | 2,509.000       | -28.12          | -13.00          | 15.12           | 21.00           | H            | 163           | 1.00               |



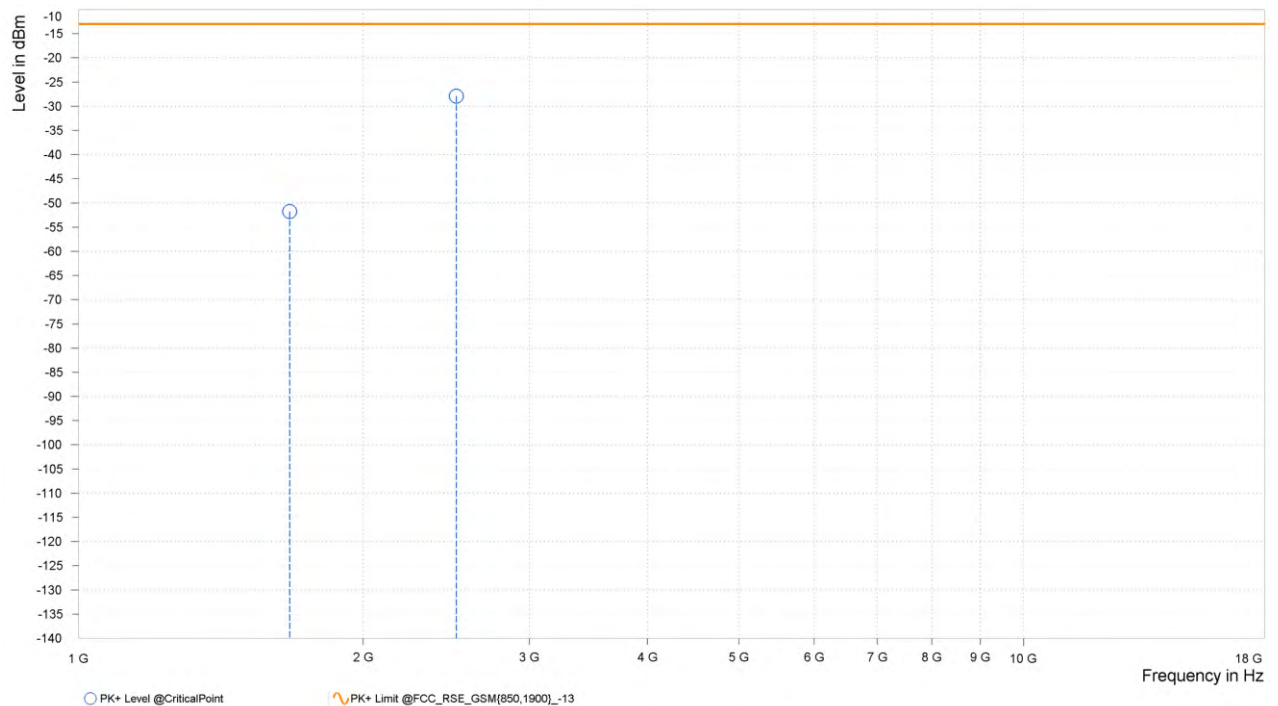


BUREAU  
VERITAS

Test Report No.: PSU-NQN2403180115RF05

|                                                   |                 |                 |               |
|---------------------------------------------------|-----------------|-----------------|---------------|
| MODE                                              | TX channel 189  | FREQUENCY RANGE | Above 1000MHz |
| ENVIRONMENTAL CONDITIONS                          | 23deg. C, 70%RH | INPUT POWER     | AC 120V/60HZ  |
| TESTED BY                                         | Jace Hu         |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M |                 |                 |               |

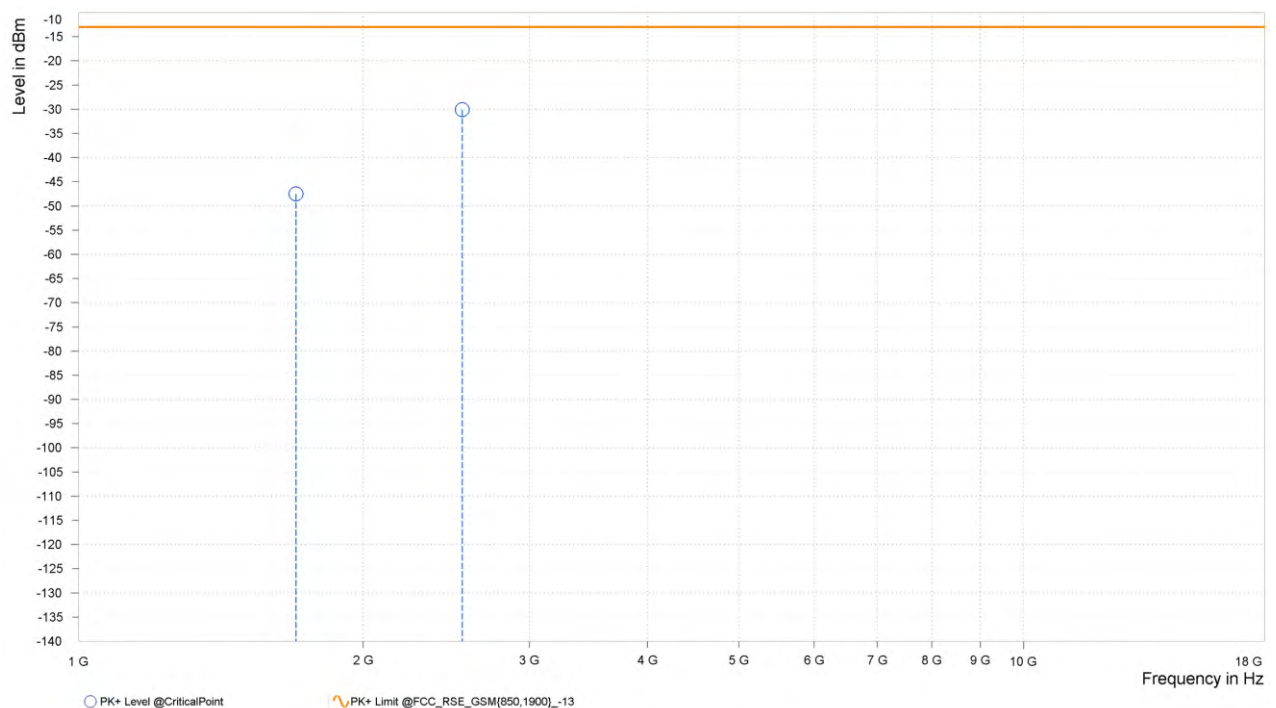
| Rg | Frequency [MHz] | PK+ Level [dBm] | PK+ Limit [dBm] | PK+ Margin [dB] | Correction [dB] | Polarization | Azimuth [deg] | Antenna Height [m] |
|----|-----------------|-----------------|-----------------|-----------------|-----------------|--------------|---------------|--------------------|
| 2  | 1,673.000       | -51.79          | -13.00          | 38.79           | 15.57           | V            | 274.7         | 2.00               |
| 3  | 2,509.500       | -27.89          | -13.00          | 14.89           | 21.61           | V            | 160.6         | 1.00               |



**CH 251:**

|                                                     |                 |                 |               |
|-----------------------------------------------------|-----------------|-----------------|---------------|
| MODE                                                | TX channel 251  | FREQUENCY RANGE | Above 1000MHz |
| ENVIRONMENTAL CONDITIONS                            | 23deg. C, 70%RH | INPUT POWER     | AC 120V/60HZ  |
| TESTED BY                                           | Jace Hu         |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                 |                 |               |

| Rg | Frequency [MHz] | PK+ Level [dBm] | PK+ Limit [dBm] | PK+ Margin [dB] | Correction [dB] | Polarization | Azimuth [deg] | Antenna Height [m] |
|----|-----------------|-----------------|-----------------|-----------------|-----------------|--------------|---------------|--------------------|
| 2  | 1,698.000       | -47.52          | -13.00          | 34.52           | 17.07           | H            | 87.7          | 1.00               |
| 3  | 2,546.000       | -30.12          | -13.00          | 17.12           | 20.93           | H            | 199.4         | 2.00               |



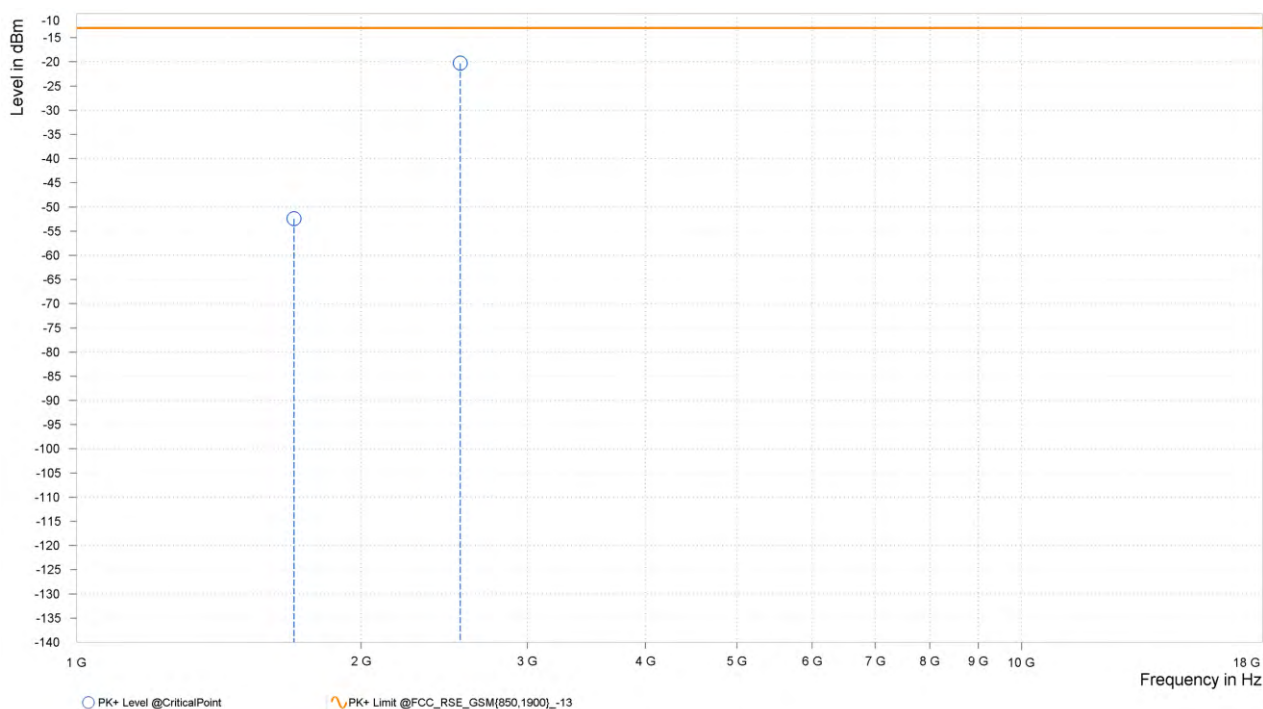


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Test Report No.: PSU-NQN2403180115RF05

|                                                   |                 |                 |               |
|---------------------------------------------------|-----------------|-----------------|---------------|
| MODE                                              | TX channel 251  | FREQUENCY RANGE | Above 1000MHz |
| ENVIRONMENTAL CONDITIONS                          | 23deg. C, 70%RH | INPUT POWER     | AC 120V/60HZ  |
| TESTED BY                                         | Jace Hu         |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M |                 |                 |               |

| Rg | Frequency [MHz] | PK+ Level [dBm] | PK+ Limit [dBm] | PK+ Margin [dB] | Correction [dB] | Polarization | Azimuth [deg] | Antenna Height [m] |
|----|-----------------|-----------------|-----------------|-----------------|-----------------|--------------|---------------|--------------------|
| 2  | 1,698.000       | -52.43          | -13.00          | 39.43           | 16.31           | V            | 359           | 2.00               |
| 3  | 2,546.500       | -20.29          | -13.00          | 7.29            | 21.56           | V            | 161.8         | 1.00               |

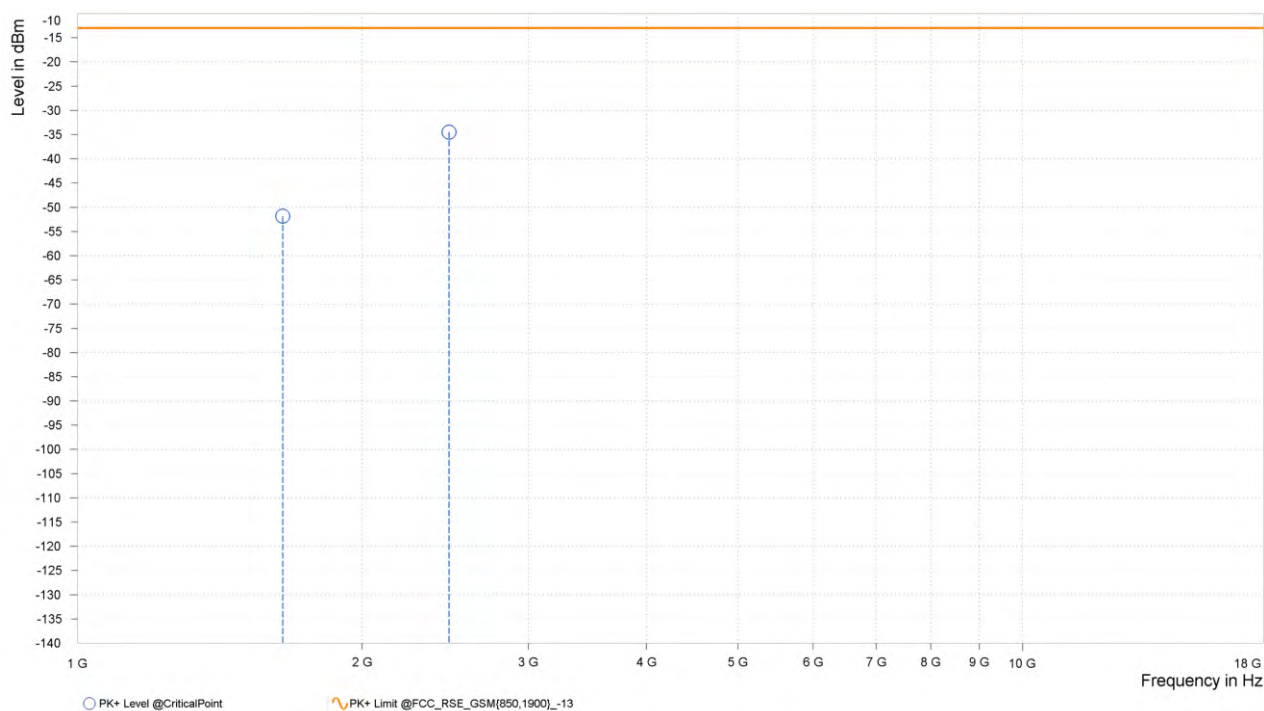


EDGE 850:

CH 128:

|                                                     |                 |                 |               |
|-----------------------------------------------------|-----------------|-----------------|---------------|
| MODE                                                | TX channel 128  | FREQUENCY RANGE | Above 1000MHz |
| ENVIRONMENTAL CONDITIONS                            | 23deg. C, 70%RH | INPUT POWER     | AC 120V/60HZ  |
| TESTED BY                                           | Jace Hu         |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                 |                 |               |

| Rg | Frequency [MHz] | PK+ Level [dBm] | PK+ Limit [dBm] | PK+ Margin [dB] | Correction [dB] | Polarization | Azimuth [deg] | Antenna Height [m] |
|----|-----------------|-----------------|-----------------|-----------------|-----------------|--------------|---------------|--------------------|
| 2  | 1,648.400       | -51.87          | -13.00          | 38.87           | 15.93           | H            | 1.4           | 2.00               |
| 3  | 2,471.500       | -34.48          | -13.00          | 21.48           | 20.69           | H            | 198.1         | 2.00               |



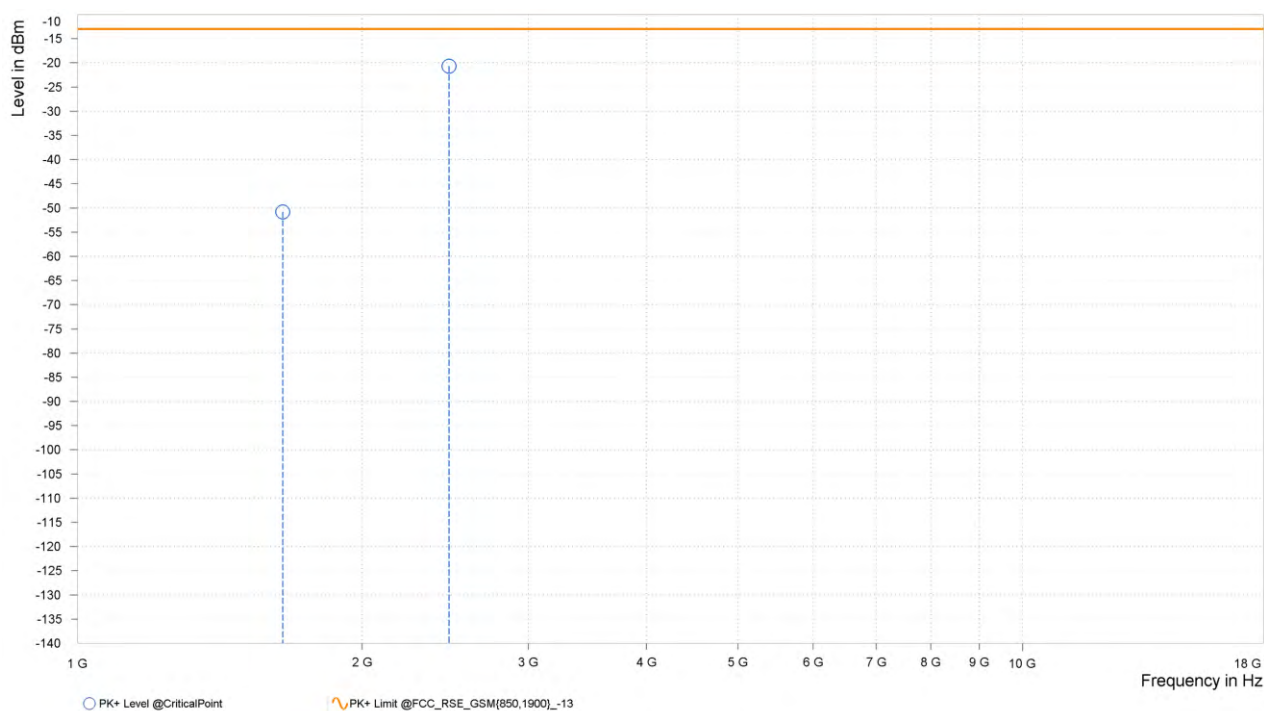


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VERITAS

Test Report No.: PSU-NQN2403180115RF05

|                                                   |                 |                 |               |
|---------------------------------------------------|-----------------|-----------------|---------------|
| MODE                                              | TX channel 128  | FREQUENCY RANGE | Above 1000MHz |
| ENVIRONMENTAL CONDITIONS                          | 23deg. C, 70%RH | INPUT POWER     | AC 120V/60HZ  |
| TESTED BY                                         | Jace Hu         |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M |                 |                 |               |

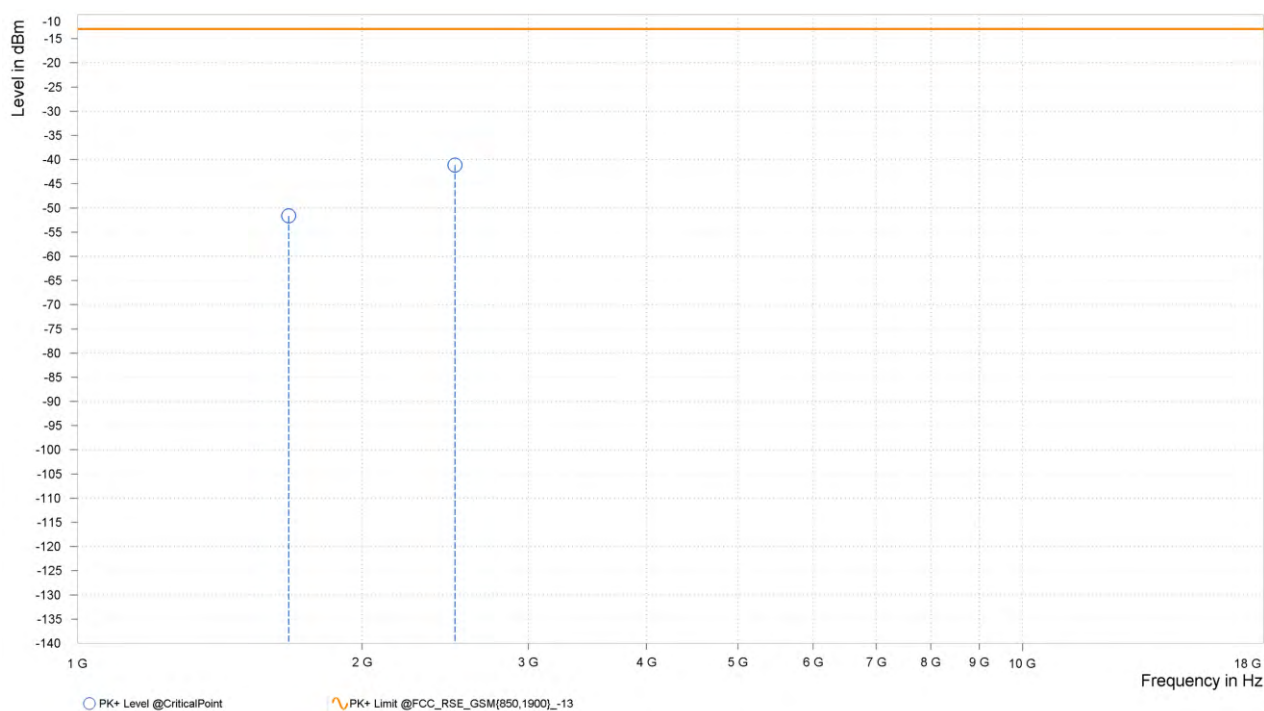
| Rg | Frequency [MHz] | PK+ Level [dBm] | PK+ Limit [dBm] | PK+ Margin [dB] | Correction [dB] | Polarization | Azimuth [deg] | Antenna Height [m] |
|----|-----------------|-----------------|-----------------|-----------------|-----------------|--------------|---------------|--------------------|
| 2  | 1,648.400       | -50.81          | -13.00          | 37.81           | 15.51           | V            | 1.4           | 2.00               |
| 3  | 2,472.000       | -20.67          | -13.00          | 7.67            | 20.94           | V            | 163           | 1.00               |



**CH 189:**

|                                                     |                 |                 |               |
|-----------------------------------------------------|-----------------|-----------------|---------------|
| MODE                                                | TX channel 189  | FREQUENCY RANGE | Above 1000MHz |
| ENVIRONMENTAL CONDITIONS                            | 23deg. C, 70%RH | INPUT POWER     | AC 120V/60HZ  |
| TESTED BY                                           | Jace Hu         |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                 |                 |               |

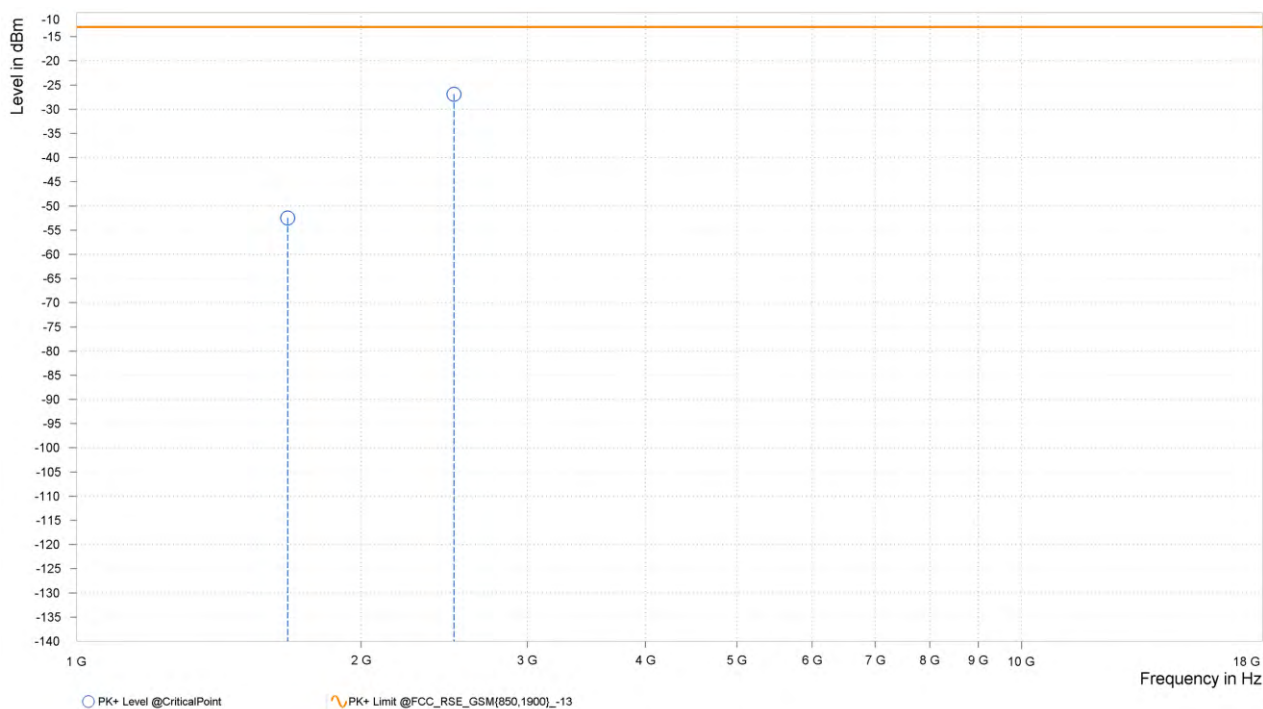
| Rg | Frequency [MHz] | PK+ Level [dBm] | PK+ Limit [dBm] | PK+ Margin [dB] | Correction [dB] | Polarization | Azimuth [deg] | Antenna Height [m] |
|----|-----------------|-----------------|-----------------|-----------------|-----------------|--------------|---------------|--------------------|
| 2  | 1,673.000       | -51.66          | -13.00          | 38.66           | 16.68           | H            | 88.9          | 1.00               |
| 3  | 2,508.500       | -41.12          | -13.00          | 28.12           | 21.01           | H            | 359           | 2.00               |





|                                                   |                 |                 |               |
|---------------------------------------------------|-----------------|-----------------|---------------|
| MODE                                              | TX channel 189  | FREQUENCY RANGE | Above 1000MHz |
| ENVIRONMENTAL CONDITIONS                          | 23deg. C, 70%RH | INPUT POWER     | AC 120V/60HZ  |
| TESTED BY                                         | Jace Hu         |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M |                 |                 |               |

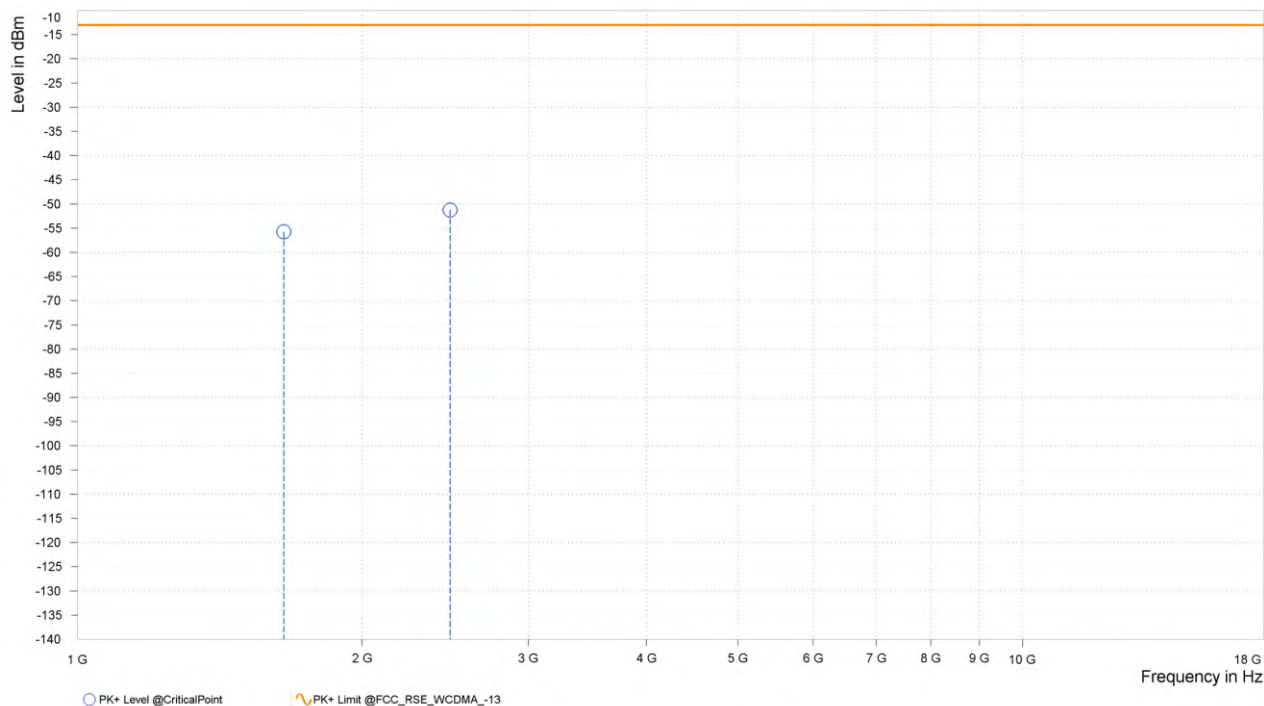
| Rg | Frequency [MHz] | PK+ Level [dBm] | PK+ Limit [dBm] | PK+ Margin [dB] | Correction [dB] | Polarization | Azimuth [deg] | Antenna Height [m] |
|----|-----------------|-----------------|-----------------|-----------------|-----------------|--------------|---------------|--------------------|
| 2  | 1,673.000       | -52.48          | -13.00          | 39.48           | 15.57           | V            | 358.6         | 1.00               |
| 3  | 2,509.000       | -26.87          | -13.00          | 13.87           | 21.61           | V            | 0.9           | 2.00               |



**CH 251:**

|                                                     |                 |                 |               |
|-----------------------------------------------------|-----------------|-----------------|---------------|
| MODE                                                | TX channel 251  | FREQUENCY RANGE | Above 1000MHz |
| ENVIRONMENTAL CONDITIONS                            | 23deg. C, 70%RH | INPUT POWER     | AC 120V/60HZ  |
| TESTED BY                                           | Jace Hu         |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                 |                 |               |

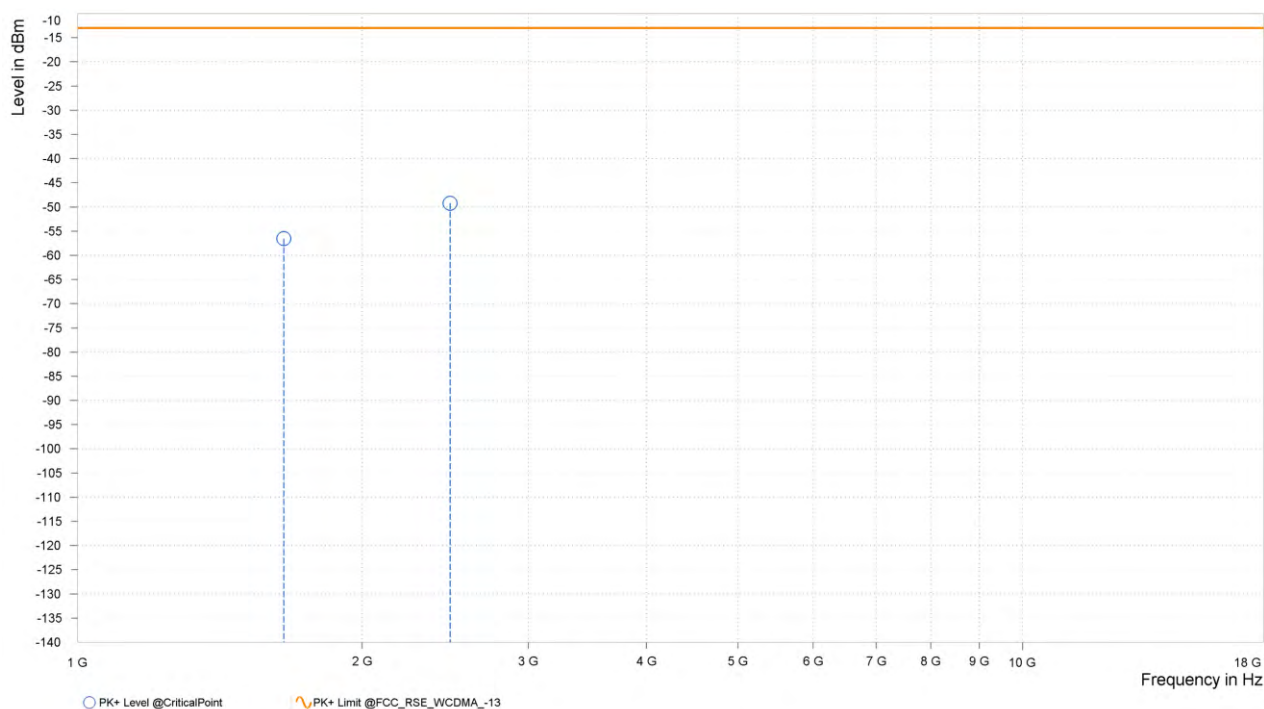
| Rg | Frequency [MHz] | PK+ Level [dBm] | PK+ Limit [dBm] | PK+ Margin [dB] | Correction [dB] | Polarization | Azimuth [deg] | Antenna Height [m] |
|----|-----------------|-----------------|-----------------|-----------------|-----------------|--------------|---------------|--------------------|
| 2  | 1,652.800       | -55.75          | -13.00          | 42.75           | 14.29           | H            | 304.5         | 2.00               |
| 3  | 2,479.200       | -51.25          | -13.00          | 38.25           | 19.47           | H            | 1             | 1.00               |





|                                                   |                 |                 |               |
|---------------------------------------------------|-----------------|-----------------|---------------|
| MODE                                              | TX channel 251  | FREQUENCY RANGE | Above 1000MHz |
| ENVIRONMENTAL CONDITIONS                          | 23deg. C, 70%RH | INPUT POWER     | AC 120V/60HZ  |
| TESTED BY                                         | Jace Hu         |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M |                 |                 |               |

| Rg | Frequency [MHz] | PK+ Level [dBm] | PK+ Limit [dBm] | PK+ Margin [dB] | Correction [dB] | Polarization | Azimuth [deg] | Antenna Height [m] |
|----|-----------------|-----------------|-----------------|-----------------|-----------------|--------------|---------------|--------------------|
| 2  | 1,652.800       | -56.56          | -13.00          | 43.56           | 13.58           | V            | 345.9         | 1.00               |
| 3  | 2,479.200       | -49.22          | -13.00          | 36.22           | 19.71           | V            | 359           | 2.00               |

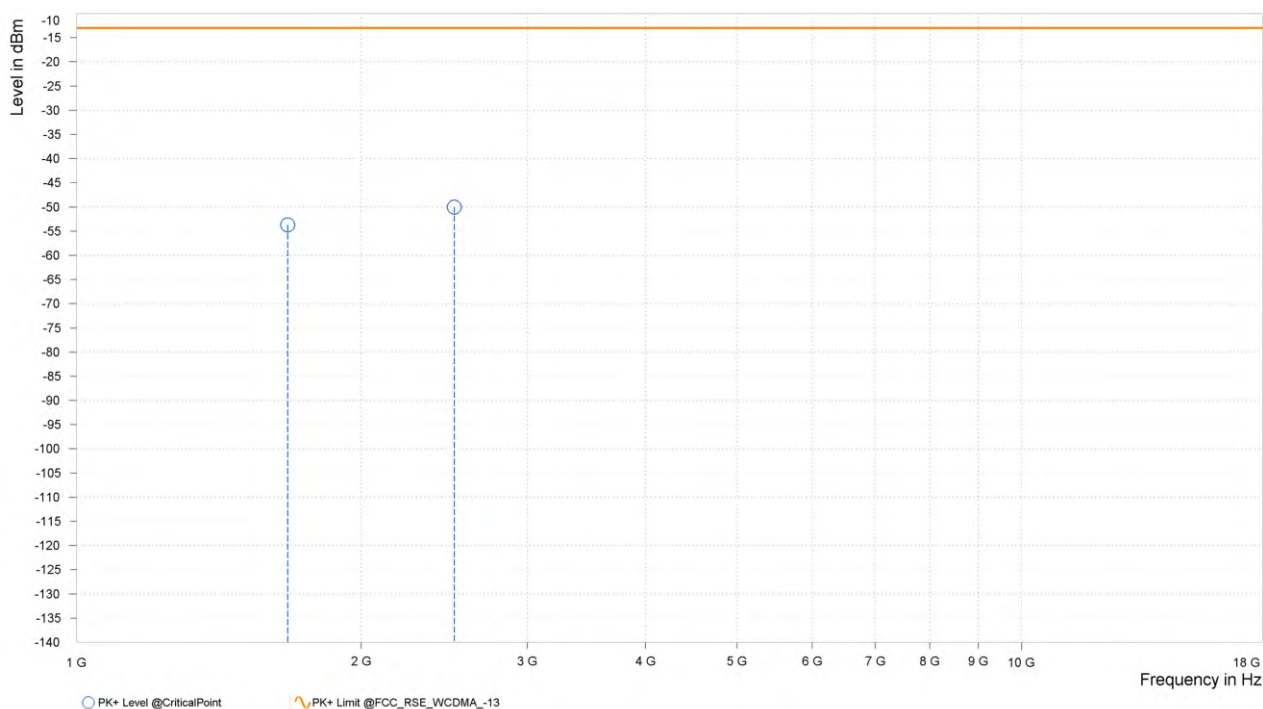


**WCDMA Band V:**

**CH 4132:**

|                                                     |                 |                 |               |
|-----------------------------------------------------|-----------------|-----------------|---------------|
| MODE                                                | TX channel 4132 | FREQUENCY RANGE | Above 1000MHz |
| ENVIRONMENTAL CONDITIONS                            | 23deg. C, 70%RH | INPUT POWER     | AC 120V/60HZ  |
| TESTED BY                                           | Jace Hu         |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                 |                 |               |

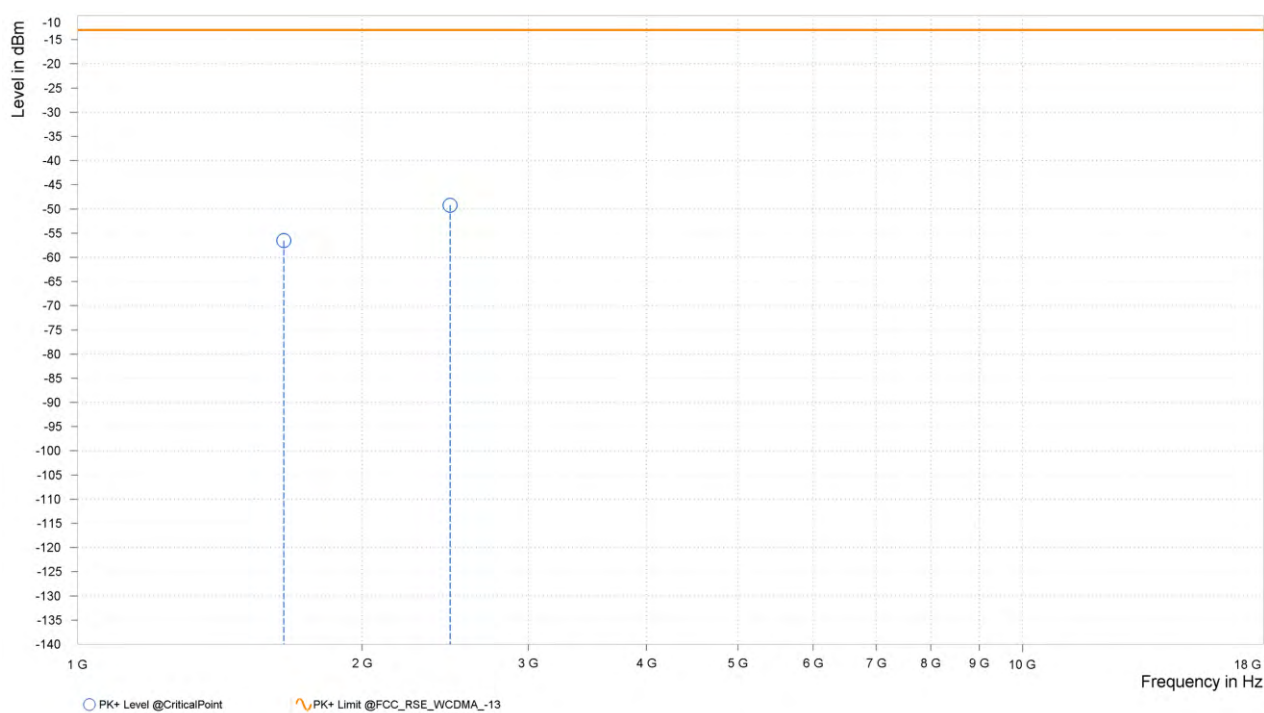
| Rg | Frequency [MHz] | PK+ Level [dBm] | PK+ Limit [dBm] | PK+ Margin [dB] | Correction [dB] | Polarization | Azimuth [deg] | Antenna Height [m] |
|----|-----------------|-----------------|-----------------|-----------------|-----------------|--------------|---------------|--------------------|
| 2  | 1,672.800       | -53.68          | -13.00          | 40.68           | 14.80           | H            | 1             | 2.00               |
| 3  | 2,509.200       | -50.02          | -13.00          | 37.02           | 19.71           | H            | 222           | 2.00               |





|                                                   |                 |                 |               |
|---------------------------------------------------|-----------------|-----------------|---------------|
| MODE                                              | TX channel 4132 | FREQUENCY RANGE | Above 1000MHz |
| ENVIRONMENTAL CONDITIONS                          | 23deg. C, 70%RH | INPUT POWER     | AC 120V/60HZ  |
| TESTED BY                                         | Jace Hu         |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M |                 |                 |               |

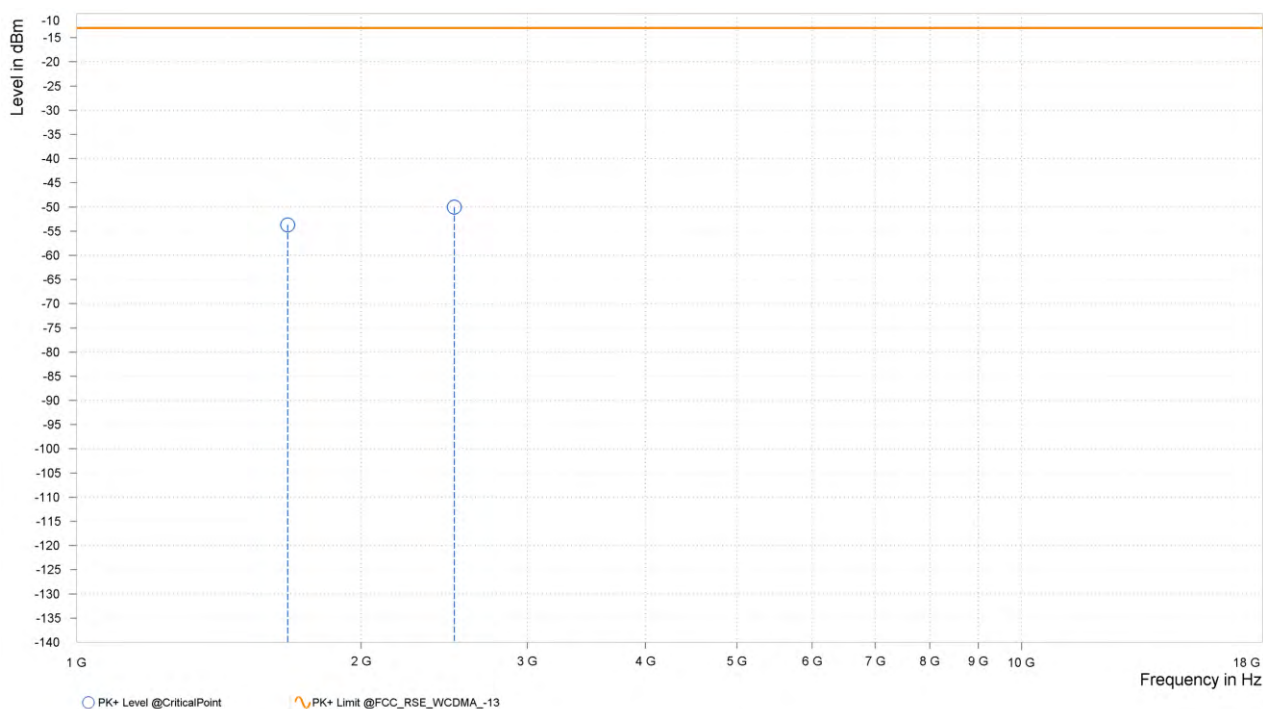
| Rg | Frequency [MHz] | PK+ Level [dBm] | PK+ Limit [dBm] | PK+ Margin [dB] | Correction [dB] | Polarization | Azimuth [deg] | Antenna Height [m] |
|----|-----------------|-----------------|-----------------|-----------------|-----------------|--------------|---------------|--------------------|
| 2  | 1,672.800       | -56.45          | -13.00          | 43.45           | 13.69           | V            | 298.6         | 2.00               |
| 3  | 2,509.200       | -49.16          | -13.00          | 36.16           | 20.32           | V            | 344.6         | 1.00               |



CH 4182:

|                                                     |                 |                 |               |
|-----------------------------------------------------|-----------------|-----------------|---------------|
| MODE                                                | TX channel 4182 | FREQUENCY RANGE | Above 1000MHz |
| ENVIRONMENTAL CONDITIONS                            | 23deg. C, 70%RH | INPUT POWER     | AC 120V/60HZ  |
| TESTED BY                                           | Jace Hu         |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                 |                 |               |

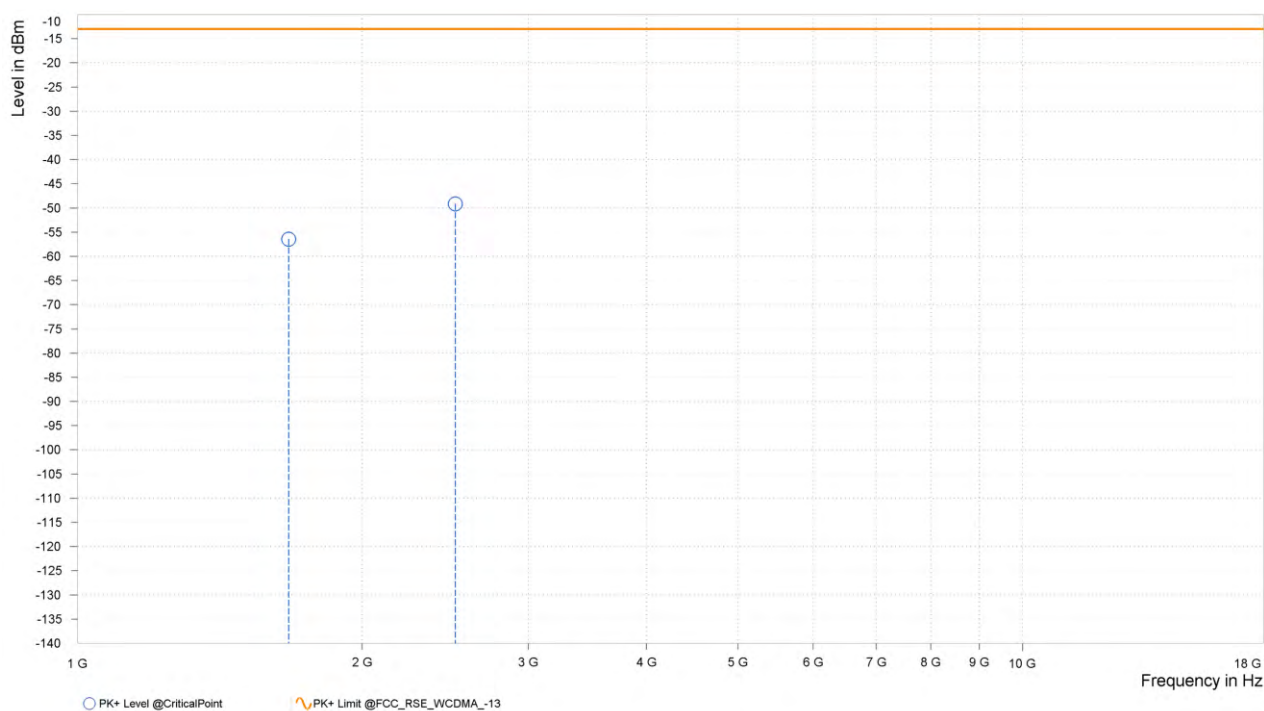
| Rg | Frequency [MHz] | PK+ Level [dBm] | PK+ Limit [dBm] | PK+ Margin [dB] | Correction [dB] | Polarization | Azimuth [deg] | Antenna Height [m] |
|----|-----------------|-----------------|-----------------|-----------------|-----------------|--------------|---------------|--------------------|
| 2  | 1,672.800       | -53.68          | -13.00          | 40.68           | 14.80           | H            | 1             | 2.00               |
| 3  | 2,509.200       | -50.02          | -13.00          | 37.02           | 19.71           | H            | 222           | 2.00               |





|                                                   |                 |                 |               |
|---------------------------------------------------|-----------------|-----------------|---------------|
| MODE                                              | TX channel 4182 | FREQUENCY RANGE | Above 1000MHz |
| ENVIRONMENTAL CONDITIONS                          | 23deg. C, 70%RH | INPUT POWER     | AC 120V/60HZ  |
| TESTED BY                                         | Jace Hu         |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M |                 |                 |               |

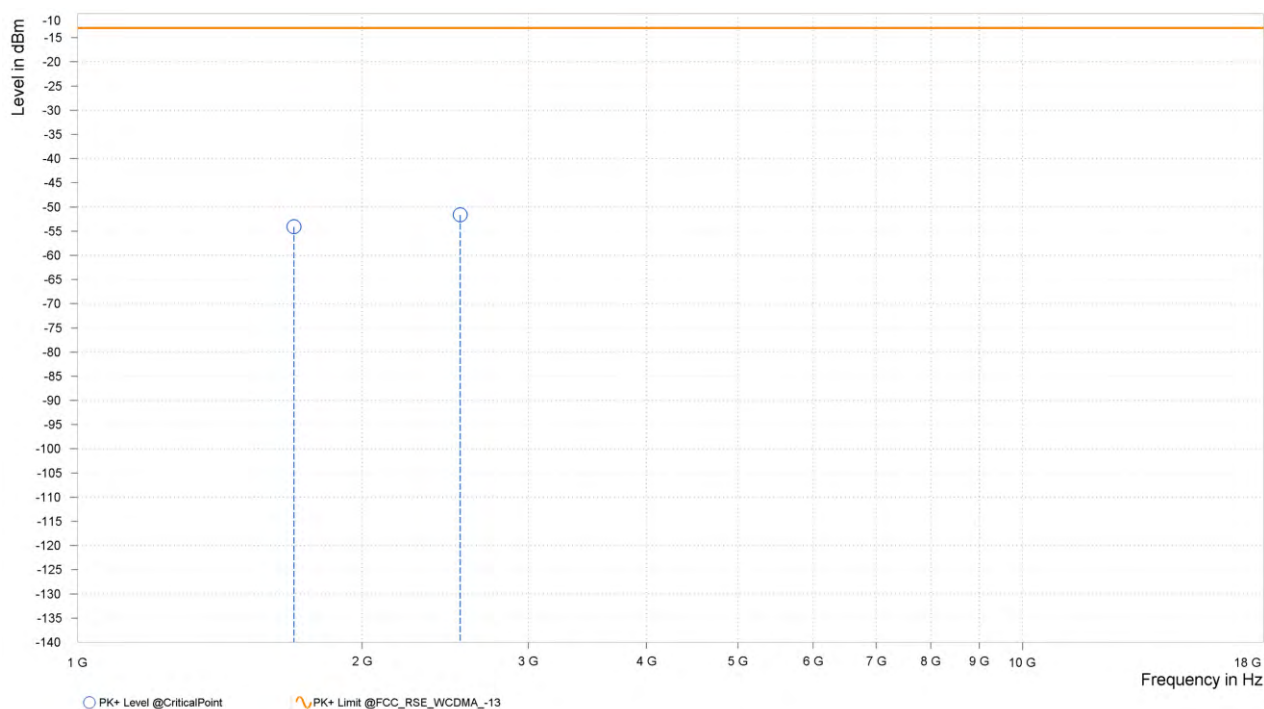
| Rg | Frequency [MHz] | PK+ Level [dBm] | PK+ Limit [dBm] | PK+ Margin [dB] | Correction [dB] | Polarization | Azimuth [deg] | Antenna Height [m] |
|----|-----------------|-----------------|-----------------|-----------------|-----------------|--------------|---------------|--------------------|
| 2  | 1,672.800       | -56.45          | -13.00          | 43.45           | 13.69           | V            | 298.6         | 2.00               |
| 3  | 2,509.200       | -49.16          | -13.00          | 36.16           | 20.32           | V            | 344.6         | 1.00               |



CH 4233:

|                                                     |                 |                 |               |
|-----------------------------------------------------|-----------------|-----------------|---------------|
| MODE                                                | TX channel 4233 | FREQUENCY RANGE | Above 1000MHz |
| ENVIRONMENTAL CONDITIONS                            | 23deg. C, 70%RH | INPUT POWER     | AC 120V/60HZ  |
| TESTED BY                                           | Jace Hu         |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                 |                 |               |

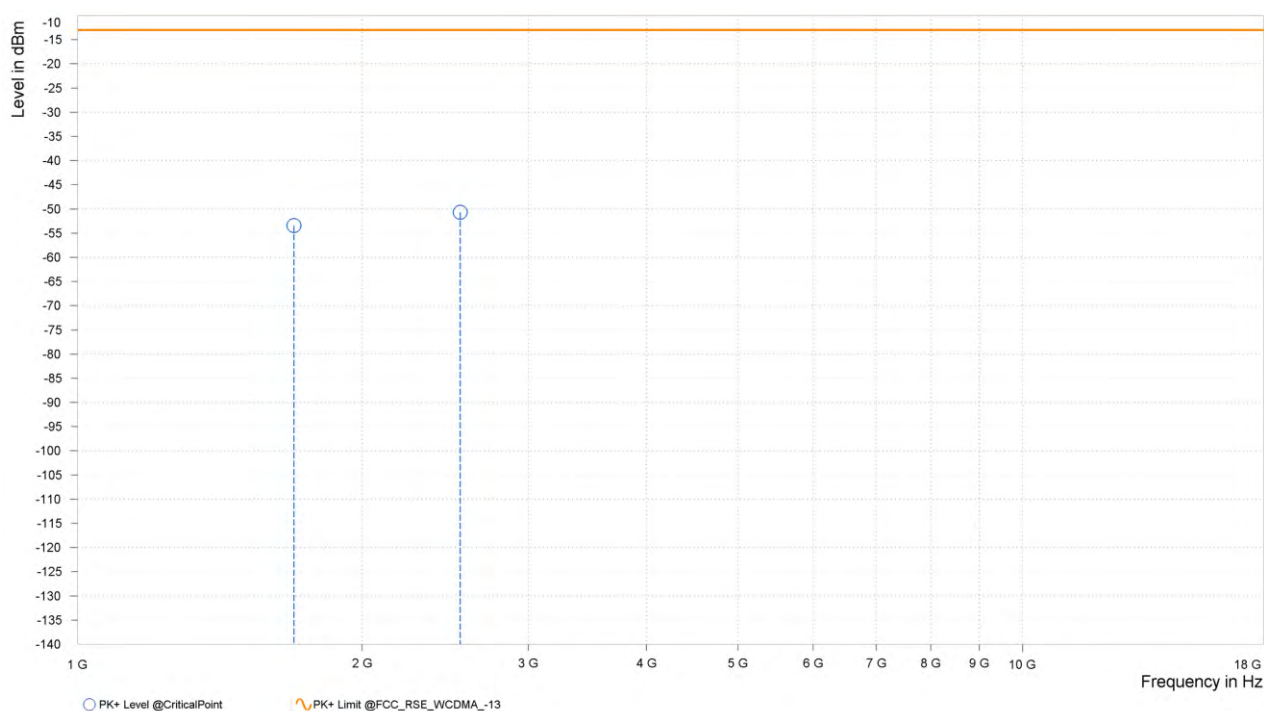
| Rg | Frequency [MHz] | PK+ Level [dBm] | PK+ Limit [dBm] | PK+ Margin [dB] | Correction [dB] | Polarization | Azimuth [deg] | Antenna Height [m] |
|----|-----------------|-----------------|-----------------|-----------------|-----------------|--------------|---------------|--------------------|
| 2  | 1,693.200       | -54.09          | -13.00          | 41.09           | 15.16           | H            | 312.5         | 1.00               |
| 3  | 2,539.800       | -51.63          | -13.00          | 38.63           | 19.36           | H            | 328           | 1.00               |





|                                                   |                 |                 |               |
|---------------------------------------------------|-----------------|-----------------|---------------|
| MODE                                              | TX channel 4233 | FREQUENCY RANGE | Above 1000MHz |
| ENVIRONMENTAL CONDITIONS                          | 23deg. C, 70%RH | INPUT POWER     | AC 120V/60HZ  |
| TESTED BY                                         | Jace Hu         |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M |                 |                 |               |

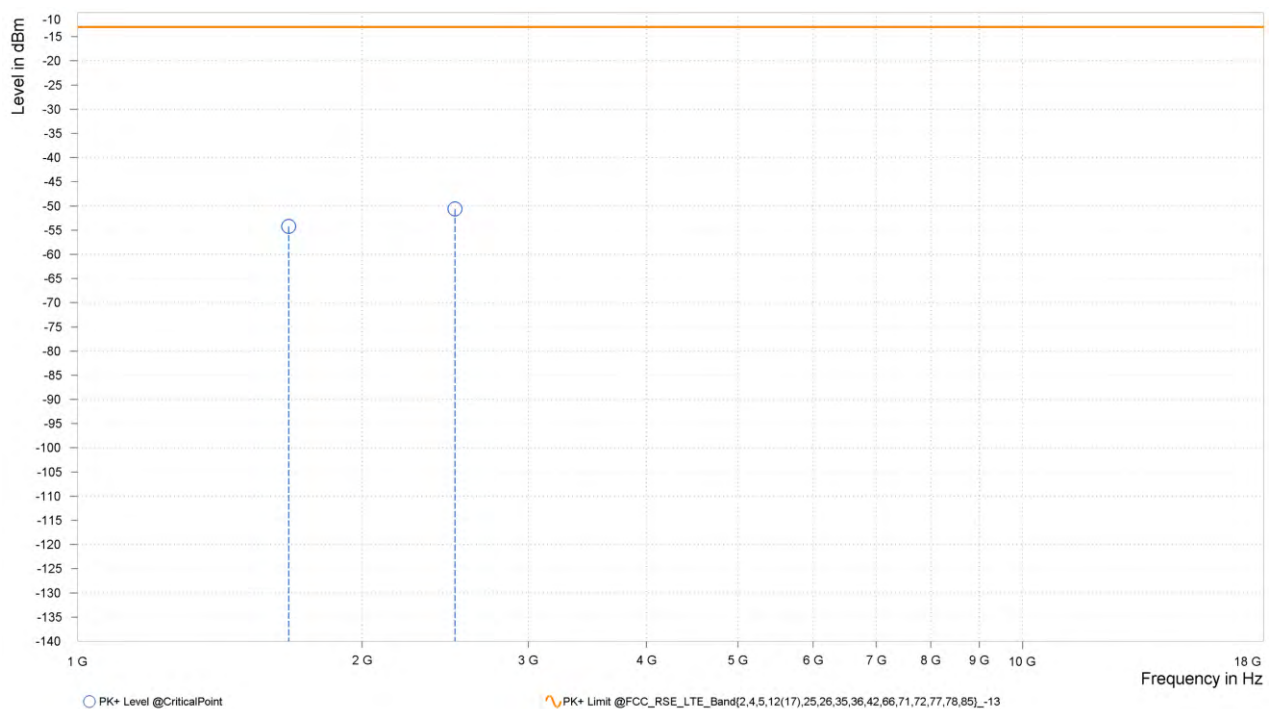
| Rg | Frequency [MHz] | PK+ Level [dBm] | PK+ Limit [dBm] | PK+ Margin [dB] | Correction [dB] | Polarization | Azimuth [deg] | Antenna Height [m] |
|----|-----------------|-----------------|-----------------|-----------------|-----------------|--------------|---------------|--------------------|
| 2  | 1,693.200       | -53.44          | -13.00          | 40.44           | 14.18           | V            | 316.1         | 1.00               |
| 3  | 2,539.800       | -50.70          | -13.00          | 37.70           | 20.05           | V            | 1             | 2.00               |



**LTE Band 26****CHANNEL BANDWIDTH: 1.4MHz / QPSK****CH26915**

|                                                     |                  |                 |               |
|-----------------------------------------------------|------------------|-----------------|---------------|
| MODE                                                | TX channel 26915 | FREQUENCY RANGE | Above 1000MHz |
| ENVIRONMENTAL CONDITIONS                            | 23deg. C, 70%RH  | INPUT POWER     | AC 120V/60HZ  |
| TESTED BY                                           | Jace Hu          |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                  |                 |               |

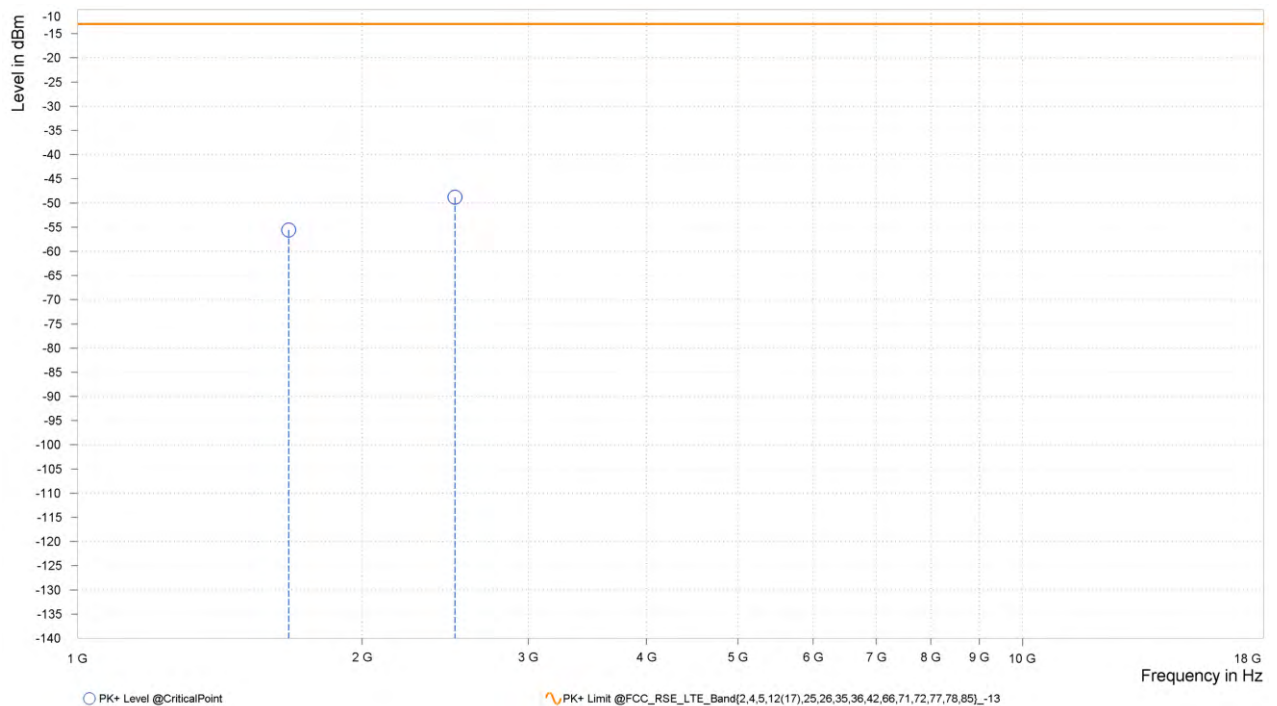
| Rg | Frequency [MHz] | PK+ Level [dBm] | PK+ Limit [dBm] | PK+ Margin [dB] | Correction [dB] | Polarization | Azimuth [deg] | Antenna Height [m] |
|----|-----------------|-----------------|-----------------|-----------------|-----------------|--------------|---------------|--------------------|
| 2  | 1,671.740       | -54.25          | -13.00          | 41.25           | 14.79           | H            | 55.5          | 1.00               |
| 3  | 2,507.610       | -50.64          | -13.00          | 37.64           | 19.73           | H            | 251.8         | 2.00               |





|                                                   |                  |                 |               |
|---------------------------------------------------|------------------|-----------------|---------------|
| MODE                                              | TX channel 26915 | FREQUENCY RANGE | Above 1000MHz |
| ENVIRONMENTAL CONDITIONS                          | 23deg. C, 70%RH  | INPUT POWER     | AC 120V/60HZ  |
| TESTED BY                                         | Jace Hu          |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M |                  |                 |               |

| Rg | Frequency [MHz] | PK+ Level [dBm] | PK+ Limit [dBm] | PK+ Margin [dB] | Correction [dB] | Polarization | Azimuth [deg] | Antenna Height [m] |
|----|-----------------|-----------------|-----------------|-----------------|-----------------|--------------|---------------|--------------------|
| 2  | 1,671.740       | -55.58          | -13.00          | 42.58           | 13.68           | V            | 299.8         | 2.00               |
| 3  | 2,507.610       | -48.84          | -13.00          | 35.84           | 20.30           | V            | 0.9           | 2.00               |

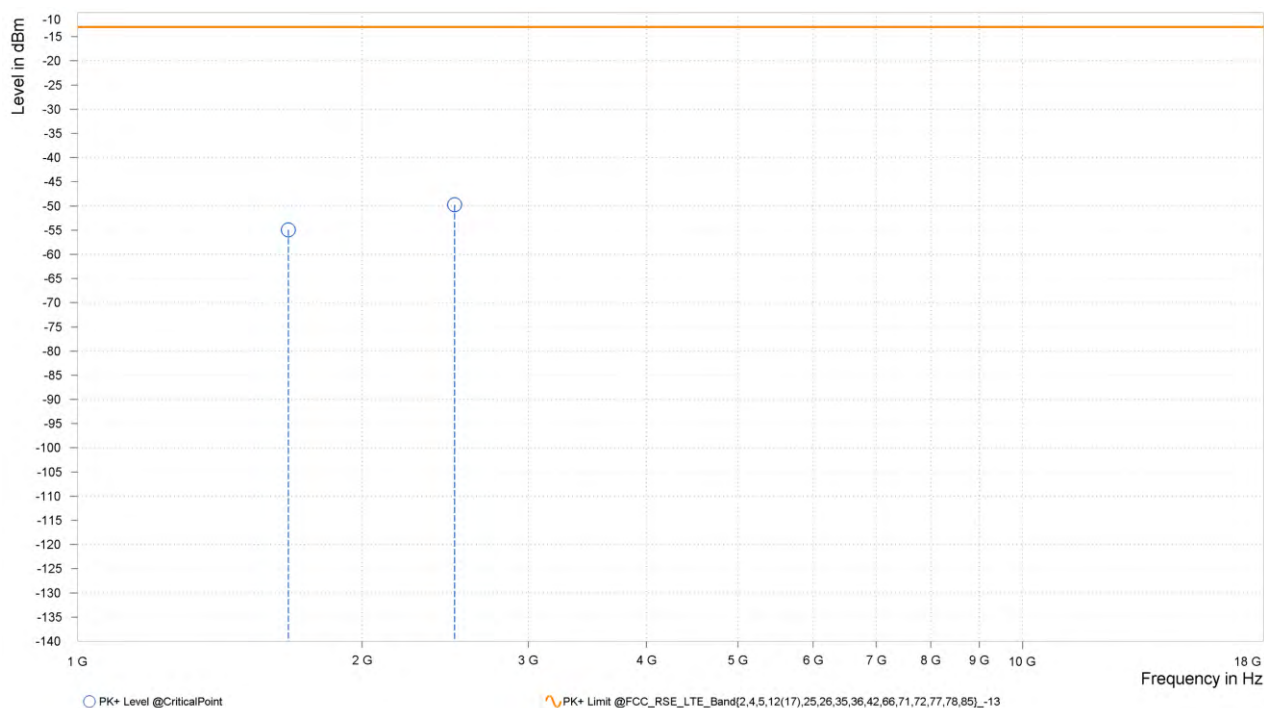




**CHANNEL BANDWIDTH: 3MHz / QPSK**

|                                                     |                  |                 |               |
|-----------------------------------------------------|------------------|-----------------|---------------|
| MODE                                                | TX channel 26915 | FREQUENCY RANGE | Above 1000MHz |
| ENVIRONMENTAL CONDITIONS                            | 23deg. C, 70%RH  | INPUT POWER     | AC 120V/60HZ  |
| TESTED BY                                           | Jace Hu          |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                  |                 |               |

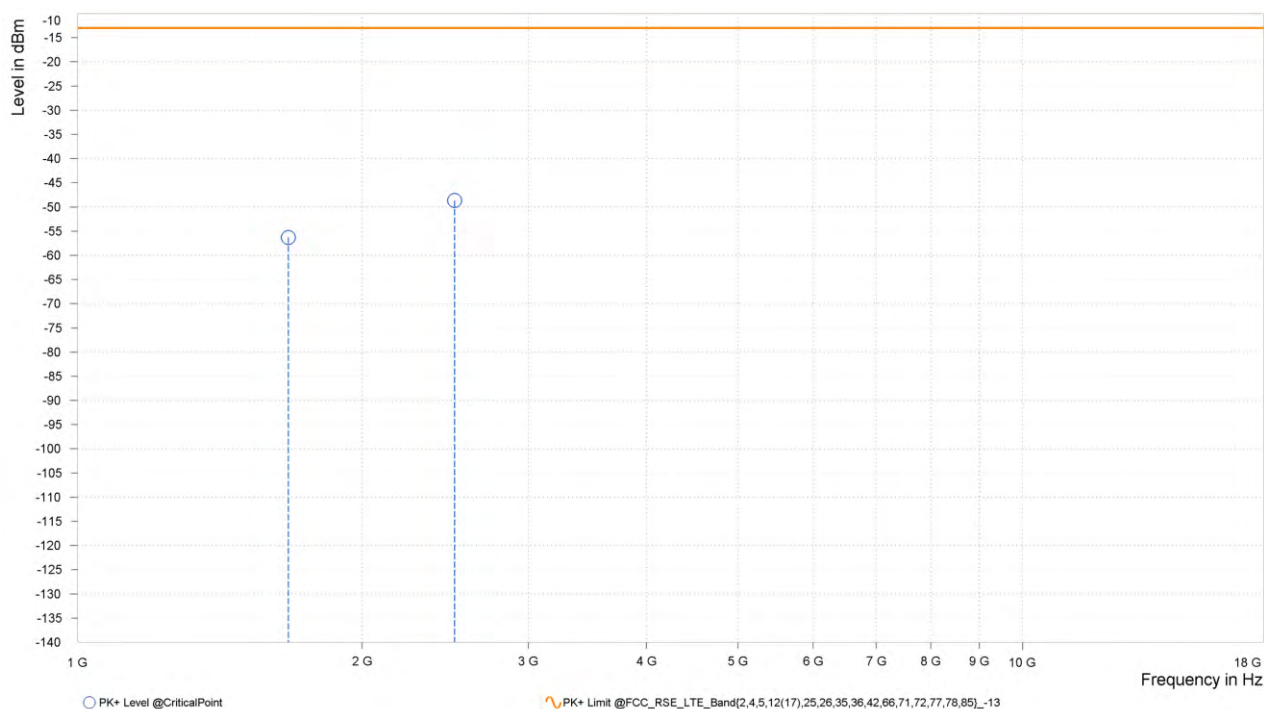
| Rg | Frequency [MHz] | PK+ Level [dBm] | PK+ Limit [dBm] | PK+ Margin [dB] | Correction [dB] | Polarization | Azimuth [deg] | Antenna Height [m] |
|----|-----------------|-----------------|-----------------|-----------------|-----------------|--------------|---------------|--------------------|
| 2  | 1,670.300       | -54.94          | -13.00          | 41.94           | 14.78           | H            | 359           | 2.00               |
| 3  | 2,505.450       | -49.77          | -13.00          | 36.77           | 19.76           | H            | 29.6          | 2.00               |





|                                                   |                  |                 |               |
|---------------------------------------------------|------------------|-----------------|---------------|
| MODE                                              | TX channel 26915 | FREQUENCY RANGE | Above 1000MHz |
| ENVIRONMENTAL CONDITIONS                          | 23deg. C, 70%RH  | INPUT POWER     | AC 120V/60HZ  |
| TESTED BY                                         | Jace Hu          |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M |                  |                 |               |

| Rg | Frequency [MHz] | PK+ Level [dBm] | PK+ Limit [dBm] | PK+ Margin [dB] | Correction [dB] | Polarization | Azimuth [deg] | Antenna Height [m] |
|----|-----------------|-----------------|-----------------|-----------------|-----------------|--------------|---------------|--------------------|
| 2  | 1,670.300       | -56.29          | -13.00          | 43.29           | 13.67           | V            | 35.5          | 2.00               |
| 3  | 2,505.450       | -48.68          | -13.00          | 35.68           | 20.28           | V            | 359           | 2.00               |

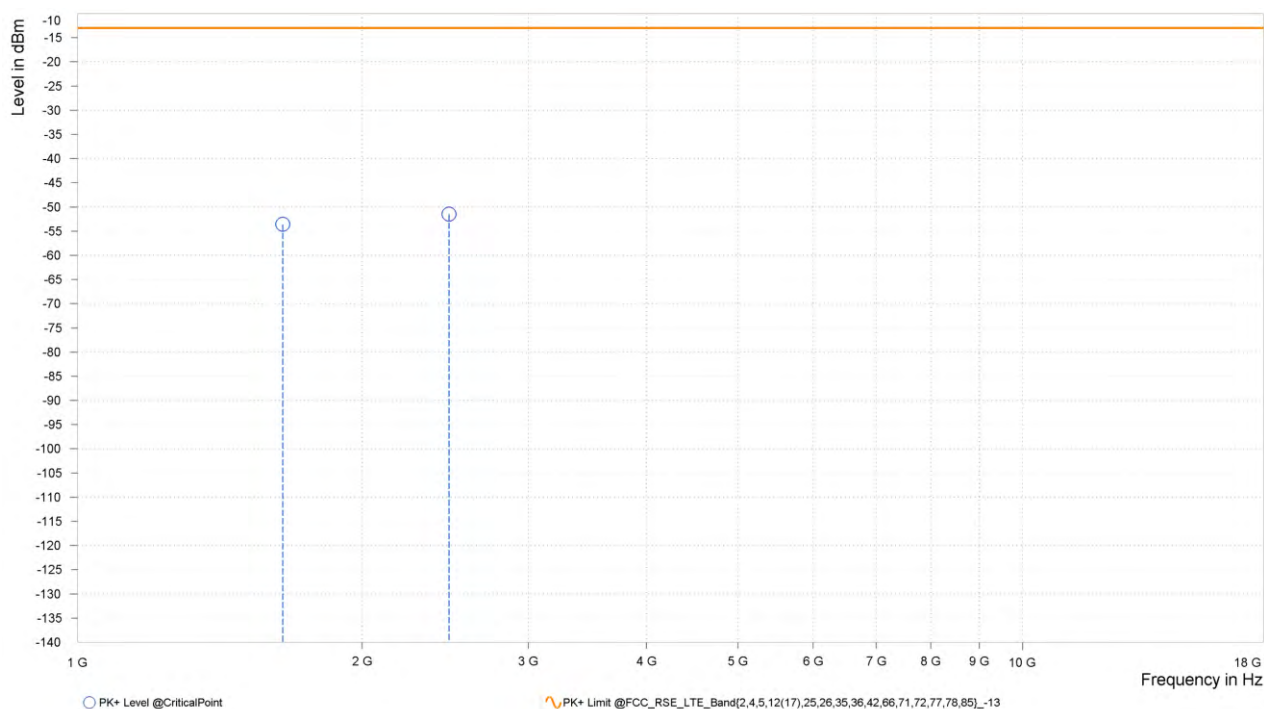




CHANNEL BANDWIDTH: 5MHz / QPSK  
CH26815

|                                                     |                  |                 |               |
|-----------------------------------------------------|------------------|-----------------|---------------|
| MODE                                                | TX channel 26815 | FREQUENCY RANGE | Above 1000MHz |
| ENVIRONMENTAL CONDITIONS                            | 23deg. C, 70%RH  | INPUT POWER     | AC 120V/60HZ  |
| TESTED BY                                           | Jace Hu          |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                  |                 |               |

| Rg | Frequency [MHz] | PK+ Level [dBm] | PK+ Limit [dBm] | PK+ Margin [dB] | Correction [dB] | Polarization | Azimuth [deg] | Antenna Height [m] |
|----|-----------------|-----------------|-----------------|-----------------|-----------------|--------------|---------------|--------------------|
| 2  | 1,648.500       | -53.58          | -13.00          | 40.58           | 14.07           | H            | 305.7         | 2.00               |
| 3  | 2,472.750       | -51.51          | -13.00          | 38.51           | 19.28           | H            | 166.6         | 1.00               |



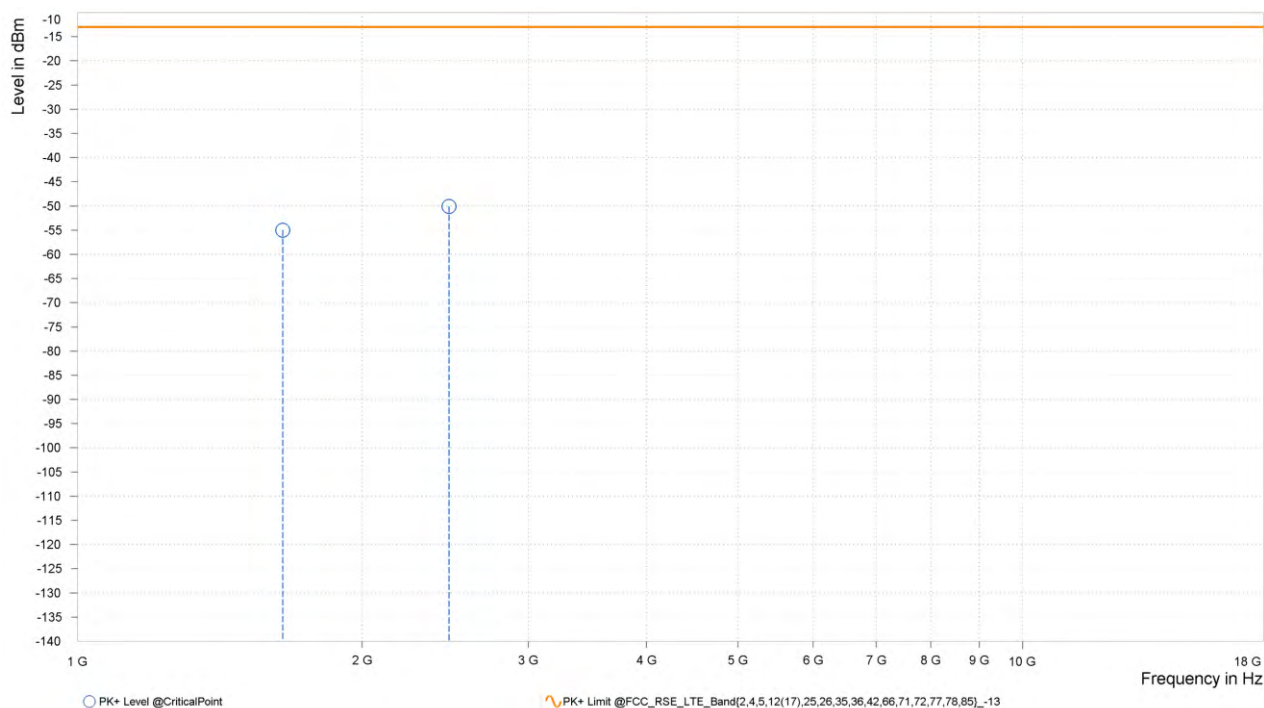


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Test Report No.: PSU-NQN2403180115RF05

|                                                   |                  |                 |               |
|---------------------------------------------------|------------------|-----------------|---------------|
| MODE                                              | TX channel 26815 | FREQUENCY RANGE | Above 1000MHz |
| ENVIRONMENTAL CONDITIONS                          | 23deg. C, 70%RH  | INPUT POWER     | AC 120V/60HZ  |
| TESTED BY                                         | Jace Hu          |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M |                  |                 |               |

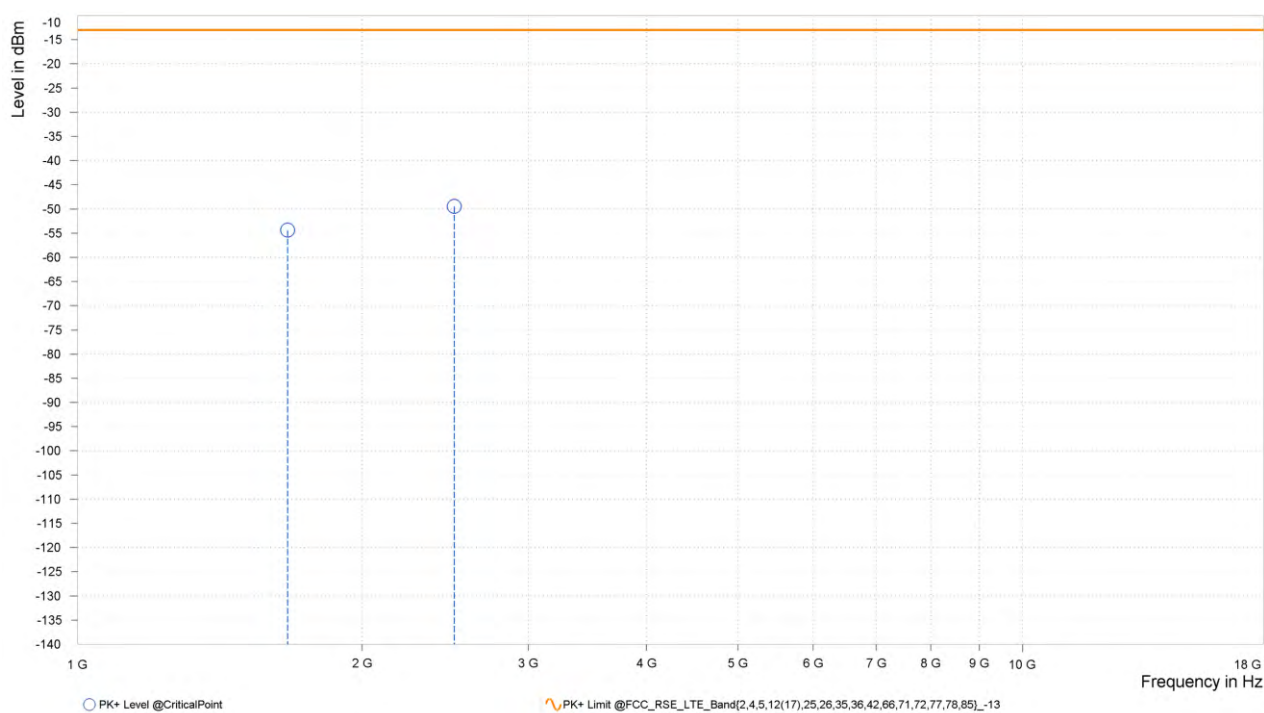
| Rg | Frequency [MHz] | PK+ Level [dBm] | PK+ Limit [dBm] | PK+ Margin [dB] | Correction [dB] | Polarization | Azimuth [deg] | Antenna Height [m] |
|----|-----------------|-----------------|-----------------|-----------------|-----------------|--------------|---------------|--------------------|
| 2  | 1,648.500       | -54.99          | -13.00          | 41.99           | 13.65           | V            | 359           | 1.00               |
| 3  | 2,472.750       | -50.09          | -13.00          | 37.09           | 19.53           | V            | 5.4           | 2.00               |



**CH26915**

|                                                     |                  |                 |               |
|-----------------------------------------------------|------------------|-----------------|---------------|
| MODE                                                | TX channel 26915 | FREQUENCY RANGE | Above 1000MHz |
| ENVIRONMENTAL CONDITIONS                            | 23deg. C, 70%RH  | INPUT POWER     | AC 120V/60HZ  |
| TESTED BY                                           | Jace Hu          |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                  |                 |               |

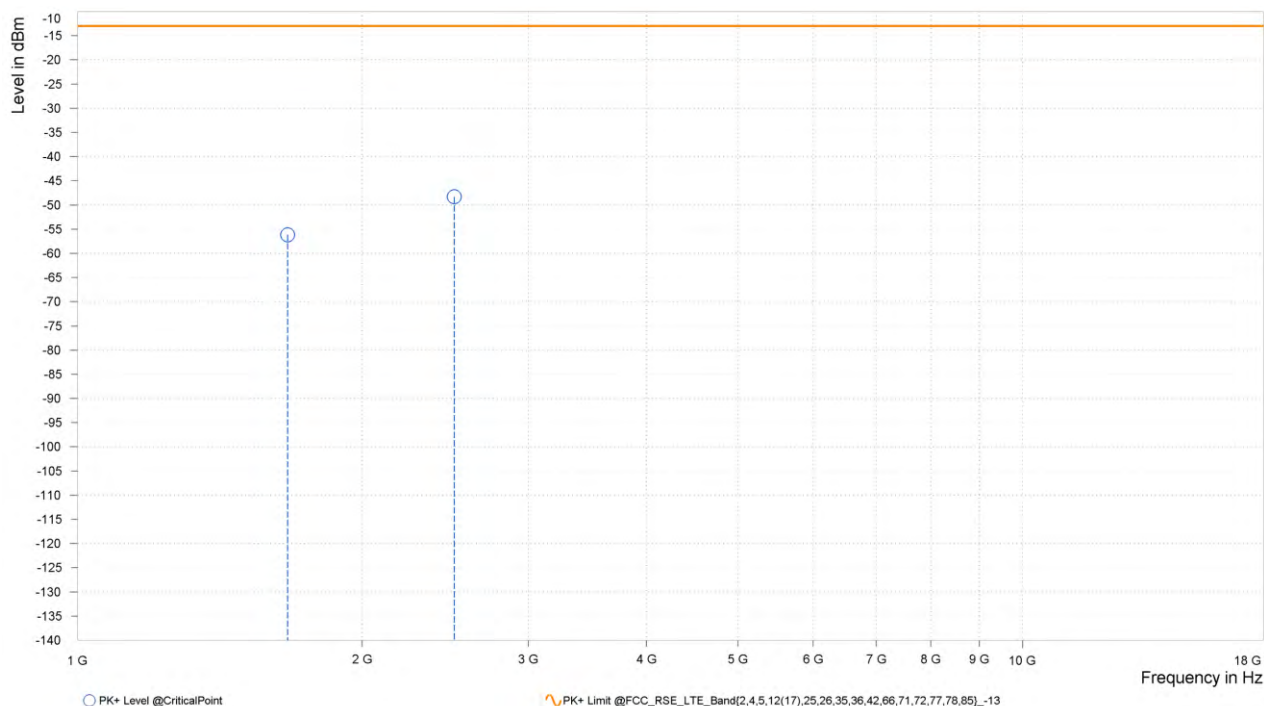
| Rg | Frequency [MHz] | PK+ Level [dBm] | PK+ Limit [dBm] | PK+ Margin [dB] | Correction [dB] | Polarization | Azimuth [deg] | Antenna Height [m] |
|----|-----------------|-----------------|-----------------|-----------------|-----------------|--------------|---------------|--------------------|
| 2  | 1,668.500       | -54.39          | -13.00          | 41.39           | 14.75           | H            | 358.6         | 1.00               |
| 3  | 2,502.750       | -49.46          | -13.00          | 36.46           | 19.80           | H            | 359.1         | 1.00               |





|                                                   |                  |                 |               |
|---------------------------------------------------|------------------|-----------------|---------------|
| MODE                                              | TX channel 26915 | FREQUENCY RANGE | Above 1000MHz |
| ENVIRONMENTAL CONDITIONS                          | 23deg. C, 70%RH  | INPUT POWER     | AC 120V/60HZ  |
| TESTED BY                                         | Jace Hu          |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M |                  |                 |               |

| Rg | Frequency [MHz] | PK+ Level [dBm] | PK+ Limit [dBm] | PK+ Margin [dB] | Correction [dB] | Polarization | Azimuth [deg] | Antenna Height [m] |
|----|-----------------|-----------------|-----------------|-----------------|-----------------|--------------|---------------|--------------------|
| 2  | 1,668.500       | -56.17          | -13.00          | 43.17           | 13.64           | V            | 359           | 2.00               |
| 3  | 2,502.750       | -48.32          | -13.00          | 35.32           | 20.24           | V            | 359.1         | 1.00               |





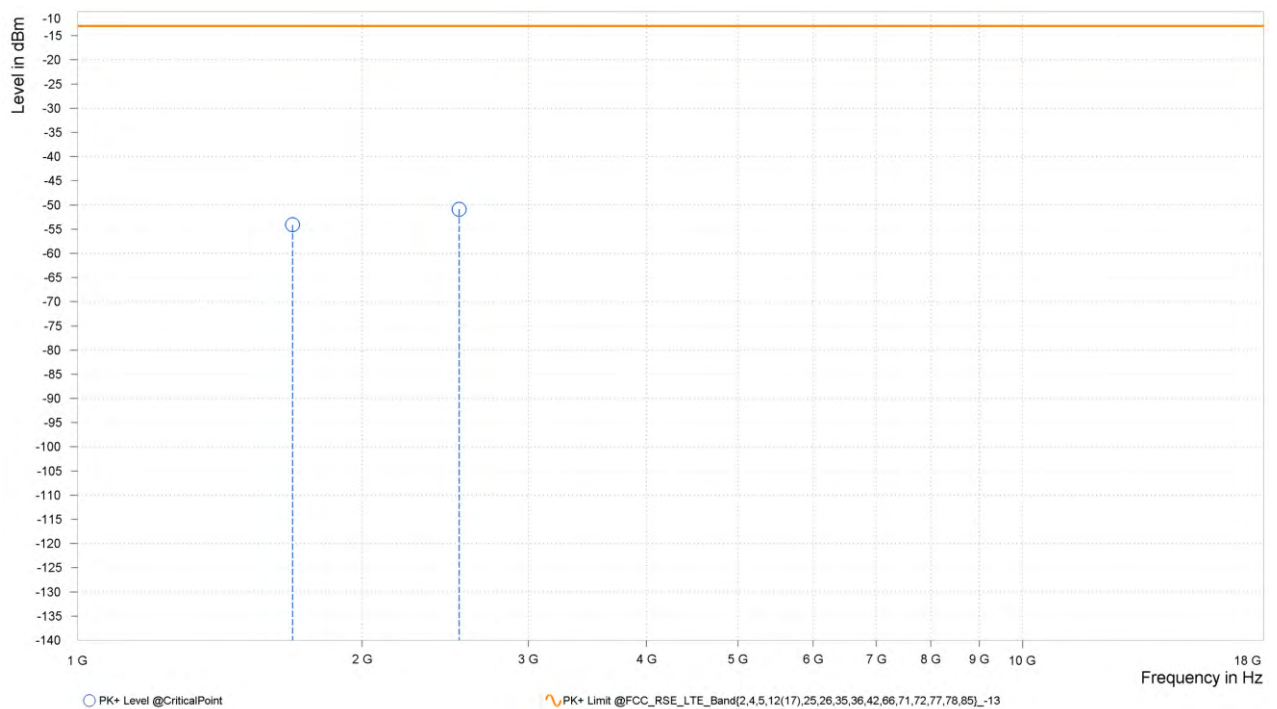
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Test Report No.: PSU-NQN2403180115RF05

## CH27015

|                                                     |                  |                 |               |
|-----------------------------------------------------|------------------|-----------------|---------------|
| MODE                                                | TX channel 27015 | FREQUENCY RANGE | Above 1000MHz |
| ENVIRONMENTAL CONDITIONS                            | 23deg. C, 70%RH  | INPUT POWER     | AC 120V/60HZ  |
| TESTED BY                                           | Jace Hu          |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                  |                 |               |

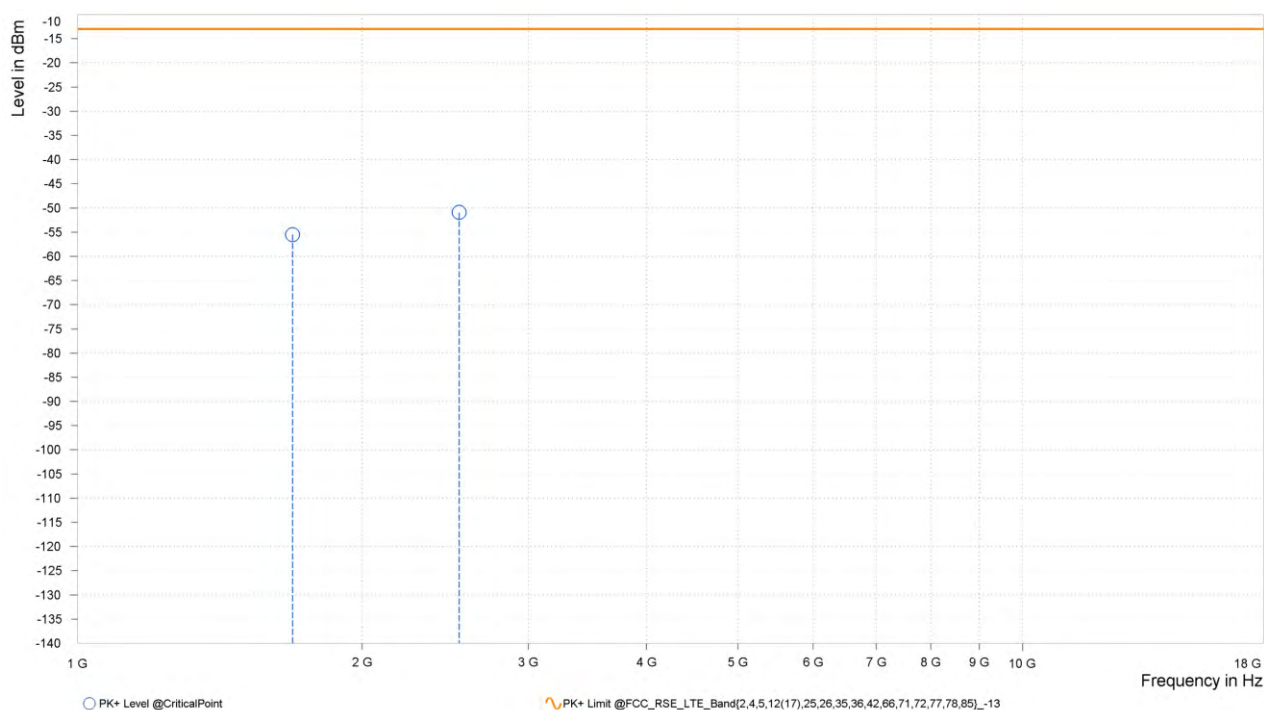
| Rg | Frequency [MHz] | PK+ Level [dBm] | PK+ Limit [dBm] | PK+ Margin [dB] | Correction [dB] | Polarization | Azimuth [deg] | Antenna Height [m] |
|----|-----------------|-----------------|-----------------|-----------------|-----------------|--------------|---------------|--------------------|
| 2  | 1,688.500       | -54.09          | -13.00          | 41.09           | 15.05           | H            | 316.2         | 1.00               |
| 3  | 2,532.750       | -50.89          | -13.00          | 37.89           | 19.40           | H            | 359           | 1.00               |





|                                                   |                  |                 |               |
|---------------------------------------------------|------------------|-----------------|---------------|
| MODE                                              | TX channel 27015 | FREQUENCY RANGE | Above 1000MHz |
| ENVIRONMENTAL CONDITIONS                          | 23deg. C, 70%RH  | INPUT POWER     | AC 120V/60HZ  |
| TESTED BY                                         | Jace Hu          |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M |                  |                 |               |

| Rg | Frequency [MHz] | PK+ Level [dBm] | PK+ Limit [dBm] | PK+ Margin [dB] | Correction [dB] | Polarization | Azimuth [deg] | Antenna Height [m] |
|----|-----------------|-----------------|-----------------|-----------------|-----------------|--------------|---------------|--------------------|
| 2  | 1,688.500       | -55.50          | -13.00          | 42.50           | 14.04           | V            | 359.1         | 1.00               |
| 3  | 2,532.750       | -50.93          | -13.00          | 37.93           | 20.15           | V            | 355           | 1.00               |

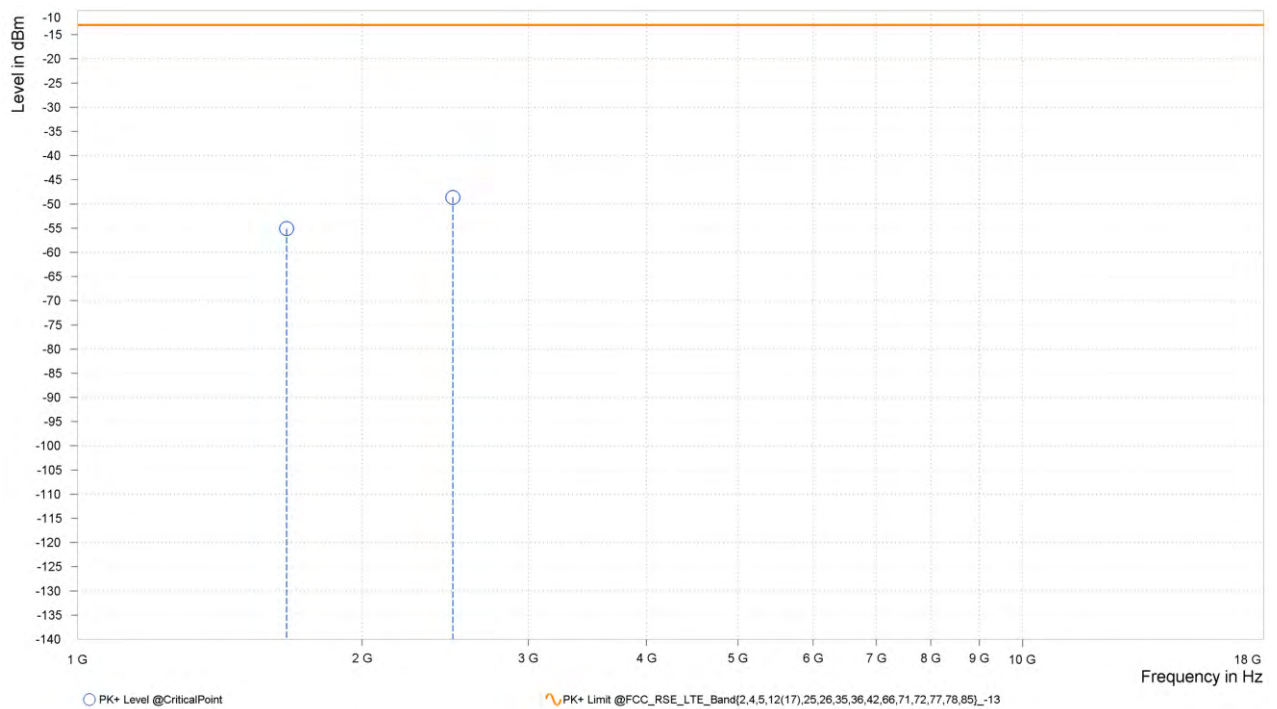


**CHANNEL BANDWIDTH: 10MHz / QPSK**

**CH26915**

|                                                     |                  |                 |               |
|-----------------------------------------------------|------------------|-----------------|---------------|
| MODE                                                | TX channel 26915 | FREQUENCY RANGE | Above 1000MHz |
| ENVIRONMENTAL CONDITIONS                            | 23deg. C, 70%RH  | INPUT POWER     | AC 120V/60HZ  |
| TESTED BY                                           | Jace Hu          |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                  |                 |               |

| Rg | Frequency [MHz] | PK+ Level [dBm] | PK+ Limit [dBm] | PK+ Margin [dB] | Correction [dB] | Polarization | Azimuth [deg] | Antenna Height [m] |
|----|-----------------|-----------------|-----------------|-----------------|-----------------|--------------|---------------|--------------------|
| 2  | 1,664.000       | -55.10          | -13.00          | 42.10           | 14.67           | H            | 54.3          | 1.00               |
| 3  | 2,496.000       | -48.64          | -13.00          | 35.64           | 19.88           | H            | 108.1         | 1.00               |



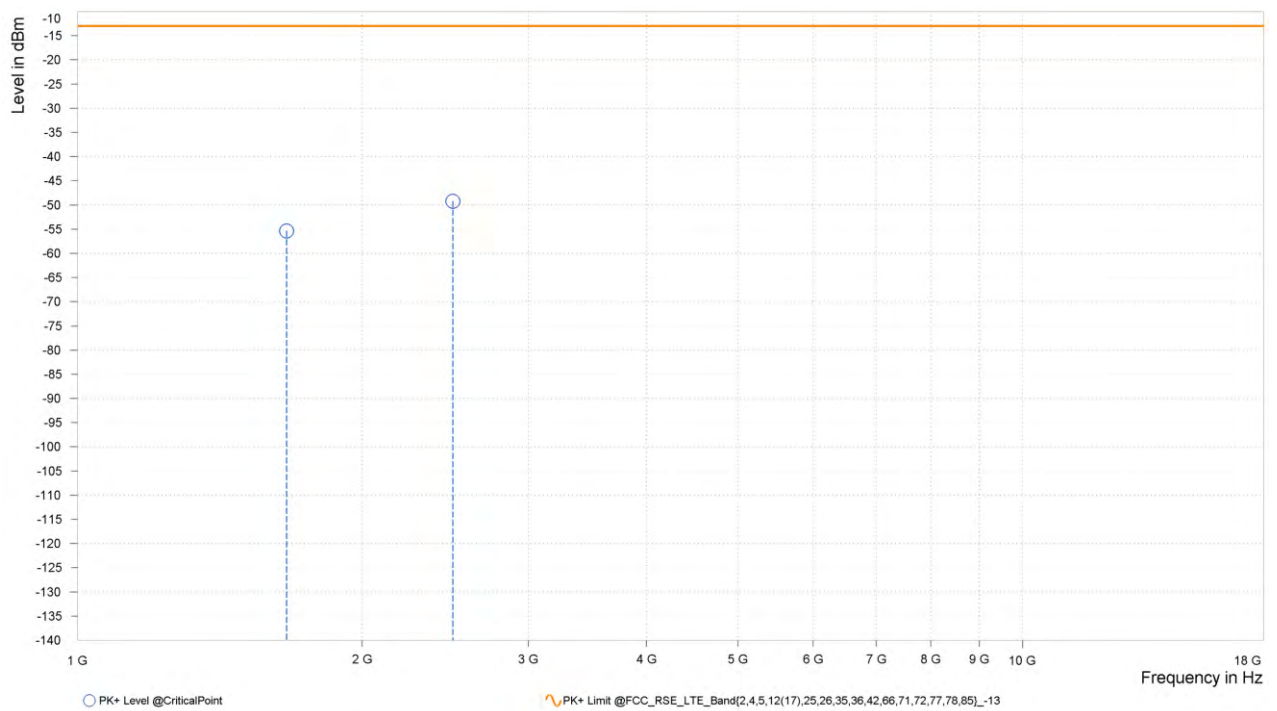


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|                                                   |                  |                 |               |
|---------------------------------------------------|------------------|-----------------|---------------|
| MODE                                              | TX channel 26915 | FREQUENCY RANGE | Above 1000MHz |
| ENVIRONMENTAL CONDITIONS                          | 23deg. C, 70%RH  | INPUT POWER     | AC 120V/60HZ  |
| TESTED BY                                         | Jace Hu          |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M |                  |                 |               |

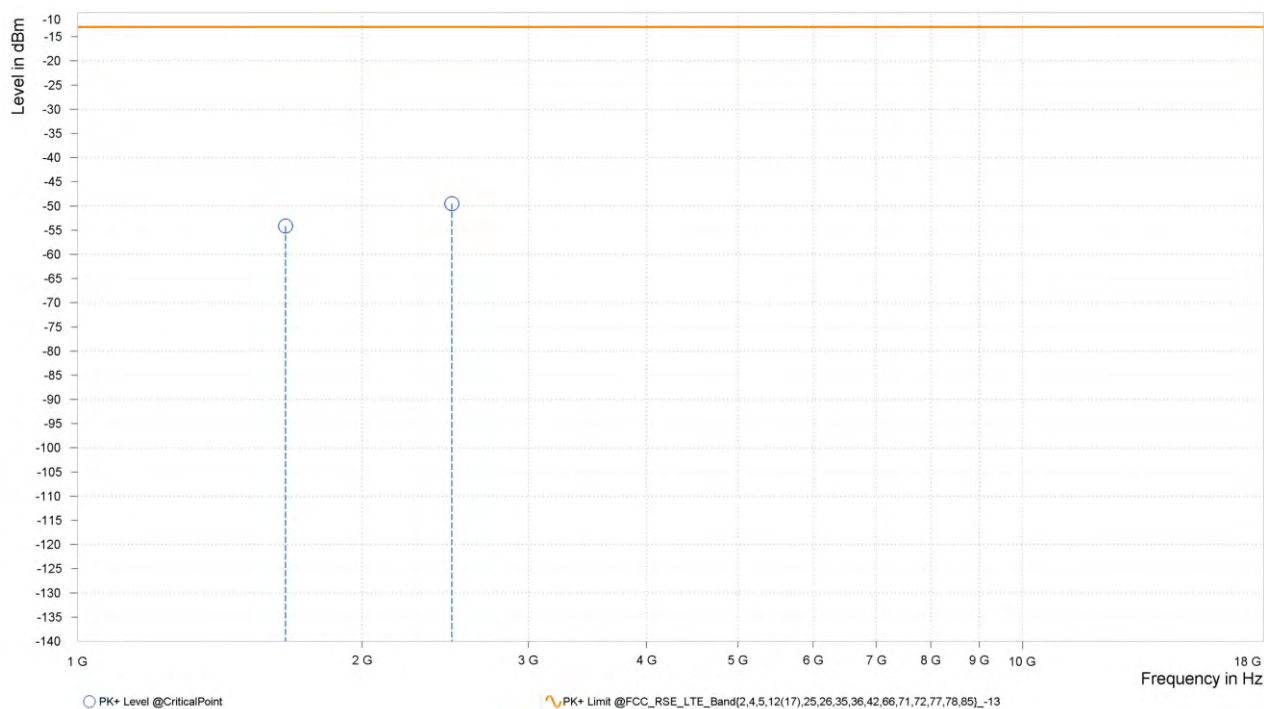
| Rg | Frequency [MHz] | PK+ Level [dBm] | PK+ Limit [dBm] | PK+ Margin [dB] | Correction [dB] | Polarization | Azimuth [deg] | Antenna Height [m] |
|----|-----------------|-----------------|-----------------|-----------------|-----------------|--------------|---------------|--------------------|
| 2  | 1,664.000       | -55.35          | -13.00          | 42.35           | 13.55           | V            | 305.7         | 2.00               |
| 3  | 2,496.000       | -49.21          | -13.00          | 36.21           | 20.16           | V            | 359           | 1.00               |



**CHANNEL BANDWIDTH: 15MHz / QPSK****CH26915**

|                                                     |                  |                 |               |
|-----------------------------------------------------|------------------|-----------------|---------------|
| MODE                                                | TX channel 26915 | FREQUENCY RANGE | Above 1000MHz |
| ENVIRONMENTAL CONDITIONS                            | 23deg. C, 70%RH  | INPUT POWER     | AC 120V/60HZ  |
| TESTED BY                                           | Jace Hu          |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                  |                 |               |

| Rg | Frequency [MHz] | PK+ Level [dBm] | PK+ Limit [dBm] | PK+ Margin [dB] | Correction [dB] | Polarization | Azimuth [deg] | Antenna Height [m] |
|----|-----------------|-----------------|-----------------|-----------------|-----------------|--------------|---------------|--------------------|
| 2  | 1,659.500       | -54.18          | -13.00          | 41.18           | 14.60           | H            | 1             | 1.00               |
| 3  | 2,489.250       | -49.51          | -13.00          | 36.51           | 19.77           | H            | 1             | 1.00               |



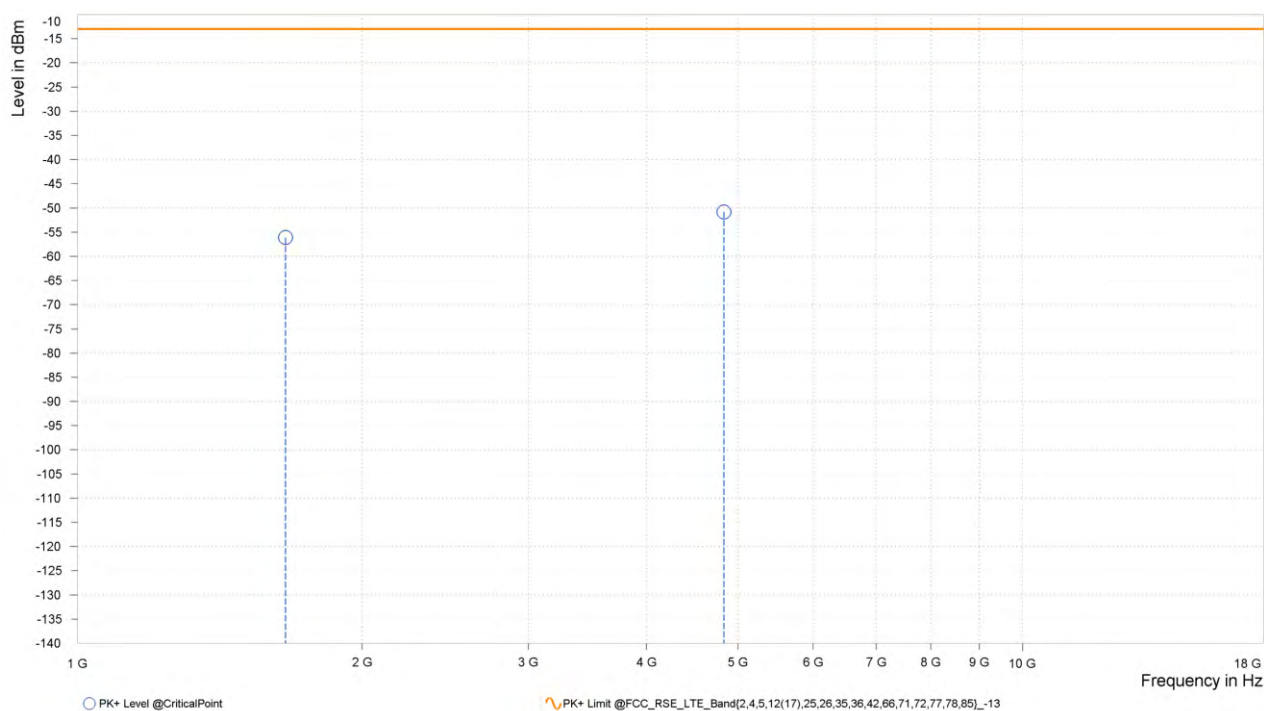


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Test Report No.: PSU-NQN2403180115RF05

|                                                   |                  |                 |               |
|---------------------------------------------------|------------------|-----------------|---------------|
| MODE                                              | TX channel 26915 | FREQUENCY RANGE | Above 1000MHz |
| ENVIRONMENTAL CONDITIONS                          | 23deg. C, 70%RH  | INPUT POWER     | AC 120V/60HZ  |
| TESTED BY                                         | Jace Hu          |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M |                  |                 |               |

| Rg | Frequency [MHz] | PK+ Level [dBm] | PK+ Limit [dBm] | PK+ Margin [dB] | Correction [dB] | Polarization | Azimuth [deg] | Antenna Height [m] |
|----|-----------------|-----------------|-----------------|-----------------|-----------------|--------------|---------------|--------------------|
| 2  | 1,659.500       | -56.11          | -13.00          | 43.11           | 13.48           | V            | 1             | 1.00               |
| 4  | 4,829.250       | -50.81          | -13.00          | 37.81           | 23.41           | V            | 1             | 2.00               |





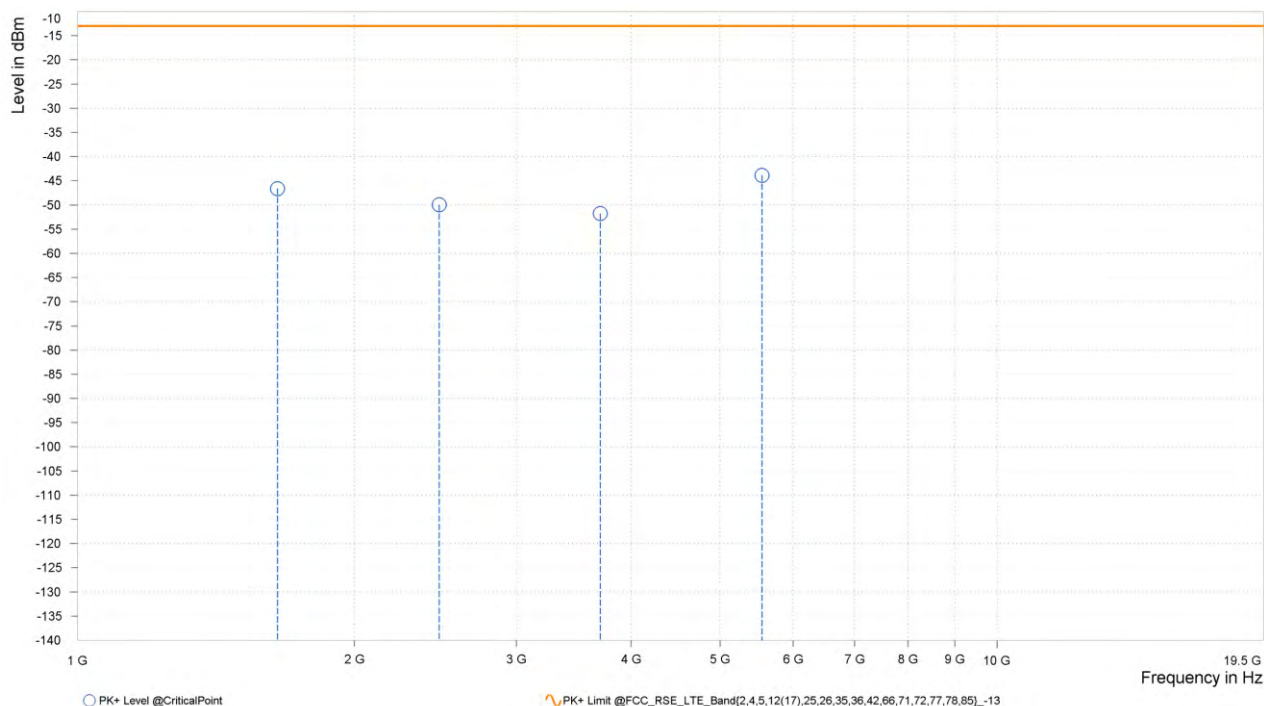
ENDC

CA\_2A-5A

CHANNEL BANDWIDTH: 20MHz + 10MHz

|                                                     |                  |                 |               |
|-----------------------------------------------------|------------------|-----------------|---------------|
| MODE                                                | TX channel 20525 | FREQUENCY RANGE | Above 1000MHz |
| ENVIRONMENTAL CONDITIONS                            | 23deg. C, 70%RH  | INPUT POWER     | AC 120V/60HZ  |
| TESTED BY                                           | Jace Hu          |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                  |                 |               |

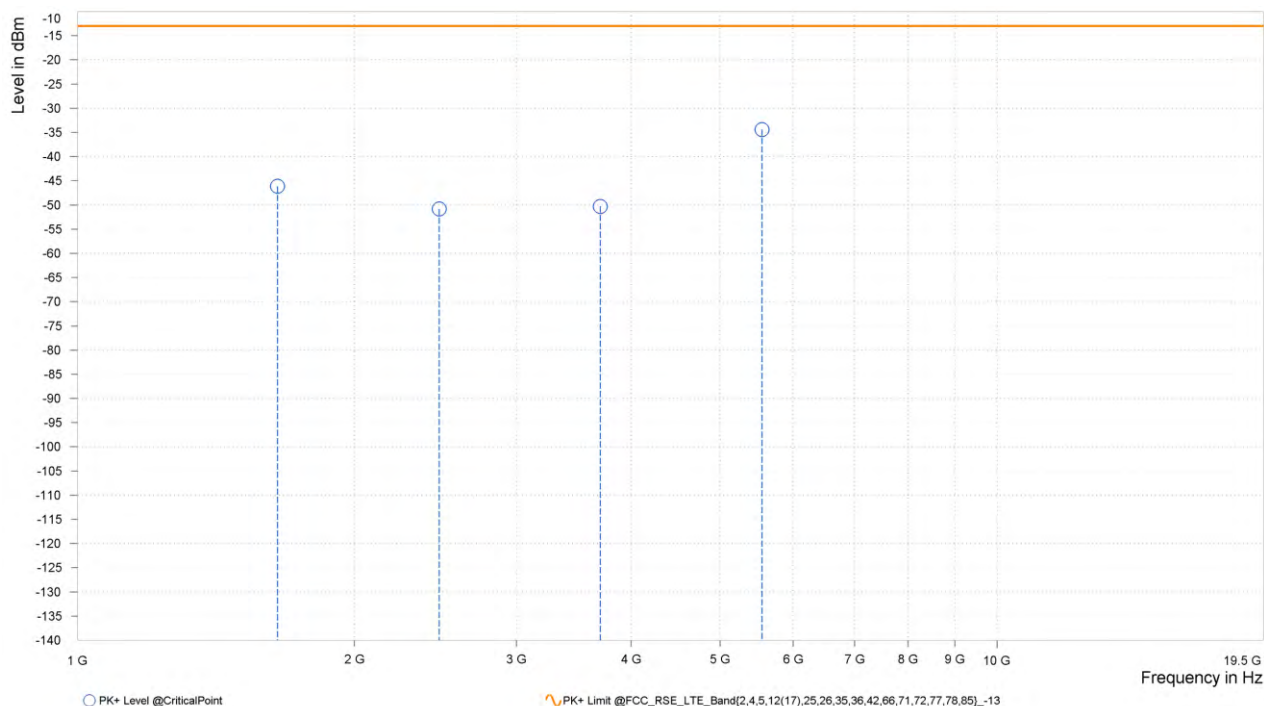
| Rg | Frequency [MHz] | PK+ Level [dBm] | PK+ Limit [dBm] | PK+ Margin [dB] | Correction [dB] | Polarization | Azimuth [deg] | Antenna Height [m] |
|----|-----------------|-----------------|-----------------|-----------------|-----------------|--------------|---------------|--------------------|
| 2  | 1,649.000       | -46.62          | -13.00          | 33.62           | 23.75           | H            | 1             | 2.00               |
| 3  | 2,473.500       | -49.97          | -13.00          | 36.97           | 19.31           | H            | 256.7         | 2.00               |
| 4  | 3,702.000       | -51.79          | -13.00          | 38.79           | 20.97           | H            | 1             | 1.00               |
| 4  | 5,553.500       | -43.89          | -13.00          | 30.89           | 23.75           | H            | 1             | 1.00               |





|                                                   |                  |                 |               |
|---------------------------------------------------|------------------|-----------------|---------------|
| MODE                                              | TX channel 20525 | FREQUENCY RANGE | Above 1000MHz |
| ENVIRONMENTAL CONDITIONS                          | 23deg. C, 70%RH  | INPUT POWER     | AC 120V/60HZ  |
| TESTED BY                                         | Jace Hu          |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M |                  |                 |               |

| Rg | Frequency [MHz] | PK+ Level [dBm] | PK+ Limit [dBm] | PK+ Margin [dB] | Correction [dB] | Polarization | Azimuth [deg] | Antenna Height [m] |
|----|-----------------|-----------------|-----------------|-----------------|-----------------|--------------|---------------|--------------------|
| 2  | 1,649.000       | -46.16          | -13.00          | 33.16           | 23.30           | V            | 359           | 2.00               |
| 3  | 2,473.500       | -50.85          | -13.00          | 37.85           | 19.56           | V            | 102.2         | 1.00               |
| 4  | 3,702.000       | -50.31          | -13.00          | 37.31           | 21.56           | V            | 1             | 1.00               |
| 4  | 5,553.000       | -34.39          | -13.00          | 21.39           | 24.45           | V            | 1             | 1.00               |

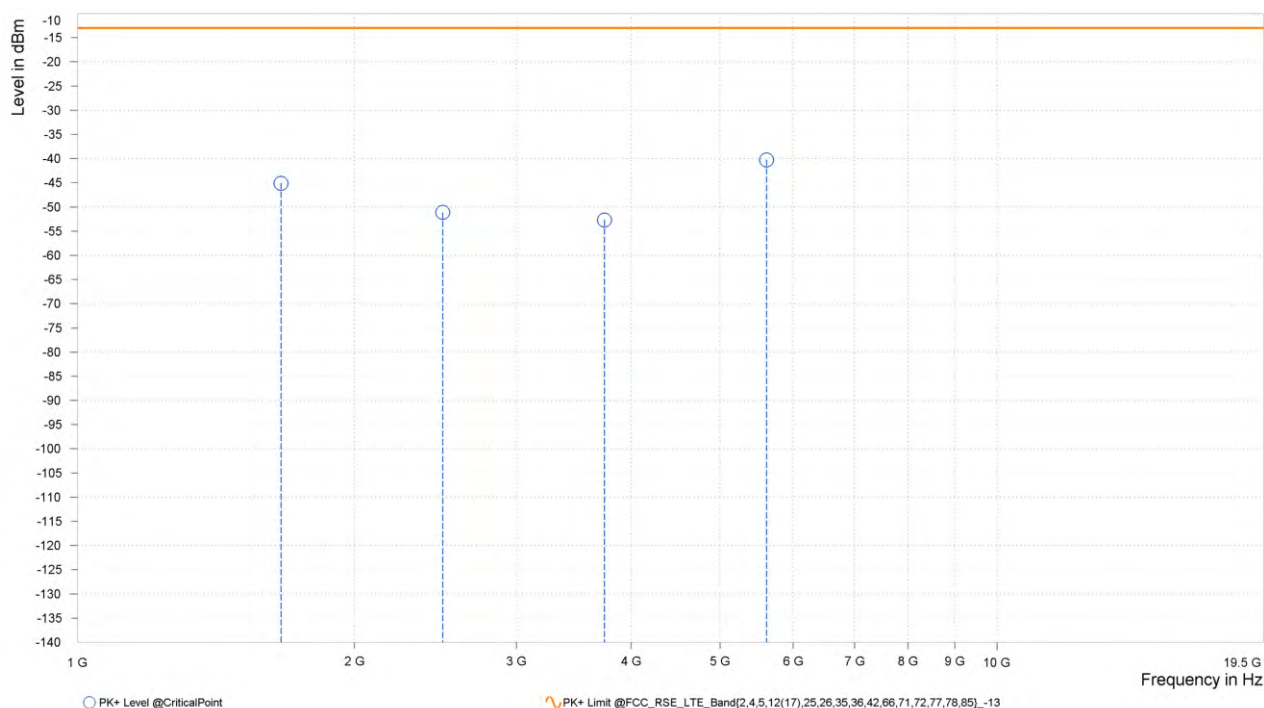




CHANNEL BANDWIDTH: 20MHz + 10MHz

|                                                     |                  |                 |               |
|-----------------------------------------------------|------------------|-----------------|---------------|
| MODE                                                | TX channel 20525 | FREQUENCY RANGE | Above 1000MHz |
| ENVIRONMENTAL CONDITIONS                            | 23deg. C, 70%RH  | INPUT POWER     | AC 120V/60HZ  |
| TESTED BY                                           | Jace Hu          |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                  |                 |               |

| Rg | Frequency [MHz] | PK+ Level [dBm] | PK+ Limit [dBm] | PK+ Margin [dB] | Correction [dB] | Polarization | Azimuth [deg] | Antenna Height [m] |
|----|-----------------|-----------------|-----------------|-----------------|-----------------|--------------|---------------|--------------------|
| 2  | 1,664.000       | -45.09          | -13.00          | 32.09           | 24.37           | H            | 0.9           | 2.00               |
| 3  | 2,496.000       | -51.14          | -13.00          | 38.14           | 19.88           | H            | 359           | 2.00               |
| 4  | 3,742.000       | -52.71          | -13.00          | 39.71           | 20.95           | H            | 359           | 2.00               |
| 4  | 5,614.000       | -40.27          | -13.00          | 27.27           | 23.99           | H            | 0.9           | 2.00               |



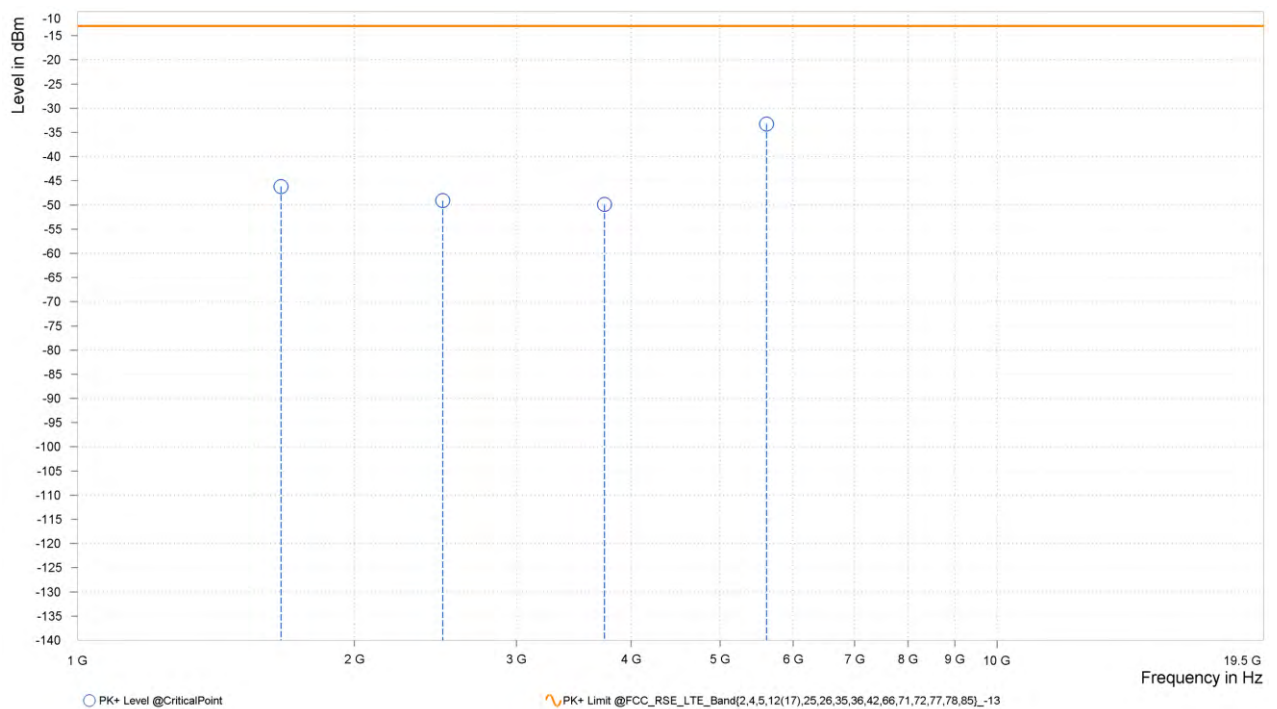


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Test Report No.: PSU-NQN2403180115RF05

|                                                   |                  |                 |               |
|---------------------------------------------------|------------------|-----------------|---------------|
| MODE                                              | TX channel 20525 | FREQUENCY RANGE | Above 1000MHz |
| ENVIRONMENTAL CONDITIONS                          | 23deg. C, 70%RH  | INPUT POWER     | AC 120V/60HZ  |
| TESTED BY                                         | Jace Hu          |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M |                  |                 |               |

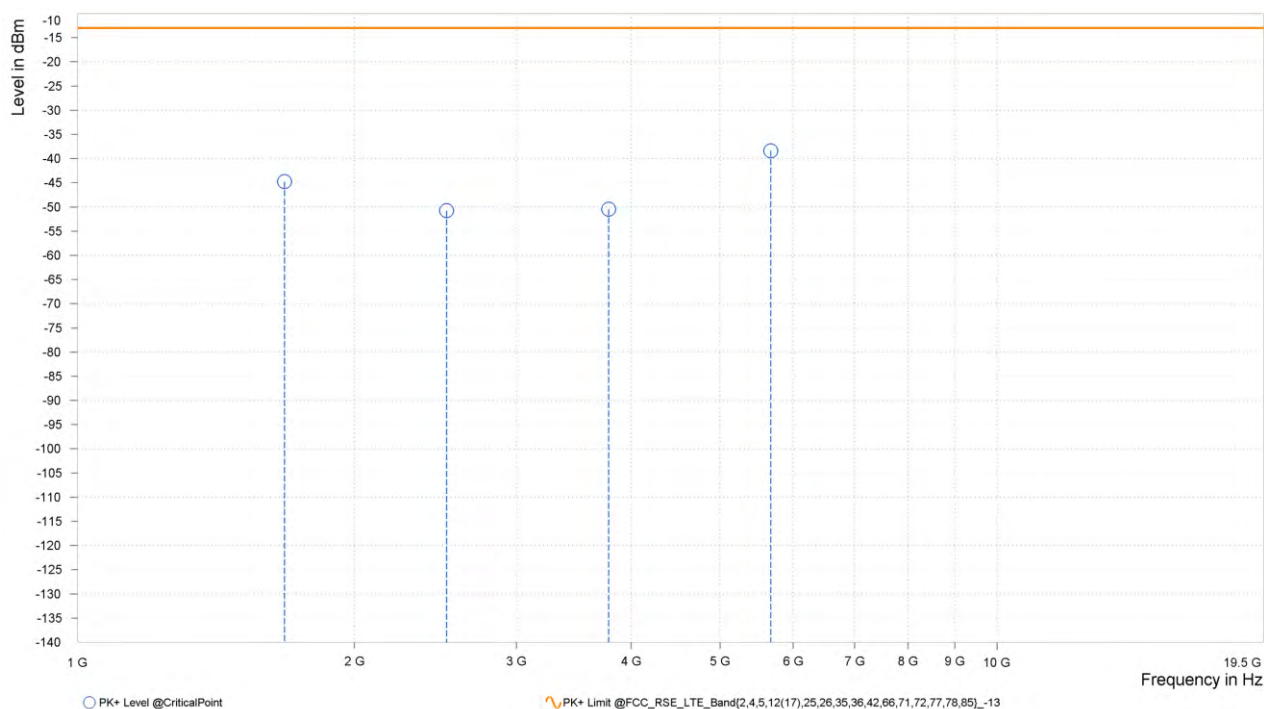
| Rg | Frequency [MHz] | PK+ Level [dBm] | PK+ Limit [dBm] | PK+ Margin [dB] | Correction [dB] | Polarization | Azimuth [deg] | Antenna Height [m] |
|----|-----------------|-----------------|-----------------|-----------------|-----------------|--------------|---------------|--------------------|
| 2  | 1,664.000       | -46.19          | -13.00          | 33.19           | 23.25           | V            | 359           | 1.00               |
| 3  | 2,496.000       | -49.10          | -13.00          | 36.10           | 20.16           | V            | 359           | 2.00               |
| 4  | 3,742.000       | -49.92          | -13.00          | 36.92           | 21.60           | V            | 2.2           | 2.00               |
| 4  | 5,613.000       | -33.27          | -13.00          | 20.27           | 24.43           | V            | 1             | 1.00               |



**CHANNEL BANDWIDTH: 20MHz + 10MHz**

|                                                     |                  |                 |               |
|-----------------------------------------------------|------------------|-----------------|---------------|
| MODE                                                | TX channel 20525 | FREQUENCY RANGE | Above 1000MHz |
| ENVIRONMENTAL CONDITIONS                            | 23deg. C, 70%RH  | INPUT POWER     | AC 120V/60HZ  |
| TESTED BY                                           | Jace Hu          |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                  |                 |               |

| Rg | Frequency [MHz] | PK+ Level [dBm] | PK+ Limit [dBm] | PK+ Margin [dB] | Correction [dB] | Polarization | Azimuth [deg] | Antenna Height [m] |
|----|-----------------|-----------------|-----------------|-----------------|-----------------|--------------|---------------|--------------------|
| 2  | 1,679.000       | -44.76          | -13.00          | 31.76           | 24.60           | H            | 55.8          | 2.00               |
| 3  | 2,518.500       | -50.76          | -13.00          | 37.76           | 19.48           | H            | 359           | 1.00               |
| 4  | 3,782.000       | -50.45          | -13.00          | 37.45           | 21.58           | H            | 359           | 1.00               |
| 4  | 5,674.000       | -38.37          | -13.00          | 25.37           | 24.20           | H            | 1             | 1.00               |



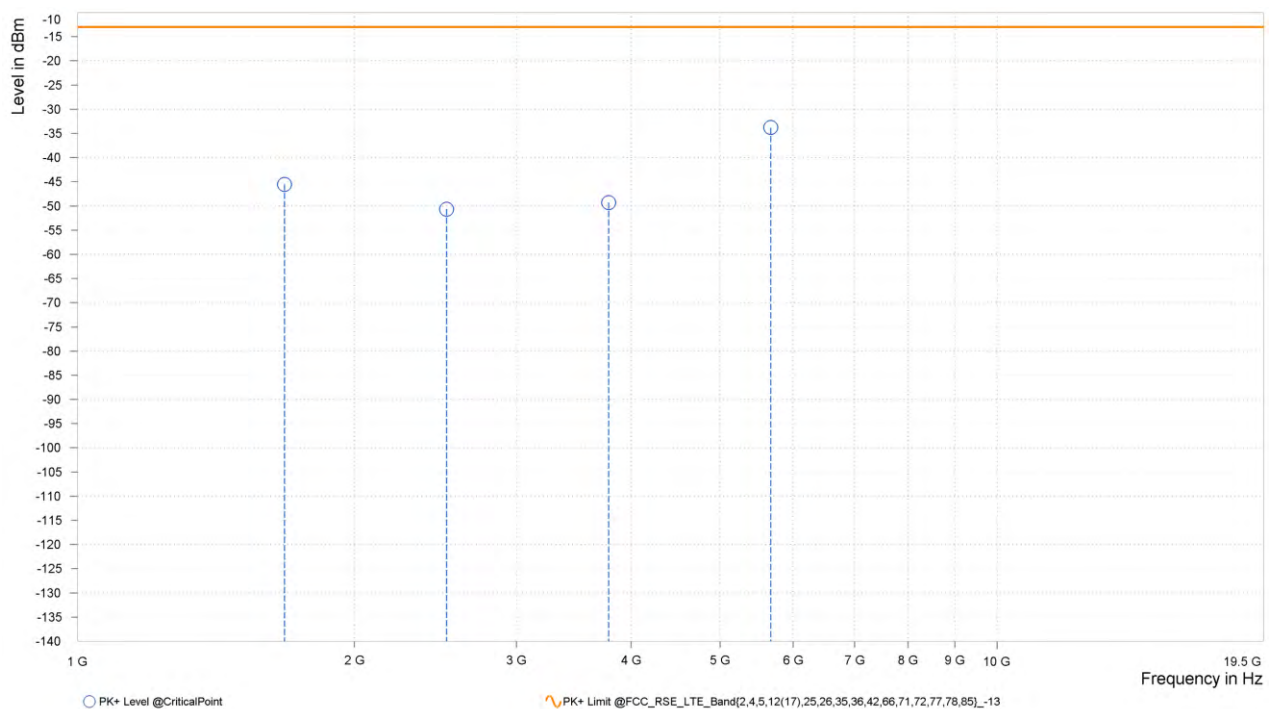


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Test Report No.: PSU-NQN2403180115RF05

|                                                   |                  |                 |               |
|---------------------------------------------------|------------------|-----------------|---------------|
| MODE                                              | TX channel 20525 | FREQUENCY RANGE | Above 1000MHz |
| ENVIRONMENTAL CONDITIONS                          | 23deg. C, 70%RH  | INPUT POWER     | AC 120V/60HZ  |
| TESTED BY                                         | Jace Hu          |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M |                  |                 |               |

| Rg | Frequency [MHz] | PK+ Level [dBm] | PK+ Limit [dBm] | PK+ Margin [dB] | Correction [dB] | Polarization | Azimuth [deg] | Antenna Height [m] |
|----|-----------------|-----------------|-----------------|-----------------|-----------------|--------------|---------------|--------------------|
| 2  | 1,679.000       | -45.54          | -13.00          | 32.54           | 23.51           | V            | 305.4         | 1.00               |
| 3  | 2,518.500       | -50.67          | -13.00          | 37.67           | 20.32           | V            | 359           | 2.00               |
| 4  | 3,782.000       | -49.29          | -13.00          | 36.29           | 21.78           | V            | 30.8          | 2.00               |
| 4  | 5,673.500       | -33.79          | -13.00          | 20.79           | 24.60           | V            | 30.8          | 2.00               |



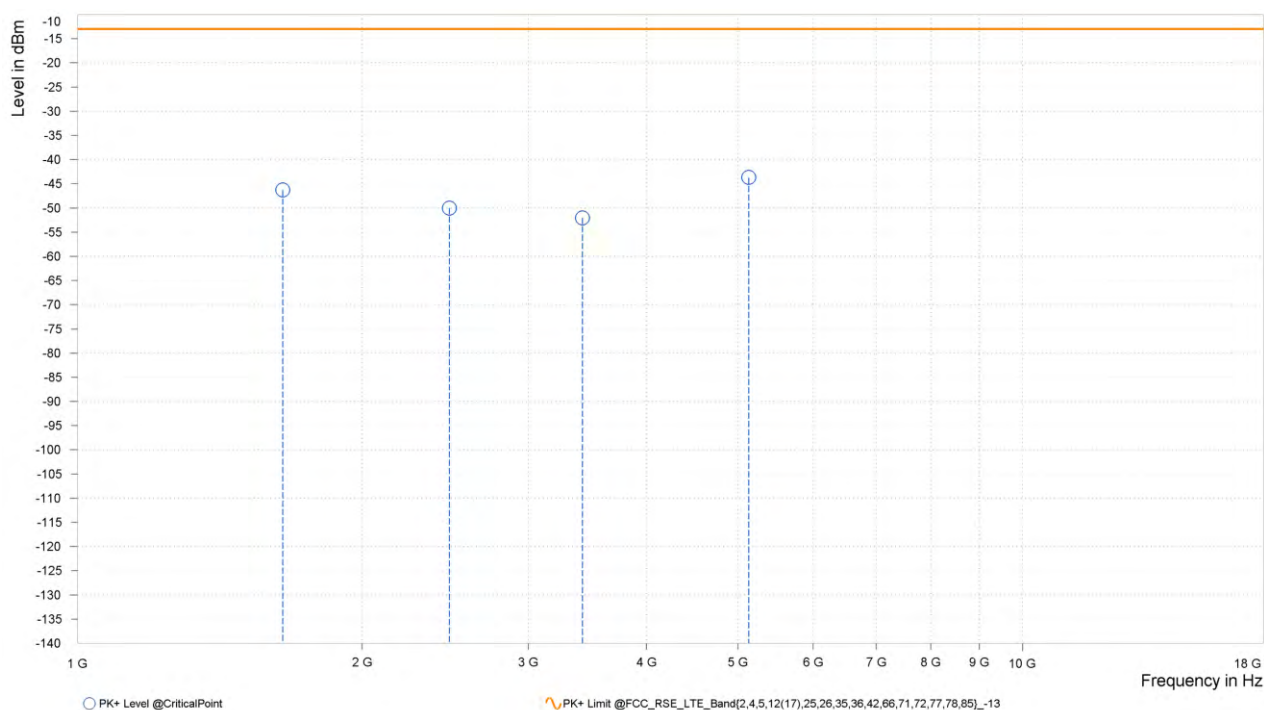


CA\_4A-5A

CHANNEL BANDWIDTH: 20MHz + 10MHz

|                                                     |                  |                 |               |
|-----------------------------------------------------|------------------|-----------------|---------------|
| MODE                                                | TX channel 20525 | FREQUENCY RANGE | Above 1000MHz |
| ENVIRONMENTAL CONDITIONS                            | 23deg. C, 70%RH  | INPUT POWER     | AC 120V/60HZ  |
| TESTED BY                                           | Jace Hu          |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                  |                 |               |

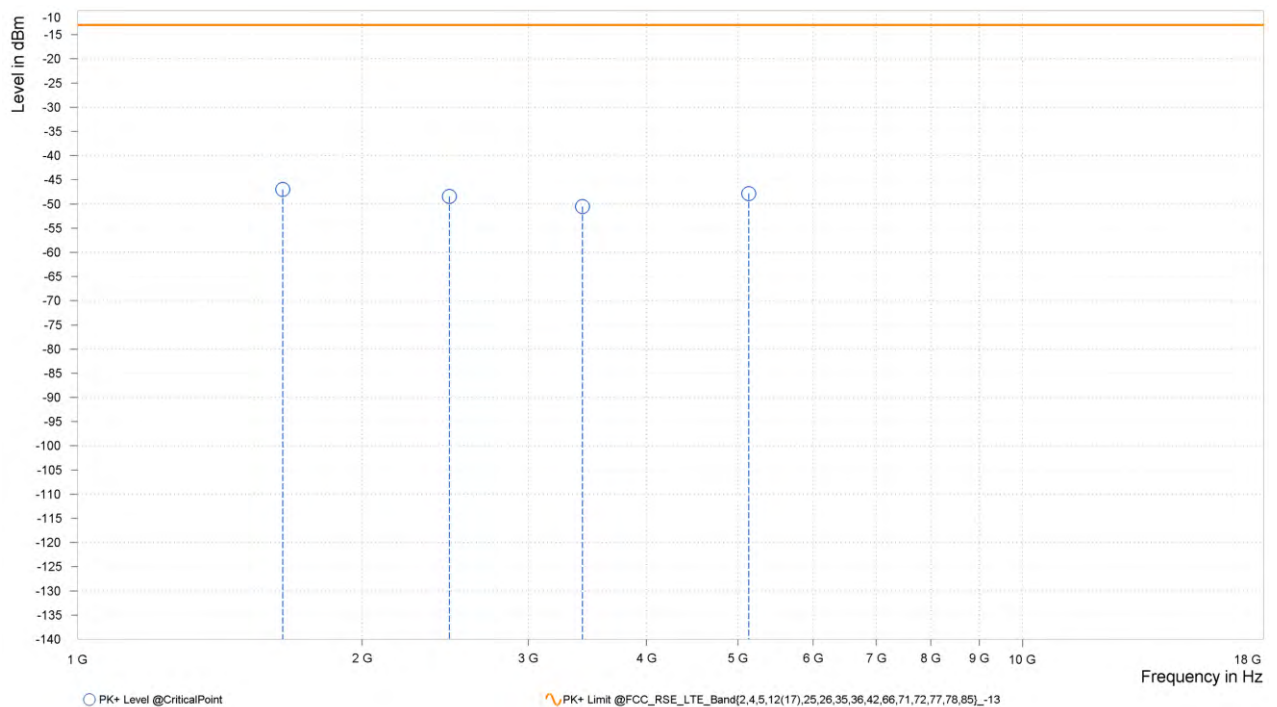
| Rg | Frequency [MHz] | PK+ Level [dBm] | PK+ Limit [dBm] | PK+ Margin [dB] | Correction [dB] | Polarization | Azimuth [deg] | Antenna Height [m] |
|----|-----------------|-----------------|-----------------|-----------------|-----------------|--------------|---------------|--------------------|
| 2  | 1,649.000       | -46.29          | -13.00          | 33.29           | 23.75           | H            | 359           | 2.00               |
| 3  | 2,473.500       | -50.03          | -13.00          | 37.03           | 19.31           | H            | 48.6          | 2.00               |
| 4  | 3,422.000       | -52.04          | -13.00          | 39.04           | 20.65           | H            | 324.5         | 1.00               |
| 4  | 5,133.500       | -43.71          | -13.00          | 30.71           | 23.09           | H            | 153.5         | 1.00               |





|                                                   |                  |                 |               |
|---------------------------------------------------|------------------|-----------------|---------------|
| MODE                                              | TX channel 20525 | FREQUENCY RANGE | Above 1000MHz |
| ENVIRONMENTAL CONDITIONS                          | 23deg. C, 70%RH  | INPUT POWER     | AC 120V/60HZ  |
| TESTED BY                                         | Jace Hu          |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M |                  |                 |               |

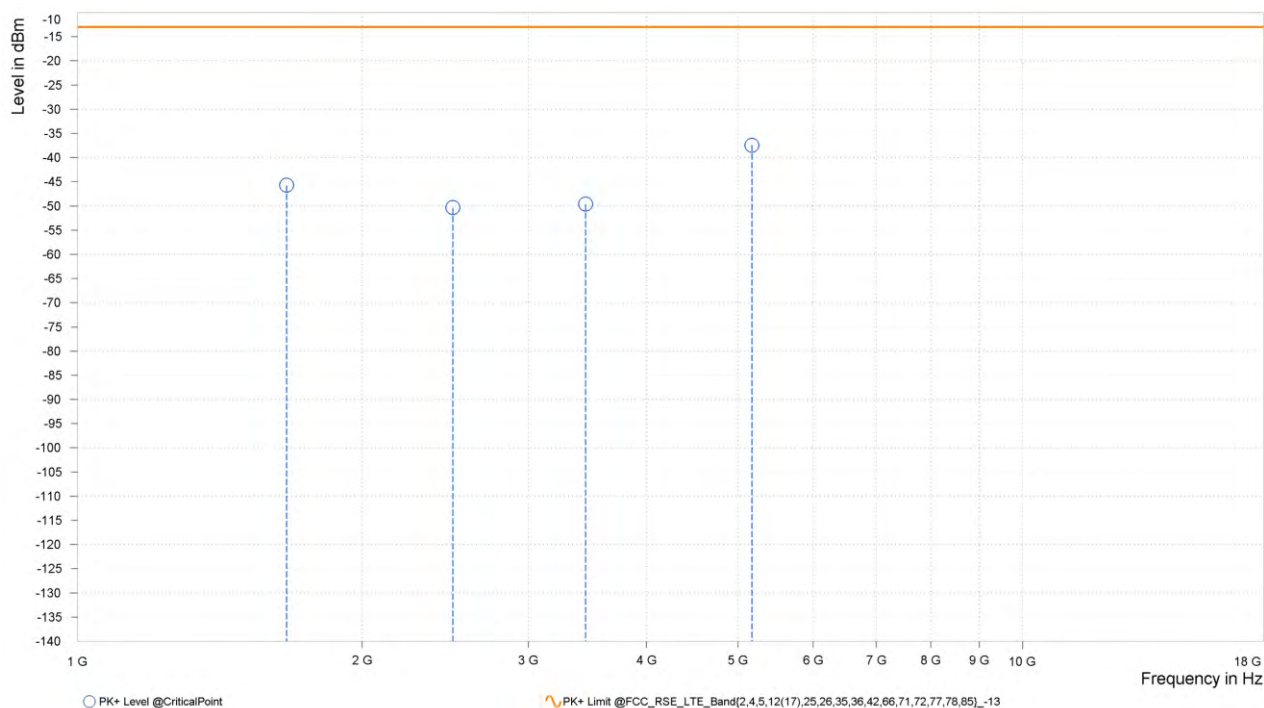
| Rg | Frequency [MHz] | PK+ Level [dBm] | PK+ Limit [dBm] | PK+ Margin [dB] | Correction [dB] | Polarization | Azimuth [deg] | Antenna Height [m] |
|----|-----------------|-----------------|-----------------|-----------------|-----------------|--------------|---------------|--------------------|
| 2  | 1,649.000       | -47.03          | -13.00          | 34.03           | 23.30           | V            | 54.2          | 1.00               |
| 3  | 2,473.500       | -48.43          | -13.00          | 35.43           | 19.56           | V            | 351.2         | 1.00               |
| 4  | 3,422.000       | -50.51          | -13.00          | 37.51           | 21.01           | V            | 150.3         | 2.00               |
| 4  | 5,133.000       | -47.83          | -13.00          | 34.83           | 23.40           | V            | 173.8         | 1.00               |



**CHANNEL BANDWIDTH: 20MHz + 10MHz**

|                                                     |                  |                 |               |
|-----------------------------------------------------|------------------|-----------------|---------------|
| MODE                                                | TX channel 20525 | FREQUENCY RANGE | Above 1000MHz |
| ENVIRONMENTAL CONDITIONS                            | 23deg. C, 70%RH  | INPUT POWER     | AC 120V/60HZ  |
| TESTED BY                                           | Jace Hu          |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                  |                 |               |

| Rg | Frequency [MHz] | PK+ Level [dBm] | PK+ Limit [dBm] | PK+ Margin [dB] | Correction [dB] | Polarization | Azimuth [deg] | Antenna Height [m] |
|----|-----------------|-----------------|-----------------|-----------------|-----------------|--------------|---------------|--------------------|
| 2  | 1,664.000       | -45.71          | -13.00          | 32.71           | 24.37           | H            | 295.8         | 1.00               |
| 3  | 2,496.000       | -50.35          | -13.00          | 37.35           | 19.88           | H            | 102.2         | 1.00               |
| 4  | 3,447.000       | -49.61          | -13.00          | 36.61           | 20.50           | H            | 359           | 2.00               |
| 4  | 5,171.000       | -37.45          | -13.00          | 24.45           | 23.29           | H            | 1             | 1.00               |



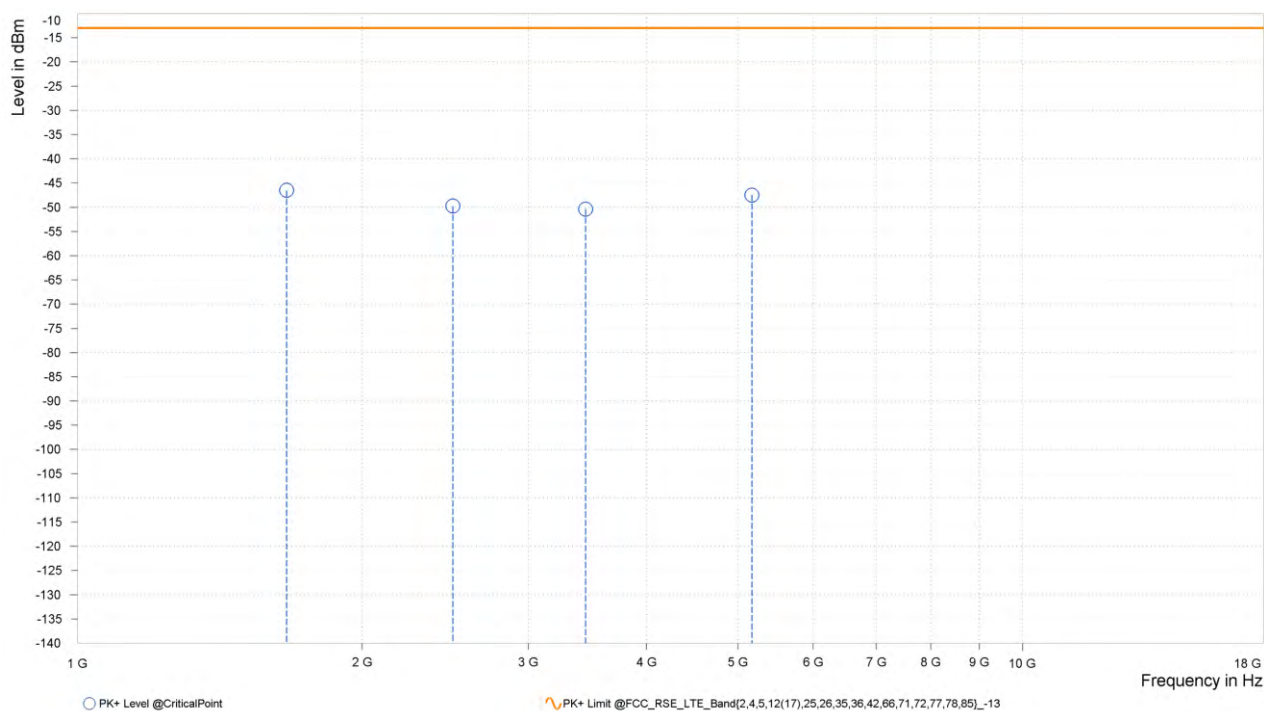


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Test Report No.: PSU-NQN2403180115RF05

|                                                   |                  |                 |               |
|---------------------------------------------------|------------------|-----------------|---------------|
| MODE                                              | TX channel 20525 | FREQUENCY RANGE | Above 1000MHz |
| ENVIRONMENTAL CONDITIONS                          | 23deg. C, 70%RH  | INPUT POWER     | AC 120V/60HZ  |
| TESTED BY                                         | Jace Hu          |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M |                  |                 |               |

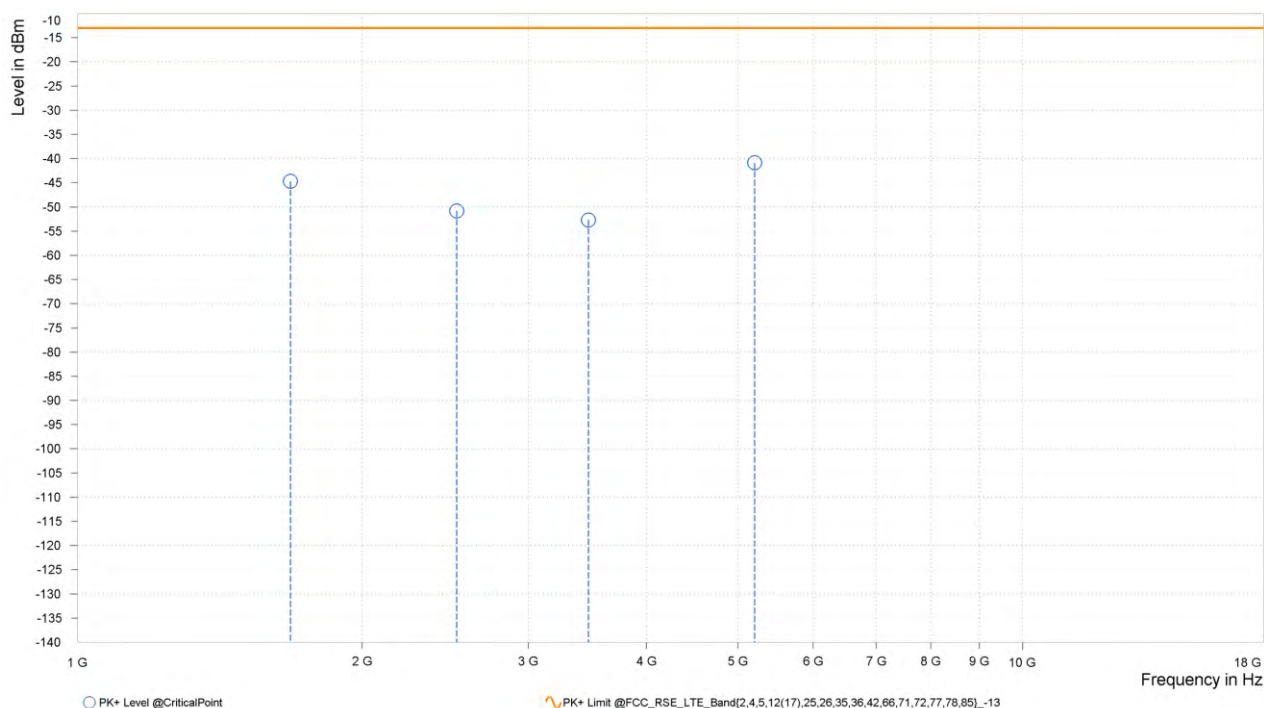
| Rg | Frequency [MHz] | PK+ Level [dBm] | PK+ Limit [dBm] | PK+ Margin [dB] | Correction [dB] | Polarization | Azimuth [deg] | Antenna Height [m] |
|----|-----------------|-----------------|-----------------|-----------------|-----------------|--------------|---------------|--------------------|
| 2  | 1,664.000       | -46.49          | -13.00          | 33.49           | 23.25           | V            | 358.6         | 1.00               |
| 3  | 2,496.000       | -49.75          | -13.00          | 36.75           | 20.16           | V            | 0.9           | 2.00               |
| 4  | 3,447.000       | -50.37          | -13.00          | 37.37           | 21.07           | V            | 325.6         | 1.00               |
| 4  | 5,170.500       | -47.48          | -13.00          | 34.48           | 23.66           | V            | 36.6          | 2.00               |



**CHANNEL BANDWIDTH: 20MHz + 10MHz**

|                                                     |                  |                 |               |
|-----------------------------------------------------|------------------|-----------------|---------------|
| MODE                                                | TX channel 20525 | FREQUENCY RANGE | Above 1000MHz |
| ENVIRONMENTAL CONDITIONS                            | 23deg. C, 70%RH  | INPUT POWER     | AC 120V/60HZ  |
| TESTED BY                                           | Jace Hu          |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                  |                 |               |

| Rg | Frequency [MHz] | PK+ Level [dBm] | PK+ Limit [dBm] | PK+ Margin [dB] | Correction [dB] | Polarization | Azimuth [deg] | Antenna Height [m] |
|----|-----------------|-----------------|-----------------|-----------------|-----------------|--------------|---------------|--------------------|
| 2  | 1,679.000       | -44.71          | -13.00          | 31.71           | 24.60           | H            | 61.4          | 1.00               |
| 3  | 2,518.500       | -50.80          | -13.00          | 37.80           | 19.48           | H            | 323.2         | 1.00               |
| 4  | 3,472.000       | -52.69          | -13.00          | 39.69           | 20.43           | H            | 359           | 2.00               |
| 4  | 5,208.500       | -40.88          | -13.00          | 27.88           | 23.47           | H            | 206.5         | 2.00               |



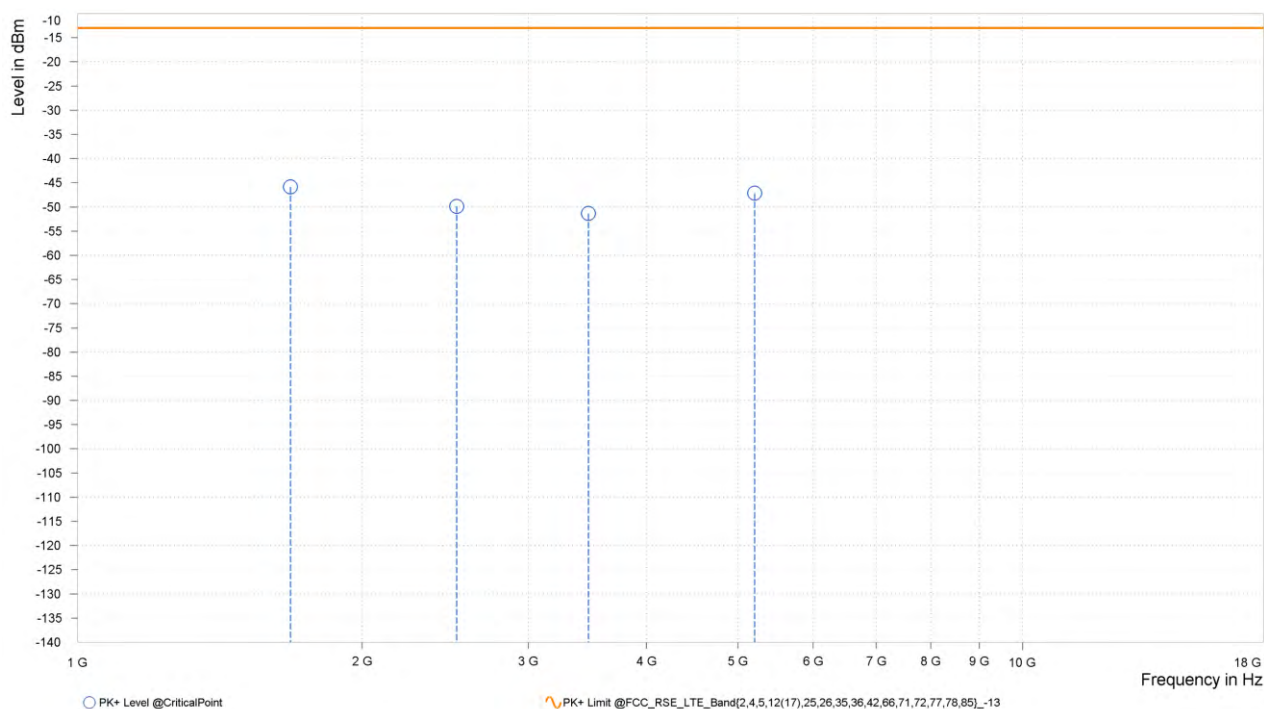


BUREAU  
VERITAS

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|                                                   |                  |                 |               |
|---------------------------------------------------|------------------|-----------------|---------------|
| MODE                                              | TX channel 20525 | FREQUENCY RANGE | Above 1000MHz |
| ENVIRONMENTAL CONDITIONS                          | 23deg. C, 70%RH  | INPUT POWER     | AC 120V/60HZ  |
| TESTED BY                                         | Jace Hu          |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M |                  |                 |               |

| Rg | Frequency [MHz] | PK+ Level [dBm] | PK+ Limit [dBm] | PK+ Margin [dB] | Correction [dB] | Polarization | Azimuth [deg] | Antenna Height [m] |
|----|-----------------|-----------------|-----------------|-----------------|-----------------|--------------|---------------|--------------------|
| 2  | 1,679.000       | -45.85          | -13.00          | 32.85           | 23.51           | V            | 357.9         | 1.00               |
| 3  | 2,518.500       | -49.87          | -13.00          | 36.87           | 20.32           | V            | 1             | 2.00               |
| 4  | 3,472.000       | -51.35          | -13.00          | 38.35           | 21.15           | V            | 208.9         | 2.00               |
| 4  | 5,208.000       | -47.15          | -13.00          | 34.15           | 24.07           | V            | 153.5         | 1.00               |

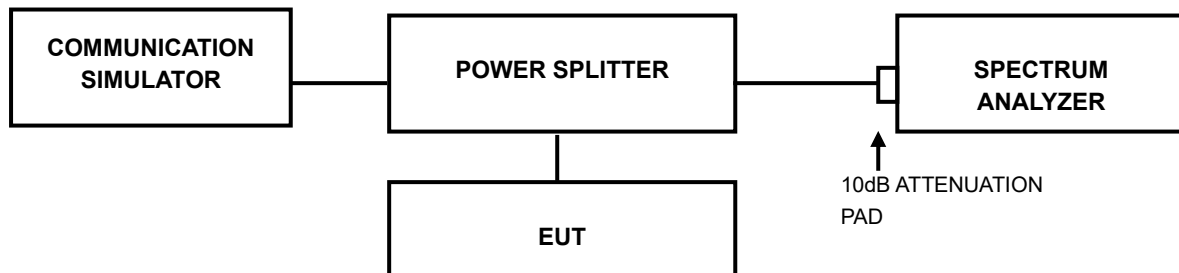


### 3.7 PEAK TO AVERAGE RATIO

#### 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%.



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### 3.7.4 TEST RESULTS

Please Refer to Appendix E Of this test report.



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## 4 PHOTOGRAPHS OF THE TEST CONFIGURATION

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



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## 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.sw@bureauveritas.com](mailto:customerservice.sw@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.



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## 6 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.