

# FCC TEST REPORT

## (PART 27)

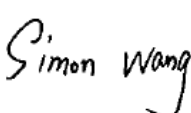
|            |                                                                                               |
|------------|-----------------------------------------------------------------------------------------------|
| Applicant: | Xiaomi Communications Co., Ltd.                                                               |
| Address:   | #019, 9th Floor, Building 6, 33 Xi'erqi Middle Road, Haidian District, Beijing, China, 100085 |

|                           |                                                                                               |
|---------------------------|-----------------------------------------------------------------------------------------------|
| Manufacturer or Supplier: | Xiaomi Communications Co., Ltd.                                                               |
| Address:                  | #019, 9th Floor, Building 6, 33 Xi'erqi Middle Road, Haidian District, Beijing, China, 100085 |
| Product:                  | Mobile Phone                                                                                  |
| Brand Name:               | Redmi                                                                                         |
| Model Name:               | 23053RN02Y                                                                                    |
| FCC ID:                   | 2AFZZRN02Y                                                                                    |
| Date of tests:            | Mar. 06, 2023 ~ Mar. 29, 2023                                                                 |

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

☒ **FCC Part 27**    ☒ **ANSI/TIA/EIA-603-D**  
☒ **FCC Part 2**    ☒ **ANSI/TIA/EIA-603-E**    ☒ **ANSI C63.26-2015**

**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: Mar. 29, 2023 | <br>Date: Mar. 29, 2023 |

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   |
|-------------------|-------------------|---------------|
| W7L-P23030004RF07 | Original release  | Mar. 29, 2023 |

# 1 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

| APPLIED STANDARD: FCC PART 27 & PART 2 |                                                                 |            |           |
|----------------------------------------|-----------------------------------------------------------------|------------|-----------|
| STANDARD SECTION                       | TEST TYPE AND LIMIT                                             | RESULT     | TEST LAB* |
| §2.1046                                | Conducted Output Power                                          | Compliance | A         |
| §27.50(h)(2)                           | Equivalent Isotropically Radiated Power<br>(Band 7C) (Band 38C) | Compliance | A         |
| §2.1055<br>§27.54                      | Frequency Stability                                             | Compliance | A         |
| §2.1049                                | Occupied Bandwidth                                              | Compliance | A         |
| §2.1051<br>§27.53(m)(4)(6)             | Conducted Band Edge Measurements<br>(Band 7C) (Band 38C)        | Compliance | A         |
| §2.1051<br>§27.53(m)(4)(6)             | Conducted Spurious Emissions<br>(Band 7C) (Band 38C)            | Compliance | A         |
| §2.1051<br>§27.53(m)(4)(6)             | Radiated Spurious Emissions<br>(Band 7C) (Band 38C)             | Compliance | B         |
| NA                                     | Peak to average ratio                                           | Compliance | A         |



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**\*Test Lab Information Reference**

**Lab A:**

BV 7Layers Communications Technology (Shenzhen) Co., Ltd

**Lab Address:**

No.B102, Dazu Chuangxin Mansion, North of Beihuan Avenue, North Area, Hi-Tech Industrial Park, Nanshan District, Shenzhen, Guangdong, China

**Accredited Test Lab Cert 3939.01**

**FCC Site Registration No. : 525120; Designation No. : 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 |
|--------------------------------------------------|-------------|
| Frequency Stability                              | ±76.97Hz    |
| Radiated emissions (9KHz~30MHz)                  | ±2.68dB     |
| Radiated emissions & Radiated Power (30MHz~1GHz) | ±4.98dB     |
| Radiated emissions & Radiated Power (1GHz ~6GHz) | ±4.70dB     |
| Radiated emissions (6GHz ~18GHz)                 | ±4.60dB     |
| Radiated emissions (18GHz ~40GHz)                | ±4.12dB     |
| Conducted emissions                              | ±4.01dB     |
| Occupied Channel Bandwidth                       | ±43.58KHz   |
| Conducted Output power                           | ±2.06dB     |
| Band Edge Measurements                           | ±4.70dB     |

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                          | Feb. 17,23 | Feb. 16,24 |
| EXA Signal Analyzer                         | KEYSIGHT      | N9010A-544                          | MY54510355                          | May.14,22  | May.13,23  |
| Loop Antenna                                | Schwarzbeck   | FMZB 1519B                          | 00173                               | Sep.03,22  | Sep.02,23  |
| Bilog Antenna                               | ETS-LINDGREN  | 3143B                               | 00161965                            | Mar. 05,23 | Mar. 04,24 |
| Horn Antenna                                | ETS-LINDGREN  | 3117                                | 00168692                            | Mar. 05,23 | Mar. 04,24 |
| Horn Antenna<br>(18GHz-40GHz)               | N/A           | QWH-SL-18-40-<br>K-SG/QMS-003<br>61 | 15433                               | Sep.04, 22 | Sep.03, 23 |
| Radio Communication<br>Analyzer             | ANRITSU       | MT8820C                             | 6201465426                          | Feb. 14,23 | Feb. 13,24 |
| Signal Pre-Amplifier                        | EMSI          | EMC 9135                            | 980249                              | May.12,22  | May.11,23  |
| Signal Pre-Amplifier                        | EMSI          | EMC 012645B                         | 980257                              | May.12,22  | May.11,23  |
| Signal Pre-Amplifier                        | EMSI          | EMC 184045B                         | 980259                              | Feb. 17,23 | Feb.16,24  |
| 3m<br>Semi-anechoic<br>Chamber              | ETS-LINDGREN  | 9m*6m*6m                            | Euroshieldpn-<br>CT0001143-121<br>6 | May. 19,20 | May. 18,23 |
| 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                        | N/A                                 | May. 12,22 | May. 11,23 |
| Power Meter                                 | Anritsu       | ML2495A                             | 1506002                             | Feb. 14,23 | Feb. 13,24 |
| Power Sensor                                | Anritsu       | MA2411B                             | 1339352                             | Feb. 14,23 | Feb. 13,24 |
| Temperature<br>Chamber                      | ESPEC         | SH-242                              | 93000855                            | May. 12,22 | May. 11,23 |
| MXG<br>Analog Microwave<br>Signal Generator | KEYSIGHT      | N5183A                              | MY50143024                          | Feb. 14,23 | Feb. 13,24 |
| Base station R&S<br>CMW500                  | Rohde&Schwarz | CMW500                              | 153085                              | May.12,22  | May.11,23  |
| DC Source                                   | Kikusui/JP    | PMX18-5A                            | N/A                                 | Aug. 12,22 | Aug. 11,23 |

- 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.



**BUREAU  
VERITAS**

**Test Report No.: W7L-P23030004RF07**

| 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.16,22 | Feb.15,24 |
| Signal Generator                   | R&S                     | SMB100A          | 182185                | Feb.16,22 | Feb.15,24 |
| 3m Fully-anechoic Chamber          | TDK                     | 9m*6m*6m         | HRSW-SZ-EMC-01Chamber | Nov.25,22 | Nov.24,25 |
| 3m Semi-anechoic Chamber           | TDK                     | 9m*6m*6m         | HRSW-SZ-EMC-02Chamber | Nov.25,22 | Nov.24,25 |
| EMI TEST Receiver                  | R&S                     | ESR26            | 101734                | Feb.25,22 | Feb.24,24 |
| EMI TEST Receiver                  | R&S                     | ESW44            | 101973                | Feb.25,22 | Feb.24,24 |
| Bilog Antenna                      | SCHWARZBECK             | VULB 9163        | 1264                  | Feb.28,22 | Feb.27,24 |
| Horn Antenna                       | ETS-LINDGREN            | 3117             | 227836                | Aug.22,22 | Aug.21,24 |
| Horn Antenna (18GHz-40GHz)         | Steatite Q-par Antennas | QMS 00880        | 23486                 | Feb.23,22 | Feb.22,24 |
| Horn Antenna                       | Steatite Q-par Antennas | QMS 00208        | 23485                 | Aug.22,22 | Aug.21,24 |
| Loop Antenna                       | SCHWARZ                 | HFH2-Z2/Z2E      | 100976                | Feb.23,22 | Feb.22,24 |
| 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-7.00M | N/A                   | N/A       | N/A       |
| TMC-AMI18843A(CABLE)               | R&S                     | HF290-NMNM-4.00M | N/A                   | N/A       | N/A       |
| CABLE                              | R&S                     | W13.02           | N/A                   | Oct.31,22 | Apr.29,23 |
| CABLE                              | R&S                     | W12.14           | N/A                   | Oct.31,22 | Apr.29,23 |
| CABLE                              | R&S                     | J12J103539-00-1  | SEP-03-20-069         | Oct.31,22 | Apr.29,23 |
| CABLE                              | R&S                     | J12J103539-00-1  | SEP-03-20-070         | Oct.31,22 | Apr.29,23 |
| Temperature Chamber                | votsch                  | VT4002           | 58566078100050        | May.31,22 | May.30,24 |

- 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 434559; The Designation No. is CN1325.

## 2 GENERAL INFORMATION

### 2.1 GENERAL DESCRIPTION OF EUT

|                               |                                                                        |                       |
|-------------------------------|------------------------------------------------------------------------|-----------------------|
| <b>PRODUCT</b>                | Mobile Phone                                                           |                       |
| <b>BRAND NAME</b>             | Redmi                                                                  |                       |
| <b>MODEL NAME</b>             | 23053RN02Y                                                             |                       |
| <b>NOMINAL VOLTAGE</b>        | 5V/9V/10V/12Vdc(adapter or host equipment)<br>3.8Vdc (Li-ion, battery) |                       |
| <b>MODULATION TECHNOLOGY</b>  | LTE                                                                    | QPSK, 16QAM, 64QAM    |
| <b>FREQUENCY RANGE</b>        | LTE Band CA_7C<br>Channel Bandwidth:<br>10MHz+20MHz                    | 2505.5MHz ~ 2560MHz   |
|                               | LTE Band CA_7C<br>Channel Bandwidth:<br>15MHz+10MHz                    | 2507.5MHz ~ 2564.7MHz |
|                               | LTE Band CA_7C<br>Channel Bandwidth:<br>15MHz+15MHz                    | 2507.5MHz ~ 2562.5MHz |
|                               | LTE Band CA_7C<br>Channel Bandwidth:<br>15MHz+20MHz                    | 2507.8MHz ~ 2560MHz   |
|                               | LTE Band CA_7C<br>Channel Bandwidth:<br>20MHz+10MHz                    | 2510MHz ~ 2564.5MHz   |
|                               | LTE Band CA_7C<br>Channel Bandwidth:<br>20MHz+15MHz                    | 2510MHz ~ 2562.2MHz   |
|                               | LTE Band CA_7C<br>Channel Bandwidth:<br>20MHz+20MHz                    | 2510MHz ~ 2560MHz     |
|                               | LTE Band CA_38C<br>Channel Bandwidth:<br>15MHz+15MHz                   | 2577.5MHz ~ 2612.5MHz |
|                               | LTE Band CA_38C<br>Channel Bandwidth:<br>20MHz+20MHz                   | 2580.0 MHz ~ 2610MHz  |
|                               | LTE Band CA_7C<br>Channel Bandwidth:<br>10MHz+20MHz                    | 280.54mW              |
| <b>MAX. EIRP or EPR POWER</b> | LTE Band CA_7C<br>Channel Bandwidth:<br>15MHz+10MHz                    | 275.42mW              |
|                               | LTE Band CA_7C<br>Channel Bandwidth:<br>15MHz+15MHz                    | 278.61mW              |

|                                   |                                                      |                 |
|-----------------------------------|------------------------------------------------------|-----------------|
| <b>MAX. EIRP or EPR<br/>POWER</b> | LTE Band CA_7C<br>Channel Bandwidth:<br>15MHz+20MHz  | 274.79mW        |
|                                   | LTE Band CA_7C<br>Channel Bandwidth:<br>20MHz+10MHz  | 278.61mW        |
|                                   | LTE Band CA_7C<br>Channel Bandwidth:<br>20MHz+15MHz  | 274.16mW        |
|                                   | LTE Band CA_7C<br>Channel Bandwidth:<br>20MHz+20MHz  | 278.61mW        |
|                                   | LTE Band CA_38C<br>Channel Bandwidth:<br>15MHz+15MHz | 424.62mW        |
|                                   | LTE Band CA_38C<br>Channel Bandwidth:<br>20MHz+20MHz | 424.62mW        |
| <b>EMISSION DESIGNATOR</b>        | LTE Band CA_7C<br>Channel Bandwidth:<br>10MHz+20MHz  | QPSK: 28M1G7D   |
|                                   |                                                      | 16QAM: 28M1W7D  |
|                                   |                                                      | 64QAM: 28M1W7D  |
|                                   | LTE Band CA_7C<br>Channel Bandwidth:<br>15MHz +10MHz | QPSK: 23M6G7D   |
|                                   |                                                      | 16QAM: 23M6W7D  |
|                                   |                                                      | 64QAM: 23M6W7D  |
|                                   | LTE Band CA_7C<br>Channel Bandwidth:<br>15MHz +15MHz | QPSK: 28M7G7D   |
|                                   |                                                      | 16QAM: 28M7W7D  |
|                                   |                                                      | 64QAM: 28M7W7D  |
|                                   | LTE Band CA_7C<br>Channel Bandwidth:<br>15MHz +20MHz | QPSK: 33M0G7D   |
|                                   |                                                      | 16QAM: 33M0W7D  |
|                                   |                                                      | 64QAM: 33M0W7D  |
|                                   | LTE Band CA_7C<br>Channel Bandwidth:<br>20MHz +10MHz | QPSK: 28M2G7D   |
|                                   |                                                      | 16QAM: 28M2W7D  |
|                                   |                                                      | 64QAM: 28M2W7D  |
|                                   | LTE Band CA_7C<br>Channel Bandwidth:<br>20MHz +15MHz | QPSK: 33M0G7D   |
|                                   |                                                      | 16QAM: 33M0W7D  |
|                                   |                                                      | 64QAM: 33M0W7D  |
|                                   | LTE Band CA_7C<br>Channel Bandwidth:<br>20MHz +20MHz | QPSK: 37M8G7D   |
|                                   |                                                      | 16QAM: 37M82W7D |
|                                   |                                                      | 64QAM: 37M8W7D  |

|                            |                                                                                                                                                                                                    |                |
|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| <b>EMISSION DESIGNATOR</b> | <b>LTE Band CA_38C<br/>Channel Bandwidth:<br/>15MHz+15MHz</b>                                                                                                                                      | QPSK: 28M4G7D  |
|                            |                                                                                                                                                                                                    | 16QAM: 28M4W7D |
|                            |                                                                                                                                                                                                    | 64QAM: 28M5W7D |
|                            | <b>LTE Band CA_38C<br/>Channel Bandwidth:<br/>20MHz+20MHz</b>                                                                                                                                      | QPSK: 37M7G7D  |
|                            |                                                                                                                                                                                                    | 16QAM: 37M7W7D |
|                            |                                                                                                                                                                                                    | 64QAM: 37M7W7D |
| <b>ANTENNA TYPE</b>        | ANT 0:<br>IFA Antenna with 0.45dBi gain for LTE7C<br>IFA Antenna with 0.96dBi gain for LTE38C<br><br>ANT 4:<br>IFA Antenna with 0.28dBi gain for LTE7C<br>IFA Antenna with 2.21dBi gain for LTE38C |                |
| <b>HW VERSION</b>          | P1.1                                                                                                                                                                                               |                |
| <b>SW VERSION</b>          | MIUI14                                                                                                                                                                                             |                |
| <b>IMEI</b>                | 867457060032244<br>867457060047483<br>867457060047491                                                                                                                                              |                |
| <b>I/O PORTS</b>           | Refer to user's manual                                                                                                                                                                             |                |
| <b>CABLE SUPPLIED</b>      | USB cable1: non-shielded cable, with w/o ferrite core, 1.0 meter<br>USB cable2: non-shielded cable, with w/o ferrite core, 1.0 meter                                                               |                |
| <b>EXTREME TEMPERATURE</b> | -10-50 °C                                                                                                                                                                                          |                |
| <b>EXTREME VOLTAGE</b>     | 3.6V - 4.2V                                                                                                                                                                                        |                |

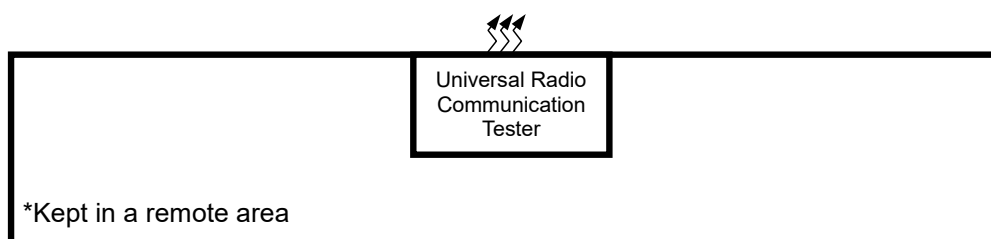
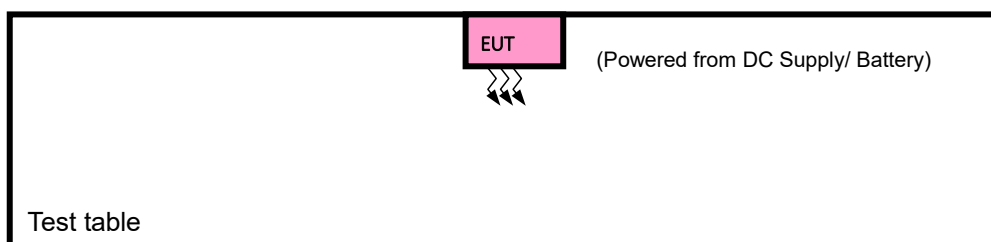
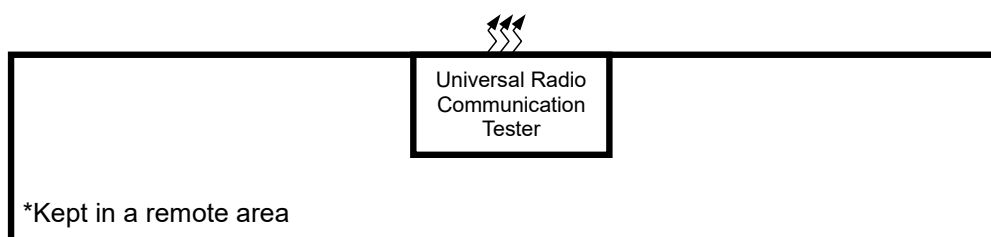
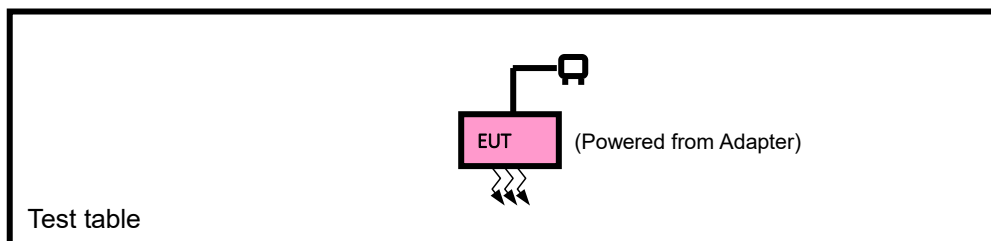
**NOTE:**

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 two completed transmitter and two receiver.

| MODULATION MODE | TX FUNCTION |
|-----------------|-------------|
| LTE             | 2TX/2RX     |

3. For the test results, the EUT had been tested with all conditions. But only the worst case was shown in test report.
4. For Band Edge and Emission Mask: The all BW combinations were tested. Combination pairs of the same BW are considered generally equivalent. The RB combinations were selected such that the signal is active closest to the band limit, as this is the worst case.
5. For Out of Band Emissions: The all combination was tested. The highest power RB combination was selected as worst case.

## 2.2 CONFIGURATION OF SYSTEM UNDER TEST FOR RADIATION EMISSION TEST



## 2.3 DESCRIPTION OF SUPPORT UNITS

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

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

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

## 2.4 TEST ITEM AND TEST CONFIGURATION

Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates, XYZ axis and antenna ports. The worst case was found when positioned on Y-plane for EIRP and X-axis for radiated emission. Following channel(s) was (were) selected for the final test as listed below:

| EUT<br>CONFIGURE<br>MODE | DESCRIPTION                             |
|--------------------------|-----------------------------------------|
| A                        | EUT + Adapter + USB Cable with LTE link |
| B                        | EUT + DC source with LTE link           |

**LTE BAND CA\_7C MODE**

| EUT CONFIGURE MODE | TEST ITEM          | AVAILABLE PCC CHANNEL | AVAILABLE SCC CHANNEL | TESTED CHANNEL    | CHANNEL BANDWIDTH | MODULATION         | MODE(PCC)         | MODE(SCC)         |
|--------------------|--------------------|-----------------------|-----------------------|-------------------|-------------------|--------------------|-------------------|-------------------|
| A                  | EIRP               | 20805 to 21206        | 20949 to 21350        | Low, Middle, High | 10MHz+20MHz       | QPSK, 16QAM, 64QAM | 1RB/ 49RB Offset  | 1RB/ 0RB Offset   |
|                    |                    | 20825 to 21277        | 20945 to 21397        | Low, Middle, High | 15MHz+10MHz       | QPSK, 16QAM, 64QAM | 1RB/ 74RB Offset  | 1RB/ 0RB Offset   |
|                    |                    | 20825 to 21225        | 20975 to 21375        | Low, Middle, High | 15MHz+15MHz       | QPSK, 16QAM, 64QAM | 1RB/ 74RB Offset  | 1RB/ 0RB Offset   |
|                    |                    | 20828 to 21179        | 20999 to 21350        | Low, Middle, High | 15MHz+20MHz       | QPSK, 16QAM, 64QAM | 1RB/ 74RB Offset  | 1RB/ 0RB Offset   |
|                    |                    | 20850 to 21251        | 20994 to 21395        | Low, Middle, High | 20MHz+10MHz       | QPSK, 16QAM, 64QAM | 1RB/ 99RB Offset  | 1RB/ 0RB Offset   |
|                    |                    | 20850 to 21201        | 21201 to 21372        | Low, Middle, High | 20MHz+15MHz       | QPSK, 16QAM, 64QAM | 1RB/ 99RB Offset  | 1RB/ 0RB Offset   |
|                    |                    | 20850 to 21152        | 21048 to 21350        | Low, Middle, High | 20MHz+20MHz       | QPSK, 16QAM, 64QAM | 1RB/ 99RB Offset  | 1RB/ 0RB Offset   |
| A                  | OCCUPIED BANDWIDTH | 20805 to 21206        | 20949 to 21350        | Low, Middle, High | 10MHz+20MHz       | QPSK, 16QAM, 64QAM | 50RB/ 0RB Offset  | 100RB/ 0RB Offset |
|                    |                    | 20825 to 21277        | 20945 to 21397        | Low, Middle, High | 15MHz+10MHz       | QPSK, 16QAM, 64QAM | 75RB/ 0RB Offset  | 50RB/ 0RB Offset  |
|                    |                    | 20825 to 21225        | 20975 to 21375        | Low, Middle, High | 15MHz+15MHz       | QPSK, 16QAM, 64QAM | 75RB/ 0RB Offset  | 75RB/ 0RB Offset  |
|                    |                    | 20828 to 21179        | 20999 to 21350        | Low, Middle, High | 15MHz+20MHz       | QPSK, 16QAM, 64QAM | 75RB/ 0RB Offset  | 100RB/ 0RB Offset |
|                    |                    | 20850 to 21251        | 20994 to 21395        | Low, Middle, High | 20MHz+10MHz       | QPSK, 16QAM, 64QAM | 100RB/ 0RB Offset | 50RB/ 0RB Offset  |
|                    |                    | 20850 to 21201        | 21201 to 21372        | Low, Middle, High | 20MHz+15MHz       | QPSK, 16QAM, 64QAM | 100RB/ 0RB Offset | 75RB/ 0RB Offset  |
|                    |                    | 20850 to 21152        | 21048 to 21350        | Low, Middle, High | 20MHz+20MHz       | QPSK, 16QAM, 64QAM | 100RB/ 0RB Offset | 100RB/ 0RB Offset |
| A                  | BAND EDGE          | 20850 to 21152        | 21048 to 21350        | Low               | 20MHz+20MHz       | QPSK, 16QAM, 64QAM | 1RB/ 0RB Offset   | 1RB/ 99RB Offset  |
|                    |                    |                       |                       |                   |                   |                    | 1RB/ 99RB Offset  | 1RB/ 0RB Offset   |
|                    |                    |                       |                       |                   |                   |                    | 100RB/ 0RB Offset | 100RB/ 0RB Offset |
|                    |                    |                       |                       | High              | 20MHz+20MHz       | QPSK, 16QAM, 64QAM | 1RB/ 0RB Offset   | 1RB/ 99RB Offset  |
|                    |                    |                       |                       |                   |                   |                    | 1RB/ 99RB Offset  | 1RB/ 0RB Offset   |
|                    |                    |                       |                       |                   |                   |                    | 100RB/ 0RB Offset | 100RB/ 0RB Offset |
| A                  | CONDUCTED EMISSION | 20850 to 21152        | 21048 to 21350        | Low, Middle, High | 20MHz+20MHz       | QPSK               | 1RB/ 99RB Offset  | 1RB/ 0RB Offset   |
| A                  | RADIATED EMISSION  | 20805 to 21206        | 20949 to 21350        | Middle            | 10MHz+20MHz       | QPSK               | 1RB/ 49RB Offset  | 1RB/ 0RB Offset   |
|                    |                    | 20825 to 21277        | 20945 to 21397        | Middle            | 15MHz+10MHz       | QPSK               | 1RB/ 74RB Offset  | 1RB/ 0RB Offset   |
|                    |                    | 20825 to 21225        | 20975 to 21375        | Middle            | 15MHz+15MHz       | QPSK               | 1RB/ 74RB Offset  | 1RB/ 0RB Offset   |
|                    |                    | 20828 to 21179        | 20999 to 21350        | Middle            | 15MHz+20MHz       | QPSK               | 1RB/ 74RB Offset  | 1RB/ 0RB Offset   |
|                    |                    | 20850 to 21251        | 20994 to 21395        | Middle            | 20MHz+10MHz       | QPSK               | 1RB/ 99RB Offset  | 1RB/ 0RB Offset   |
|                    |                    | 20850 to 21201        | 21201 to 21372        | Middle            | 20MHz+15MHz       | QPSK               | 1RB/ 99RB Offset  | 1RB/ 0RB Offset   |
|                    |                    | 20850 to 21152        | 21048 to 21350        | Low, Middle, High | 20MHz+20MHz       | QPSK               | 1RB/ 99RB Offset  | 1RB/ 0RB Offset   |

**Note:** 1.This device was tested under all bandwidths, RB configurations and modulations. The worst case was found in QPSK modulation.

**LTE BAND CA\_38C MODE**

| EUT CONFIGURE MODE | TEST ITEM          | AVAILABLE PCC CHANNEL | TESTED CHANNEL    | CHANNEL BANDWIDTH | MODULATION         | MODE                         |
|--------------------|--------------------|-----------------------|-------------------|-------------------|--------------------|------------------------------|
| B                  | EIRP               | 37825 to 38025        | Low, Middle, High | 15MHz+15MHz       | QPSK, 16QAM, 64QAM | 1RB/ 49RB&1RB/ 0RB Offset    |
|                    |                    | 37850 to 37952        | Low, Middle, High | 20MHz+20MHz       | QPSK, 16QAM, 64QAM | 1RB/ 99RB&1RB/ 0RB Offset    |
| B                  | OCCUPIED BANDWIDTH | 37825 to 38025        | Low, Middle, High | 15MHz+15MHz       | QPSK, 16QAM, 64QAM | 50RB/ 0RB&100RB/ 0RB Offset  |
|                    |                    | 37850 to 37952        | Low, Middle, High | 20MHz+20MHz       | QPSK, 16QAM, 64QAM | 100RB/ 0RB&100RB/ 0RB Offset |
| B                  | BAND EDGE          | 37850 to 37952        | Low               | 20MHz+20MHz       | QPSK, 16QAM, 64QAM | 1RB/ 0RB&1RB/ 99RB Offset    |
|                    |                    |                       |                   |                   |                    | 1RB/ 99RB&1RB/ 0RB Offset    |
|                    |                    |                       |                   |                   |                    | 100RB/ 0RB&100RB/ 0RB Offset |
|                    |                    |                       | High              | 20MHz+20MHz       | QPSK, 16QAM, 64QAM | 1RB/ 0RB&1RB/ 99RB Offset    |
|                    |                    |                       |                   |                   |                    | 1RB/ 99RB&1RB/ 0RB Offset    |
|                    |                    |                       |                   |                   |                    | 100RB/ 0RB&100RB/ 0RB Offset |
| B                  | CONDUCTED EMISSION | 37850 to 37952        | Low, Middle, High | 20MHz+20MHz       | QPSK               | 1RB/ 99RB&1RB/ 0RB Offset    |
| A                  | RADIATED EMISSION  | 37825 to 38025        | Low, Middle, High | 15MHz+15MHz       | QPSK               | 1RB/ 49RB&1RB/ 0RB Offset    |
|                    |                    | 37850 to 37952        | Low, Middle, High | 20MHz+20MHz       | QPSK               | 1RB/ 99RB&1RB/ 0RB 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&EIRP              | 23deg. C, 70%RH          | DC 5V/9V/10V/12V<br>By Adapter | Jace Hu   |
| FREQUENCY STABILITY   | 23deg. C, 70%RH          | DC 3.5/3.8/4.2 By DC<br>Source | James Fu  |
| OCCUPIED BANDWIDTH    | 23deg. C, 70%RH          | DC 5V/9V/10V/12V<br>By Adapter | James Fu  |
| BAND EDGE             | 23deg. C, 70%RH          | DC 5V/9V/10V/12V<br>By Adapter | James Fu  |
| CONDCUDED EMISSION    | 23deg. C, 70%RH          | DC 5V/9V/10V/12V<br>By Adapter | James Fu  |
| RADIATED EMISSION     | 23deg. C, 70%RH          | DC 5V/9V/10V/12V<br>By Adapter | Jace Hu   |
| PEAK TO AVERAGE RATIO | 23deg. C, 70%RH          | DC 5V/9V/10V/12V<br>By Adapter | James Fu  |



Test Report No.: W7L-P23030004RF07

## 2.5 GENERAL DESCRIPTION OF APPLIED STANDARDS

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

**FCC 47 CFR Part 2**

**FCC 47 CFR Part 27**

**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

The radiated peak output power shall be according to the specific rule Part 27.50(h)(2) that “User stations are limited to 2 watts” and 27.50(i) specific that “Peak transmit power must be measure over any interval of continuous transmission using instrumentation calibration in terms of rms-equivalent voltage.”

##### 3.1.2 TEST PROCEDURES

###### EIRP 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:

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

### 3.1.3 TEST SETUP

#### CONDUCTED POWER MEASUREMENT:



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

### 3.1.4 TEST RESULTS

#### AVERAGE CONDUCTED OUTPUT POWER (dBm)

Ant 0

LTE Band CA\_7C

| CA_7C                                 |         |            |         |           |         |           |               |                      |
|---------------------------------------|---------|------------|---------|-----------|---------|-----------|---------------|----------------------|
| Combination 20MHz+20MHz (100RB+100RB) |         |            |         |           |         |           |               |                      |
| PCC                                   | SCC     | Modulation | PCC     |           | SCC     |           | Total RB Size | Measured Power (dBm) |
| Channel                               | Channel |            | RB Size | RB offset | RB Size | RB offset |               |                      |
| 20805                                 | 21048   | QPSK       | 1       | 50        | 0       | 0         | 1             | 24.00                |
|                                       |         | 16QAM      | 1       | 50        | 0       | 0         | 1             | 22.98                |
|                                       |         | 64QAM      | 1       | 50        | 0       | 0         | 1             | 21.89                |
| 21001                                 | 21199   | QPSK       | 1       | 50        | 0       | 0         | 1             | 23.82                |
|                                       |         | 16QAM      | 1       | 50        | 0       | 0         | 1             | 22.98                |
|                                       |         | 64QAM      | 1       | 50        | 0       | 0         | 1             | 21.87                |
| 21152                                 | 21350   | QPSK       | 1       | 50        | 0       | 0         | 1             | 23.87                |
|                                       |         | 16QAM      | 1       | 50        | 0       | 0         | 1             | 22.71                |
|                                       |         | 64QAM      | 1       | 50        | 0       | 0         | 1             | 21.64                |

LTE Band CA\_38C

| CA_38C                                |         |            |         |           |         |           |               |                      |
|---------------------------------------|---------|------------|---------|-----------|---------|-----------|---------------|----------------------|
| Combination 20MHz+20MHz (100RB+100RB) |         |            |         |           |         |           |               |                      |
| PCC                                   | SCC     | Modulation | PCC     |           | SCC     |           | Total RB Size | Measured Power (dBm) |
| Channel                               | Channel |            | RB Size | RB offset | RB Size | RB offset |               |                      |
| 37850                                 | 38048   | QPSK       | 1       | 50        | 0       | 0         | 1             | 23.93                |
|                                       |         | 16QAM      | 1       | 50        | 0       | 0         | 1             | 22.87                |
|                                       |         | 64QAM      | 1       | 50        | 0       | 0         | 1             | 21.95                |
| 37901                                 | 38099   | QPSK       | 1       | 50        | 0       | 0         | 1             | 23.98                |
|                                       |         | 16QAM      | 1       | 50        | 0       | 0         | 1             | 22.83                |
|                                       |         | 64QAM      | 1       | 50        | 0       | 0         | 1             | 21.90                |
| 37952                                 | 38150   | QPSK       | 1       | 50        | 0       | 0         | 1             | 24.07                |
|                                       |         | 16QAM      | 1       | 50        | 0       | 0         | 1             | 23.17                |
|                                       |         | 64QAM      | 1       | 50        | 0       | 0         | 1             | 22.13                |



**BUREAU  
VERITAS**

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**Ant 4**

LTE Band CA\_7C

| <b>CA_7C</b>                                 |         |            |         |           |         |           |               |                      |
|----------------------------------------------|---------|------------|---------|-----------|---------|-----------|---------------|----------------------|
| <b>Combination 20MHz+20MHz (100RB+100RB)</b> |         |            |         |           |         |           |               |                      |
| PCC                                          | SCC     | Modulation | PCC     |           | SCC     |           | Total RB Size | Measured Power (dBm) |
| Channel                                      | Channel |            | RB Size | RB offset | RB Size | RB offset |               |                      |
| 20805                                        | 21048   | QPSK       | 1       | 50        | 0       | 0         | 1             | 23.06                |
|                                              |         | 16QAM      | 1       | 50        | 0       | 0         | 1             | 23.03                |
|                                              |         | 64QAM      | 1       | 50        | 0       | 0         | 1             | 21.94                |
| 21001                                        | 21199   | QPSK       | 1       | 50        | 0       | 0         | 1             | 23.05                |
|                                              |         | 16QAM      | 1       | 50        | 0       | 0         | 1             | 23.03                |
|                                              |         | 64QAM      | 1       | 50        | 0       | 0         | 1             | 21.92                |
| 21152                                        | 21350   | QPSK       | 1       | 50        | 0       | 0         | 1             | 22.92                |
|                                              |         | 16QAM      | 1       | 50        | 0       | 0         | 1             | 22.76                |
|                                              |         | 64QAM      | 1       | 50        | 0       | 0         | 1             | 21.69                |

LTE Band CA\_38C

| <b>CA_38C</b>                                |         |            |         |           |         |           |               |                      |
|----------------------------------------------|---------|------------|---------|-----------|---------|-----------|---------------|----------------------|
| <b>Combination 20MHz+20MHz (100RB+100RB)</b> |         |            |         |           |         |           |               |                      |
| PCC                                          | SCC     | Modulation | PCC     |           | SCC     |           | Total RB Size | Measured Power (dBm) |
| Channel                                      | Channel |            | RB Size | RB offset | RB Size | RB offset |               |                      |
| 37850                                        | 38048   | QPSK       | 1       | 50        | 0       | 0         | 1             | 23.93                |
|                                              |         | 16QAM      | 1       | 50        | 0       | 0         | 1             | 22.87                |
|                                              |         | 64QAM      | 1       | 50        | 0       | 0         | 1             | 21.95                |
| 37901                                        | 38099   | QPSK       | 1       | 50        | 0       | 0         | 1             | 23.98                |
|                                              |         | 16QAM      | 1       | 50        | 0       | 0         | 1             | 22.83                |
|                                              |         | 64QAM      | 1       | 50        | 0       | 0         | 1             | 21.90                |
| 37952                                        | 38150   | QPSK       | 1       | 50        | 0       | 0         | 1             | 24.07                |
|                                              |         | 16QAM      | 1       | 50        | 0       | 0         | 1             | 23.17                |
|                                              |         | 64QAM      | 1       | 50        | 0       | 0         | 1             | 22.13                |



**BUREAU  
VERITAS**

Test Report No.: W7L-P23030004RF07

ERP/EIRP

Ant 0

LTE BAND CA\_7C

CHANNEL BANDWIDTH: 10MHz+20MHz QPSK

| Channel | Frequency<br>(MHz) | Channel | Frequency<br>(MHz) | Conducted<br>Power<br>(dBm) | G <sub>T-LC</sub><br>(dB) | EIRP<br>(dBm) | EIRP<br>(mW) | Limit<br>(W) |
|---------|--------------------|---------|--------------------|-----------------------------|---------------------------|---------------|--------------|--------------|
| 20805   | 2505.5             | 20949   | 2519.9             | 24.47                       | 0.45                      | 24.47         | 279.90       | 2            |
| 21006   | 2525.6             | 21150   | 2540.0             | 24.48                       | 0.45                      | 24.48         | 280.54       | 2            |
| 21206   | 2545.6             | 21350   | 2560.0             | 24.31                       | 0.45                      | 24.31         | 269.77       | 2            |

CHANNEL BANDWIDTH: 10MHz+20MHz 16QAM

| Channel | Frequency<br>(MHz) | Channel | Frequency<br>(MHz) | Conducted<br>Power<br>(dBm) | G <sub>T-LC</sub><br>(dB) | EIRP<br>(dBm) | EIRP<br>(mW) | Limit<br>(W) |
|---------|--------------------|---------|--------------------|-----------------------------|---------------------------|---------------|--------------|--------------|
| 20805   | 2505.5             | 20949   | 2519.9             | 23.43                       | 0.45                      | 23.43         | 220.29       | 2            |
| 21006   | 2525.6             | 21150   | 2540.0             | 23.61                       | 0.45                      | 23.61         | 229.61       | 2            |
| 21206   | 2545.6             | 21350   | 2560.0             | 23.46                       | 0.45                      | 23.46         | 221.82       | 2            |

CHANNEL BANDWIDTH: 10MHz+20MHz 64QAM

| Channel | Frequency<br>(MHz) | Channel | Frequency<br>(MHz) | Conducted<br>Power<br>(dBm) | G <sub>T-LC</sub><br>(dB) | EIRP<br>(dBm) | EIRP<br>(mW) | Limit<br>(W) |
|---------|--------------------|---------|--------------------|-----------------------------|---------------------------|---------------|--------------|--------------|
| 20805   | 2505.5             | 20949   | 2519.9             | 22.44                       | 0.45                      | 22.44         | 175.39       | 2            |
| 21006   | 2525.6             | 21150   | 2540.0             | 22.51                       | 0.45                      | 22.51         | 178.24       | 2            |
| 21206   | 2545.6             | 21350   | 2560.0             | 22.43                       | 0.45                      | 22.43         | 174.98       | 2            |

**CHANNEL BANDWIDTH: 15MHz+10MHz QPSK**

| Channel | Frequency<br>(MHz) | Channel | Frequency<br>(MHz) | Conducted<br>Power<br>(dBm) | G <sub>T-LC</sub><br>(dB) | EIRP<br>(dBm) | EIRP<br>(mW) | Limit<br>(W) |
|---------|--------------------|---------|--------------------|-----------------------------|---------------------------|---------------|--------------|--------------|
| 20825   | 2507.5             | 20945   | 2519.5             | 23.95                       | 0.45                      | 24.40         | 275.42       | 2            |
| 21051   | 2530.1             | 21171   | 2542.1             | 23.93                       | 0.45                      | 24.38         | 274.16       | 2            |
| 21227   | 2552.7             | 21397   | 2564.7             | 23.91                       | 0.45                      | 24.36         | 272.90       | 2            |

**CHANNEL BANDWIDTH: 15MHz+10MHz 16QAM**

| Channel | Frequency<br>(MHz) | Channel | Frequency<br>(MHz) | Conducted<br>Power<br>(dBm) | G <sub>T-LC</sub><br>(dB) | EIRP<br>(dBm) | EIRP<br>(mW) | Limit<br>(W) |
|---------|--------------------|---------|--------------------|-----------------------------|---------------------------|---------------|--------------|--------------|
| 20825   | 2507.5             | 20945   | 2519.5             | 22.94                       | 0.45                      | 23.39         | 218.27       | 2            |
| 21051   | 2530.1             | 21171   | 2542.1             | 22.91                       | 0.45                      | 23.36         | 216.77       | 2            |
| 21227   | 2552.7             | 21397   | 2564.7             | 22.78                       | 0.45                      | 23.23         | 210.38       | 2            |

**CHANNEL BANDWIDTH: 15MHz+10MHz 64QAM**

| Channel | Frequency<br>(MHz) | Channel | Frequency<br>(MHz) | Conducted<br>Power<br>(dBm) | G <sub>T-LC</sub><br>(dB) | EIRP<br>(dBm) | EIRP<br>(mW) | Limit<br>(W) |
|---------|--------------------|---------|--------------------|-----------------------------|---------------------------|---------------|--------------|--------------|
| 20825   | 2507.5             | 20945   | 2519.5             | 21.89                       | 0.45                      | 22.34         | 171.40       | 2            |
| 21051   | 2530.1             | 21171   | 2542.1             | 21.8                        | 0.45                      | 22.25         | 167.88       | 2            |
| 21227   | 2552.7             | 21397   | 2564.7             | 21.8                        | 0.45                      | 22.25         | 167.88       | 2            |

**CHANNEL BANDWIDTH: 15MHz+15MHz QPSK**

| Channel | Frequency<br>(MHz) | Channel | Frequency<br>(MHz) | Conducted<br>Power<br>(dBm) | G <sub>T-LC</sub><br>(dB) | EIRP<br>(dBm) | EIRP<br>(mW) | Limit<br>(W) |
|---------|--------------------|---------|--------------------|-----------------------------|---------------------------|---------------|--------------|--------------|
| 20825   | 2507.5             | 20975   | 2522.5             | 24                          | 0.45                      | 24.45         | 278.61       | 2            |
| 21025   | 2527.5             | 21175   | 2542.5             | 23.91                       | 0.45                      | 24.36         | 272.90       | 2            |
| 21225   | 2547.5             | 21375   | 2562.5             | 23.89                       | 0.45                      | 24.34         | 271.64       | 2            |

**CHANNEL BANDWIDTH: 15MHz+15MHz 16QAM**

| Channel | Frequency<br>(MHz) | Channel | Frequency<br>(MHz) | Conducted<br>Power<br>(dBm) | G <sub>T-LC</sub><br>(dB) | EIRP<br>(dBm) | EIRP<br>(mW) | Limit<br>(W) |
|---------|--------------------|---------|--------------------|-----------------------------|---------------------------|---------------|--------------|--------------|
| 20825   | 2507.5             | 20975   | 2522.5             | 23.14                       | 0.45                      | 23.59         | 228.56       | 2            |
| 21025   | 2527.5             | 21175   | 2542.5             | 23.16                       | 0.45                      | 23.61         | 229.61       | 2            |
| 21225   | 2547.5             | 21375   | 2562.5             | 22.79                       | 0.45                      | 23.24         | 210.86       | 2            |

**CHANNEL BANDWIDTH: 15MHz+15MHz 64QAM**

| Channel | Frequency<br>(MHz) | Channel | Frequency<br>(MHz) | Conducted<br>Power<br>(dBm) | G <sub>T-LC</sub><br>(dB) | EIRP<br>(dBm) | EIRP<br>(mW) | Limit<br>(W) |
|---------|--------------------|---------|--------------------|-----------------------------|---------------------------|---------------|--------------|--------------|
| 20825   | 2507.5             | 20975   | 2522.5             | 22.09                       | 0.45                      | 22.54         | 179.47       | 2            |
| 21025   | 2527.5             | 21175   | 2542.5             | 22.03                       | 0.45                      | 22.48         | 177.01       | 2            |
| 21225   | 2547.5             | 21375   | 2562.5             | 21.89                       | 0.45                      | 22.34         | 171.40       | 2            |

**CHANNEL BANDWIDTH: 15MHz+20MHz QPSK**

| Channel | Frequency<br>(MHz) | Channel | Frequency<br>(MHz) | Conducted<br>Power<br>(dBm) | G <sub>T-LC</sub><br>(dB) | EIRP<br>(dBm) | EIRP<br>(mW) | Limit<br>(W) |
|---------|--------------------|---------|--------------------|-----------------------------|---------------------------|---------------|--------------|--------------|
| 20828   | 2507.8             | 20999   | 2524.9             | 23.9                        | 0.45                      | 24.35         | 272.27       | 2            |
| 21003   | 2525.3             | 21174   | 2542.4             | 23.94                       | 0.45                      | 24.39         | 274.79       | 2            |
| 21179   | 2542.9             | 21350   | 2560.0             | 23.87                       | 0.45                      | 24.32         | 270.40       | 2            |

**CHANNEL BANDWIDTH: 15MHz+20MHz 16QAM**

| Channel | Frequency<br>(MHz) | Channel | Frequency<br>(MHz) | Conducted<br>Power<br>(dBm) | G <sub>T-LC</sub><br>(dB) | EIRP<br>(dBm) | EIRP<br>(mW) | Limit<br>(W) |
|---------|--------------------|---------|--------------------|-----------------------------|---------------------------|---------------|--------------|--------------|
| 20828   | 2507.8             | 20999   | 2524.9             | 22.87                       | 0.45                      | 23.32         | 214.78       | 2            |
| 21003   | 2525.3             | 21174   | 2542.4             | 23.08                       | 0.45                      | 23.53         | 225.42       | 2            |
| 21179   | 2542.9             | 21350   | 2560.0             | 22.71                       | 0.45                      | 23.16         | 207.01       | 2            |

**CHANNEL BANDWIDTH: 15MHz+20MHz 64QAM**

| Channel | Frequency<br>(MHz) | Channel | Frequency<br>(MHz) | Conducted<br>Power<br>(dBm) | G <sub>T-LC</sub><br>(dB) | EIRP<br>(dBm) | EIRP<br>(mW) | Limit<br>(W) |
|---------|--------------------|---------|--------------------|-----------------------------|---------------------------|---------------|--------------|--------------|
| 20828   | 2507.8             | 20999   | 2524.9             | 21.77                       | 0.45                      | 22.22         | 166.72       | 2            |
| 21003   | 2525.3             | 21174   | 2542.4             | 21.96                       | 0.45                      | 22.41         | 174.18       | 2            |
| 21179   | 2542.9             | 21350   | 2560.0             | 21.63                       | 0.45                      | 22.08         | 161.44       | 2            |

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

| Channel | Frequency<br>(MHz) | Channel | Frequency<br>(MHz) | Conducted<br>Power<br>(dBm) | G <sub>T-LC</sub><br>(dB) | EIRP<br>(dBm) | EIRP<br>(mW) | Limit<br>(W) |
|---------|--------------------|---------|--------------------|-----------------------------|---------------------------|---------------|--------------|--------------|
| 20850   | 2510.0             | 20994   | 2524.4             | 23.85                       | 0.45                      | 24.30         | 269.15       | 2            |
| 21051   | 2530.1             | 21195   | 2544.5             | 24                          | 0.45                      | 24.45         | 278.61       | 2            |
| 21251   | 2550.1             | 21395   | 2564.5             | 23.86                       | 0.45                      | 24.31         | 269.77       | 2            |

**CHANNEL BANDWIDTH: 20MHz+10MHz 16QAM**

| Channel | Frequency<br>(MHz) | Channel | Frequency<br>(MHz) | Conducted<br>Power<br>(dBm) | G <sub>T-LC</sub><br>(dB) | EIRP<br>(dBm) | EIRP<br>(mW) | Limit<br>(W) |
|---------|--------------------|---------|--------------------|-----------------------------|---------------------------|---------------|--------------|--------------|
| 20850   | 2510.0             | 20994   | 2524.4             | 22.92                       | 0.45                      | 23.37         | 217.27       | 2            |
| 21051   | 2530.1             | 21195   | 2544.5             | 22.97                       | 0.45                      | 23.42         | 219.79       | 2            |
| 21251   | 2550.1             | 21395   | 2564.5             | 22.7                        | 0.45                      | 23.15         | 206.54       | 2            |

**CHANNEL BANDWIDTH: 20MHz+10MHz 64QAM**

| Channel | Frequency<br>(MHz) | Channel | Frequency<br>(MHz) | Conducted<br>Power<br>(dBm) | G <sub>T-LC</sub><br>(dB) | EIRP<br>(dBm) | EIRP<br>(mW) | Limit<br>(W) |
|---------|--------------------|---------|--------------------|-----------------------------|---------------------------|---------------|--------------|--------------|
| 20850   | 2510.0             | 20994   | 2524.4             | 21.85                       | 0.45                      | 22.30         | 169.82       | 2            |
| 21051   | 2530.1             | 21195   | 2544.5             | 21.76                       | 0.45                      | 22.21         | 166.34       | 2            |
| 21251   | 2550.1             | 21395   | 2564.5             | 21.63                       | 0.45                      | 22.08         | 161.44       | 2            |

**CHANNEL BANDWIDTH: 20MHz+15MHz QPSK**

| Channel | Frequency<br>(MHz) | Channel | Frequency<br>(MHz) | Conducted<br>Power<br>(dBm) | G <sub>T-LC</sub><br>(dB) | EIRP<br>(dBm) | EIRP<br>(mW) | Limit<br>(W) |
|---------|--------------------|---------|--------------------|-----------------------------|---------------------------|---------------|--------------|--------------|
| 20850   | 2510.0             | 21021   | 2527.1             | 23.93                       | 0.45                      | 24.38         | 274.16       | 2            |
| 21026   | 2527.6             | 21197   | 2544.7             | 23.89                       | 0.45                      | 24.34         | 271.64       | 2            |
| 21201   | 2545.1             | 21372   | 2562.2             | 23.93                       | 0.45                      | 24.38         | 274.16       | 2            |

**CHANNEL BANDWIDTH: 20MHz+15MHz 16QAM**

| Channel | Frequency<br>(MHz) | Channel | Frequency<br>(MHz) | Conducted<br>Power<br>(dBm) | G <sub>T-LC</sub><br>(dB) | EIRP<br>(dBm) | EIRP<br>(mW) | Limit<br>(W) |
|---------|--------------------|---------|--------------------|-----------------------------|---------------------------|---------------|--------------|--------------|
| 20850   | 2510.0             | 21021   | 2527.1             | 22.8                        | 0.45                      | 23.25         | 211.35       | 2            |
| 21026   | 2527.6             | 21197   | 2544.7             | 22.96                       | 0.45                      | 23.41         | 219.28       | 2            |
| 21201   | 2545.1             | 21372   | 2562.2             | 22.87                       | 0.45                      | 23.32         | 214.78       | 2            |

**CHANNEL BANDWIDTH: 20MHz+15MHz 64QAM**

| Channel | Frequency<br>(MHz) | Channel | Frequency<br>(MHz) | Conducted<br>Power<br>(dBm) | G <sub>T-LC</sub><br>(dB) | EIRP<br>(dBm) | EIRP<br>(mW) | Limit<br>(W) |
|---------|--------------------|---------|--------------------|-----------------------------|---------------------------|---------------|--------------|--------------|
| 20850   | 2510.0             | 21021   | 2527.1             | 21.71                       | 0.45                      | 22.16         | 164.44       | 2            |
| 21026   | 2527.6             | 21197   | 2544.7             | 21.73                       | 0.45                      | 22.18         | 165.20       | 2            |
| 21201   | 2545.1             | 21372   | 2562.2             | 21.71                       | 0.45                      | 22.16         | 164.44       | 2            |

**CHANNEL BANDWIDTH: 20MHz+20MHz QPSK**

| Channel | Frequency<br>(MHz) | Channel | Frequency<br>(MHz) | Conducted<br>Power<br>(dBm) | G <sub>T-LC</sub><br>(dB) | EIRP<br>(dBm) | EIRP<br>(mW) | Limit<br>(W) |
|---------|--------------------|---------|--------------------|-----------------------------|---------------------------|---------------|--------------|--------------|
| 20850   | 2510.0             | 21048   | 2529.8             | 24                          | 0.45                      | 24.45         | 278.61       | 2            |
| 21001   | 2525.1             | 21199   | 2544.9             | 23.82                       | 0.45                      | 24.27         | 267.30       | 2            |
| 21206   | 2540.2             | 21350   | 2560.0             | 23.87                       | 0.45                      | 24.32         | 270.40       | 2            |

**CHANNEL BANDWIDTH: 20MHz+20MHz 16QAM**

| Channel | Frequency<br>(MHz) | Channel | Frequency<br>(MHz) | Conducted<br>Power<br>(dBm) | G <sub>T-LC</sub><br>(dB) | EIRP<br>(dBm) | EIRP<br>(mW) | Limit<br>(W) |
|---------|--------------------|---------|--------------------|-----------------------------|---------------------------|---------------|--------------|--------------|
| 20850   | 2510.0             | 21048   | 2529.8             | 22.98                       | 0.45                      | 23.43         | 220.29       | 2            |
| 21001   | 2525.1             | 21199   | 2544.9             | 22.98                       | 0.45                      | 23.43         | 220.29       | 2            |
| 21206   | 2540.2             | 21350   | 2560.0             | 22.71                       | 0.45                      | 23.16         | 207.01       | 2            |

**CHANNEL BANDWIDTH: 20MHz+20MHz 64QAM**

| Channel | Frequency<br>(MHz) | Channel | Frequency<br>(MHz) | Conducted<br>Power<br>(dBm) | G <sub>T-LC</sub><br>(dB) | EIRP<br>(dBm) | EIRP<br>(mW) | Limit<br>(W) |
|---------|--------------------|---------|--------------------|-----------------------------|---------------------------|---------------|--------------|--------------|
| 20850   | 2510.0             | 21048   | 2529.8             | 21.89                       | 0.45                      | 22.34         | 171.40       | 2            |
| 21001   | 2525.1             | 21199   | 2544.9             | 21.87                       | 0.45                      | 22.32         | 170.61       | 2            |
| 21206   | 2540.2             | 21350   | 2560.0             | 21.64                       | 0.45                      | 22.09         | 161.81       | 2            |

**LTE BAND CA\_38C**

**CHANNEL BANDWIDTH: 15MHz+15MHz QPSK**

| Channel | Frequency<br>(MHz) | Channel | Frequency<br>(MHz) | Conducted<br>Power<br>(dBm) | G <sub>T-LC</sub><br>(dB) | EIRP<br>(dBm) | EIRP<br>(mW) | Limit<br>(W) |
|---------|--------------------|---------|--------------------|-----------------------------|---------------------------|---------------|--------------|--------------|
| 37825   | 2577.5             | 37975   | 2592.5             | 24.07                       | 0.96                      | 25.03         | 318.42       | 2            |
| 37925   | 2587.5             | 38075   | 2602.5             | 23.09                       | 0.96                      | 24.05         | 254.10       | 2            |
| 38025   | 2597.5             | 38175   | 2612.5             | 24.05                       | 0.96                      | 25.01         | 316.96       | 2            |

**CHANNEL BANDWIDTH: 15MHz+15MHz 16QAM**

| Channel | Frequency<br>(MHz) | Channel | Frequency<br>(MHz) | Conducted<br>Power<br>(dBm) | G <sub>T-LC</sub><br>(dB) | EIRP<br>(dBm) | EIRP<br>(mW) | Limit<br>(W) |
|---------|--------------------|---------|--------------------|-----------------------------|---------------------------|---------------|--------------|--------------|
| 37825   | 2577.5             | 37975   | 2592.5             | 23.1                        | 0.96                      | 24.06         | 254.68       | 2            |
| 37925   | 2587.5             | 38075   | 2602.5             | 22.71                       | 0.96                      | 23.67         | 232.81       | 2            |
| 38025   | 2597.5             | 38175   | 2612.5             | 23.2                        | 0.96                      | 24.16         | 260.62       | 2            |

**CHANNEL BANDWIDTH: 15MHz+15MHz 64QAM**

| Channel | Frequency<br>(MHz) | Channel | Frequency<br>(MHz) | Conducted<br>Power<br>(dBm) | G <sub>T-LC</sub><br>(dB) | EIRP<br>(dBm) | EIRP<br>(mW) | Limit<br>(W) |
|---------|--------------------|---------|--------------------|-----------------------------|---------------------------|---------------|--------------|--------------|
| 37825   | 2577.5             | 37975   | 2592.5             | 22.15                       | 0.96                      | 23.11         | 204.64       | 2            |
| 37925   | 2587.5             | 38075   | 2602.5             | 21.79                       | 0.96                      | 22.75         | 188.36       | 2            |
| 38025   | 2597.5             | 38175   | 2612.5             | 22.19                       | 0.96                      | 23.15         | 206.54       | 2            |

**CHANNEL BANDWIDTH: 20MHz+20MHz QPSK**

| Channel | Frequency<br>(MHz) | Channel | Frequency<br>(MHz) | Conducted<br>Power<br>(dBm) | G <sub>T-LC</sub><br>(dB) | EIRP<br>(dBm) | EIRP<br>(mW) | Limit<br>(W) |
|---------|--------------------|---------|--------------------|-----------------------------|---------------------------|---------------|--------------|--------------|
| 37850   | 2580.0             | 38048   | 2599.8             | 23.93                       | 0.96                      | 24.89         | 308.32       | 2            |
| 37901   | 2585.1             | 38099   | 2604.9             | 23.98                       | 0.96                      | 24.94         | 311.89       | 2            |
| 37952   | 2590.2             | 38150   | 2610               | 24.07                       | 0.96                      | 25.03         | 318.42       | 2            |

**CHANNEL BANDWIDTH: 20MHz+20MHz 16QAM**

| Channel | Frequency<br>(MHz) | Channel | Frequency<br>(MHz) | Conducted<br>Power<br>(dBm) | G <sub>T-LC</sub><br>(dB) | EIRP<br>(dBm) | EIRP<br>(mW) | Limit<br>(W) |
|---------|--------------------|---------|--------------------|-----------------------------|---------------------------|---------------|--------------|--------------|
| 37850   | 2580.0             | 38048   | 2599.8             | 22.87                       | 0.96                      | 23.83         | 241.55       | 2            |
| 37901   | 2585.1             | 38099   | 2604.9             | 22.83                       | 0.96                      | 23.79         | 239.33       | 2            |
| 37952   | 2590.2             | 38150   | 2610               | 23.17                       | 0.96                      | 24.13         | 258.82       | 2            |

**CHANNEL BANDWIDTH: 20MHz+20MHz 64QAM**

| Channel | Frequency<br>(MHz) | Channel | Frequency<br>(MHz) | Conducted<br>Power<br>(dBm) | G <sub>T-LC</sub><br>(dB) | EIRP<br>(dBm) | EIRP<br>(mW) | Limit<br>(W) |
|---------|--------------------|---------|--------------------|-----------------------------|---------------------------|---------------|--------------|--------------|
| 37850   | 2580.0             | 38048   | 2599.8             | 21.95                       | 0.96                      | 22.91         | 195.43       | 2            |
| 37901   | 2585.1             | 38099   | 2604.9             | 21.9                        | 0.96                      | 22.86         | 193.20       | 2            |
| 37952   | 2590.2             | 38150   | 2610               | 22.13                       | 0.96                      | 23.09         | 203.70       | 2            |

**Ant 4**

**LTE BAND CA\_7C**

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

| Channel | Frequency<br>(MHz) | Channel | Frequency<br>(MHz) | Conducted<br>Power<br>(dBm) | G <sub>T-LC</sub><br>(dB) | EIRP<br>(dBm) | EIRP<br>(mW) | Limit<br>(W) |
|---------|--------------------|---------|--------------------|-----------------------------|---------------------------|---------------|--------------|--------------|
| 20805   | 2505.5             | 20949   | 2519.9             | 24.07                       | 0.28                      | 24.35         | 272.27       | 2            |
| 21006   | 2525.6             | 21150   | 2540.0             | 24.08                       | 0.28                      | 24.36         | 272.90       | 2            |
| 21206   | 2545.6             | 21350   | 2560.0             | 23.91                       | 0.28                      | 24.19         | 262.42       | 2            |

**CHANNEL BANDWIDTH: 10MHz+20MHz 16QAM**

| Channel | Frequency<br>(MHz) | Channel | Frequency<br>(MHz) | Conducted<br>Power<br>(dBm) | G <sub>T-LC</sub><br>(dB) | EIRP<br>(dBm) | EIRP<br>(mW) | Limit<br>(W) |
|---------|--------------------|---------|--------------------|-----------------------------|---------------------------|---------------|--------------|--------------|
| 20805   | 2505.5             | 20949   | 2519.9             | 23.03                       | 0.28                      | 23.31         | 214.29       | 2            |
| 21006   | 2525.6             | 21150   | 2540.0             | 23.21                       | 0.28                      | 23.49         | 223.36       | 2            |
| 21206   | 2545.6             | 21350   | 2560.0             | 23.06                       | 0.28                      | 23.34         | 215.77       | 2            |

**CHANNEL BANDWIDTH: 10MHz+20MHz 64QAM**

| Channel | Frequency<br>(MHz) | Channel | Frequency<br>(MHz) | Conducted<br>Power<br>(dBm) | G <sub>T-LC</sub><br>(dB) | EIRP<br>(dBm) | EIRP<br>(mW) | Limit<br>(W) |
|---------|--------------------|---------|--------------------|-----------------------------|---------------------------|---------------|--------------|--------------|
| 20805   | 2505.5             | 20949   | 2519.9             | 22.04                       | 0.28                      | 22.32         | 170.61       | 2            |
| 21006   | 2525.6             | 21150   | 2540.0             | 22.11                       | 0.28                      | 22.39         | 173.38       | 2            |
| 21206   | 2545.6             | 21350   | 2560.0             | 22.03                       | 0.28                      | 22.31         | 170.22       | 2            |

**CHANNEL BANDWIDTH: 15MHz+10MHz QPSK**

| Channel | Frequency<br>(MHz) | Channel | Frequency<br>(MHz) | Conducted<br>Power<br>(dBm) | G <sub>T-LC</sub><br>(dB) | EIRP<br>(dBm) | EIRP<br>(mW) | Limit<br>(W) |
|---------|--------------------|---------|--------------------|-----------------------------|---------------------------|---------------|--------------|--------------|
| 20825   | 2507.5             | 20945   | 2519.5             | 24.03                       | 0.28                      | 24.31         | 269.77       | 2            |
| 21051   | 2530.1             | 21171   | 2542.1             | 23.88                       | 0.28                      | 24.16         | 260.62       | 2            |
| 21227   | 2552.7             | 21397   | 2564.7             | 23.86                       | 0.28                      | 24.14         | 259.42       | 2            |

**CHANNEL BANDWIDTH: 15MHz+10MHz 16QAM**

| Channel | Frequency<br>(MHz) | Channel | Frequency<br>(MHz) | Conducted<br>Power<br>(dBm) | G <sub>T-LC</sub><br>(dB) | EIRP<br>(dBm) | EIRP<br>(mW) | Limit<br>(W) |
|---------|--------------------|---------|--------------------|-----------------------------|---------------------------|---------------|--------------|--------------|
| 20825   | 2507.5             | 20945   | 2519.5             | 23.19                       | 0.28                      | 23.47         | 222.33       | 2            |
| 21051   | 2530.1             | 21171   | 2542.1             | 23.16                       | 0.28                      | 23.44         | 220.80       | 2            |
| 21227   | 2552.7             | 21397   | 2564.7             | 22.87                       | 0.28                      | 23.15         | 206.54       | 2            |

**CHANNEL BANDWIDTH: 15MHz+10MHz 64QAM**

| Channel | Frequency<br>(MHz) | Channel | Frequency<br>(MHz) | Conducted<br>Power<br>(dBm) | G <sub>T-LC</sub><br>(dB) | EIRP<br>(dBm) | EIRP<br>(mW) | Limit<br>(W) |
|---------|--------------------|---------|--------------------|-----------------------------|---------------------------|---------------|--------------|--------------|
| 20825   | 2507.5             | 20945   | 2519.5             | 22.14                       | 0.28                      | 22.42         | 174.58       | 2            |
| 21051   | 2530.1             | 21171   | 2542.1             | 22.05                       | 0.28                      | 22.33         | 171.00       | 2            |
| 21227   | 2552.7             | 21397   | 2564.7             | 21.85                       | 0.28                      | 22.13         | 163.31       | 2            |

**CHANNEL BANDWIDTH: 15MHz+15MHz QPSK**

| Channel | Frequency<br>(MHz) | Channel | Frequency<br>(MHz) | Conducted<br>Power<br>(dBm) | G <sub>T-LC</sub><br>(dB) | EIRP<br>(dBm) | EIRP<br>(mW) | Limit<br>(W) |
|---------|--------------------|---------|--------------------|-----------------------------|---------------------------|---------------|--------------|--------------|
| 20825   | 2507.5             | 20975   | 2522.5             | 24.05                       | 0.28                      | 24.33         | 271.02       | 2            |
| 21025   | 2527.5             | 21175   | 2542.5             | 23.96                       | 0.28                      | 24.24         | 265.46       | 2            |
| 21225   | 2547.5             | 21375   | 2562.5             | 23.9                        | 0.28                      | 24.18         | 261.82       | 2            |

**CHANNEL BANDWIDTH: 15MHz+15MHz 16QAM**

| Channel | Frequency<br>(MHz) | Channel | Frequency<br>(MHz) | Conducted<br>Power<br>(dBm) | G <sub>T-LC</sub><br>(dB) | EIRP<br>(dBm) | EIRP<br>(mW) | Limit<br>(W) |
|---------|--------------------|---------|--------------------|-----------------------------|---------------------------|---------------|--------------|--------------|
| 20825   | 2507.5             | 20975   | 2522.5             | 23.19                       | 0.28                      | 23.47         | 222.33       | 2            |
| 21025   | 2527.5             | 21175   | 2542.5             | 23.21                       | 0.28                      | 23.49         | 223.36       | 2            |
| 21225   | 2547.5             | 21375   | 2562.5             | 22.84                       | 0.28                      | 23.12         | 205.12       | 2            |

**CHANNEL BANDWIDTH: 15MHz+15MHz 64QAM**

| Channel | Frequency<br>(MHz) | Channel | Frequency<br>(MHz) | Conducted<br>Power<br>(dBm) | G <sub>T-LC</sub><br>(dB) | EIRP<br>(dBm) | EIRP<br>(mW) | Limit<br>(W) |
|---------|--------------------|---------|--------------------|-----------------------------|---------------------------|---------------|--------------|--------------|
| 20825   | 2507.5             | 20975   | 2522.5             | 22.14                       | 0.28                      | 22.42         | 174.58       | 2            |
| 21025   | 2527.5             | 21175   | 2542.5             | 22.08                       | 0.28                      | 22.36         | 172.19       | 2            |
| 21225   | 2547.5             | 21375   | 2562.5             | 21.75                       | 0.28                      | 22.03         | 159.59       | 2            |

**CHANNEL BANDWIDTH: 15MHz+20MHz QPSK**

| Channel | Frequency<br>(MHz) | Channel | Frequency<br>(MHz) | Conducted<br>Power<br>(dBm) | G <sub>T-LC</sub><br>(dB) | EIRP<br>(dBm) | EIRP<br>(mW) | Limit<br>(W) |
|---------|--------------------|---------|--------------------|-----------------------------|---------------------------|---------------|--------------|--------------|
| 20828   | 2507.8             | 20999   | 2524.9             | 23.95                       | 0.28                      | 24.23         | 264.85       | 2            |
| 21003   | 2525.3             | 21174   | 2542.4             | 23.89                       | 0.28                      | 24.17         | 261.22       | 2            |
| 21179   | 2542.9             | 21350   | 2560.0             | 23.92                       | 0.28                      | 24.20         | 263.03       | 2            |

**CHANNEL BANDWIDTH: 15MHz+20MHz 16QAM**

| Channel | Frequency<br>(MHz) | Channel | Frequency<br>(MHz) | Conducted<br>Power<br>(dBm) | G <sub>T-LC</sub><br>(dB) | EIRP<br>(dBm) | EIRP<br>(mW) | Limit<br>(W) |
|---------|--------------------|---------|--------------------|-----------------------------|---------------------------|---------------|--------------|--------------|
| 20828   | 2507.8             | 20999   | 2524.9             | 22.82                       | 0.28                      | 23.10         | 204.17       | 2            |
| 21003   | 2525.3             | 21174   | 2542.4             | 23.03                       | 0.28                      | 23.31         | 214.29       | 2            |
| 21179   | 2542.9             | 21350   | 2560.0             | 22.86                       | 0.28                      | 23.14         | 206.06       | 2            |

**CHANNEL BANDWIDTH: 15MHz+20MHz 64QAM**

| Channel | Frequency<br>(MHz) | Channel | Frequency<br>(MHz) | Conducted<br>Power<br>(dBm) | G <sub>T-LC</sub><br>(dB) | EIRP<br>(dBm) | EIRP<br>(mW) | Limit<br>(W) |
|---------|--------------------|---------|--------------------|-----------------------------|---------------------------|---------------|--------------|--------------|
| 20828   | 2507.8             | 20999   | 2524.9             | 21.92                       | 0.28                      | 22.20         | 165.96       | 2            |
| 21003   | 2525.3             | 21174   | 2542.4             | 22.11                       | 0.28                      | 22.39         | 173.38       | 2            |
| 21179   | 2542.9             | 21350   | 2560.0             | 21.78                       | 0.28                      | 22.06         | 160.69       | 2            |

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

| Channel | Frequency<br>(MHz) | Channel | Frequency<br>(MHz) | Conducted<br>Power<br>(dBm) | G <sub>T-LC</sub><br>(dB) | EIRP<br>(dBm) | EIRP<br>(mW) | Limit<br>(W) |
|---------|--------------------|---------|--------------------|-----------------------------|---------------------------|---------------|--------------|--------------|
| 20850   | 2510.0             | 20994   | 2524.4             | 23.91                       | 0.28                      | 24.18         | 261.82       | 2            |
| 21051   | 2530.1             | 21195   | 2544.5             | 24.05                       | 0.28                      | 24.33         | 271.02       | 2            |
| 21251   | 2550.1             | 21395   | 2564.5             | 23.91                       | 0.28                      | 24.19         | 262.42       | 2            |

**CHANNEL BANDWIDTH: 20MHz+10MHz 16QAM**

| Channel | Frequency<br>(MHz) | Channel | Frequency<br>(MHz) | Conducted<br>Power<br>(dBm) | G <sub>T-LC</sub><br>(dB) | EIRP<br>(dBm) | EIRP<br>(mW) | Limit<br>(W) |
|---------|--------------------|---------|--------------------|-----------------------------|---------------------------|---------------|--------------|--------------|
| 20850   | 2510.0             | 20994   | 2524.4             | 22.97                       | 0.28                      | 23.25         | 211.35       | 2            |
| 21051   | 2530.1             | 21195   | 2544.5             | 23.02                       | 0.28                      | 23.30         | 213.80       | 2            |
| 21251   | 2550.1             | 21395   | 2564.5             | 22.95                       | 0.28                      | 23.23         | 210.38       | 2            |

**CHANNEL BANDWIDTH: 20MHz+10MHz 64QAM**

| Channel | Frequency<br>(MHz) | Channel | Frequency<br>(MHz) | Conducted<br>Power<br>(dBm) | G <sub>T-LC</sub><br>(dB) | EIRP<br>(dBm) | EIRP<br>(mW) | Limit<br>(W) |
|---------|--------------------|---------|--------------------|-----------------------------|---------------------------|---------------|--------------|--------------|
| 20850   | 2510.0             | 20994   | 2524.4             | 21.9                        | 0.28                      | 22.18         | 165.20       | 2            |
| 21051   | 2530.1             | 21195   | 2544.5             | 21.81                       | 0.28                      | 22.09         | 161.81       | 2            |
| 21251   | 2550.1             | 21395   | 2564.5             | 21.78                       | 0.28                      | 22.06         | 160.69       | 2            |

**CHANNEL BANDWIDTH: 20MHz+15MHz QPSK**

| Channel | Frequency<br>(MHz) | Channel | Frequency<br>(MHz) | Conducted<br>Power<br>(dBm) | G <sub>T-LC</sub><br>(dB) | EIRP<br>(dBm) | EIRP<br>(mW) | Limit<br>(W) |
|---------|--------------------|---------|--------------------|-----------------------------|---------------------------|---------------|--------------|--------------|
| 20850   | 2510.0             | 21021   | 2527.1             | 23.98                       | 0.28                      | 24.26         | 266.69       | 2            |
| 21026   | 2527.6             | 21197   | 2544.7             | 23.94                       | 0.28                      | 24.22         | 264.24       | 2            |
| 21201   | 2545.1             | 21372   | 2562.2             | 23.88                       | 0.28                      | 24.16         | 260.62       | 2            |

**CHANNEL BANDWIDTH: 20MHz+15MHz 16QAM**

| Channel | Frequency<br>(MHz) | Channel | Frequency<br>(MHz) | Conducted<br>Power<br>(dBm) | G <sub>T-LC</sub><br>(dB) | EIRP<br>(dBm) | EIRP<br>(mW) | Limit<br>(W) |
|---------|--------------------|---------|--------------------|-----------------------------|---------------------------|---------------|--------------|--------------|
| 20850   | 2510.0             | 21021   | 2527.1             | 22.85                       | 0.28                      | 23.13         | 205.59       | 2            |
| 21026   | 2527.6             | 21197   | 2544.7             | 23.01                       | 0.28                      | 23.29         | 213.30       | 2            |
| 21201   | 2545.1             | 21372   | 2562.2             | 23                          | 0.28                      | 23.28         | 212.81       | 2            |

**CHANNEL BANDWIDTH: 20MHz+15MHz 64QAM**

| Channel | Frequency<br>(MHz) | Channel | Frequency<br>(MHz) | Conducted<br>Power<br>(dBm) | G <sub>T-LC</sub><br>(dB) | EIRP<br>(dBm) | EIRP<br>(mW) | Limit<br>(W) |
|---------|--------------------|---------|--------------------|-----------------------------|---------------------------|---------------|--------------|--------------|
| 20850   | 2510.0             | 21021   | 2527.1             | 21.76                       | 0.28                      | 22.04         | 159.96       | 2            |
| 21026   | 2527.6             | 21197   | 2544.7             | 21.78                       | 0.28                      | 22.06         | 160.69       | 2            |
| 21201   | 2545.1             | 21372   | 2562.2             | 21.86                       | 0.28                      | 22.14         | 163.68       | 2            |

**CHANNEL BANDWIDTH: 20MHz+20MHz QPSK**

| Channel | Frequency<br>(MHz) | Channel | Frequency<br>(MHz) | Conducted<br>Power<br>(dBm) | G <sub>T-LC</sub><br>(dB) | EIRP<br>(dBm) | EIRP<br>(mW) | Limit<br>(W) |
|---------|--------------------|---------|--------------------|-----------------------------|---------------------------|---------------|--------------|--------------|
| 20850   | 2510.0             | 21048   | 2529.8             | 23.06                       | 0.28                      | 23.34         | 215.77       | 2            |
| 21001   | 2525.1             | 21199   | 2544.9             | 23.05                       | 0.28                      | 23.33         | 215.28       | 2            |
| 21206   | 2540.2             | 21350   | 2560.0             | 22.92                       | 0.28                      | 23.20         | 208.93       | 2            |

**CHANNEL BANDWIDTH: 20MHz+20MHz 16QAM**

| Channel | Frequency<br>(MHz) | Channel | Frequency<br>(MHz) | Conducted<br>Power<br>(dBm) | G <sub>T-LC</sub><br>(dB) | EIRP<br>(dBm) | EIRP<br>(mW) | Limit<br>(W) |
|---------|--------------------|---------|--------------------|-----------------------------|---------------------------|---------------|--------------|--------------|
| 20850   | 2510.0             | 21048   | 2529.8             | 23.03                       | 0.28                      | 23.31         | 214.29       | 2            |
| 21001   | 2525.1             | 21199   | 2544.9             | 23.03                       | 0.28                      | 23.31         | 214.29       | 2            |
| 21206   | 2540.2             | 21350   | 2560.0             | 22.76                       | 0.28                      | 23.04         | 201.37       | 2            |

**CHANNEL BANDWIDTH: 20MHz+20MHz 64QAM**

| Channel | Frequency<br>(MHz) | Channel | Frequency<br>(MHz) | Conducted<br>Power<br>(dBm) | G <sub>T-LC</sub><br>(dB) | EIRP<br>(dBm) | EIRP<br>(mW) | Limit<br>(W) |
|---------|--------------------|---------|--------------------|-----------------------------|---------------------------|---------------|--------------|--------------|
| 20850   | 2510.0             | 21048   | 2529.8             | 21.94                       | 0.28                      | 22.22         | 166.72       | 2            |
| 21001   | 2525.1             | 21199   | 2544.9             | 21.92                       | 0.28                      | 22.20         | 165.96       | 2            |
| 21206   | 2540.2             | 21350   | 2560.0             | 21.69                       | 0.28                      | 21.97         | 157.40       | 2            |

**LTE BAND CA\_38C**

**CHANNEL BANDWIDTH: 15MHz+15MHz QPSK**

| Channel | Frequency<br>(MHz) | Channel | Frequency<br>(MHz) | Conducted<br>Power<br>(dBm) | G <sub>T-LC</sub><br>(dB) | EIRP<br>(dBm) | EIRP<br>(mW) | Limit<br>(W) |
|---------|--------------------|---------|--------------------|-----------------------------|---------------------------|---------------|--------------|--------------|
| 37825   | 2577.5             | 37975   | 2592.5             | 24.07                       | 2.21                      | 26.28         | 424.62       | 2            |
| 37925   | 2587.5             | 38075   | 2602.5             | 24.05                       | 2.21                      | 26.26         | 422.67       | 2            |
| 38025   | 2597.5             | 38175   | 2612.5             | 24.05                       | 2.21                      | 26.26         | 422.67       | 2            |

**CHANNEL BANDWIDTH: 15MHz+15MHz 16QAM**

| Channel | Frequency<br>(MHz) | Channel | Frequency<br>(MHz) | Conducted<br>Power<br>(dBm) | G <sub>T-LC</sub><br>(dB) | EIRP<br>(dBm) | EIRP<br>(mW) | Limit<br>(W) |
|---------|--------------------|---------|--------------------|-----------------------------|---------------------------|---------------|--------------|--------------|
| 37825   | 2577.5             | 37975   | 2592.5             | 23.1                        | 2.21                      | 25.31         | 339.63       | 2            |
| 37925   | 2587.5             | 38075   | 2602.5             | 23.01                       | 2.21                      | 25.22         | 332.66       | 2            |
| 38025   | 2597.5             | 38175   | 2612.5             | 23.2                        | 2.21                      | 25.41         | 347.54       | 2            |

**CHANNEL BANDWIDTH: 15MHz+15MHz 64QAM**

| Channel | Frequency<br>(MHz) | Channel | Frequency<br>(MHz) | Conducted<br>Power<br>(dBm) | G <sub>T-LC</sub><br>(dB) | EIRP<br>(dBm) | EIRP<br>(mW) | Limit<br>(W) |
|---------|--------------------|---------|--------------------|-----------------------------|---------------------------|---------------|--------------|--------------|
| 37825   | 2577.5             | 37975   | 2592.5             | 22.15                       | 2.21                      | 24.36         | 272.90       | 2            |
| 37925   | 2587.5             | 38075   | 2602.5             | 21.99                       | 2.21                      | 24.20         | 263.03       | 2            |
| 38025   | 2597.5             | 38175   | 2612.5             | 22.19                       | 2.21                      | 24.40         | 275.42       | 2            |

**CHANNEL BANDWIDTH: 20MHz+20MHz QPSK**

| Channel | Frequency<br>(MHz) | Channel | Frequency<br>(MHz) | Conducted<br>Power<br>(dBm) | G <sub>T-LC</sub><br>(dB) | EIRP<br>(dBm) | EIRP<br>(mW) | Limit<br>(W) |
|---------|--------------------|---------|--------------------|-----------------------------|---------------------------|---------------|--------------|--------------|
| 37850   | 2580.0             | 38048   | 2599.8             | 23.93                       | 2.21                      | 26.14         | 411.15       | 2            |
| 37901   | 2585.1             | 38099   | 2604.9             | 23.98                       | 2.21                      | 26.19         | 415.91       | 2            |
| 37952   | 2590.2             | 38150   | 2610               | 24.07                       | 2.21                      | 26.28         | 424.62       | 2            |

**CHANNEL BANDWIDTH: 20MHz+20MHz 16QAM**

| Channel | Frequency<br>(MHz) | Channel | Frequency<br>(MHz) | Conducted<br>Power<br>(dBm) | G <sub>T-LC</sub><br>(dB) | EIRP<br>(dBm) | EIRP<br>(mW) | Limit<br>(W) |
|---------|--------------------|---------|--------------------|-----------------------------|---------------------------|---------------|--------------|--------------|
| 37850   | 2580.0             | 38048   | 2599.8             | 22.87                       | 2.21                      | 25.08         | 322.11       | 2            |
| 37901   | 2585.1             | 38099   | 2604.9             | 22.83                       | 2.21                      | 25.04         | 319.15       | 2            |
| 37952   | 2590.2             | 38150   | 2610               | 23.17                       | 2.21                      | 25.38         | 345.14       | 2            |

**CHANNEL BANDWIDTH: 20MHz+20MHz 64QAM**

| Channel | Frequency<br>(MHz) | Channel | Frequency<br>(MHz) | Conducted<br>Power<br>(dBm) | G <sub>T-LC</sub><br>(dB) | EIRP<br>(dBm) | EIRP<br>(mW) | Limit<br>(W) |
|---------|--------------------|---------|--------------------|-----------------------------|---------------------------|---------------|--------------|--------------|
| 37850   | 2580.0             | 38048   | 2599.8             | 21.95                       | 2.21                      | 24.16         | 260.62       | 2            |
| 37901   | 2585.1             | 38099   | 2604.9             | 21.9                        | 2.21                      | 24.11         | 257.63       | 2            |
| 37952   | 2590.2             | 38150   | 2610               | 22.13                       | 2.21                      | 24.34         | 271.64       | 2            |

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

## 3.2 FREQUENCY STABILITY MEASUREMENT

### 3.2.1 LIMITS OF FREQUENCY STABILITY MEASUREMENT

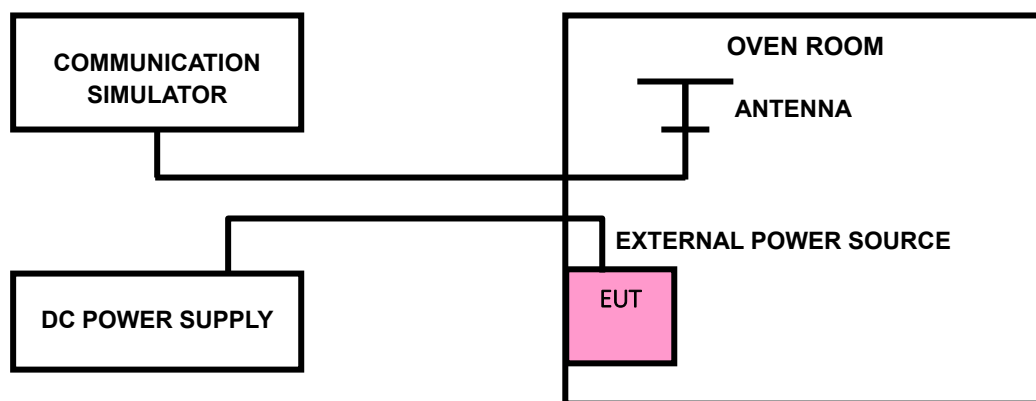
The frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation.

### 3.2.2 TEST PROCEDURE

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

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

### 3.2.3 TEST SETUP



### 3.2.4 TEST RESULTS

#### LTE BAND CA\_7C

| LTE BAND CA_7C channel and Frequency List |                        |           |        |        |         |
|-------------------------------------------|------------------------|-----------|--------|--------|---------|
| BW(MHz)                                   | Channel/Frequency(MHz) |           | Lowest | Middle | Highest |
| 10+20                                     | PCC                    | channel   | 20805  | 21006  | 21206   |
|                                           |                        | Frequency | 2505.5 | 2525.6 | 2545.6  |
|                                           | SCC                    | channel   | 20949  | 21150  | 21350   |
|                                           |                        | Frequency | 2519.9 | 2540   | 2560    |
| 15+10                                     | PCC                    | channel   | 20825  | 21051  | 21277   |
|                                           |                        | Frequency | 2507.5 | 2530.1 | 2552.7  |
|                                           | SCC                    | channel   | 20945  | 21171  | 21397   |
|                                           |                        | Frequency | 2519.5 | 2542.1 | 2564.7  |
| 15+15                                     | PCC                    | channel   | 20825  | 21025  | 21225   |
|                                           |                        | Frequency | 2507.5 | 2527.5 | 2547.5  |
|                                           | SCC                    | channel   | 20975  | 21175  | 21375   |
|                                           |                        | Frequency | 2522.5 | 2542.5 | 2562.5  |
| 15+20                                     | PCC                    | channel   | 20828  | 21003  | 21179   |
|                                           |                        | Frequency | 2507.8 | 2525.3 | 2542.9  |
|                                           | SCC                    | channel   | 20999  | 21174  | 21350   |
|                                           |                        | Frequency | 2524.9 | 2542.4 | 2560    |
| 20+10                                     | PCC                    | channel   | 20850  | 21051  | 21251   |
|                                           |                        | Frequency | 2510   | 2530.1 | 2550.1  |
|                                           | SCC                    | channel   | 20994  | 21195  | 21395   |
|                                           |                        | Frequency | 2524.4 | 2544.5 | 2564.5  |
| 20+15                                     | PCC                    | channel   | 20850  | 21026  | 21201   |
|                                           |                        | Frequency | 2510   | 2527.6 | 2545.1  |
|                                           | SCC                    | channel   | 21021  | 21197  | 21372   |
|                                           |                        | Frequency | 2527.1 | 2544.7 | 2562.2  |
| 20+20                                     | PCC                    | channel   | 20850  | 21001  | 21152   |
|                                           |                        | Frequency | 2510   | 2525.1 | 2540.2  |
|                                           | SCC                    | channel   | 21048  | 21199  | 21350   |
|                                           |                        | Frequency | 2529.8 | 2544.9 | 2560    |



**BUREAU  
VERITAS**

Test Report No.: W7L-P23030004RF07

# **LTE BAND CA\_38C**

| LTE BAND CA_38C channel and Frequency List |                        |           |        |        |         |
|--------------------------------------------|------------------------|-----------|--------|--------|---------|
| BW(MHz)                                    | Channel/Frequency(MHz) |           | Lowest | Middle | Highest |
| 15+15                                      | PCC                    | channel   | 37825  | 37925  | 38025   |
|                                            |                        | Frequency | 2577.5 | 2587.5 | 2597.5  |
|                                            | SCC                    | channel   | 37975  | 38075  | 38175   |
|                                            |                        | Frequency | 2592.5 | 2602.5 | 2612.5  |
| 20+20                                      | PCC                    | channel   | 37850  | 37901  | 37952   |
|                                            |                        | Frequency | 2580.0 | 2585.1 | 2590.2  |
|                                            | SCC                    | channel   | 38048  | 38099  | 38150   |
|                                            |                        | Frequency | 2599.8 | 2604.9 | 2610    |

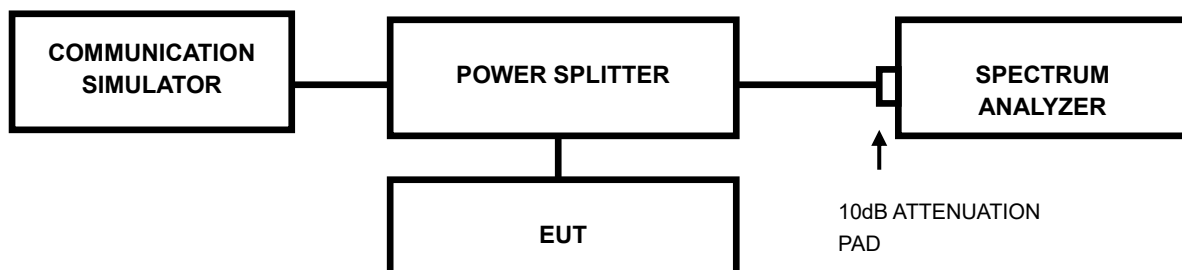
Note: VL = Low voltage(3.6V); VN/NV = Normal voltage(3.7V); VH = High voltage(4.2V);  
NT = Normal temperature (25°C)

### 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.: W7L-P23030004RF07

### 3.3.4 TEST RESULTS

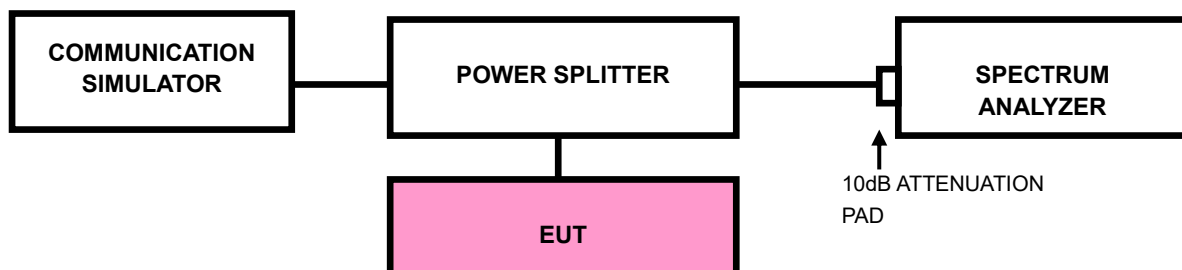
Please Refer to Appendix Of this test report.

### 3.4 BAND EDGE MEASUREMENT

#### 3.4.1 LIMITS OF BAND EDGE MEASUREMENT

According to FCC 27.53(m)(4) specified that For mobile digital stations, the attenuation factor shall be not less than  $40 + 10 \log (P)$  dB on all frequencies between the channel edge and 5 megahertz from the channel edge,  $43 + 10 \log (P)$  dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and  $55 + 10 \log (P)$  dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less that  $43 + 10 \log (P)$  dB on all frequencies between 2490.5 MHz and 2496 MHz and  $55 + 10 \log (P)$  dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees. For mobile digital stations, in the 1 megahertz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least two percent may be employed.

#### 3.4.2 TEST SETUP



### 3.4.3 TEST PROCEDURES

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

### 3.4.4 TEST RESULTS

Please Refer to Appendix Of this test report.

### 3.5 CONDUCTED SPURIOUS EMISSIONS

#### 3.5.1 LIMITS OF CONDUCTED SPURIOUS EMISSIONS MEASUREMENT

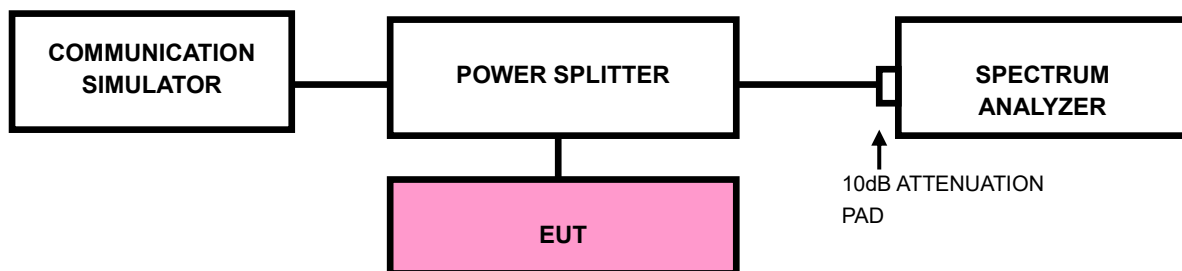
For: LTE Band7C/Band38C

The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least  $55 + 10 \log_{10}(P)$  dB. The limit of emission is equal to -25dBm.

#### 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.: W7L-P23030004RF07**

### 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 Of this test report.

### 3.6 RADIATED EMISSION MEASUREMENT

#### 3.6.1 LIMITS OF RADIATED EMISSION MEASUREMENT

For: LTE Band7C/ Band38C

The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least  $55 + 10 \log_{10}(P)$  dB. The limit of emission is equal to -25dBm.

#### 3.6.2 TEST PROCEDURES

- 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.
- 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.
- $EIRP = \text{Output power level of S.G} - \text{TX cable loss} + \text{Antenna gain of substitution horn.}$
- E.R.P power can be calculated form E.I.R.P power by subtracting the gain of dipole,  $E.R.P \text{ power} = E.I.P.R \text{ power} - 2.15\text{dBi.}$

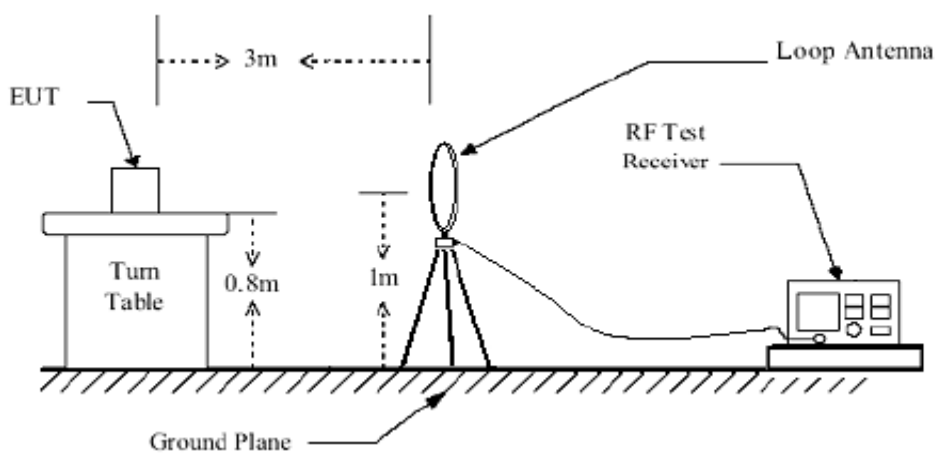
**NOTE:** The resolution bandwidth of spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz.

#### 3.6.3 DEVIATION FROM TEST STANDARD

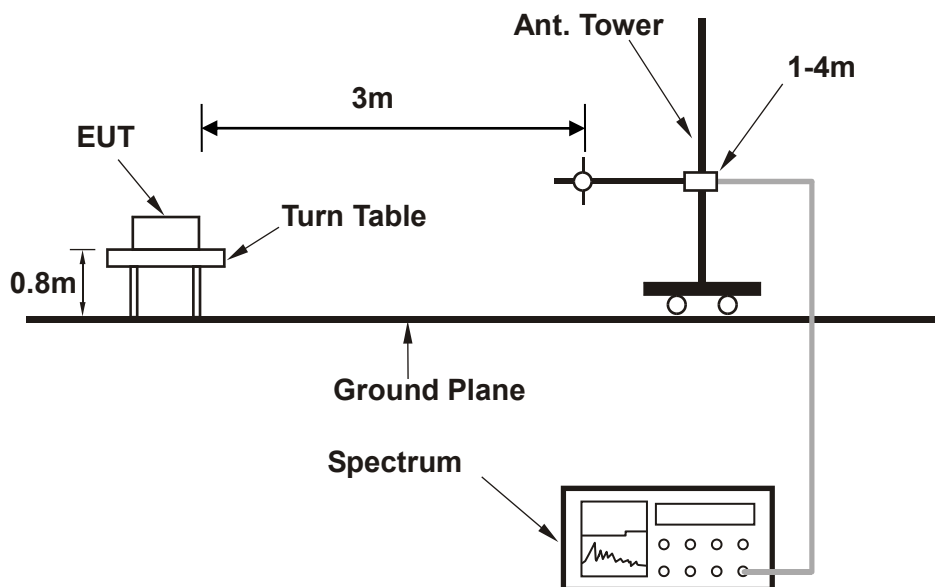
No deviation

### 3.6.4 TEST SETUP

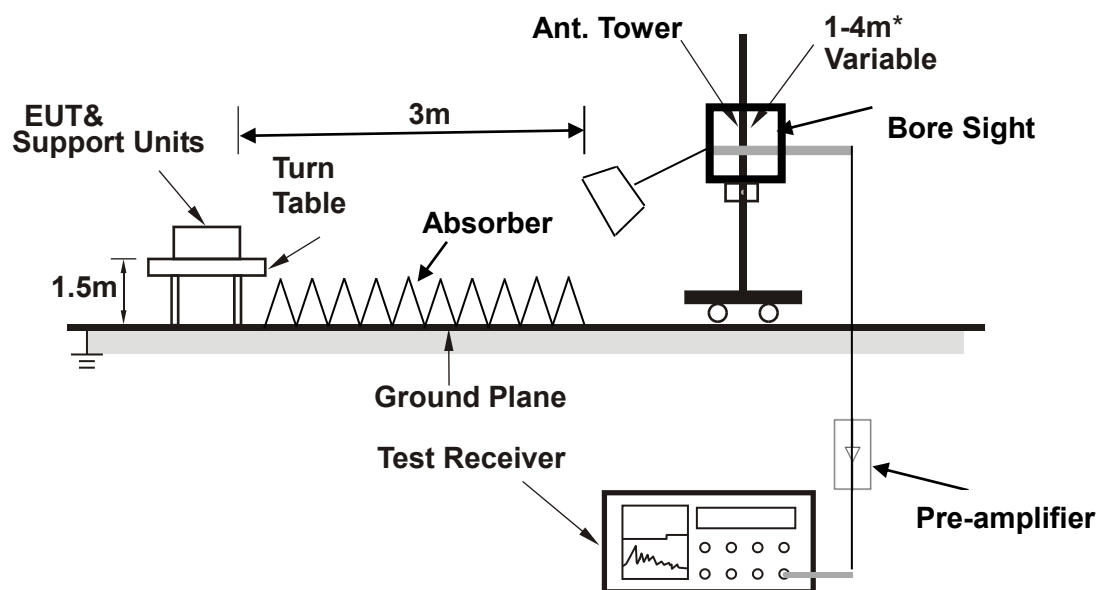
#### < Frequency Range below 30MHz >



#### < 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

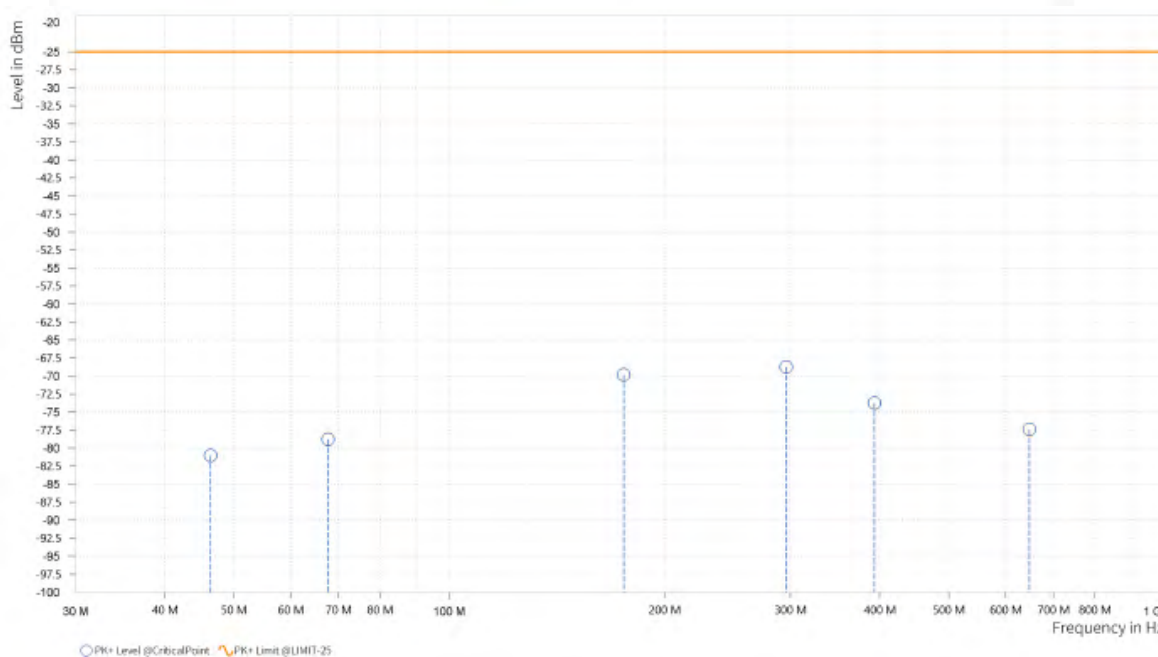
30 MHz – 1GHz data:

LTE Band CA\_7C (Ant4)

CHANNEL BANDWIDTH: (20+20) MHz / QPSK

|                                                     |                      |                 |               |
|-----------------------------------------------------|----------------------|-----------------|---------------|
| MODE                                                | TX channel PCC 21001 | FREQUENCY RANGE | Above 1000MHz |
|                                                     | TX channel SCC 21199 |                 |               |
| 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  | 46.350          | -81.03          | -25.00          | 56.03           | -5.52           | H            | 354.9         | 2                  |
| 1  | 67.700          | -78.77          | -25.00          | 53.77           | -7.88           | H            | 176.4         | 2                  |
| 1  | 175.450         | -69.82          | -25.00          | 44.82           | -11.16          | H            | 176.4         | 2                  |
| 1  | 295.950         | -68.73          | -25.00          | 43.73           | -4.84           | H            | 335.4         | 1                  |
| 1  | 393.600         | -73.75          | -25.00          | 48.75           | -2.74           | H            | 183.6         | 1                  |
| 2  | 648.092         | -77.41          | -25.00          | 52.41           | 0.82            | H            | 1             | 2                  |



|                                                   |                      |                 |               |
|---------------------------------------------------|----------------------|-----------------|---------------|
| MODE                                              | TX channel PCC 21001 | FREQUENCY RANGE | Above 1000MHz |
|                                                   | TX channel SCC 21199 |                 |               |
| 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  | 67.100          | -76.21          | -25.00          | 51.21           | -6.54           | V            | 25.8          | 2                  |
| 1  | 125.000         | -78.37          | -25.00          | 53.37           | -9.65           | V            | 355.5         | 2                  |
| 1  | 174.550         | -75.39          | -25.00          | 50.39           | -10.56          | V            | 336.6         | 1                  |
| 1  | 295.500         | -73.55          | -25.00          | 48.55           | -6.22           | V            | 176.4         | 2                  |
| 1  | 390.000         | -75.50          | -25.00          | 50.50           | -2.84           | V            | 183.7         | 1                  |
| 2  | 755.846         | -76.85          | -25.00          | 51.85           | 2.13            | V            | 102.2         | 2                  |



# ABOVE 1GHz

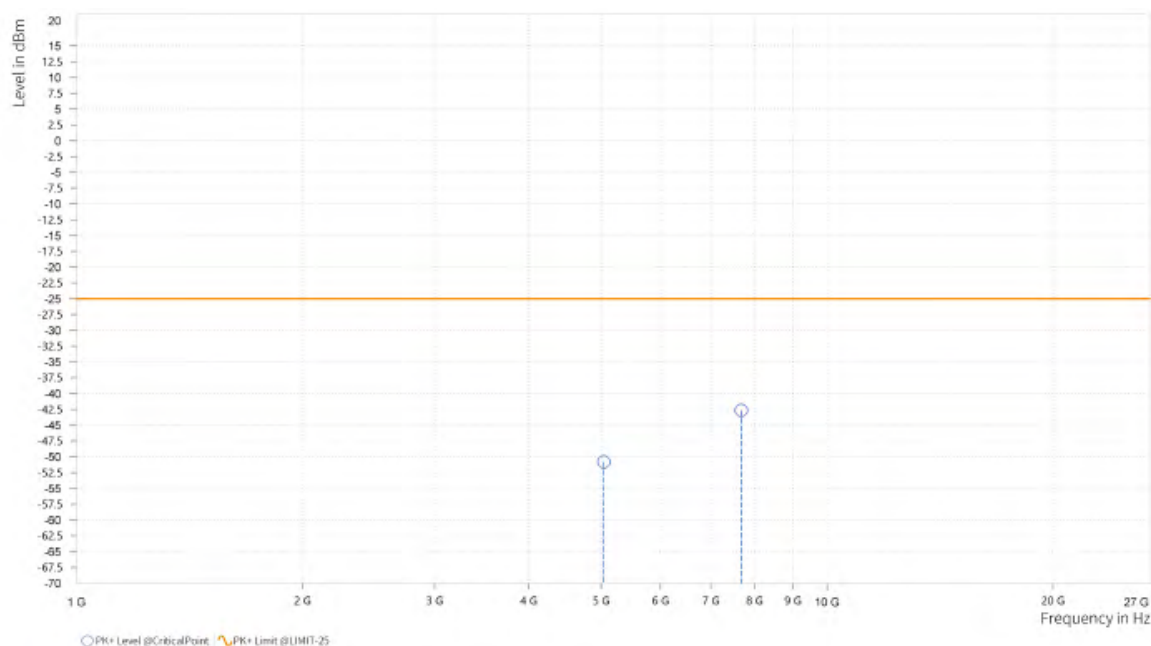
**Note:** For higher frequency, the emission is too low to be detected.

## LTE Band CA\_7C(Ant4)

### CHANNEL BANDWIDTH: 20MHz + 20MHz

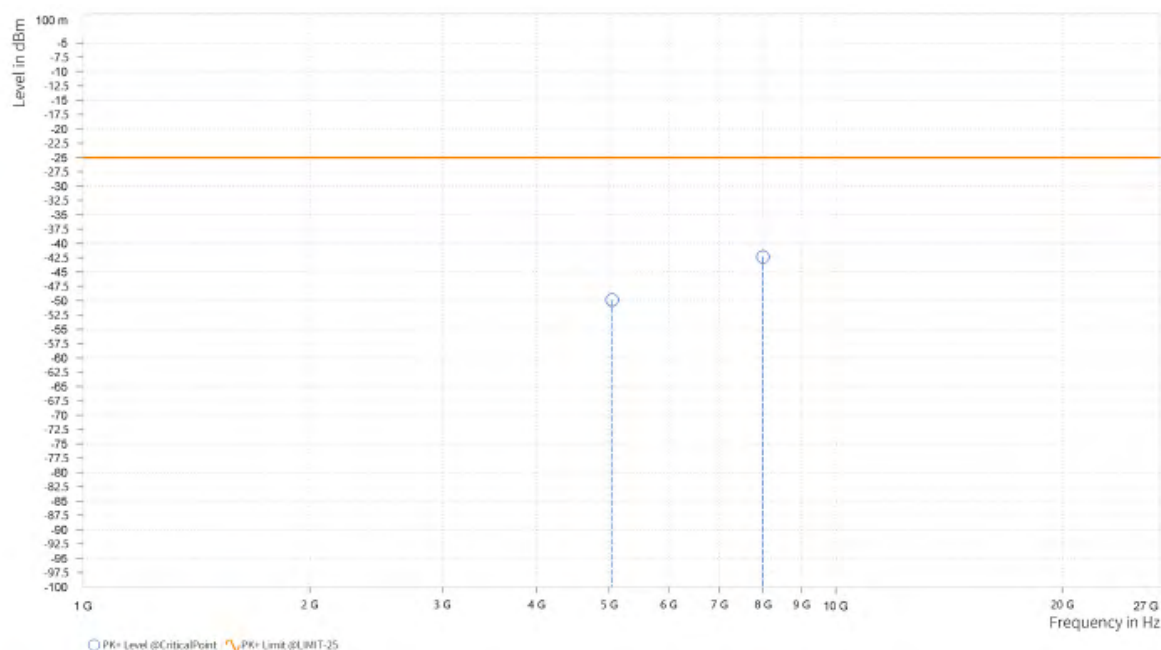
|                                                     |                      |                 |               |
|-----------------------------------------------------|----------------------|-----------------|---------------|
| MODE                                                | TX channel PCC 20850 | FREQUENCY RANGE | Above 1000MHz |
|                                                     | TX channel SCC 21048 |                 |               |
| 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] |
|----|-----------------|-----------------|-----------------|-----------------|-----------------|--------------|---------------|--------------------|
| 4  | 5,041.500       | -50.82          | -25.00          | 25.82           | 26.83           | H            | 359           | 2                  |
| 5  | 7,687.000       | -42.66          | -25.00          | 17.66           | 34.00           | H            | 0.9           | 2                  |



|                                                   |                      |                 |               |
|---------------------------------------------------|----------------------|-----------------|---------------|
| MODE                                              | TX channel PCC 20850 | FREQUENCY RANGE | Above 1000MHz |
|                                                   | TX channel SCC 21048 |                 |               |
| 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] |
|----|-----------------|-----------------|-----------------|-----------------|-----------------|--------------|---------------|--------------------|
| 4  | 5,042.000       | -49.88          | -25.00          | 24.88           | 26.66           | V            | 1             | 2                  |
| 5  | 7,998.000       | -42.38          | -25.00          | 17.38           | 34.67           | V            | 1             | 1                  |





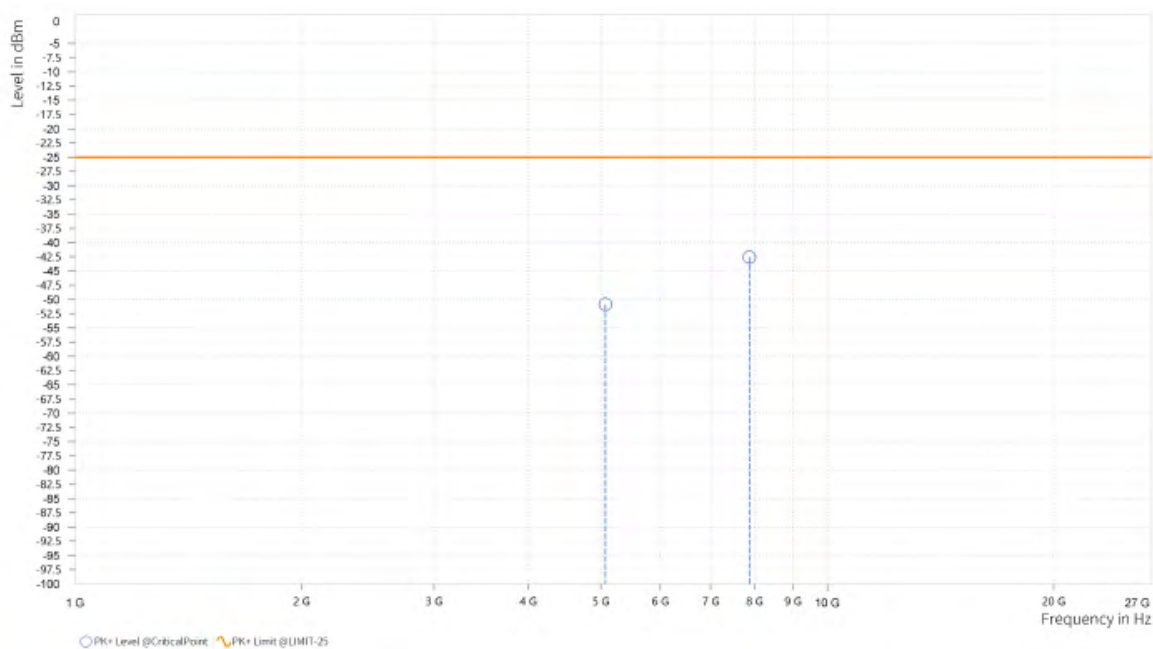
**BUREAU  
VERITAS**

Test Report No.: W7L-P23030004RF07

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

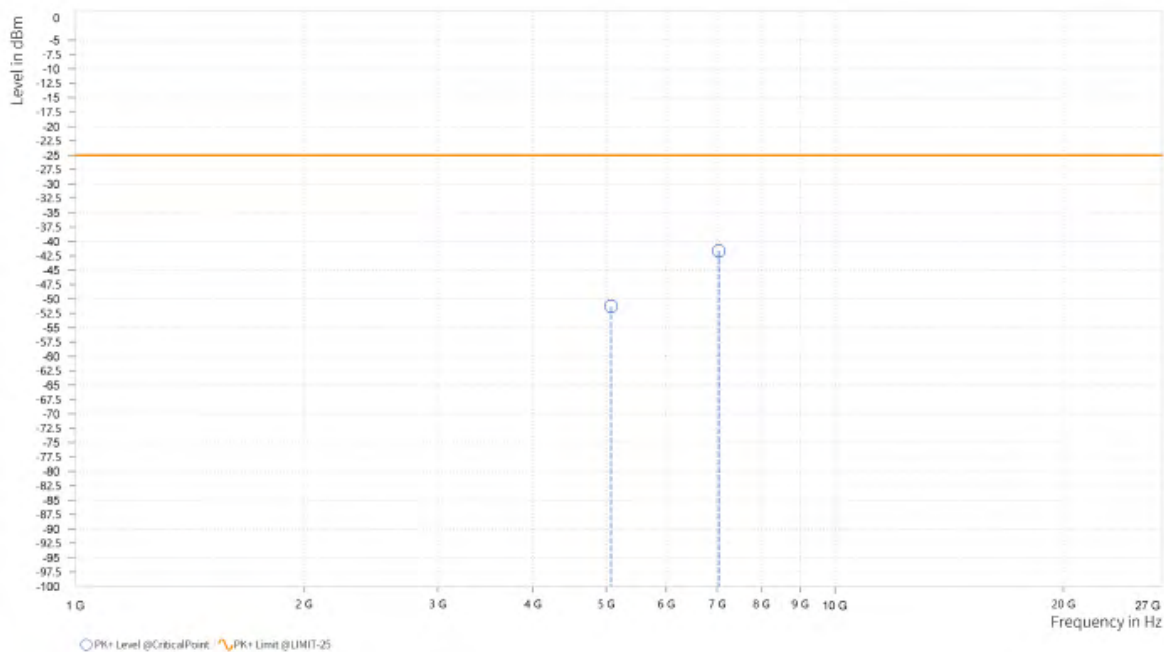
|                                                     |                      |                 |               |
|-----------------------------------------------------|----------------------|-----------------|---------------|
| MODE                                                | TX channel PCC 21001 | FREQUENCY RANGE | Above 1000MHz |
|                                                     | TX channel SCC 21199 |                 |               |
| 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] |
|----|-----------------|-----------------|-----------------|-----------------|-----------------|--------------|---------------|--------------------|
| 4  | 5,071.500       | -50.88          | -25.00          | 25.88           | 26.96           | H            | 359           | 2                  |
| 5  | 7,877.500       | -42.61          | -25.00          | 17.61           | 34.04           | H            | 87.8          | 2                  |



|                                                   |                      |                 |               |
|---------------------------------------------------|----------------------|-----------------|---------------|
| MODE                                              | TX channel PCC 21001 | FREQUENCY RANGE | Above 1000MHz |
|                                                   | TX channel SCC 21199 |                 |               |
| 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] |
|----|-----------------|-----------------|-----------------|-----------------|-----------------|--------------|---------------|--------------------|
| 4  | 5,072.500       | -51.29          | -25.00          | 26.29           | 26.93           | V            | 359           | 2                  |
| 5  | 7,033.000       | -41.69          | -25.00          | 16.69           | 33.00           | V            | 359           | 2                  |





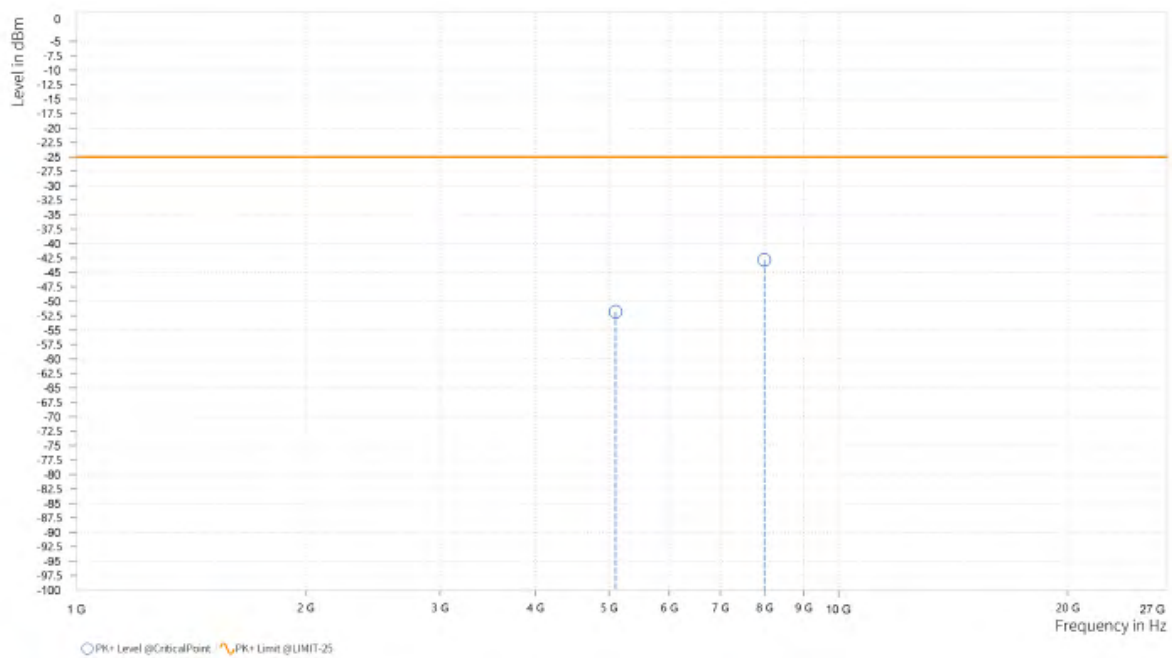
**BUREAU  
VERITAS**

Test Report No.: W7L-P23030004RF07

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

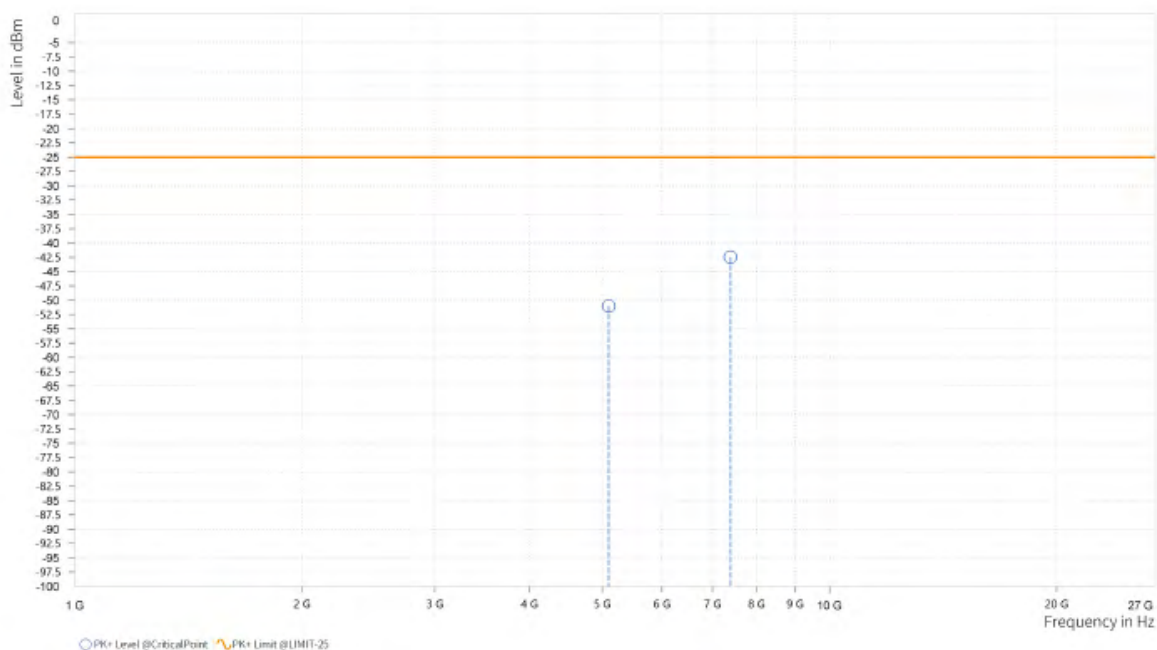
|                                                     |                      |                 |               |
|-----------------------------------------------------|----------------------|-----------------|---------------|
| MODE                                                | TX channel PCC 21152 | FREQUENCY RANGE | Above 1000MHz |
|                                                     | TX channel SCC 21350 |                 |               |
| 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] |
|----|-----------------|-----------------|-----------------|-----------------|-----------------|--------------|---------------|--------------------|
| 4  | 5,102.000       | -51.84          | -25.00          | 26.84           | 27.19           | H            | 1             | 2                  |
| 5  | 7,994.000       | -42.82          | -25.00          | 17.82           | 34.44           | H            | 359           | 2                  |



|                                                   |                      |                 |               |
|---------------------------------------------------|----------------------|-----------------|---------------|
| MODE                                              | TX channel PCC 21152 | FREQUENCY RANGE | Above 1000MHz |
|                                                   | TX channel SCC 21350 |                 |               |
| 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] |
|----|-----------------|-----------------|-----------------|-----------------|-----------------|--------------|---------------|--------------------|
| 4  | 5,102.000       | -51.03          | -25.00          | 26.03           | 27.29           | V            | 0.9           | 2                  |
| 5  | 7,392.000       | -42.49          | -25.00          | 17.49           | 33.72           | V            | 0.9           | 2                  |

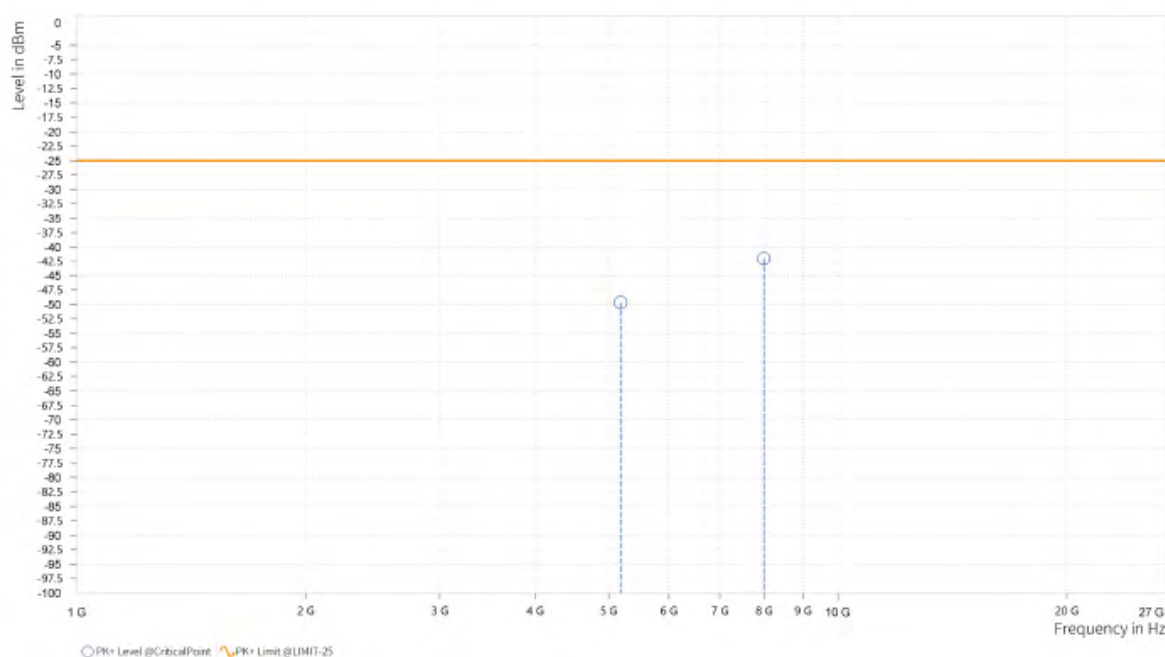


LTE CA\_38C (Ant0)

CHANNEL BANDWIDTH: 20MHz + 20MHz

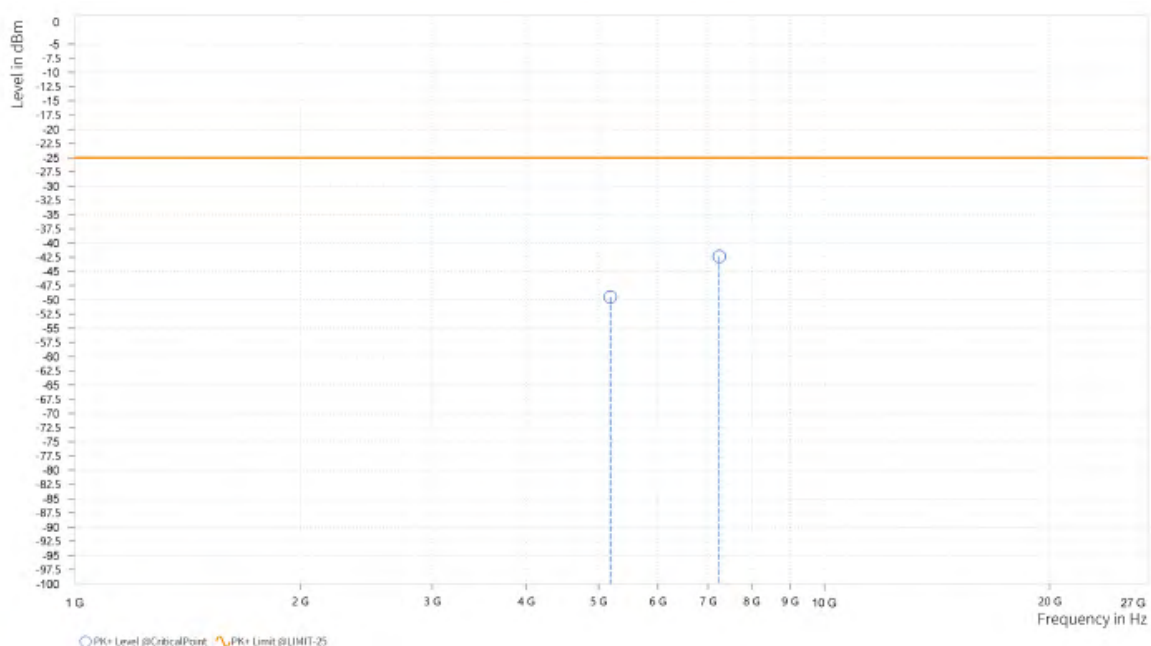
|                                                     |                      |                 |               |
|-----------------------------------------------------|----------------------|-----------------|---------------|
| MODE                                                | TX channel PCC 37850 | FREQUENCY RANGE | Above 1000MHz |
|                                                     | TX channel SCC 38048 |                 |               |
| 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] |
|----|-----------------|-----------------|-----------------|-----------------|-----------------|--------------|---------------|--------------------|
| 4  | 5,181.500       | -49.70          | -25.00          | 24.70           | 27.57           | H            | 175.1         | 2                  |
| 5  | 7,995.000       | -42.01          | -25.00          | 17.01           | 34.44           | H            | 359           | 1                  |



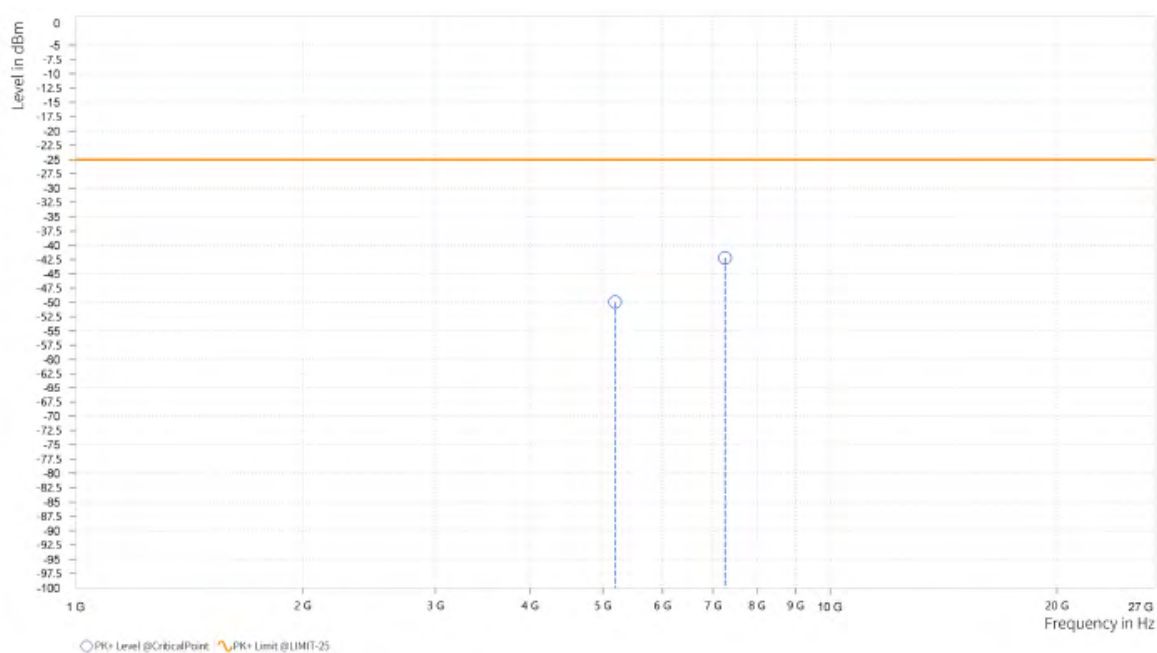
|                                                   |                      |                 |               |
|---------------------------------------------------|----------------------|-----------------|---------------|
| MODE                                              | TX channel PCC 37850 | FREQUENCY RANGE | Above 1000MHz |
|                                                   | TX channel SCC 38048 |                 |               |
| 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] |
|----|-----------------|-----------------|-----------------|-----------------|-----------------|--------------|---------------|--------------------|
| 4  | 5,182.000       | -49.51          | -25.00          | 24.51           | 27.37           | V            | 359.1         | 1                  |
| 5  | 7,243.000       | -42.39          | -25.00          | 17.39           | 34.36           | V            | 0.9           | 2                  |



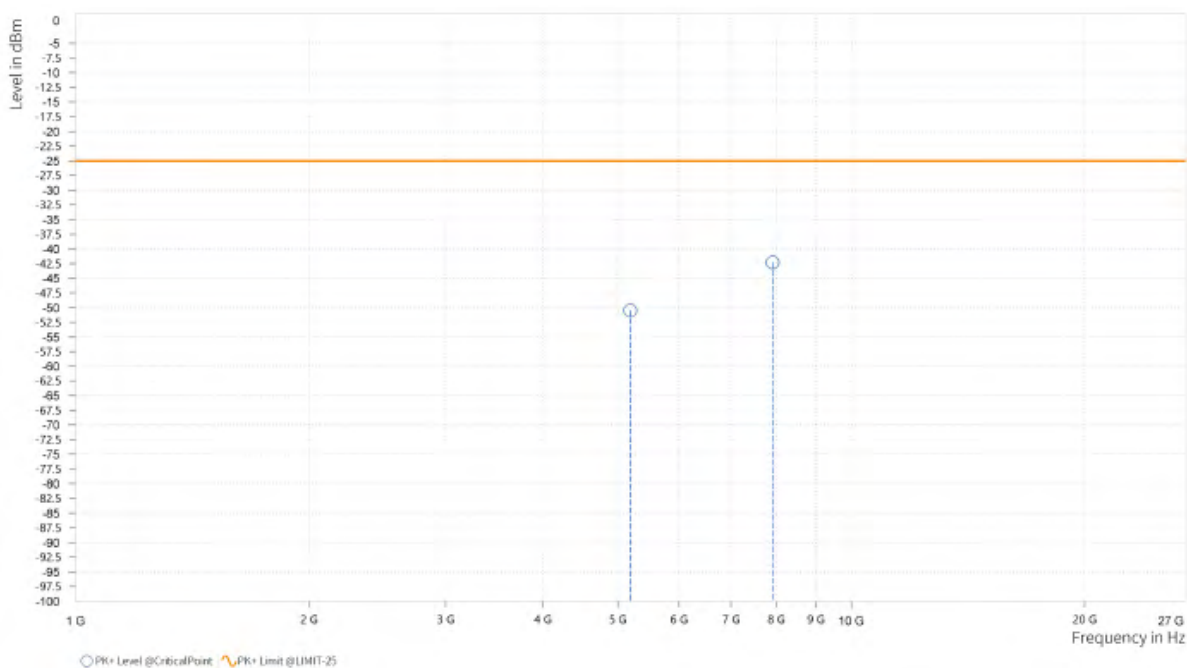
|                                                     |                      |                 |               |
|-----------------------------------------------------|----------------------|-----------------|---------------|
| MODE                                                | TX channel PCC 37901 | FREQUENCY RANGE | Above 1000MHz |
|                                                     | TX channel SCC 38099 |                 |               |
| 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] |
|----|-----------------|-----------------|-----------------|-----------------|-----------------|--------------|---------------|--------------------|
| 4  | 5,191.500       | -49.94          | -25.00          | 24.94           | 27.56           | H            | 173.9         | 2                  |
| 5  | 7,260.500       | -42.21          | -25.00          | 17.21           | 34.08           | H            | 273.3         | 1                  |



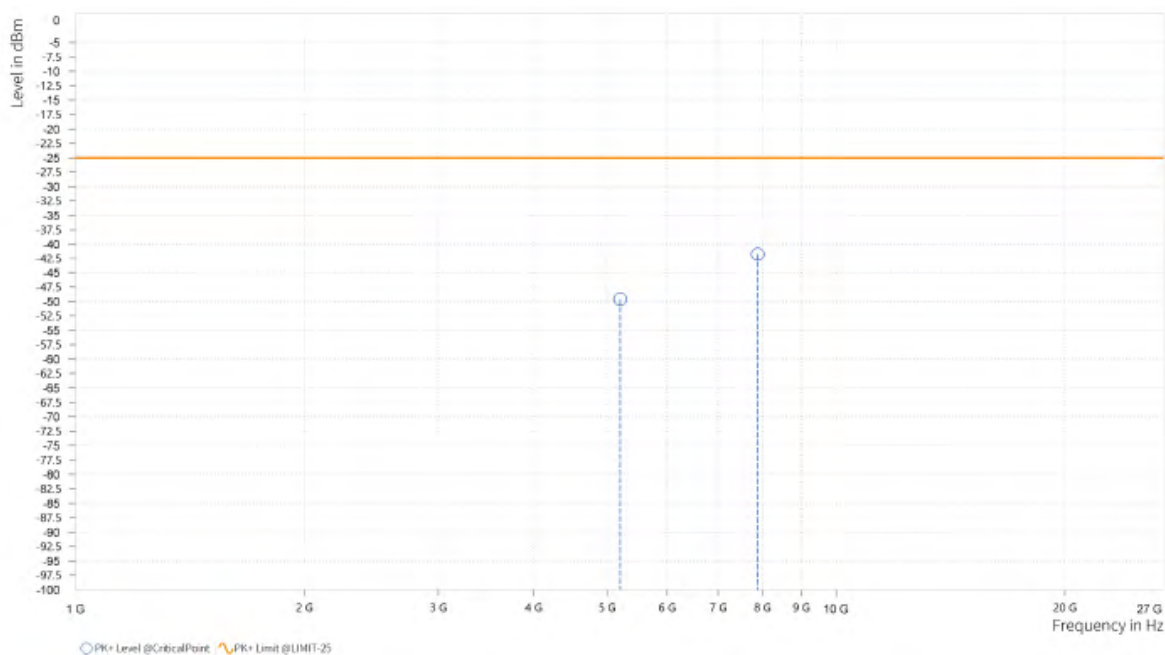
|                                                   |                      |                 |               |
|---------------------------------------------------|----------------------|-----------------|---------------|
| MODE                                              | TX channel PCC 37901 | FREQUENCY RANGE | Above 1000MHz |
|                                                   | TX channel SCC 38099 |                 |               |
| 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] |
|----|-----------------|-----------------|-----------------|-----------------|-----------------|--------------|---------------|--------------------|
| 4  | 5,191.500       | -50.48          | -25.00          | 25.48           | 27.31           | V            | 173.9         | 2                  |
| 5  | 7,919.500       | -42.28          | -25.00          | 17.28           | 34.27           | V            | 359           | 2                  |



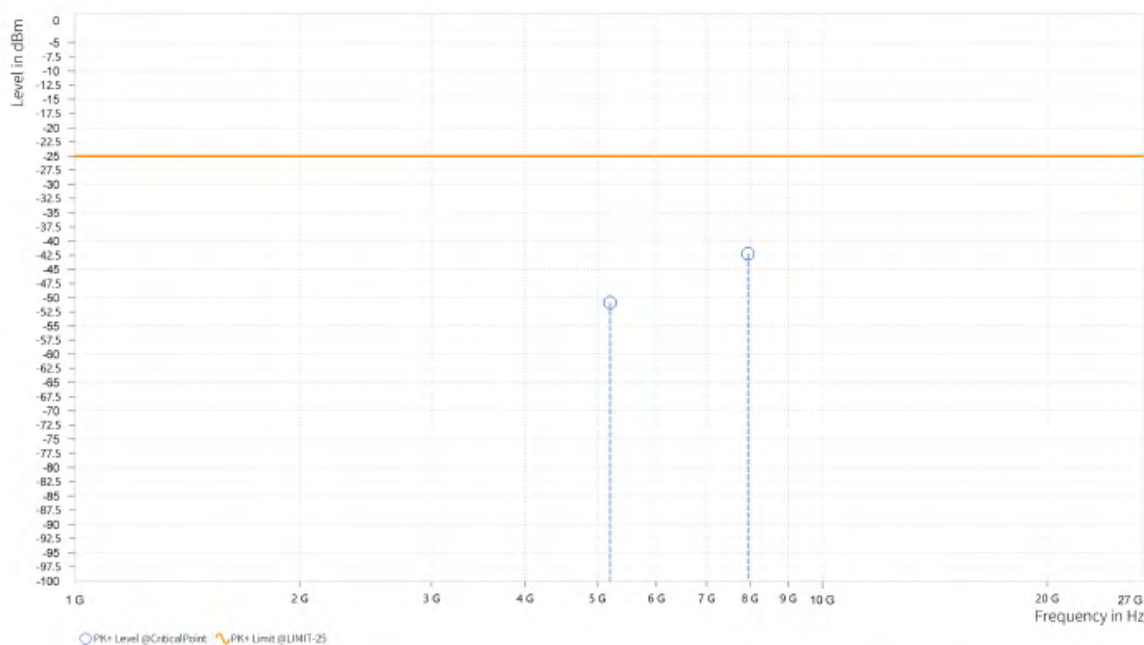
|                                                     |                      |                 |               |
|-----------------------------------------------------|----------------------|-----------------|---------------|
| MODE                                                | TX channel PCC 37952 | FREQUENCY RANGE | Above 1000MHz |
|                                                     | TX channel SCC 38150 |                 |               |
| 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] |
|----|-----------------|-----------------|-----------------|-----------------|-----------------|--------------|---------------|--------------------|
| 4  | 5,200.000       | -49.60          | -25.00          | 24.60           | 27.56           | H            | 184.8         | 1                  |
| 5  | 7,889.000       | -41.74          | -25.00          | 16.74           | 34.08           | H            | 359.1         | 1                  |



|                                                   |                      |                 |               |
|---------------------------------------------------|----------------------|-----------------|---------------|
| MODE                                              | TX channel PCC 37952 | FREQUENCY RANGE | Above 1000MHz |
|                                                   | TX channel SCC 38150 |                 |               |
| 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] |
|----|-----------------|-----------------|-----------------|-----------------|-----------------|--------------|---------------|--------------------|
| 4  | 5,200.000       | -50.88          | -25.00          | 25.88           | 27.26           | V            | 196.9         | 1                  |
| 5  | 7,954.000       | -42.24          | -25.00          | 17.24           | 34.45           | V            | 1             | 1                  |

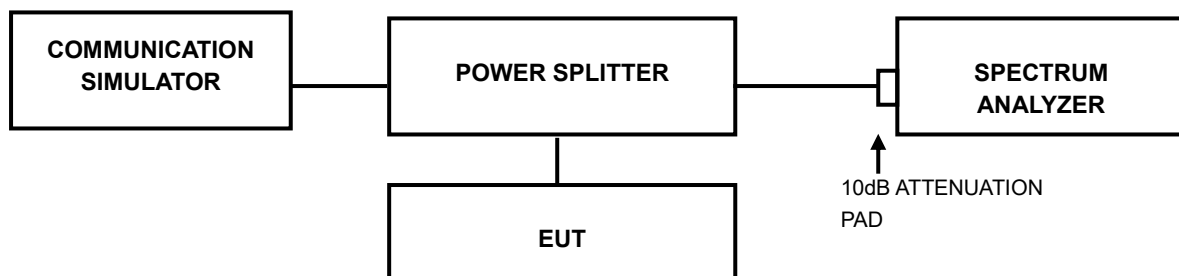


### 3.7 PEAK TO AVERAGE RATIO

#### 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 Of this test report.



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## 4 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@cn.bureauveritas.com](mailto:customerservice.sw@cn.bureauveritas.com)

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

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



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## 5 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.

## 6 APPENDIX

### LTE BAND CA\_7C

### 26DB BANDWIDTH AND OCCUPIED BANDWIDTH

#### Test Result

| Band | Bandwidth   | Modulation  | Channel     | RB Configuration | Occupied Bandwidth (MHz) | 26dB Bandwidth (MHz) | Verdict |
|------|-------------|-------------|-------------|------------------|--------------------------|----------------------|---------|
| 7-7  | 10MHz-20MHz | QPSK-QPSK   | 20805-20949 | 50RB#0-100RB#0   | 28.128                   | 30.14                | PASS    |
| 7-7  | 10MHz-20MHz | QPSK-QPSK   | 21006-21150 | 50RB#0-100RB#0   | 28.125                   | 30.14                | PASS    |
| 7-7  | 10MHz-20MHz | QPSK-QPSK   | 21206-21350 | 50RB#0-100RB#0   | 28.109                   | 30.14                | PASS    |
| 7-7  | 10MHz-20MHz | 16QAM-16QAM | 20805-20949 | 50RB#0-100RB#0   | 28.101                   | 30.16                | PASS    |
| 7-7  | 10MHz-20MHz | 16QAM-16QAM | 21006-21150 | 50RB#0-100RB#0   | 28.110                   | 30.13                | PASS    |
| 7-7  | 10MHz-20MHz | 16QAM-16QAM | 21206-21350 | 50RB#0-100RB#0   | 28.090                   | 30.11                | PASS    |
| 7-7  | 10MHz-20MHz | 64QAM-64QAM | 20805-20949 | 50RB#0-100RB#0   | 28.114                   | 30.15                | PASS    |
| 7-7  | 10MHz-20MHz | 64QAM-64QAM | 21006-21150 | 50RB#0-100RB#0   | 28.132                   | 30.12                | PASS    |
| 7-7  | 10MHz-20MHz | 64QAM-64QAM | 21206-21350 | 50RB#0-100RB#0   | 28.101                   | 30.13                | PASS    |
| 7-7  | 15MHz-10MHz | QPSK-QPSK   | 20825-20945 | 75RB#0-50RB#0    | 23.557                   | 25.53                | PASS    |
| 7-7  | 15MHz-10MHz | QPSK-QPSK   | 21051-21171 | 75RB#0-50RB#0    | 23.593                   | 25.56                | PASS    |
| 7-7  | 15MHz-10MHz | QPSK-QPSK   | 21277-21397 | 75RB#0-50RB#0    | 23.577                   | 25.57                | PASS    |
| 7-7  | 15MHz-10MHz | 16QAM-16QAM | 20825-20945 | 75RB#0-50RB#0    | 23.561                   | 25.54                | PASS    |
| 7-7  | 15MHz-10MHz | 16QAM-16QAM | 21051-21171 | 75RB#0-50RB#0    | 23.590                   | 25.54                | PASS    |
| 7-7  | 15MHz-10MHz | 16QAM-16QAM | 21277-21397 | 75RB#0-50RB#0    | 23.559                   | 25.56                | PASS    |
| 7-7  | 15MHz-10MHz | 64QAM-64QAM | 20825-20945 | 75RB#0-50RB#0    | 23.554                   | 25.51                | PASS    |
| 7-7  | 15MHz-10MHz | 64QAM-64QAM | 21051-21171 | 75RB#0-50RB#0    | 23.594                   | 25.57                | PASS    |
| 7-7  | 15MHz-10MHz | 64QAM-64QAM | 21277-21397 | 75RB#0-50RB#0    | 23.567                   | 25.56                | PASS    |
| 7-7  | 15MHz-15MHz | QPSK-QPSK   | 20825-20975 | 75RB#0-75RB#0    | 28.693                   | 30.84                | PASS    |
| 7-7  | 15MHz-15MHz | QPSK-QPSK   | 21025-21175 | 75RB#0-75RB#0    | 28.712                   | 30.84                | PASS    |
| 7-7  | 15MHz-15MHz | QPSK-QPSK   | 21225-21375 | 75RB#0-75RB#0    | 28.716                   | 30.83                | PASS    |
| 7-7  | 15MHz-15MHz | 16QAM-16QAM | 20825-20975 | 75RB#0-75RB#0    | 28.677                   | 30.82                | PASS    |
| 7-7  | 15MHz-15MHz | 16QAM-16QAM | 21025-21175 | 75RB#0-75RB#0    | 28.711                   | 30.81                | PASS    |
| 7-7  | 15MHz-15MHz | 16QAM-16QAM | 21225-21375 | 75RB#0-75RB#0    | 28.699                   | 30.81                | PASS    |
| 7-7  | 15MHz-15MHz | 64QAM-64QAM | 20825-20975 | 75RB#0-75RB#0    | 28.679                   | 30.83                | PASS    |
| 7-7  | 15MHz-15MHz | 64QAM-64QAM | 21025-21175 | 75RB#0-75RB#0    | 28.693                   | 30.83                | PASS    |
| 7-7  | 15MHz-15MHz | 64QAM-64QAM | 21225-21375 | 75RB#0-75RB#0    | 28.684                   | 30.82                | PASS    |
| 7-7  | 15MHz-20MHz | QPSK-QPSK   | 20825-20945 | 75RB#0-100RB#0   | 32.949                   | 35.18                | PASS    |
| 7-7  | 15MHz-20MHz | QPSK-QPSK   | 21051-21171 | 75RB#0-100RB#0   | 32.987                   | 35.13                | PASS    |
| 7-7  | 15MHz-20MHz | QPSK-QPSK   | 21277-21397 | 75RB#0-100RB#0   | 32.974                   | 35.21                | PASS    |
| 7-7  | 15MHz-20MHz | 16QAM-16QAM | 20825-20945 | 75RB#0-100RB#0   | 32.930                   | 35.16                | PASS    |
| 7-7  | 15MHz-20MHz | 16QAM-16QAM | 21051-21171 | 75RB#0-100RB#0   | 32.950                   | 35.11                | PASS    |
| 7-7  | 15MHz-20MHz | 16QAM-16QAM | 21277-21397 | 75RB#0-100RB#0   | 32.990                   | 35.22                | PASS    |
| 7-7  | 15MHz-20MHz | 64QAM-64QAM | 20825-20945 | 75RB#0-100RB#0   | 32.926                   | 35.17                | PASS    |
| 7-7  | 15MHz-20MHz | 64QAM-64QAM | 21051-21171 | 75RB#0-100RB#0   | 32.961                   | 35.15                | PASS    |
| 7-7  | 15MHz-20MHz | 64QAM-64QAM | 21277-21397 | 75RB#0-100RB#0   | 32.988                   | 35.23                | PASS    |
| 7-7  | 20MHz-10MHz | QPSK-QPSK   | 20850-20994 | 100RB#0-50RB#0   | 28.101                   | 30.15                | PASS    |
| 7-7  | 20MHz-10MHz | QPSK-QPSK   | 21051-21195 | 100RB#0-50RB#0   | 28.156                   | 30.20                | PASS    |



**BUREAU**  
**VERITAS**

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|     |             |             |             |                 |        |       |      |
|-----|-------------|-------------|-------------|-----------------|--------|-------|------|
| 7-7 | 20MHz-10MHz | QPSK-QPSK   | 21251-21395 | 100RB#0-50RB#0  | 28.132 | 30.18 | PASS |
| 7-7 | 20MHz-10MHz | 16QAM-16QAM | 20850-20994 | 100RB#0-50RB#0  | 28.128 | 30.15 | PASS |
| 7-7 | 20MHz-10MHz | 16QAM-16QAM | 21051-21195 | 100RB#0-50RB#0  | 28.170 | 30.19 | PASS |
| 7-7 | 20MHz-10MHz | 16QAM-16QAM | 21251-21395 | 100RB#0-50RB#0  | 28.137 | 30.18 | PASS |
| 7-7 | 20MHz-10MHz | 64QAM-64QAM | 20850-20994 | 100RB#0-50RB#0  | 28.118 | 30.16 | PASS |
| 7-7 | 20MHz-10MHz | 64QAM-64QAM | 21051-21195 | 100RB#0-50RB#0  | 28.165 | 30.17 | PASS |
| 7-7 | 20MHz-10MHz | 64QAM-64QAM | 21251-21395 | 100RB#0-50RB#0  | 28.150 | 30.18 | PASS |
| 7-7 | 20MHz-15MHz | QPSK-QPSK   | 20850-21021 | 100RB#0-75RB#0  | 32.952 | 35.19 | PASS |
| 7-7 | 20MHz-15MHz | QPSK-QPSK   | 21026-21197 | 100RB#0-75RB#0  | 32.998 | 35.24 | PASS |
| 7-7 | 20MHz-15MHz | QPSK-QPSK   | 21201-21372 | 100RB#0-75RB#0  | 32.982 | 35.23 | PASS |
| 7-7 | 20MHz-15MHz | 16QAM-16QAM | 20850-21021 | 100RB#0-75RB#0  | 32.927 | 35.15 | PASS |
| 7-7 | 20MHz-15MHz | 16QAM-16QAM | 21026-21197 | 100RB#0-75RB#0  | 32.977 | 35.20 | PASS |
| 7-7 | 20MHz-15MHz | 16QAM-16QAM | 21201-21372 | 100RB#0-75RB#0  | 32.962 | 35.19 | PASS |
| 7-7 | 20MHz-15MHz | 64QAM-64QAM | 20850-21021 | 100RB#0-75RB#0  | 32.937 | 35.16 | PASS |
| 7-7 | 20MHz-15MHz | 64QAM-64QAM | 21026-21197 | 100RB#0-75RB#0  | 32.987 | 35.20 | PASS |
| 7-7 | 20MHz-15MHz | 64QAM-64QAM | 21201-21372 | 100RB#0-75RB#0  | 32.976 | 35.21 | PASS |
| 7-7 | 20MHz-20MHz | QPSK-QPSK   | 20850-21048 | 100RB#0-100RB#0 | 37.805 | 40.16 | PASS |
| 7-7 | 20MHz-20MHz | QPSK-QPSK   | 21001-21199 | 100RB#0-100RB#0 | 37.844 | 40.14 | PASS |
| 7-7 | 20MHz-20MHz | QPSK-QPSK   | 21152-21350 | 100RB#0-100RB#0 | 37.821 | 40.15 | PASS |
| 7-7 | 20MHz-20MHz | 16QAM-16QAM | 20850-21048 | 100RB#0-100RB#0 | 37.791 | 40.13 | PASS |
| 7-7 | 20MHz-20MHz | 16QAM-16QAM | 21001-21199 | 100RB#0-100RB#0 | 37.819 | 40.15 | PASS |
| 7-7 | 20MHz-20MHz | 16QAM-16QAM | 21152-21350 | 100RB#0-100RB#0 | 37.806 | 40.14 | PASS |
| 7-7 | 20MHz-20MHz | 64QAM-64QAM | 20850-21048 | 100RB#0-100RB#0 | 37.789 | 40.14 | PASS |
| 7-7 | 20MHz-20MHz | 64QAM-64QAM | 21001-21199 | 100RB#0-100RB#0 | 37.822 | 40.15 | PASS |
| 7-7 | 20MHz-20MHz | 64QAM-64QAM | 21152-21350 | 100RB#0-100RB#0 | 37.820 | 40.16 | PASS |

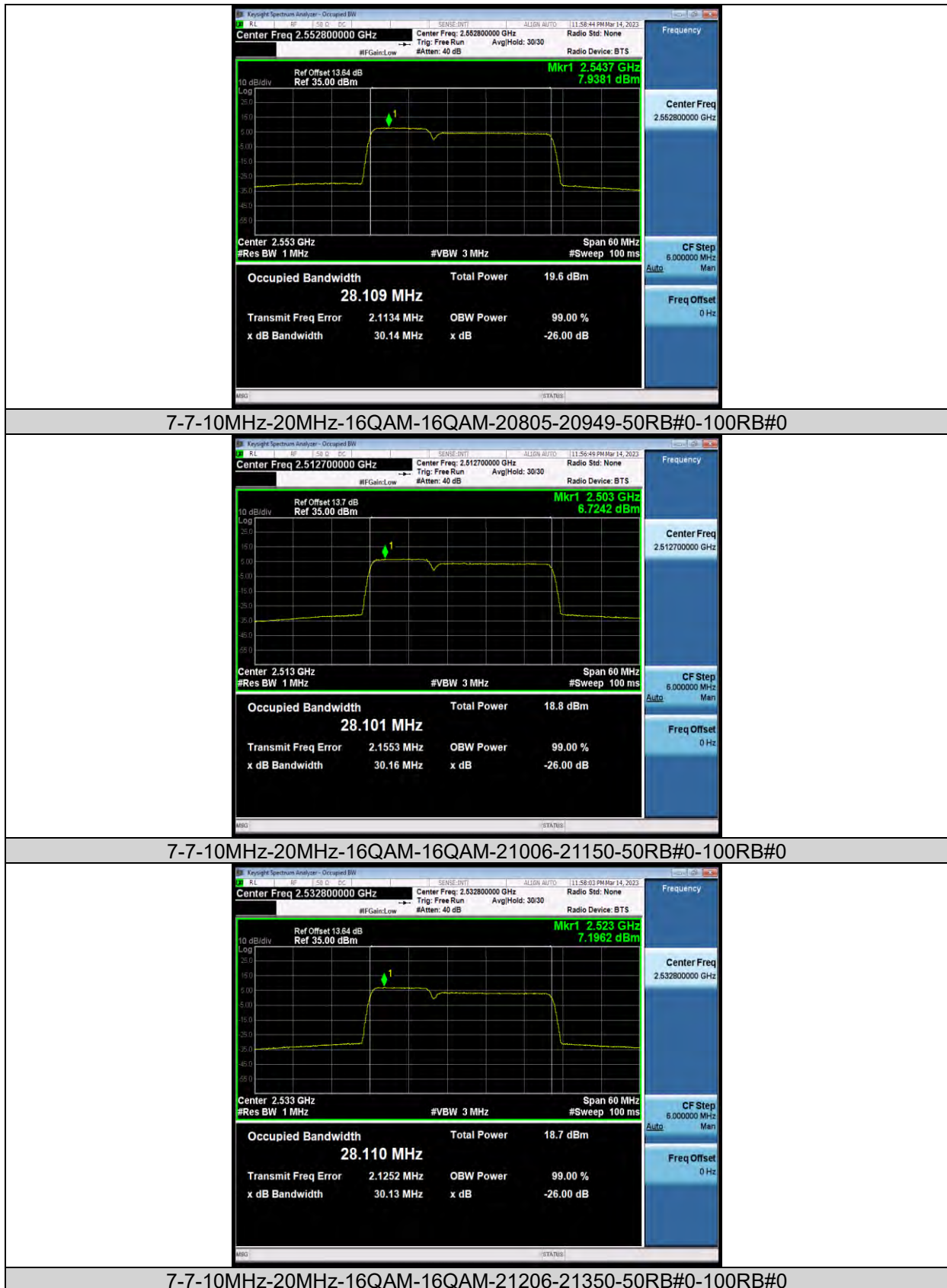
## Test Graphs





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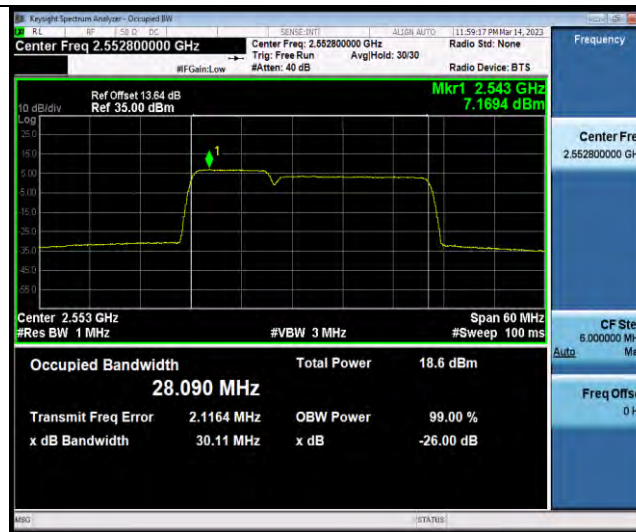
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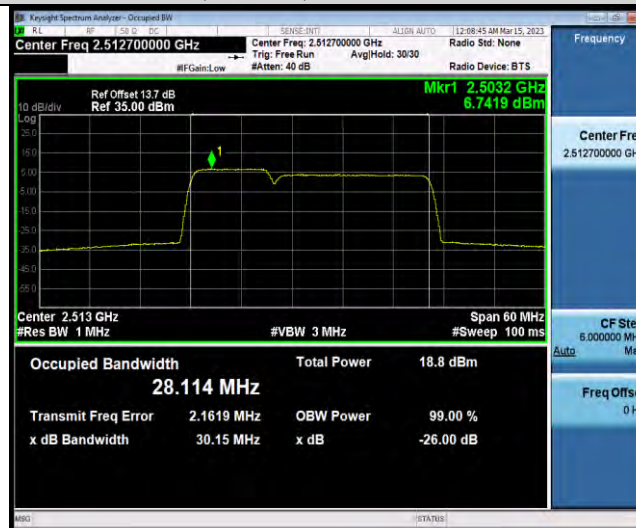


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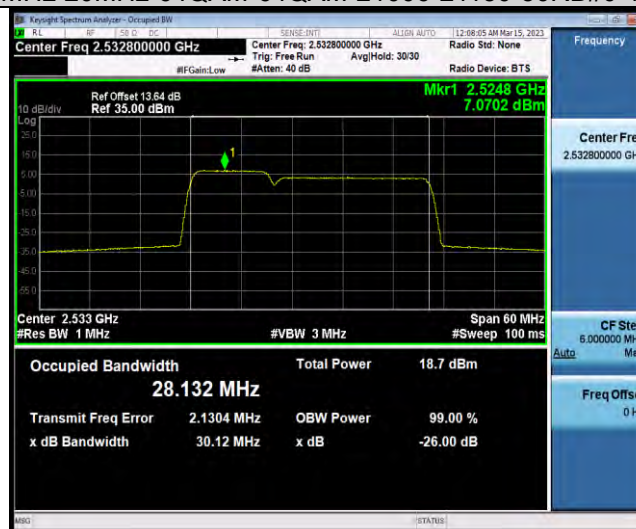
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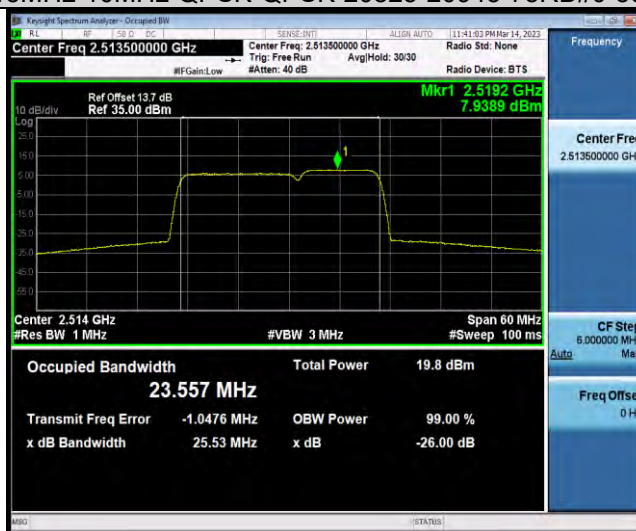


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## Test Report No.: W7L-P23030004RF07



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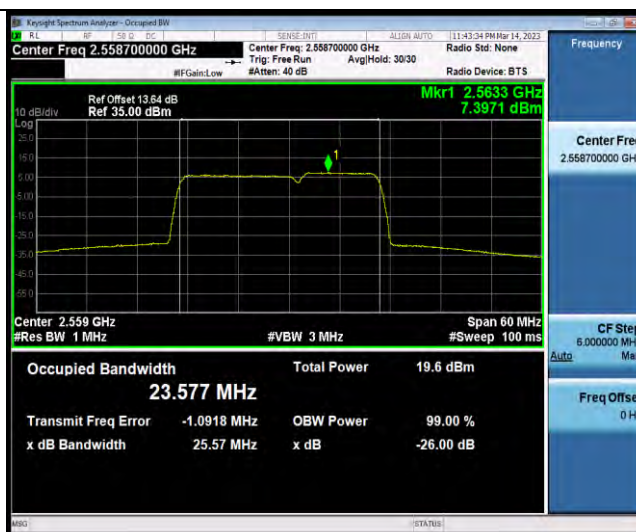


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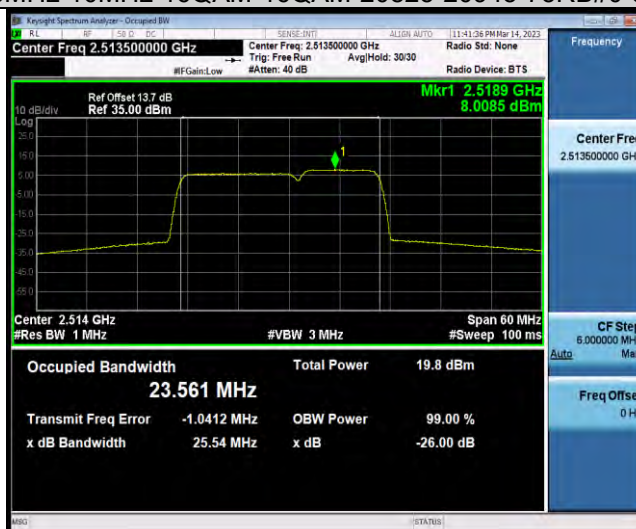


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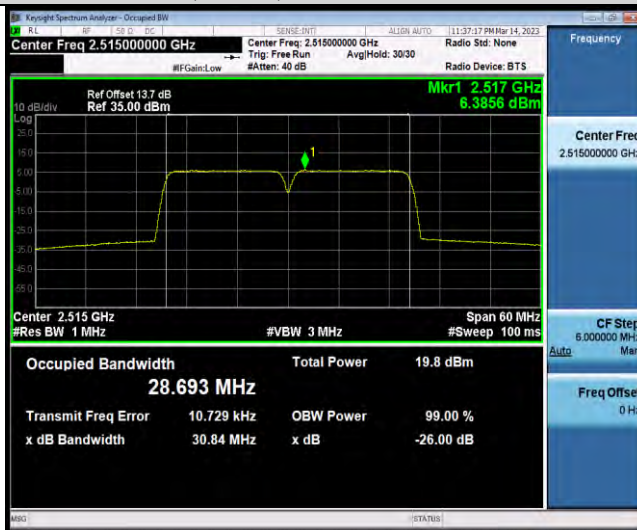
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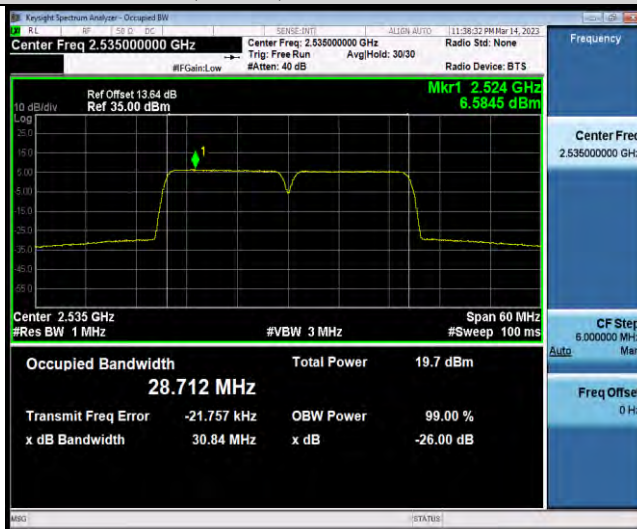
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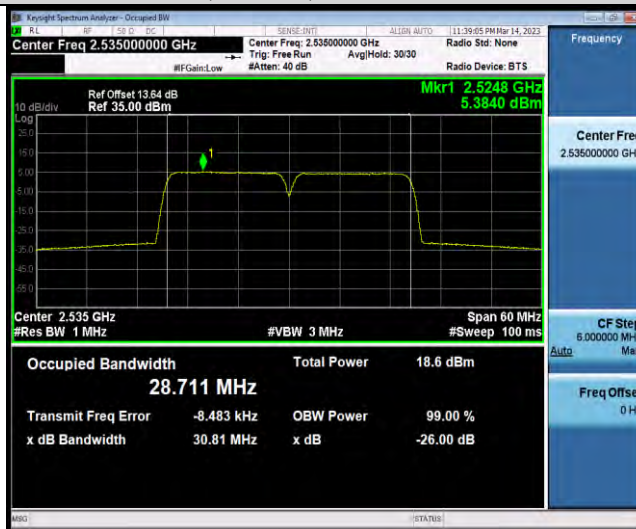
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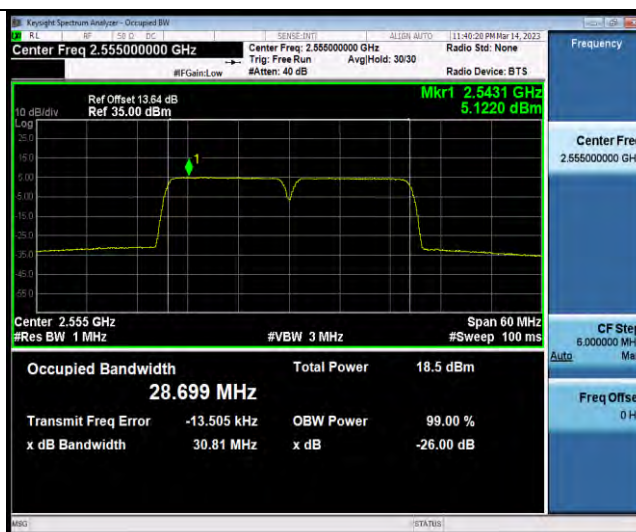


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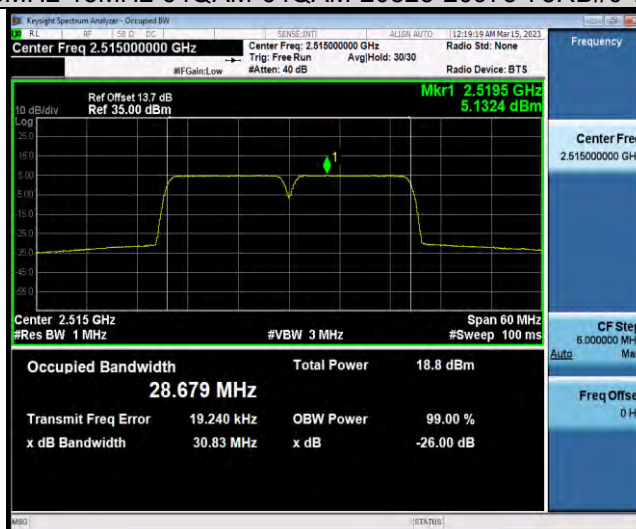


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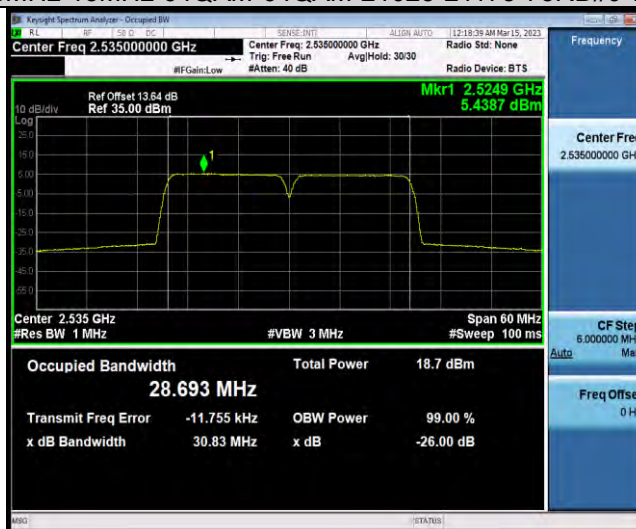
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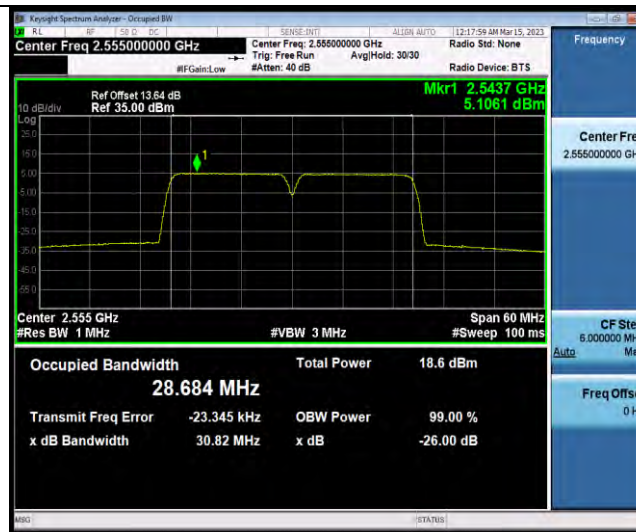


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## Test Report No.: W7L-P23030004RF07



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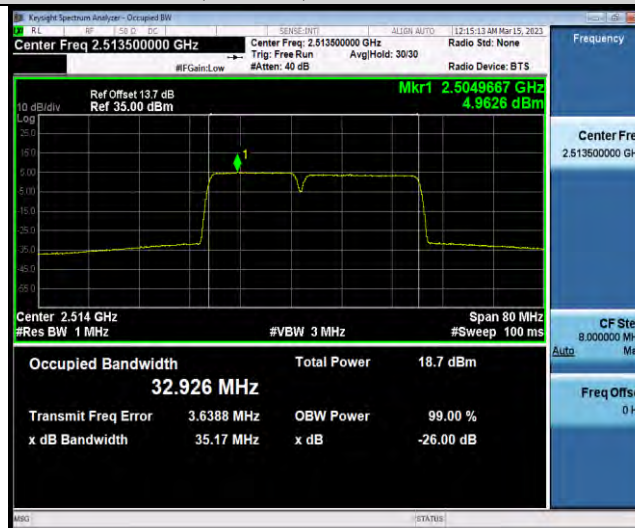


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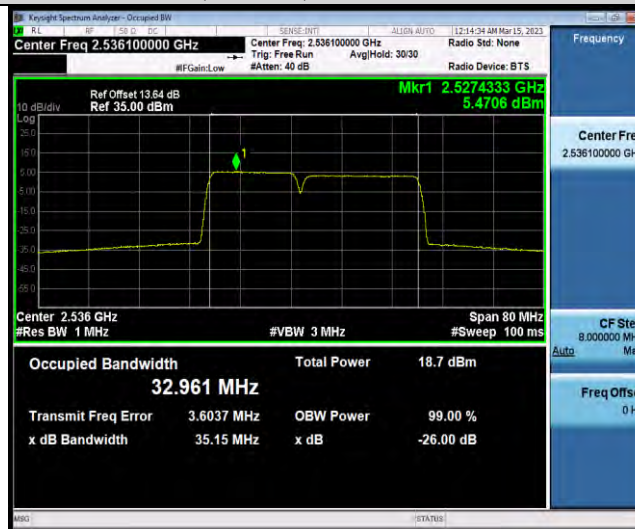
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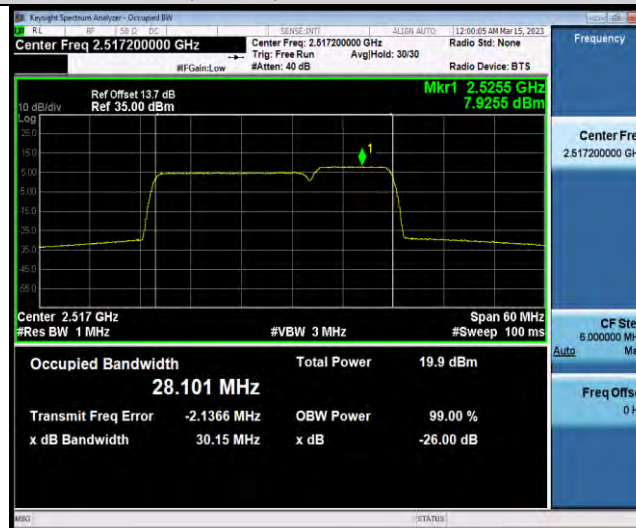


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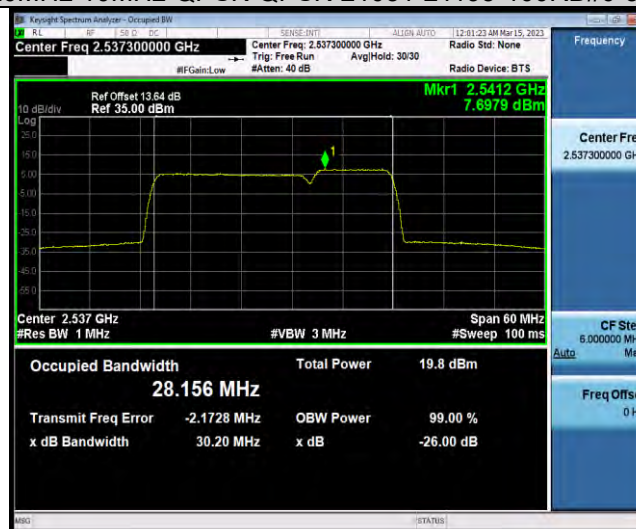
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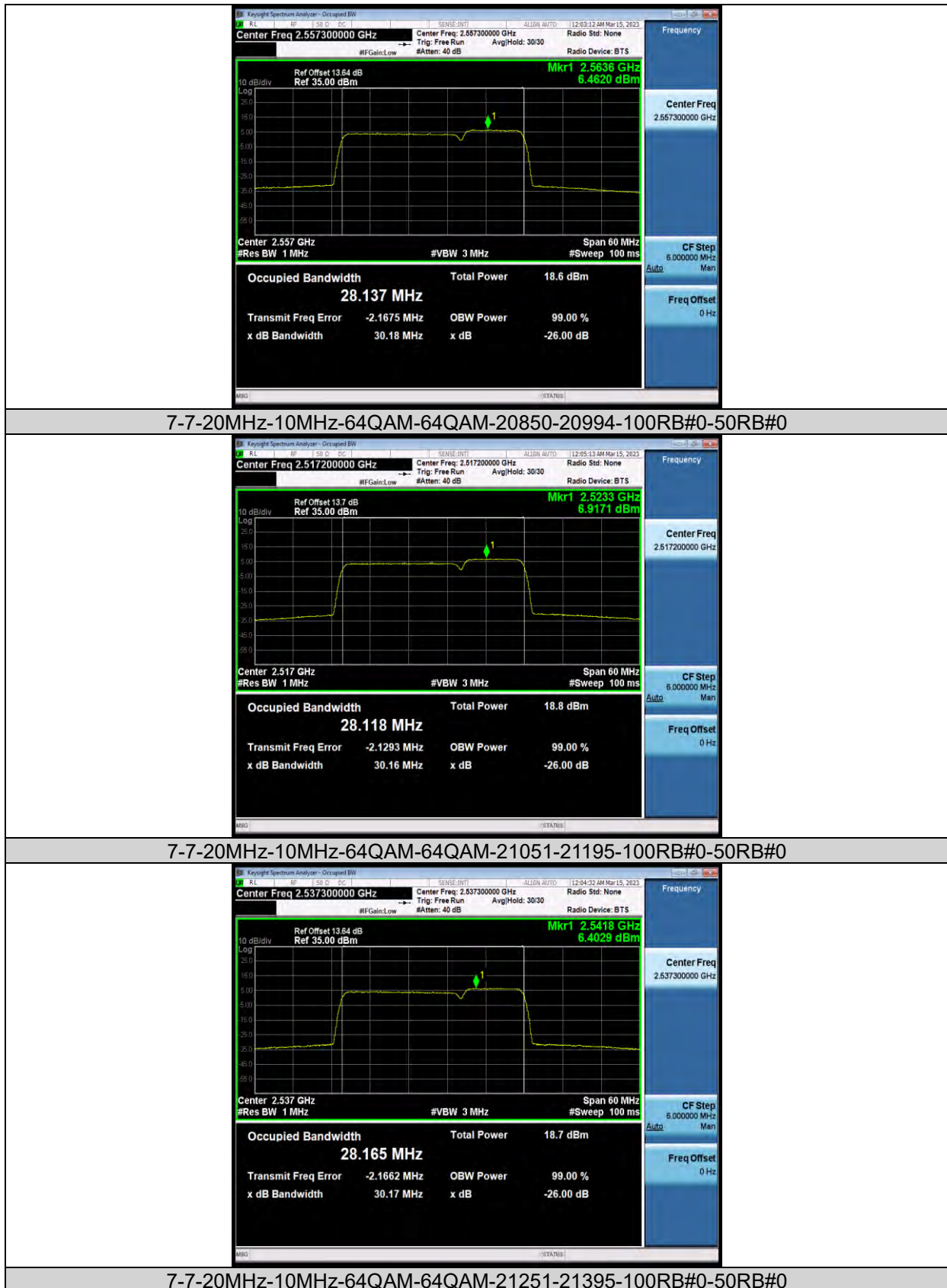


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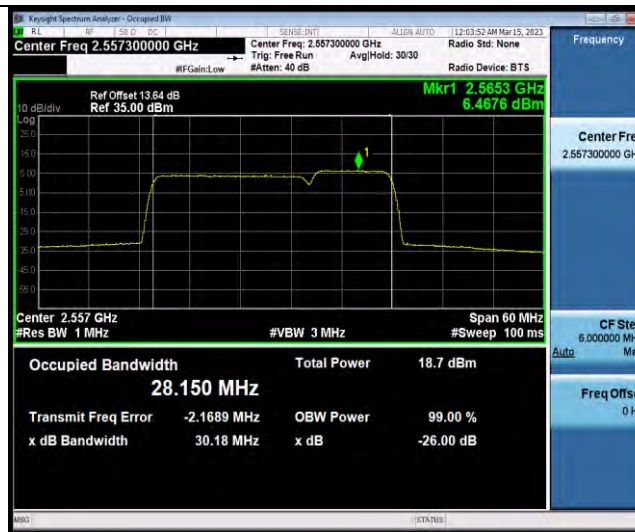
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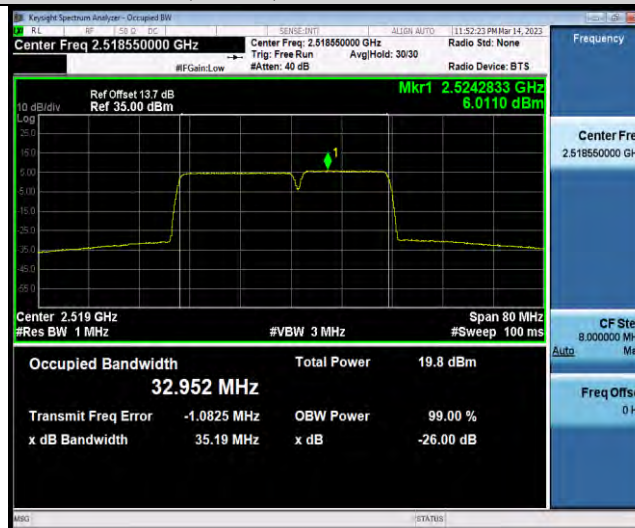


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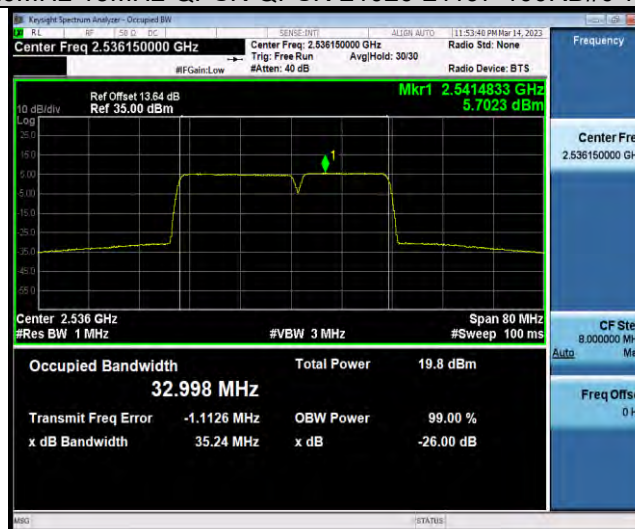
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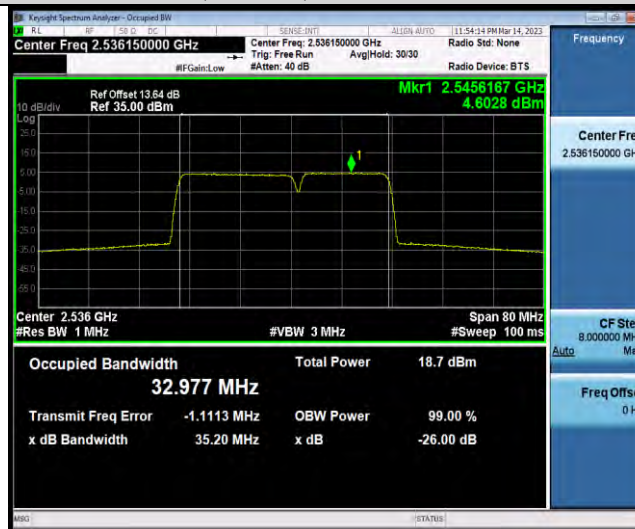
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