# TEST REPORT

## No. I21Z61640-WMD02

**for**

**TCL Communication Ltd.**

**GSM/UMTS/LTE Mobile phone**

**Model Name: 5007S**

**FCC ID: 2ACCJH130**

**with**

**Hardware Version: 04**

**Software Version: v2F21UZ10**

**Issued Date: 2021-09-27**

**Note:**

The test results in this test report relate only to the devices specified in this report. This report shall not be reproduced except in full without the written approval of CTTL.

The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the U.S.Government.

**Test Laboratory:**

**CTTL, Telecommunication Technology Labs, CAICT**

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# REPORT HISTORY

| Report Number | Revision | Description | Issue Date |
|---|---|---|---|
| I21Z61640-WMD02 | Rev.0 | 1st edition | 2021-09-27 |

Note: the latest revision of the test report supersedes all previous version.

# CONTENTS

# 1. Test Laboratory

## 1.1. Introduction & Accreditation

Telecommunication Technology Labs, CAICT is an ISO/IEC 17025:2017 accredited test laboratory under NATIONAL VOLUNTARY LABORATORY ACCREDITATION PROGRAM (NVLAP) with lab code 600118-0 and is also an FCC accredited test laboratory (CN5017), and ISED accredited test laboratory (CN0066). The detail accreditation scope can be found on NVLAP website.

## 1.2. Testing Location

Location 1: CTTL (huayuan North Road)

Address: No. 52, Huayuan North Road, Haidian District, Beijing, P. R. China 100191

Location 2: CTTL (Shouxiang)

Address: Shouxiang Building, No. 51 Xueyuan Road, Haidian District, Beijing 100191, P. R. China

## 1.3. Testing Environment

Normal Temperature: 15-35℃

Relative Humidity: 20-75%

## 1.4. Project Data

Testing Start Date: 2020-09-07

Testing End Date: 2021-09-26

## 1.5. Signature

**Dong Yuan**

**(Prepared this test report)**

**Zhou Yu**

**(Reviewed this test report)**

**Zhao Hui Lin**

**Deputy Director of the laboratory**

**(Approved this test report)**

# 2. Client Information

## 2.1. Applicant Information

| | |
|---|---|
| Company Name: | TCL Communication Ltd. |
| Address /Post: | 5/F, Building 22E, 22 Science Park East Avenue, Hong Kong Science Park, Shatin, NT, Hong Kong |
| Contact: | Gong Zhizhou |
| Email: | zhizhou.gong@tcl.com |
| Telephone: | 0086-755-36611722 |
| Fax: | 0086-755-36612000-81722 |

## 2.2. Manufacturer Information

| | |
|---|---|
| Company Name: | TCL Communication Ltd. |
| Address /Post: | 5/F, Building 22E, 22 Science Park East Avenue, Hong Kong Science Park, Shatin, NT, Hong Kong |
| Contact: | Gong Zhizhou |
| Email: | zhizhou.gong@tcl.com |
| Telephone: | 0086-755-36611722 |
| Fax: | 0086-755-36612000-81722 |

# 3. Equipment Under Test (EUT) and Ancillary Equipment (AE)

## 3.1. About EUT

| | |
|---|---|
| Description | GSM/UMTS/LTE Mobile phone |
| Model Name | 5007S |
| FCC ID | 2ACCJH130 |
| Antenna | Embedded |
| Output power | 22.36dBm maximum EIRP measured for WCDMA Band II |
| Extreme vol. Limits | 3.5VDC to 4.4VDC (nominal: 3.85VDC) |
| Extreme temp. Tolerance | -20°C to +60°C |

Note: Components list, please refer to documents of the manufacturer; it is also included in the original test record of CTTL.

## 3.2. Internal Identification of EUT used during the test

| EUT ID* | IMEI | HW Version | SW Version | Date of receipt |
|---|---|---|---|---|
| UT09a | 015794000205345 | 04 | v2F21UZ10 | 2021-08-30 |
| UT02a | 015794000205337 | 04 | v2F21UZ10 | 2021-09-03 |

*EUT ID: is used to identify the test sample in the lab internally.

## 3.3. Internal Identification of AE used during the test

| AE ID* | Description |
|---|---|
| AE1 | Battery |

AE1

| | |
|---|---|
| Model | TLp034G1 |
| Manufacturer | BYD |
| Capacitance | 3500mAh |

*AE ID: is used to identify the test sample in the lab internally.

# 4. Reference Documents

The following documents listed in this section are referred for testing.

| Reference | Title | Version |
|---|---|---|
| FCC Part 24 | PERSONAL COMMUNICATIONS SERVICES | 10-1-20 Edition |
| FCC Part 22 | PUBLIC MOBILE SERVICES | 10-1-20 Edition |
| FCC Part 27 | MISCELLANEOUS WIRELESS COMMUNICATIONS SERVICES | 10-1-20 Edition |
| ANSI/TIA-603-E | Land Mobile FM or PM Communications Equipment Measurement and Performance Standards | 2016 |
| ANSI C63.26 | American National Standard for Compliance Testing of Transmitters Used in Licensed Radio Services | 2015 |
| KDB 971168 D01 | MEASUREMENT GUIDANCE FOR CERTIFICATION OF LICENSED DIGITAL TRANSMITTERS | v03r01 |

## 5. Laboratory Environment

**Semi-anechoic chamber 2 / Fully-anechoic chamber 3** (10 meters×6.7 meters×6.15 meters) did not exceed following limits along the EMC testing:

| | |
|---|---|
| Temperature | Min. = 15 ˚C, Max. = 30 ˚C |
| Relative humidity | Min. = 35 %, Max. = 60 % |
| Shielding effectiveness | > 100 dB |
| Electrical insulation | >2 M |
| Ground system resistance | < 0.5 |
| Normalised site attenuation (NSA) | <±3.5 dB, 3 m distance |
| Site voltage standing-wave ratio ($S_{VSWR}$) | Between 0 and 6 dB, from 1GHz to 18GHz |
| Uniformity of field strength | Between 0 and 6 dB, from 80 to 3000 MHz |

# 6. Summary Of Test Result

**WCDMA Band II**

| Items | Test Name | Clause in FCC rules | Verdict |
|---|---|---|---|
| 1 | Output Power | 24.232 | P |
| 2 | Emission Limit | 2.1051/24.238 | P |

**WCDMA Band V**

| Items | Test Name | Clause in FCC rules | Verdict |
|---|---|---|---|
| 1 | Output Power | 22.913 | P |
| 2 | Emission Limit | 2.1051/22.917 | P |

**WCDMA Band IV**

| Items | Test Name | Clause in FCC rules | Verdict |
|---|---|---|---|
| 1 | Output Power | 27.50 | P |
| 2 | Emission Limit | 2.1051/27.53 | P |

Terms used in Verdict column

| | |
|---|---|
| P | Pass. The EUT complies with the essential requirements in the standard. |
| NP | Not Performed. The test was not performed by CTTL. |
| NA | Not Applicable. The test was not applicable. |
| BR | Re-use test data from basic model report. |
| F | Fail. The EUT does not comply with the essential requirements in the standard. |

Explanation of worst-case configuration

The worst-case scenario for all measurements is based on the conducted output power measurement investigation results. The test results shown in the following sections represent the worst case emission.

The Equipment Under Test (EUT) is a Class 2 Permissive Change to 5007S (FCC ID: 2ACCJH130), Output Power and Emission Limit are tested.

For detail differences between two models please refer the Declaration of Changes document.

## 7. Test Equipment Utilized

| Description | Type | Series Number | Manufacture | Cal Due Date | Calibration Interval |
|---|---|---|---|---|---|
| Universal Radio Communication Tester | CMU200 | 108646 | R&S | 2021-12-17 | 1 year |
| Spectrum Analyzer | FSU | 200030 | R&S | 2022-06-02 | 1 year |
| Climate chamber | SH-242 | 93008556 | ESPEC | 2023-12-23 | 3 years |
| Test Receiver | E4440A | MY48250642 | Agilent | 2022-03-04 | 1 year |
| Universal Radio Communication Tester | CMW500 | 143008 | R&S | 2021-12-01 | 1 year |
| EMI Antenna | VULB9163 | 9163-235 | Schwarzbeck | 2022-04-07 | 1 year |
| Signal Generator | N5183A | MY49060052 | Agilent | 2022-07-11 | 1 year |
| EMI Antenna | 3117 | 00058889 | ETS-Lindgren | 2021-09-22 | 1 year |
| EMI Antenna | 3117 | 00119021 | ETS-Lindgren | 2022-01-14 | 1 year |

Note1: The above Test Equipments Utilized were used by I21Z61640.

# Annex A: Measurement Results

## A.1 Output Power

### A.1.1 Summary

During the process of testing, the EUT was controlled via communication tester to ensure max power transmission and proper modulation.

In all cases, output power is within the specified limits.

### A.1.2 Conducted

#### A.1.2.1 Method of Measurements

The EUT was set up for the max output power with pseudo random data modulation.

These measurements were done at 3 frequencies (bottom, middle and top of operational frequency range) for each bandwidth.

#### A.1.2.2 Measurement Result

**WCDMA Band II**

**QPSK**

| | CH | Frequency (MHz) | output power (dBm) |
|---|---|---|---|
| WCDMA (Band II) | 9262 | 1852.4 | 22.82 |
| | 9400 | 1880.0 | 23.14 |
| | 9538 | 1907.6 | 23.26 |

**WCDMA Band V**

**QPSK**

| | CH | Frequency (MHz) | output power (dBm) |
|---|---|---|---|
| WCDMA (Band V) | 4132 | 826.4 | 23.65 |
| | 4183 | 836.6 | 23.57 |
| | 4233 | 846.6 | 23.44 |

**WCDMA Band IV**

**QPSK**

| | CH | Frequency (MHz) | output power (dBm) |
|---|---|---|---|
| WCDMA (Band IV) | 1312 | 1712.4 | 23.22 |
| | 1412 | 1732.4 | 22.90 |
| | 1513 | 1752.6 | 22.63 |

### A.1.3 Radiated

#### A.1.3.1 Description

This is the test for the maximum radiated power from the EUT.

Part 22.913(a) specifies "The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 watts".

Part 24.232(c) specifies "Mobile and portable stations are limited to 2 watts EIRP".

Part 27.50(d) specifies "Fixed, mobile, and portable (handheld) stations operating in the 1710–1755 MHz band and mobile and portable stations operating in the 1695–1710 MHz and 1755–1780 MHz bands are limited to 1 watt EIRP".

#### A.1.3.2 Method of Measurement

ANSI C63.26 chapter 5.2.5.5: when working in decibels (i.e., logarithmic scale), the ERP and EIRP represent the sum of the transmit antenna gain (in dBd or dBi, respectively) and the conducted RF output power (expressed in dB relative to watts or milliwatts).

The relevant equation for determining the maximum ERP or EIRP from the measured RF output power is given in Equation (1) as follows:

$$ERP \text{ or } EIRP = P_{Mea} + G_T$$

Where

| | |
|---|---|
| ERP or EIRP | effective radiated power or equivalent isotropically radiated power, respectively (expressed in the same units as $P_{Mea}$ , e.g., dBm or dBW) |
| $P_{Mea}$ | measured transmitter output power or PSD, in dBm or dBW |
| $G_T$ | gain of the transmitting antenna, in dBd (ERP) or dBi (EIRP) |

**WCDMA Band II**

**QPSK**

| | CH | Frequency (MHz) | Output power Conducted (dBm) | Output power Radiated(dBm) ($G_T - L_C$ = -0.5) |
|---|---|---|---|---|
| WCDMA Band II | 9262 | 1852.4 | 22.82 | 22.32 |
| | 9400 | 1880.0 | 23.14 | 22.64 |
| | 9538 | 1907.6 | 23.26 | 22.76 |

**WCDMA Band V**

**QPSK**

| | CH | Frequency (MHz) | Output power Conducted (dBm) | Output power Radiated(dBm) ($G_T - L_C$ = -4.0) |
|---|---|---|---|---|
| WCDMA Band V | 4132 | 826.4 | 23.65 | 17.50 |
| | 4183 | 836.6 | 23.57 | 17.42 |
| | 4233 | 846.6 | 23.44 | 17.29 |

**WCDMA Band IV**

**QPSK**

| | CH | Frequency (MHz) | Output power Conducted (dBm) | Output power Radiated(dBm) ($G_T - L_C$ = -1.5) |
|---|---|---|---|---|
| WCDMA Band IV | 1712.4 | 22.58 | 23.22 | 21.72 |
| | 1732.4 | 22.66 | 22.90 | 21.40 |
| | 1752.6 | 22.78 | 22.63 | 21.13 |

## A.2 Emission Limit

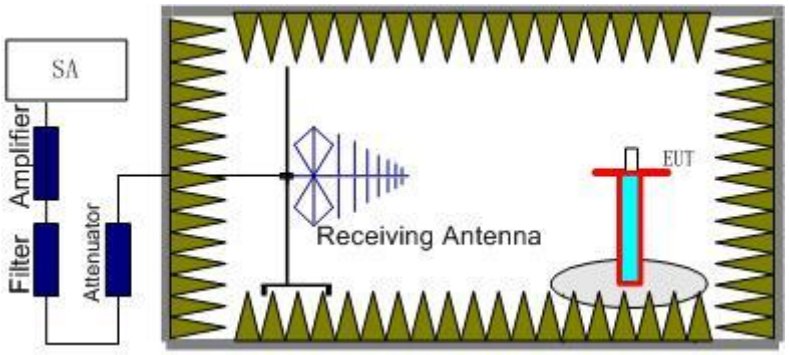
### A.2.1 Measurement Method

The measurements procedures in TIA-603E-2016 are used.

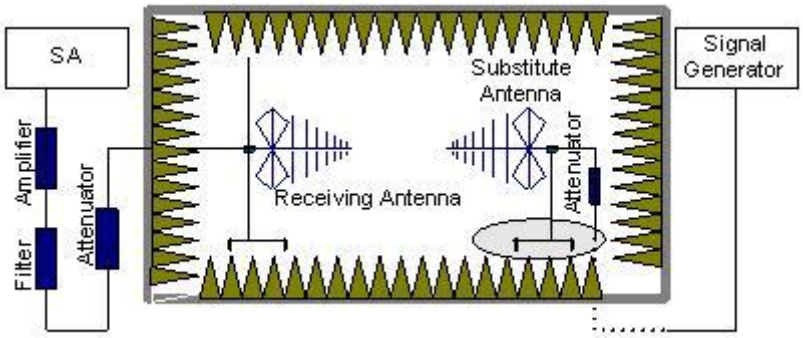
The spectrum was scanned from 30 MHz to the 10th harmonic of the highest frequency generated within the equipment. The resolution bandwidth is set as outlined in Part 24.238, Part 22.917, Part 27.53. The spectrum was scanned with the mobile station transmitting at carrier frequencies that pertain to low, mid and high channels of WCDMA Band II, WCDMA Band V and WCDMA Band IV.

**The procedure of radiated spurious emissions is as follows:**

1. EUT was placed on a 1.5-meter-high non-conductive stand at a 3-meter test distance from the receive antenna. A receiving antenna was placed on the antenna mast 3 meters from the EUT for emission measurements. The height of receiving antenna is 1.5m. The test setup refers to figure below. Detected emissions were maximized at each frequency by rotating the EUT through 360° and adjusting the receiving antenna polarization. The radiated emission measurements of all non-harmonic and harmonics of the transmit frequency through the 10th harmonic were measured with peak detector.




2. The EUT is then put into continuously transmitting mode at its maximum power level during the test. And the maximum value of the receiver should be recorded as (Pr).
3. The EUT shall be replaced by a substitution antenna. The test setup refers to figure below.




In the chamber, a substitution antenna for the frequency band of interest is placed at the reference point of the chamber. An RF Signal source for the frequency band of interest is connected to the substitution antenna with a cable that has been constructed to not interfere with the radiation pattern of the antenna. A power ($P_{Mea}$) is applied to the input of the

substitution antenna and adjust the level of the signal generator output until the value of the receiver reach the previously recorded ($P_r$). The power of signal source ($P_{Mea}$) is recorded. The test should be performed by rotating the test item and adjusting the receiving antenna polarization.

4. The Path loss ($P_{pl}$) between the Signal Source with the Substitution Antenna and the Substitution Antenna Gain ($G_a$) should be recorded after test.
   A amplifier should be connected in for the test.
   The Path loss ($P_{pl}$) is the summation of the cable loss and the gain of the amplifier.
   The measurement results are obtained as described below:
   Power (EIRP) = $P_{Mea}$ - $P_{pl}$ - $G_a$
5. This value is EIRP since the measurement is calibrated using an antenna of known gain (2.15 dBi) and known input power.
6. ERP can be calculated from EIRP by subtracting the gain of the dipole, ERP = EIRP - 2.15dBi.

### A.2.2 Measurement Limit

Part 22.917 , Part 24.238 and Part 27.53(h) specify that the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10log(P) dB.

### A.2.3 Measurement Results

Radiated emissions measurements were made only at the upper, middle, and lower carrier frequencies of WCDMA Band II (1852.4 MHz, 1880.0MHz and 1907.6MHz),WCDMA Band V(826.4MHz, 836.6MHz and 846.6MHz) and WCDMA Band IV(1712.4MHz, 1732.4MHz and 1752.6MHz). It was decided that measurements at these three carrier frequencies would be sufficient to demonstrate compliance with emissions limits because it was seen that all the significant spurs occur well outside the band and no radiation was seen from a carrier in one block of the WCDMA Band II, WCDMA Band V and WCDMA Band IV into any of the other blocks. The equipment must still, however, meet emissions requirements with the carrier at all frequencies over which it is capable of operating and it is the manufacturer's responsibility to verify this.

### A.2.4 Measurement Results Table

| Frequency | Channel | Frequency Range | Result |
|---|---|---|---|
| WCDMA Band V | Low | 30MHz-10GHz | Pass |
| | Middle | 30MHz-10GHz | Pass |
| | High | 30MHz-10GHz | Pass |
| WCDMA Band II | Low | 30MHz-20GHz | Pass |
| | Middle | 30MHz-20GHz | Pass |
| | High | 30MHz-20GHz | Pass |
| WCDMA Band IV | Low | 30MHz-20GHz | Pass |
| | Middle | 30MHz-20GHz | Pass |
| | High | 30MHz-20GHz | Pass |

### A.2.5 Sweep Table

| Working Frequency | Subrange (GHz) | RBW | VBW | Sweep time (s) |
|---|---|---|---|---|
| WCDMA Band V | 0.03~1 | 100kHz | 300kHz | 10 |
| | 1-2 | 1 MHz | 3 MHz | 2 |
| | 2~5 | 1 MHz | 3 MHz | 3 |
| | 5~8 | 1 MHz | 3 MHz | 3 |
| | 8~10 | 1 MHz | 3 MHz | 3 |
| WCDMA Band II | 0.03~1 | 100kHz | 300kHz | 10 |
| | 1-2 | 1 MHz | 3 MHz | 2 |
| | 2~5 | 1 MHz | 3 MHz | 3 |
| | 5~8 | 1 MHz | 3 MHz | 3 |
| | 8~11 | 1 MHz | 3 MHz | 3 |
| | 11~14 | 1 MHz | 3 MHz | 3 |
| | 14~18 | 1 MHz | 3 MHz | 3 |
| | 18~20 | 1 MHz | 3 MHz | 2 |
| WCDMA Band IV | 0.03~1 | 100kHz | 300kHz | 10 |
| | 1-2 | 1 MHz | 3 MHz | 2 |
| | 2~5 | 1 MHz | 3 MHz | 3 |
| | 5~8 | 1 MHz | 3 MHz | 3 |
| | 8~11 | 1 MHz | 3 MHz | 3 |
| | 11~14 | 1 MHz | 3 MHz | 3 |
| | 14~18 | 1 MHz | 3 MHz | 3 |
| | 18~20 | 1 MHz | 3 MHz | 2 |

**Measurement Results:**

**WCDMA BAND II Mode Channel 9262/1852.4MHz**

| Frequency (MHz) | $P_{Mea}$ (dBm) | Path Loss (dB) | Antenna Gain(dBi) | Peak EIRP (dBm) | Limit (dBm) | Margin (dB) | Polarization |
|---|---|---|---|---|---|---|---|
| 3702.02 | -47.57 | 6.42 | 8.48 | -45.51 | -13.00 | 32.51 | H |
| 5565.02 | -39.36 | 7.20 | 10.59 | -35.97 | -13.00 | 22.97 | H |
| 7400.01 | -53.92 | 8.12 | 12.08 | -49.96 | -13.00 | 36.96 | V |
| 9264.01 | -53.61 | 9.07 | 13.26 | -49.42 | -13.00 | 36.42 | V |
| 11136.01 | -50.52 | 9.68 | 13.17 | -47.03 | -13.00 | 34.03 | V |
| 12959.01 | -48.74 | 10.48 | 13.48 | -45.74 | -13.00 | 32.74 | H |

**WCDMA BAND II Mode Channel 9400/1880MHz**

| Frequency (MHz) | $P_{Mea}$ (dBm) | Path Loss (dB) | Antenna Gain(dBi) | Peak EIRP (dBm) | Limit (dBm) | Margin (dB) | Polarization |
|---|---|---|---|---|---|---|---|
| 3763.02 | -43.10 | 6.25 | 8.57 | -40.78 | -13.00 | 27.78 | H |
| 5645.02 | -44.27 | 7.27 | 10.57 | -40.97 | -13.00 | 27.97 | H |
| 7497.01 | -53.46 | 8.39 | 12.20 | -49.65 | -13.00 | 36.65 | H |
| 9413.01 | -53.12 | 9.10 | 13.35 | -48.87 | -13.00 | 35.87 | V |
| 11296.01 | -49.98 | 9.97 | 13.14 | -46.81 | -13.00 | 33.81 | H |
| 13159.01 | -47.33 | 10.68 | 13.72 | -44.29 | -13.00 | 31.29 | V |

**WCDMA BAND II Mode Channel 9538/1907.6MHz**

| Frequency (MHz) | $P_{Mea}$ (dBm) | Path Loss (dB) | Antenna Gain(dBi) | Peak EIRP (dBm) | Limit (dBm) | Margin (dB) | Polarization |
|---|---|---|---|---|---|---|---|
| 3813.02 | -44.08 | 6.10 | 8.64 | -41.54 | -13.00 | 28.54 | H |
| 5724.02 | -44.71 | 7.30 | 10.56 | -41.45 | -13.00 | 28.45 | H |
| 7660.01 | -53.84 | 8.25 | 12.33 | -49.76 | -13.00 | 36.76 | V |
| 9540.01 | -52.24 | 9.40 | 13.36 | -48.28 | -13.00 | 35.28 | V |
| 11475.01 | -49.80 | 9.88 | 13.10 | -46.58 | -13.00 | 33.58 | V |
| 13388.01 | -48.12 | 10.57 | 14.04 | -44.65 | -13.00 | 31.65 | V |

**WCDMA BAND V Mode Channel 4132/826.4MHz**

| Frequency (MHz) | $P_{Mea}$ (dBm) | Path Loss(dB) | Antenna Gain(dBi) | Correction (dB) | Peak ERP (dBm) | Limit (dBm) | Margin (dB) | Polarization |
|---|---|---|---|---|---|---|---|---|
| 1651.01 | -57.10 | 3.57 | 5.23 | 2.15 | -57.59 | -13.00 | 44.59 | V |
| 2463.00 | -52.17 | 4.59 | 5.99 | 2.15 | -52.92 | -13.00 | 39.92 | H |
| 3315.02 | -53.84 | 5.29 | 7.76 | 2.15 | -53.52 | -13.00 | 40.52 | V |
| 4135.02 | -54.74 | 6.06 | 9.04 | 2.15 | -53.91 | -13.00 | 40.91 | H |
| 4951.01 | -54.61 | 6.69 | 9.85 | 2.15 | -53.60 | -13.00 | 40.60 | V |
| 5785.01 | -53.34 | 7.21 | 10.54 | 2.15 | -52.16 | -13.00 | 39.16 | H |

**WCDMA BAND V Mode Channel 4183/836.6MHz**

| Frequency (MHz) | $P_{Mea}$ (dBm) | Path Loss(dB) | Antenna Gain(dBi) | Correction (dB) | Peak ERP (dBm) | Limit (dBm) | Margin (dB) | Polarization |
|---|---|---|---|---|---|---|---|---|
| 1676.01 | -55.63 | 3.58 | 5.18 | 2.15 | -56.18 | -13.00 | 43.18 | H |
| 2523.00 | -48.69 | 4.65 | 6.14 | 2.15 | -49.35 | -13.00 | 36.35 | H |
| 3344.02 | -53.46 | 5.31 | 7.83 | 2.15 | -53.09 | -13.00 | 40.09 | H |
| 4182.02 | -54.21 | 6.17 | 9.08 | 2.15 | -53.45 | -13.00 | 40.45 | V |
| 5002.01 | -53.80 | 6.60 | 9.90 | 2.15 | -52.65 | -13.00 | 39.65 | V |
| 5869.01 | -53.23 | 7.30 | 10.53 | 2.15 | -52.15 | -13.00 | 39.15 | V |

**WCDMA BAND V Mode Channel 4233/846.6MHz**

| Frequency (MHz) | $P_{Mea}$ (dBm) | Path Loss(dB) | Antenna Gain(dBi) | Correction (dB) | Peak ERP (dBm) | Limit (dBm) | Margin (dB) | Polarization |
|---|---|---|---|---|---|---|---|---|
| 1691.01 | -53.82 | 3.59 | 5.16 | 2.15 | -54.40 | -13.00 | 41.40 | H |
| 2549.00 | -52.88 | 4.67 | 6.19 | 2.15 | -53.51 | -13.00 | 40.51 | V |
| 3413.02 | -55.60 | 5.37 | 7.99 | 2.15 | -55.13 | -13.00 | 42.13 | V |
| 4247.02 | -53.59 | 6.24 | 9.15 | 2.15 | -52.83 | -13.00 | 39.83 | H |
| 5090.01 | -53.50 | 6.74 | 10.03 | 2.15 | -52.36 | -13.00 | 39.36 | H |
| 5950.01 | -53.33 | 7.47 | 10.51 | 2.15 | -52.44 | -13.00 | 39.44 | H |

**WCDMA BAND IV Mode Channel 1312/1712.4MHz**

| Frequency (MHz) | $P_{Mea}$ (dBm) | Path Loss(dB) | Antenna Gain(dBi) | Peak EIRP (dBm) | Limit (dBm) | Margin (dB) | Polarization |
|---|---|---|---|---|---|---|---|
| 3423.02 | -49.59 | 5.38 | 8.02 | -46.95 | -13.00 | 33.95 | H |
| 5145.02 | -50.62 | 6.87 | 10.10 | -47.39 | -13.00 | 34.39 | H |
| 6854.01 | -64.47 | 7.82 | 11.42 | -60.87 | -13.00 | 47.87 | V |
| 8565.01 | -64.10 | 8.56 | 13.01 | -59.65 | -13.00 | 46.65 | V |
| 10276.01 | -61.99 | 9.56 | 13.01 | -58.54 | -13.00 | 45.54 | V |
| 11966.01 | -59.97 | 10.21 | 13.01 | -57.17 | -13.00 | 44.17 | V |

**WCDMA BAND IV Mode Channel 1412/1732.4MHz**

| Frequency (MHz) | $P_{Mea}$ (dBm) | Path Loss(dB) | Antenna Gain(dBi) | Peak EIRP (dBm) | Limit (dBm) | Margin (dB) | Polarization |
|---|---|---|---|---|---|---|---|
| 3463.02 | -49.34 | 5.45 | 8.11 | -46.68 | -13.00 | 33.68 | H |
| 5204.02 | -47.37 | 6.97 | 10.19 | -44.15 | -13.00 | 31.15 | H |
| 6967.01 | -64.50 | 8.04 | 11.56 | -60.98 | -13.00 | 47.98 | V |
| 8685.01 | -64.60 | 8.38 | 13.04 | -59.94 | -13.00 | 46.94 | V |
| 10459.01 | -61.96 | 9.71 | 13.08 | -58.59 | -13.00 | 45.59 | V |
| 12177.01 | -59.54 | 10.13 | 13.07 | -56.60 | -13.00 | 43.60 | V |

**WCDMA BAND IV Mode Channel 1513/1752.6MHz**

| Frequency (MHz) | $P_{Mea}$ (dBm) | Path Loss(dB) | Antenna Gain(dBi) | Peak EIRP (dBm) | Limit (dBm) | Margin (dB) | Polarization |
|---|---|---|---|---|---|---|---|
| 3507.02 | -50.27 | 5.53 | 8.21 | -47.59 | -13.00 | 34.59 | H |
| 5260.02 | -44.08 | 7.00 | 10.26 | -40.82 | -13.00 | 27.82 | H |
| 6991.01 | -64.35 | 8.23 | 11.59 | -60.99 | -13.00 | 47.99 | V |
| 8762.01 | -64.18 | 8.55 | 13.05 | -59.68 | -13.00 | 46.68 | V |
| 10497.01 | -61.65 | 9.66 | 13.10 | -58.21 | -13.00 | 45.21 | V |
| 12275.01 | -59.83 | 10.01 | 13.11 | -56.73 | -13.00 | 43.73 | V |

Note1: The measurement results showed here are worst cases

Note2: Expanded measurement uncertainty is U = 5.16 dB, k = 2.

## Annex B: Accreditation Certificate

United States Department of Commerce
National Institute of Standards and Technology

NVLAP®

ilac-MRA

**Certificate of Accreditation to ISO/IEC 17025:2017**

**NVLAP LAB CODE: 600118-0**

**Telecommunication Technology Labs, CAICT**
Beijing
China

*is accredited by the National Voluntary Laboratory Accreditation Program for specific services, listed on the Scope of Accreditation, for:*

**Electromagnetic Compatibility & Telecommunications**

*This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communique dated January 2009).*

2020-09-29 through 2021-09-30
*Effective Dates*

DEPARTMENT OF COMMERCE · UNITED STATES OF AMERICA

*For the National Voluntary Laboratory Accreditation Program*

*****END OF REPORT*****