

FCC RF Test Report

(WCDMA)

Applicant: TECNO MOBILE LIMITED

Address of Applicant: FLAT N 16/F BLOCK B UNIVERSAL INDUSTRIAL CENTRE
19-25 SHAN MEI STREET FOTAN NT HONGKONG

Equipment Under Test (EUT)

Product Name: Mobile Phone

Model No.: BF7

Trade Mark: TECNO

FCC ID: 2ADYY-BF7

Applicable Standards: FCC CFR Title 47 Part 2, 22H, 24E, 27L

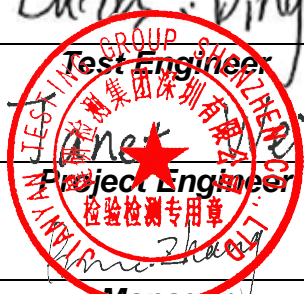
Date of Sample Receipt: 23 Sep., 2022

Date of Test: 24 Sep., to 09 Nov., 2022

Date of Report Issued: 02 Jun, 2023

Test Result: PASS

Tested by: _____

Lucas Ding
Test Engineer

Project Engineer
Manager

Date: _____

02 Jun, 2023

Reviewed by: _____

Date: _____

02 Jun, 2023

Approved by: _____

Date: _____

02 Jun, 2023

This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in above the application standard version. Test results reported herein relate only to the item(s) tested.

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1 Version

| Version No. | Date | Description |
|-------------|--------------|-------------|
| 00 | 02 Jun, 2023 | Original |
| | | |
| | | |
| | | |
| | | |

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3 General Information

3.1 Client Information

| | |
|---------------|--|
| Applicant: | TECNO MOBILE LIMITED |
| Address: | FLAT N 16/F BLOCK B UNIVERSAL INDUSTRIAL CENTRE 19-25 SHAN MEI STREET FOTAN NT HONGKONG |
| Manufacturer: | TECNO MOBILE LIMITED |
| Address: | FLAT N 16/F BLOCK B UNIVERSAL INDUSTRIAL CENTRE 19-25 SHAN MEI STREET FOTAN NT HONGKONG |
| Factory: | SHENZHEN TECNO TECHNOLOGY CO., LTD. |
| Address: | 101, Building 24, Waijing Industrial Park, Fumin Community, Fucheng Street, Longhua District, Shenzhen City, P.R.China |

3.2 General Description of E.U.T.

| | | |
|----------------------------|---|---------------------------------|
| Product Name: | Mobile Phone | |
| Model No.: | BF7 | |
| Operation Frequency Range: | WCDMA band II: | 1852.4 MHz - 1907.6 MHz |
| | WCDMA band IV: | 1712.4 MHz - 1752.6 MHz |
| | WCDMA band V: | 826.4 MHz - 846.6 MHz |
| Modulation Type: | <input checked="" type="checkbox"/> RMC(QPSK) <input checked="" type="checkbox"/> HSUPA(QPSK) <input checked="" type="checkbox"/> HSDPA(QPSK,16QAM) | |
| Antenna Type: | Internal Antenna | |
| Antenna Gain: | WCDMA band II: | 1.6 dBi (declare by Applicant) |
| | WCDMA band IV: | 1.7 dBi (declare by Applicant) |
| | WCDMA band V: | -4.2 dBi (declare by Applicant) |
| Power Supply: | Rechargeable Li-ion Polymer Battery DC3.85V, 4900mAh | |
| AC Adapter: | Model: U100TSA Input: AC100-240V, 50/60Hz, 0.3A Output: DC 5.0V, 2.0A | |
| Test Sample Condition: | The test samples were provided in good working order with no visible defects. | |

3.3 Test Mode and Environment

Please refer to JYTSZ-R12-2201868 report, issued by JianYan Testing Group Shenzhen Co., Ltd.

3.4 Description of Test Auxiliary Equipment

| Test Equipment | Manufacturer | Model No. | Serial No. |
|-------------------|--------------|-----------|------------|
| Simulated Station | Anritsu | MT8820C | 6201026545 |

3.5 Measurement Uncertainty

Please refer to JYTSZ-R12-2201868 report, issued by JianYan Testing Group Shenzhen Co., Ltd.

3.6 Additions to, Deviations, or Exclusions from the Method

| |
|----|
| No |
|----|

3.7 Laboratory Facility

| |
|--|
| <p>The test facility is recognized, certified, or accredited by the following organizations:</p> <ul style="list-style-type: none"> ● FCC - Designation No.: CN1211 JianYan Testing Group Shenzhen Co., Ltd. has been accredited as a testing laboratory by FCC(Federal Communications Commission). The test firm Registration No. is 727551. ● ISED – CAB identifier.: CN0021 The 3m Semi-anechoic chamber and 10m Semi-anechoic chamber of JianYan Testing Group Shenzhen Co., Ltd. has been Registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 10106A-1. ● CNAS - Registration No.: CNAS L15527 JianYan Testing Group Shenzhen Co., Ltd. is accredited to ISO/IEC 17025:2017 General Requirements for the Competence of Testing and Calibration laboratories for the competence of testing. The Registration No. is CNAS L15527. ● A2LA - Registration No.: 4346.01 This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 General requirements for the competence of testing and calibration laboratories. The test scope can be found as below link: https://portal.a2la.org/scopepdf/4346-01.pdf |
|--|

3.8 Laboratory Location

| |
|---|
| <p>JianYan Testing Group Shenzhen Co., Ltd. Address: No.101, Building 8, Innovation Wisdom Port, No.155 Hongtian Road, Huangpu Community, Xinqiao Street, Bao'an District, Shenzhen, Guangdong, People's Republic of China. Tel: +86-755-23118282, Fax: +86-755-23116366 Email: info-JYTee@lets.com, Website: http://jyt.lets.com</p> |
|---|

3.9 Test Instruments List

Please refer to JYTSZ-R12-2201868 report, issued by JianYan Testing Group Shenzhen Co., Ltd.

4 Measurement Setup and Procedure

4.1 Test Channel

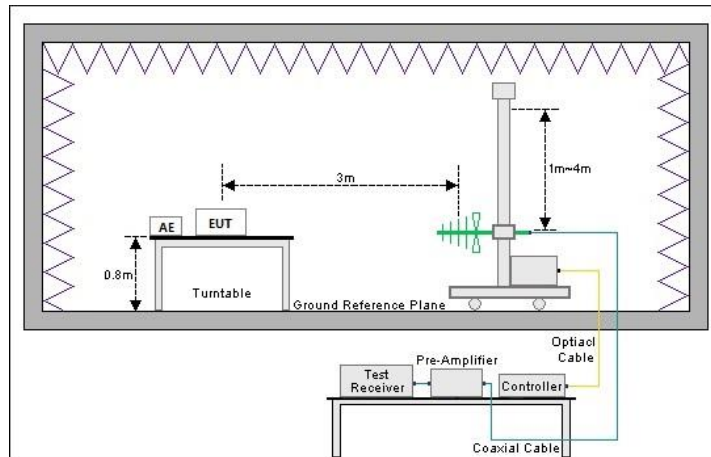
According to ANSI C63.26-2015 chapter 5.1.2.1 Table 2 requirement, select lowest channel, middle channel, and highest channel in the frequency range in which device operates for testing. The detailed frequency points are as follows:

| WCDMA band II | | | | | |
|----------------------|-----------------|----------------|-----------------|-----------------|-----------------|
| Lowest channel | | Middle channel | | Highest channel | |
| Channel No. | Frequency (MHz) | Channel No. | Frequency (MHz) | Channel No. | Frequency (MHz) |
| 9262 | 1852.4 | 9400 | 1880.0 | 9538 | 1907.6 |
| WCDMA band IV | | | | | |
| Lowest channel | | Middle channel | | Highest channel | |
| Channel No. | Frequency (MHz) | Channel No. | Frequency (MHz) | Channel No. | Frequency (MHz) |
| 1312 | 1712.4 | 1413 | 1732.6 | 1513 | 1752.6 |
| WCDMA band V | | | | | |
| Lowest channel | | Middle channel | | Highest channel | |
| Channel No. | Frequency (MHz) | Channel No. | Frequency (MHz) | Channel No. | Frequency (MHz) |
| 4132 | 826.4 | 4183 | 836.6 | 4233 | 846.6 |

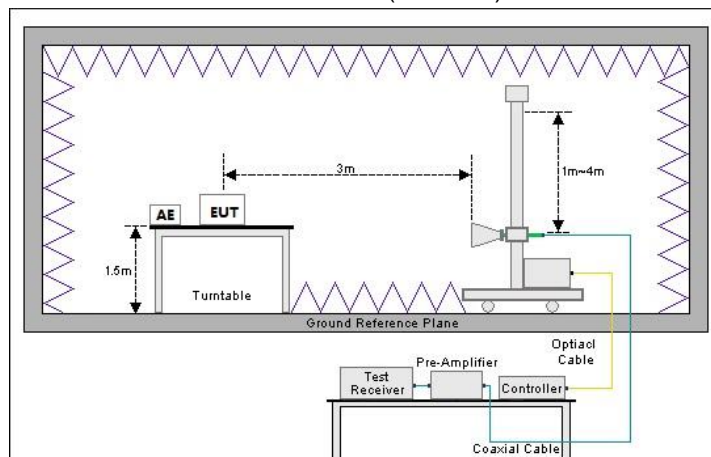
4.2 Test Setup

1) Radiated emission measurement:

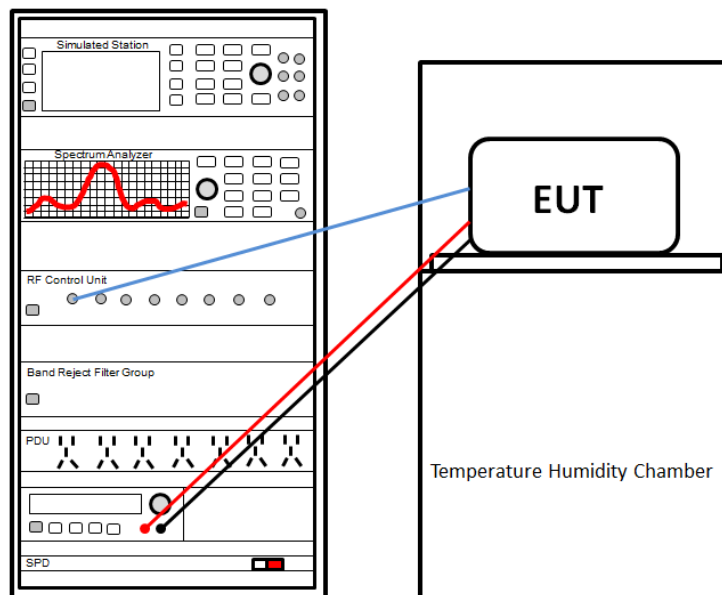
Below 1GHz (3m SAC)



Above 1GHz (3m SAC)



2) Conducted test method



4.3 Test Procedure

| Test method | Test step |
|-----------------------|---|
| Radiated emission | <p>For below 1GHz:</p> <ol style="list-style-type: none"> The EUT was placed on the table top of a rotating table 0.8 m the ground at a 3 m semi anechoic chamber. The measurement distance from the EUT to the receiving antenna is 3 m. EUT works in each mode of operation that needs to be tested , and having the EUT continuously working, respectively on 3 axis (X, Y & Z) and considered typical configuration to obtain worst position. The highest signal levels relative to the limit shall be determined by rotating the EUT from 0° to 360° and with varying the measurement antenna height between 1 m and 4 m in vertical and horizontal polarizations. Open the test software to control the test antenna and test turntable. Perform the test, save the test results, and export the test data. <p>For above 1GHz:</p> <ol style="list-style-type: none"> The EUT was placed on the table top of a rotating table 1.5 m the ground at a 3 m fully anechoic room. The measurement distance from the EUT to the receiving antenna is 3 m. EUT works in each mode of operation that needs to be tested , and having the EUT continuously working, respectively on 3 axis (X, Y & Z) and considered typical configuration to obtain worst position. The highest signal levels relative to the limit shall be determined by rotating the EUT from 0° to 360° and with varying the measurement antenna height between 1 m and 4 m in vertical and horizontal polarizations. Open the test software to control the test antenna and test turntable. Perform the test, save the test results, and export the test data. |
| Conducted test method | <ol style="list-style-type: none"> The WCDMA antenna port of EUT was connected to the test port of the test system through an RF cable. The EUT is keeping in continuous transmission mode and tested in all modulation modes. Open the test software, prepare a test plan, and control the system through the software. After the test is completed, the test report is exported through the test software. |

5 Test Results

5.1 Summary

5.1.1 Clause and Data Summary

This report was amended on FCC ID: 2ADYY-BF7 follow FCC Class II Permissive Change. The original report: JYTSZ-R12-2201868, issued by JianYan Testing Group Shenzhen Co., Ltd. The differences between them as below: Replace the memory chip and change LTE B7 and BT and 2.4GWi-Fi duplexer supplier. So not need to retest.

| Test items | Standard clause | Test data | Result |
|--|---|--|--------|
| RF Exposure (SAR) | Part 1.1307 Part 2.1093 | Please refer to JYTSZ-R12-2201868 report | Pass* |
| RF Output Power | Part 2.1046 Part 22.913 (a)(5) Part 24.232 (c) Part 27.50 (d)(4) | Please refer to JYTSZ-R12-2201868 report | Pass* |
| Peak-to-Average Power Ratio | Part 24.232 (d) Part 27.50(d)(5) | Please refer to JYTSZ-R12-2201868 report | Pass* |
| Modulation Characteristics | Part 2.1047 | Please refer to JYTSZ-R12-2201868 report | Pass* |
| 26dB Emission Bandwidth 99% Occupied Bandwidth | Part 2.1049 | Please refer to JYTSZ-R12-2201868 report | Pass* |
| Out of Band Emission at Antenna Terminals | Part 2.1051 Part 22.917 (a) Part 24.238 (a) Part 27.53(h) | Please refer to JYTSZ-R12-2201868 report | Pass* |
| Field Strength of Spurious Radiation | Part 2.1053 Part 22.917 (a) Part 24.238 (a) Part 27.53(h) | Please refer to JYTSZ-R12-2201868 report | Pass* |
| Frequency Stability vs. Temperature | Part 22.355 Part 24.235 Part 27.54 Part 2.1055(a)(1)(b) | Please refer to JYTSZ-R12-2201868 report | Pass* |
| Frequency Stability vs. Voltage | Part 22.355 Part 24.235 Part 27.54 Part 2.1055(d)(2) | Please refer to JYTSZ-R12-2201868 report | Pass* |
| Remark: | | | |
| 1. Pass*: Please refer to JYTSZ-R12-2201868 report, issued by JianYan Testing Group Shenzhen Co., Ltd. | | | |
| Test Method: | ANSI/TIA-603-E-2016 ANSI C63.26-2015 | | |

5.1.2 Test Limit

| Test items | Limit | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|-----------------------|-----------------------|-----------------------|-----------------------|----------|------|------|------|-----------|-----|-----|------|------------|-----|-----|-----|------------|-----|-----|-----|------------|-----|-----|-----|------------|-----|-----|-----|--------------|------|-----|-----|
| RF Output Power | WCDMA band II: 2W EIRP WCDMA band IV: 1W EIRP WCDMA band V: 7W ERP | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Peak-to-Average Power Ratio | The peak-to-average ratio (PAR) of the transmission may not exceed 13 dB | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Modulation Characteristics | N/A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 26dB Emission Bandwidth 99% Occupied Bandwidth | N/A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Out of Band Emission at Antenna Terminals Field Strength of Spurious Radiation | The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Frequency Stability vs. Temperature Frequency Stability vs. Voltage | <p>WCDMA band II: The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.</p> <p>WCDMA band IV: The frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation.</p> <p>WCDMA band V: Except as otherwise provided in this part, the carrier frequency of each transmitter in the Public Mobile Services must be maintained within the tolerances given in Table C-1 of this section.</p> <p style="text-align: center;">TABLE C-1—FREQUENCY TOLERANCE FOR TRANSMITTERS IN THE PUBLIC MOBILE SERVICES</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Frequency range (MHz)</th> <th>Base, fixed (ppm)</th> <th>Mobile >3 watts (ppm)</th> <th>Mobile ≤3 watts (ppm)</th> </tr> </thead> <tbody> <tr> <td>25 to 50</td> <td>20.0</td> <td>20.0</td> <td>50.0</td> </tr> <tr> <td>50 to 450</td> <td>5.0</td> <td>5.0</td> <td>50.0</td> </tr> <tr> <td>450 to 512</td> <td>2.5</td> <td>5.0</td> <td>5.0</td> </tr> <tr> <td>821 to 896</td> <td>1.5</td> <td>2.5</td> <td>2.5</td> </tr> <tr> <td>928 to 929</td> <td>5.0</td> <td>n/a</td> <td>n/a</td> </tr> <tr> <td>929 to 960</td> <td>1.5</td> <td>n/a</td> <td>n/a</td> </tr> <tr> <td>2110 to 2220</td> <td>10.0</td> <td>n/a</td> <td>n/a</td> </tr> </tbody> </table> | Frequency range (MHz) | Base, fixed (ppm) | Mobile >3 watts (ppm) | Mobile ≤3 watts (ppm) | 25 to 50 | 20.0 | 20.0 | 50.0 | 50 to 450 | 5.0 | 5.0 | 50.0 | 450 to 512 | 2.5 | 5.0 | 5.0 | 821 to 896 | 1.5 | 2.5 | 2.5 | 928 to 929 | 5.0 | n/a | n/a | 929 to 960 | 1.5 | n/a | n/a | 2110 to 2220 | 10.0 | n/a | n/a |
| Frequency range (MHz) | Base, fixed (ppm) | Mobile >3 watts (ppm) | Mobile ≤3 watts (ppm) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 25 to 50 | 20.0 | 20.0 | 50.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 50 to 450 | 5.0 | 5.0 | 50.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 450 to 512 | 2.5 | 5.0 | 5.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 821 to 896 | 1.5 | 2.5 | 2.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 928 to 929 | 5.0 | n/a | n/a | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 929 to 960 | 1.5 | n/a | n/a | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2110 to 2220 | 10.0 | n/a | n/a | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

6 Test Setup Photo

Please refer to JYTSZ-R12-2201868 report, issued by JianYan Testing Group Shenzhen Co., Ltd.

-----End of report-----