FCC RF Test Report

(GSM)

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
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:	Test Engineer	***Date:***	*02 Jun, 2023*
Reviewed by:	Project Engineer	***Date:***	*02 Jun, 2023*
Approved by:	Manager	***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.

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:	GSM850:	824.2 MHz - 848.8 MHz
	PCS1900:	1850.2 MHz - 1909.8 MHz
Modulation Type:	☒Voice(GMSK) ☒GPRS(GMSK) ☒EGPRS(GMSK, 8PSK)	
Antenna Type:	Internal Antenna	
Antenna Gain:	GSM 850:	-4.2 dBi (declare by Applicant)
	PCS1900:	1.6 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-R12-2201866 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-R12-2201866 report, issued by JianYan Testing Group Shenzhen Co., Ltd.

3.6 Additions to, Deviations, or Exclusions from the Method

No

3.7 Laboratory Facility

The test facility is recognized, certified, or accredited by the following organizations:

- **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

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

3.9 Test Instruments List

Please refer to JYTSZ-R12-2201866 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:

GSM850

Lowest channel		Middle channel		Highest channel	
Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)
128	824.2	190	836.6	251	848.8

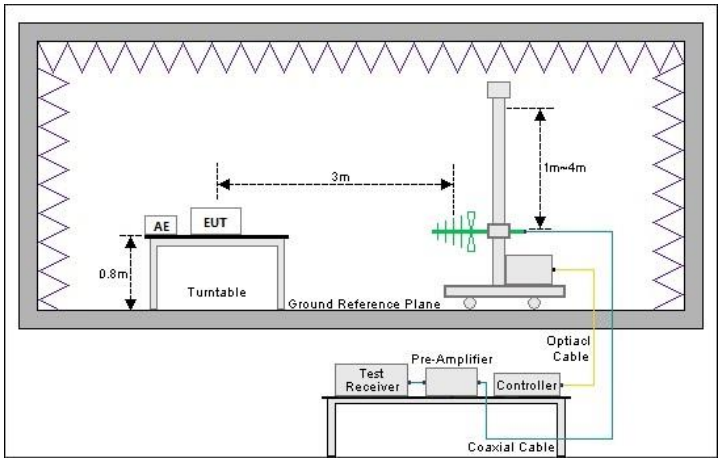
PCS1900

Lowest channel		Middle channel		Highest channel	
Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)
512	1850.2	661	1880.0	810	1909.8

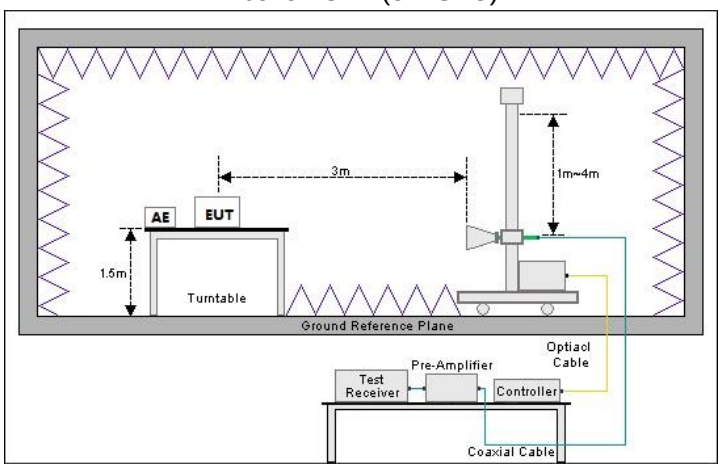
4.2 Test Setup

1) Radiated emission measurement:

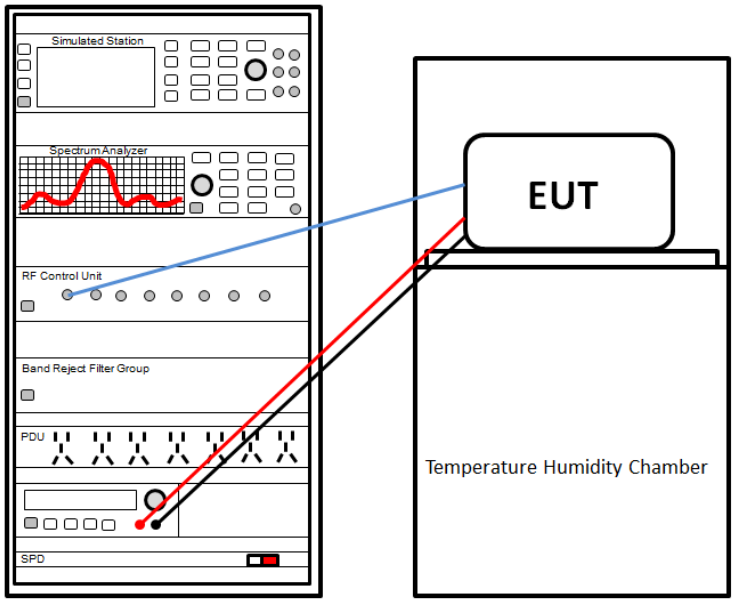
Below 1GHz (3m SAC)



Above 1GHz (3m SAC)



2) Conducted test method



4.3 Test Procedure

Test method	Test step
Radiated emission	**For below 1GHz:** 1. The EUT was placed on the tabletop 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. 2. 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. 3. Open the test software to control the test antenna and test turntable. Perform the test, save the test results, and export the test data. **For above 1GHz:** 1. The EUT was placed on the tabletop 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. 2. 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. 3. 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	1. The GSM antenna port of EUT was connected to the test port of the test system through an RF cable. 2. The EUT is keeping in continuous transmission mode and tested in all modulation modes. 3. 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-R12-2201866, 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-R12-2201866 report	Pass*
RF Output Power	Part 2.1046 Part 22.913 (a)(5) Part 24.232 (c)	Please refer to JYTSZ-R12-2201866 report	Pass*
Peak-to-Average Power Ratio	Part 24.232 (d)	Please refer to JYTSZ-R12-2201866 report	Pass*
Modulation Characteristics	Part 2.1047	Please refer to JYTSZ-R12-2201866 report	Pass*
26dB Emission Bandwidth 99% Occupied Bandwidth	Part 2.1049	Please refer to JYTSZ-R12-2201866 report	Pass*
Out of Band Emission at Antenna Terminals	Part 2.1051 Part 22.917 (a) Part 24.238 (a)	Please refer to JYTSZ-R12-2201866 report	Pass*
Field Strength of Spurious Radiation	Part 2.1053 Part 22.917 (a) Part 24.238 (a)	Please refer to JYTSZ-R12-2201866 report	Pass*
Frequency Stability vs. Temperature	Part 22.355 Part 24.235 Part 2.1055(a)(1)(b)	Please refer to JYTSZ-R12-2201866 report	Pass*
Frequency Stability vs. Voltage	Part 22.355 Part 24.235 Part 2.1055(d)(2)	Please refer to JYTSZ-R12-2201866 report	Pass*
Remark: *1. Pass*: Please refer to JYTSZ-R12-2201866 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

<table>
<tr><th>Items</th><th>Limit</th></tr>
<tr><td>RF Output Power</td><td>GSM850: 7W ERP
PCS1900: 2W EIRP</td></tr>
<tr><td>Peak-to-Average Power Ratio</td><td>The peak-to-average ratio (PAR) of the transmission may not exceed 13 dB</td></tr>
<tr><td>Modulation Characteristics</td><td>N/A</td></tr>
<tr><td>26dB Emission Bandwidth
99% Occupied Bandwidth</td><td>N/A</td></tr>
<tr><td>Out of Band Emission at Antenna Terminals

Field Strength of Spurious Radiation</td><td>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.</td></tr>
<tr><td>Frequency Stability vs. Temperature

Frequency Stability vs. Voltage</td><td>GSM850:
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.
TABLE C-1—FREQUENCY TOLERANCE FOR TRANSMITTERS IN THE PUBLIC MOBILE SERVICES
<table>
<tr><th>Frequency range (MHz)</th><th>Base, fixed (ppm)</th><th>Mobile >3 watts (ppm)</th><th>Mobile ≤3 watts (ppm)</th></tr>
<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>
</table>
PCS1900:
The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.</td></tr>
</table>

6 Test Setup Photo

Please refer to JYTSZ-R12-2201866 report, issued by JianYan Testing Group Shenzhen Co., Ltd.

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