

FCC RF Test Report

(NFC)

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.: KI7s

Trade Mark: TECNO

FCC ID: 2ADYY-KI7S

Applicable Standards: FCC CFR Title 47 Part 15C (§15.225)

Date of Sample Receipt: 02 Mar., 2023

Date of Test: 03 Mar., to 17 Mar., 2023

Date of Report Issue: 20 Mar., 2023

Test Result: PASS

Tested by: Mike.ou

Date: 20 Mar., 2023

Reviewed by: Wen.Zhao

Date: 20 Mar., 2023

Approved by: Mike.ou

Date: 20 Mar., 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	20 Mar., 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.:	KI7s
Operation Frequency:	13.56MHz
Channel Numbers:	1
Modulation Type:	ASK
Antenna Type:	Induction Coil Antenna
Power Supply:	Rechargeable Li-ion Polymer Battery DC3.85V, 4900mAh
AC Adapter:	Model: U180TSA Input: AC100-240V, 50/60Hz, 0.6A Output: DC 5.0V, 2.4A or 7.5V, 2.4A 18.0W Max
Test Sample Condition:	The test samples were provided in good working order with no visible defects.

3.3 Test Mode and Environment

Test Mode:	
Transmitting mode:	Keep the EUT in transmitting mode with modulation
<i>Remark: Pre-scan The EUT was placed on three different polar directions tested: i.e. X axis, Y axis, Z axis, and found Y axis was worse case, so the report only reflects the worse axis tested data.</i>	
Operating Environment:	
Temperature:	15°C ~ 35°C
Humidity:	20 % ~ 75 % RH
Atmospheric Pressure:	1008 mbar

3.4 Description of Test Auxiliary Equipment

Manufacturer	Description	Model	Serial Number	FCC ID/DoC
N/A	N/A	N/A	N/A	N/A

3.5 Measurement Uncertainty

Please refer to FCC ID: 2ADYY-KI7, report No.: JYTSZ-R12-2202272.

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>

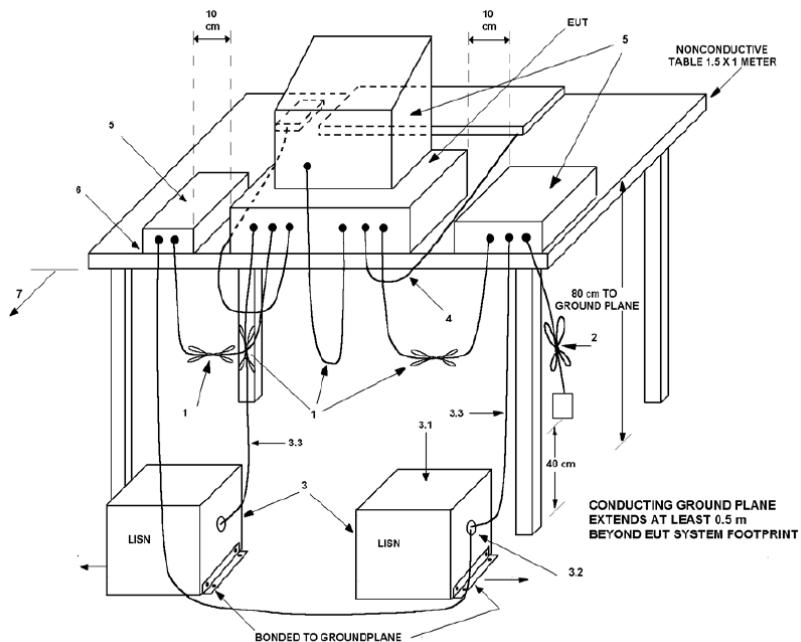
3.9 Test Instruments List

Please refer to FCC ID: 2ADYY-KI7, report No.: JYTSZ-R12-2202272.

4 Measurement Setup and Procedure

4.1 Test Setup

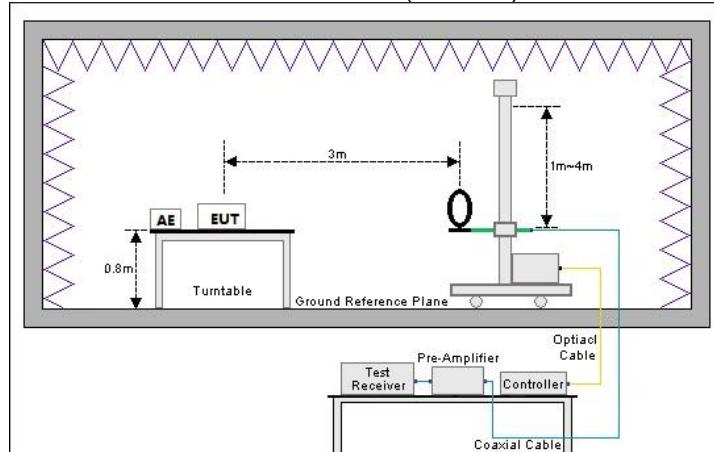
1) Conducted emission measurement:



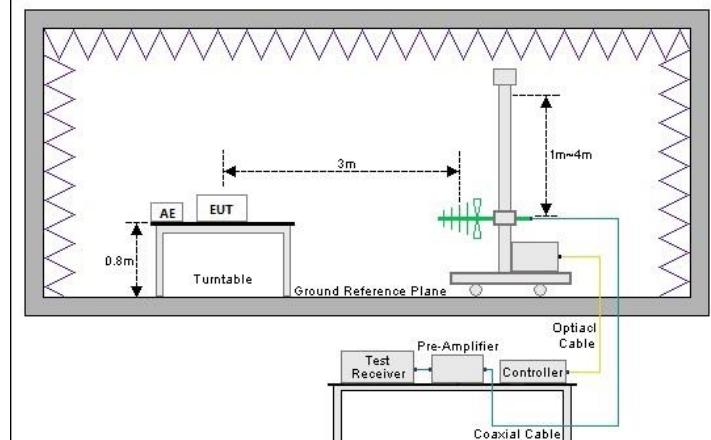
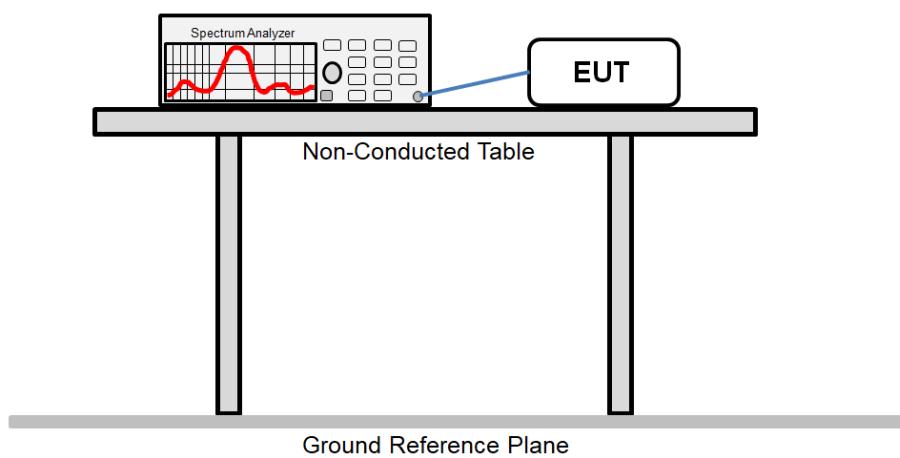
Note: The detailed descriptions please refer to Figure 8 of ANSI C63.4:2014.

2) Radiated emission measurement:

9kHz ~ 30 MHz (3m SAC)



30 MHz ~ 1GHz (3m SAC)

**Conducted test method:**

4.2 Test Procedure

Test method	Test step
Conducted emission	<ol style="list-style-type: none">1. The E.U.T and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm/50uH coupling impedance for the measuring equipment.2. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refer to the block diagram of the test setup and photographs).3. Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10 on conducted measurement.
Radiated emission	<ol style="list-style-type: none">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.
Conducted test method	<ol style="list-style-type: none">1. The antenna port of EUT was connected to the RF port of the spectrum analyzer through an RF cable.2. The EUT is keeping in continuous transmission mode and tested in all modulation modes.3. The test data is saved by the screenshot function of the spectrum analyzer.

5 Test Results

5.1 Summary

5.1.1 Clause and Data Summary

This report is revised according to the JYTSZ-R12-2202272 report, FCC ID: 2ADYY-KI7 issued by JianYan Testing Group Shenzhen Co., Ltd. Differences: Dual cards changed to single cards, SIM card holder was replaced, and adds Band 13 and closed LTE 64QAM uplink by software. So only add part of spot-check.

Test items	Standard clause	Test data	Result
Antenna Requirement	15.203	Please refer to report No.: JYTSZ-R12-2202272.	Please refer to report No.: JYTSZ-R12-2202272.
AC Power Line Conducted Emission	15.207	Please refer to report No.: JYTSZ-R12-2202272.	Please refer to report No.: JYTSZ-R12-2202272.
20dB Bandwidth	15.215(c)	Please refer to report No.: JYTSZ-R12-2202272.	Please refer to report No.: JYTSZ-R12-2202272.
Field Strength of Fundamental	15.225 (a)	Please refer to report No.: JYTSZ-R12-2202272.	Please refer to report No.: JYTSZ-R12-2202272.
Field Strength of Spurious Emissions	15.209 15.225 (d)	Please refer to report No.: JYTSZ-R12-2202272.	Please refer to report No.: JYTSZ-R12-2202272.
Frequency Tolerance	15.225 (e)	Please refer to report No.: JYTSZ-R12-2202272.	Please refer to report No.: JYTSZ-R12-2202272.
Remark: 1. Please refer to FCC ID : 2ADYY-KI7, report No. : JYTSZ-R12-2202272 issue by JianYan Testing Group Shenzhen Co., Ltd.			
Test Method:	ANSI C63.4-2014 ANSI C63.10-2013		

5.1.2 Test Limit

Items	Limit		
AC Power Line Conducted Emission	Frequency (MHz)	Limit (dB μ V)	
	0.15 – 0.5	Quasi-Peak	Average
	0.15 – 0.5	66 to 56 Note 1	56 to 46 Note 1
	0.5 – 5	56	46
5 – 30		60	50
Note 1: The limit level in dB μ V decreases linearly with the logarithm of frequency.			
Note 2: The more stringent limit applies at transition frequencies.			
20dB Bandwidth	N/A		
Field Strength of Fundamental Emissions Field Strength of Spurious Emissions	<p>(a) The field strength of any emissions within the band 13.553-13.567 MHz shall not exceed 15,848 microvolts/meter at 30 meters.</p> <p>(d) The field strength of any emissions appearing outside of the 13.110-14.010 MHz band shall not exceed the general radiated emission limits in § 15.209.</p>		
	Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
	0.009 – 0.490	2400/F(kHz)	300
	0.490 – 1.705	24000/F(kHz)	30
	1.705 – 30.0	30	30
	30 – 88	100**	3
	88 – 216	150**	3
	216 – 960	200**	3
	Above 960	500	3
** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§ 15.231 and 15.241.			
Frequency Tolerance	The frequency tolerance of the carrier signal shall be maintained within ±0.01% of the operating frequency over a temperature variation of -20 degrees to + 50 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C. For battery operated equipment, the equipment tests shall be performed using a new battery.		

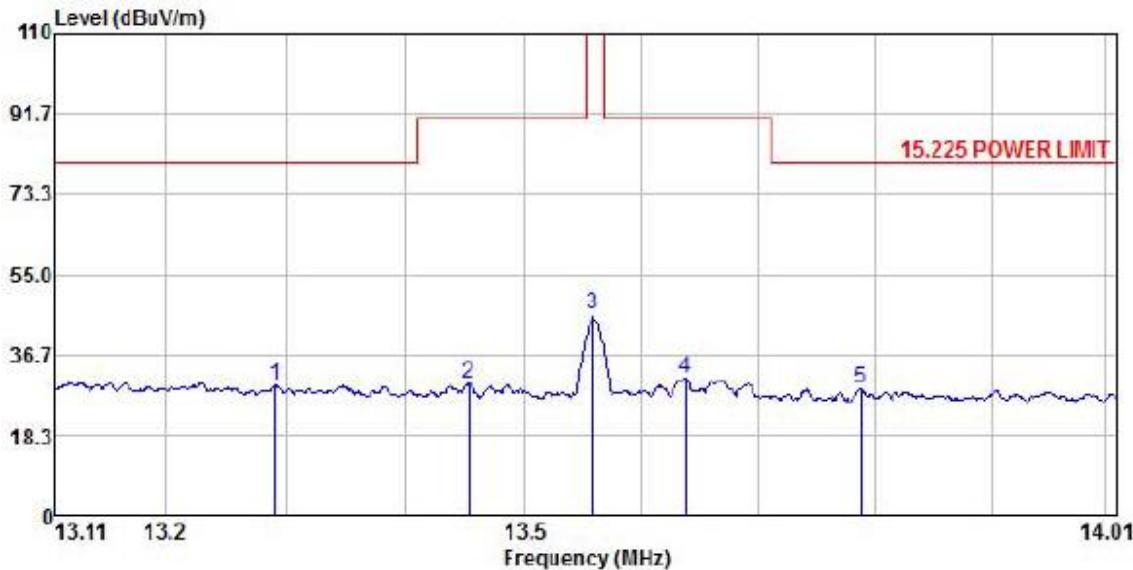
5.2 Field Strength of Fundamental—spot check

Product Name:	Mobile Phone	Product Model:	KI7s																																																																						
Test By:	Mike	Test mode:	NFC Tx mode																																																																						
Test Voltage:	DC 3.85V	Polarization:	Coxial																																																																						
<table border="1"> <thead> <tr> <th>Freq</th> <th>ReadAntenna Level</th> <th>Antenna Factor</th> <th>Cable Loss</th> <th>Preamp Factor</th> <th>Level</th> <th>Limit</th> <th>Line</th> <th>Over Limit</th> <th>Remark</th> </tr> <tr> <th>MHz</th> <th>dBuV</th> <th>dB/m</th> <th>dB</th> <th>dB</th> <th>dBuV/m</th> <th>dBuV/m</th> <th>dBuV/m</th> <th>dB</th> <th></th> </tr> </thead> <tbody> <tr> <td>1</td> <td>13.347</td> <td>9.85</td> <td>19.63</td> <td>0.40</td> <td>0.00</td> <td>29.88</td> <td>80.50</td> <td>-50.62</td> <td>Peak</td> </tr> <tr> <td>2</td> <td>13.423</td> <td>15.36</td> <td>19.61</td> <td>0.41</td> <td>0.00</td> <td>35.38</td> <td>90.50</td> <td>-55.12</td> <td>Peak</td> </tr> <tr> <td>3</td> <td>13.569</td> <td>31.42</td> <td>19.59</td> <td>0.41</td> <td>0.00</td> <td>51.42</td> <td>124.00</td> <td>-72.58</td> <td>Peak</td> </tr> <tr> <td>4</td> <td>13.662</td> <td>16.05</td> <td>19.57</td> <td>0.42</td> <td>0.00</td> <td>36.04</td> <td>90.50</td> <td>-54.46</td> <td>Peak</td> </tr> <tr> <td>5</td> <td>13.771</td> <td>8.92</td> <td>19.54</td> <td>0.43</td> <td>0.00</td> <td>28.89</td> <td>80.50</td> <td>-51.61</td> <td>Peak</td> </tr> </tbody> </table>				Freq	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit	Line	Over Limit	Remark	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dBuV/m	dB		1	13.347	9.85	19.63	0.40	0.00	29.88	80.50	-50.62	Peak	2	13.423	15.36	19.61	0.41	0.00	35.38	90.50	-55.12	Peak	3	13.569	31.42	19.59	0.41	0.00	51.42	124.00	-72.58	Peak	4	13.662	16.05	19.57	0.42	0.00	36.04	90.50	-54.46	Peak	5	13.771	8.92	19.54	0.43	0.00	28.89	80.50	-51.61	Peak
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Remark:

1. Level = Read level + Antenna Factor + Cable Loss – Preamplifier Factor.

Product Name:	Mobile Phone	Product Model:	KI7s
Test By:	Mike	Test mode:	NFC Tx mode
Test Voltage:	DC 3.85V	Polarization:	Coplanar



Freq	Read	Antenna	Cable	Preamp	Limit	Over	Over	
	Level	Factor	Loss	Level				
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	13.291	9.49	19.63	0.40	0.00	29.52	80.50	-50.98 Peak
2	13.453	9.97	19.61	0.41	0.00	29.99	90.50	-60.51 Peak
3	13.558	25.89	19.59	0.41	0.00	45.89	124.00	-78.11 Peak
4	13.636	11.15	19.57	0.42	0.00	31.14	90.50	-59.36 Peak
5	13.788	8.74	19.54	0.43	0.00	28.71	80.50	-51.79 Peak

Remark:

1. Level = Read level + Antenna Factor + Cable Loss – Preamplifier Factor.

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