FCC NFC RF Exposure Report

For

TECNO MOBILE LIMITED

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

Model: CM5

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Report Number:	WSCT-ANAB-R&E241100063A-SAR
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FCC ID:	2ADYY-CM5
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Table of contents

1 General information 3
1.1 Notes 3
1.2 EUT Information 4
2 Testing laboratory 5
3 ACCREDITATIONS 5
4 Applicant and Manufacturer 5
5 Test standard/s: 6
6 Test result 6

Modified History

REV.	Modification Description	Issued Date	Remark
REV.1.0	Initial Test Report Relesse	28 November 2024	Li Huaibi

1 General information

1.1 Notes

The test results of this test report relate exclusively to the test item specified in this test report. Shenzhen Timeway Testing Laboratories does not assume responsibility for any conclusions and generalisations drawn from the test results with regard to other specimens or samples of the type of the equipment represented by the test item. The test report is not to be reproduced or published in full without the prior written permission.

1.2 EUT Information

Device Information:	
Product Type:	Mobile Phone
Model:	CM5
Trade Name:	TECNO
Device Type:	Portable device
Exposure Category:	uncontrolled environment / general population
Production Unit or Identical Prototype:	Production Unit
Software version :	CM5-H8918
Hardware version:	V1.2
NFC Antenna Type :	Coil Antenna
Device Operating Configurations:	
Modulation:	ASK(NFC)
Operation Frequency:	NFC: 13.553-13.567MHz(TX/RX)
Power Source:	Rechargeable Li-ion Polymer Battery Model: BL-54AT Rated Voltage: 3.91V Rated Capacity: 5100mAh Nominal Energy:19.95Wh Typical Capacity: 5200mAh Limited Charge Voltage: 4.50V

Note:1.The test results of this test report relate exclusively to the test item specified in this test report. World Standardization Certification & Testing Group (Shenzhen) Co.,Ltd does not assume responsibility for any conclusions and generalisations drawn from the test results with regard to other specimens or samples of the type of the equipment represented by the test item. The test report is not to be reproduced or published in full without the prior written permission.

2 Testing laboratory

Test Site	World Standardization Certification & Testing Group (Shenzhen) Co., Ltd.
Laboratory A:	Building A-B,Baoli'an Industrial Park,No.58 and 60,Tangtou Avenue, Shiyan Street, Bao'an District, Shenzhen City, Guangdong Province, China
Laboratory B:	Building J-7F and Building D, Dongjiang Science & Technology Park, Tangjia Community, Fenghuang Street, Guangming District, Shenzhen City, Guangdong Province, China

3 ACCREDITATIONS

Our laboratories are accredited and approved by the following approval agencies according to ISO/IEC 17025.

CBTL	IECEE(international Electrotechnical Commiss,The certificate registration number is TL672)	Laboratory A ☐ Laboratory B ☐
China	CNAS (The certificated registration number: L3732)	Laboratory A ☐ Laboratory B ☐
USA	A2LA (The certificated registration number: 5768.01)	Laboratory A ☐ Laboratory B ☐
USA	ANAB (The certificated registration number:AT-3951)	Laboratory A ☒ Laboratory B ☐

Copies of granted accreditation certificates are available for downloading from our web site, http://www.wsct-cert.com

4 Applicant and Manufacturer

Applicant/Client Name:	TECNO MOBILE LIMITED
Applicant Address:	FLAT N 16/F BLOCK B UNIVERSAL INDUSTRIAL CENTRE 19-25 SHAN MEI STREET FOTAN NT HONGKONG
Manufacturer Name:	TECNO MOBILE LIMITED
Manufacturer Address:	FLAT N 16/F BLOCK B UNIVERSAL INDUSTRIAL CENTRE 19-25 SHAN MEI STREET FOTAN NT HONGKONG

5 Test standard/s:

No.	Identity	Document Title
1	47 CFR Part 2.1093	Radiofrequency radiation exposure evaluation: portable devices
2	KDB447498 D01	General RF Exposure Guidance v06
3	KDB447498 D04	Interim General RF Exposure Guidance v01

6 Test result

Ⅰ.According KDB 447498 D01 4.3.1 General SAR test exclusion guidance

Unless specifically required by the published RF exposure KDB procedures, standalone 1-g head or body and 10-g extremity SAR evaluation for general population exposure conditions, by measurement or numerical simulation, is not required when the corresponding SAR Test Exclusion Threshold condition(s), listed below, is (are) satisfied. These test exclusion conditions are based on source-based time-averaged maximum conducted output power of the RF channel requiring evaluation, adjusted for tune-up tolerance, and the minimum test separation distance required for the exposure conditions. The minimum test separation distance defined in 4.1 f) is determined by the smallest distance from the antenna and radiating structures or outer surface of the device, according to the host form factor, exposure conditions and platform requirements, to any part of the body or extremity of a user or bystander. To qualify for SAR test exclusion, the test separation distances applied must be fully explained and justified, typically in the SAR measurement or SAR analysis report, by the operating configurations and exposure conditions of the transmitter and applicable host platform requirements, according to the required published RF exposure KDB procedures. When no other RF exposure testing or reporting are required, a statement of justification and compliance must be included in the equipment approval, in lieu of the SAR report, to qualify for SAR test exclusion. When required, the device specific conditions described in the other published RF exposure KDB procedures must be satisfied before applying these SAR test exclusion provisions; for example, handheld PTT two-way radios, handsets, laptops and tablets, etc.

a) For 100 MHz to 6 GHz and test separation distances ≤ 50 mm, the 1-g and 10-g SAR test exclusion thresholds are determined by the following:

[(max. power of channel, including tune-up tolerance, mW) / (min. test separation distance, mm)] ·

[√f (GHz)] ≤ 3.0 for 1-g SAR, and ≤ 7.5 for 10-g extremity SAR, where

□.f (GHz) is the RF channel transmit frequency in GHz

 Power and distance are rounded to the nearest mW and mm before calculation
 The result is rounded to one decimal place for comparison
 The values 3.0 and 7.5 are referred to as numeric thresholds in step b) below

The test exclusions are applicable only when the minimum test separation distance is ≤ 50 mm, and for transmission frequencies between 100 MHz and 6 GHz. When the minimum test separation distance is < 5 mm, a distance of 5 mm according to 4.1 f) is applied to determine SAR test exclusion.

b) For 100 MHz to 6 GHz and test separation distances > 50 mm, the 1-g and 10-g SAR test exclusion thresholds are determined by the following (also illustrated in Appendix B):

1) {[Power allowed at numeric threshold for 50 mm in step a)] + [(test separation distance 50 mm)·(f (MHz) /150)]} mW, for 100 MHz to 1500 MHz

2) {[Power allowed at numeric threshold for 50 mm in step a)] + [(test separation distance – 50 mm) • 10]} mW, for > 1500 MHz and ≤ 6 GHz

c) For frequencies below 100 MHz, the following may be considered for SAR test exclusion (also illustrated in Appendix C):

1) For test separation distances > 50 mm and < 200 mm, the power threshold at the corresponding test separation distance at 100 MHz in step b) is multiplied by [1 + log(100/f (MHz))]

2) For test separation distances ≤ 50 mm, the power threshold determined by the equation in c) 1) for 50 mm and 100 MHz is multiplied by ½

3) SAR measurement procedures are not established below 100 MHz.

When SAR test exclusion cannot be applied, a KDB inquiry is required to determine SAR evaluation requirements for any SAR test results below 100 MHz to be acceptable.

Appendix C

SAR Test Exclusion Thresholds for < 100 MHz and < 200 mm

Approximate SAR test exclusion power thresholds at selected frequencies and test separation distances are illustrated in the following table. The equation and threshold in 4.3.1 must be applied to determine SAR test exclusion.

MHz	< 50	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	mm
100	237	474	481	487	494	501	507	514	521	527	534	541	547	554	561	567	
50	308	617	625	634	643	651	660	669	677	686	695	703	712	721	729	738	
10	474	948	961	975	988	1001	1015	1028	1041	1055	1068	1081	1095	1108	1121	1135	
1	711	1422	1442	1462	1482	1502	1522	1542	1562	1582	1602	1622	1642	1662	1682	1702	mW
0.1	948	1896	1923	1949	1976	2003	2029	2056	2083	2109	2136	2163	2189	2216	2243	2269	
0.05	1019	2039	2067	2096	2125	2153	2182	2211	2239	2268	2297	2325	2354	2383	2411	2440	
0.01	1185	2370	2403	2437	2470	2503	2537	2570	2603	2637	2670	2703	2737	2770	2803	2837	

Ⅱ. According to the ANSI C63.10 clause 11.12.2.2:

The general procedure for conducted measurements in restricted bands is as follows:

a) Measure the conducted output power (in dBm) using the detector specified by the appropriate regulatory agency (see 11.12.2.3 through 11.12.2.5 for guidance regarding measurement procedures for determining quasi-peak, peak, and average conducted output power, respectively).

b) Add the maximum transmit antenna gain (in dBi) to the measured output power level to determine the EIRP (see 11.12.2.6 for guidance on determining the applicable antenna gain).

c) Add the appropriate maximum ground reflection factor to the EIRP (6 dB for frequencies ≤ 30 MHz; 4.7 dB for frequencies between 30 MHz and 1000 MHz, inclusive; and 0 dB for frequencies > 1000 MHz).

d) For MIMO devices, measure the power of each chain and sum the EIRP of all chains in linear terms (i.e., watts and mW).

e) Convert the resultant EIRP to an equivalent electric field strength using the following relationship:

$$E=EIRP-20\log d+104.8$$

Mode	f (MHz)	Max. E-Field strength (dBuV/m)	D (m)	Ground reflection factor (dB)	EIRP (dBm)
NFC (13.56MHz)	13.56	64.94	3	6	-24.32

Note:
1. Add the appropriate maximum ground reflection factor to the ERP level (6 dB for frequencies ≤ 30MHz).
2. EIRP= 60.17+20*Log(3)-104.8+6 =-24.32(dBm)

According to the FCC KDB 447498 D04

Estimated SAR: SAR test =1.6·Pant/Pth [W/kg]

Estimated SAR	1.6 ·Pant / Pth [W/kg]		
Pmeas.(dBm)	-24.32	Pmeas.(mW)	0.003698
Pth.(mW)	474mW		
NFC Estimated 1g SAR [W/kg]	＜0.001		

7 Conclusion

The test result is passed.

--END OF REPORT--