FCC PART 15B
TEST REPORT

No. 24T04Z101775-001

for

TCL Communication Ltd.

Smart Phone

T442A

FCC ID:2ACCJB227

with

Hardware Version: V1.0C

Software Version: 442JLA11_FCC

Issued Date: 2024-08-19

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.

Test Laboratory:

CTTL-Telecommunication Technology Labs, CAICT

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REPORT HISTORY

Report Number	Revision	Description	Issue Date
24T04Z101775-001	Rev.0	1st edition	2024-08-19

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

CONTENTS

1. Test Laboratory

1.1. Testing Location

CTTL (huayuan North Road)

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

1.2. Testing Environment

Normal Temperature: 15-35°C

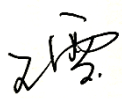
Relative Humidity: 20-75%

1.3. Project data

Testing Start Date: 2024-08-16

Testing End Date: 2024-08-18

1.4. Signature



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2. Client Information

2.1. Applicant Information

Company Name:	TCL Communication Ltd.
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2.2. Manufacturer Information

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Postal Code:	/
Country:	China
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Telephone:	+86 752 2639091
Fax:	0086-755-36612000-81722

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

3.1. About EUT

Description	Smart Phone
Model Name	T442A
FCC ID:	2ACCJB227

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

3.2. Internal Identification of EUT used during the test

EUT ID*	SN or IMEI	HW Version	SW Version
EUT1	353310409000095 2/ 353310400000960	V1.0C	442JLA11_FCC

*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	Model	Manufacturer	Remark
AE1-1	Battery1	TLp049HB	Shenzhen Aerospace Electronic Co.,Ltd.	/
AE1-2	Battery1	VK-LI-050385A N01	Ningbo Veken Battery Co., Ltd.	/
AE2-1	Charger1	UT-681A-5100UY	ShenZhen BaiJunDa Electronic Co.,Ltd	/
AE3-1	Charger2	CG10A0502000UU	Huizhou Juwei Electronics Co.,Ltd	/
AE2-2	Charger3	UT-681E-5200MY	ShenZhen BaiJunDa Electronic Co.,Ltd	Require no test
AE2-3	Charger4	UT-681B-5200MY	ShenZhen BaiJunDa Electronic Co.,Ltd	Require no test
AE2-4	Charger5	UT-680S-5200MY	ShenZhen BaiJunDa Electronic Co.,Ltd	Require no test
AE2-5	Charger6	UT-680T-5200MY	ShenZhen BaiJunDa Electronic Co.,Ltd	Require no test
AE3-2	Charger7	CG10A0502000EU	Huizhou Juwei Electronics Co.,Ltd	Require no test
AE4	USB Cable1	JWUB1686-M01R	Huizhou Juwei Electronics Co.,Ltd	/
AE5	Headset	JWEP1295-M01R	Huizhou Juwei Electronics Co.,Ltd	/

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

3.4. EUT set-ups

EUT set-up No.	Combination of EUT and AE	Remarks
Set.2-1	EUT1 + AE1-2 +AE4+AE5+PC	USB

Note:

Equipment Under Test (EUT) is a model of smart phone.

It supports

GSM Band	GSM 850/900 DCS1800 PCS1900
UMTS Band	FDD I(W2100)/FDD Band II(W1900) /FDD Band IV(W1700)/FDD V(W850)
LTE Band	FDD Bands 1/2/3/4/5/7/8/12/13/17/26/28/66, TDD Bands 38/40/41

It has MP3, Camera, USB memory, Bluetooth V4.2, Wi-Fi (802.11b/g/n) function.

The device contains receivers which tune and operate between 30MHz-960MHz in the following mode: GSM850, WCDMA850, LTE Band 5/12/13/17/26/28, FM Rx. All licensed band receivers that tune in the range of 30MHz-960MHz are investigated. Only the worst-case emissions are reported.

Note: The T442A is a variant model based on T442J. According to the declaration of changes, following items are tested. Other results please refer to 24T04Z101773-007.

Test Item	Mode or Feature	EUT Set-up
Radiated Continues Emission	USB mode	Set.2-1

4. Reference Documents

4.1. Reference Documents for testing

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

Reference	Title	Version
FCC Part 15, Subpart B	Radio frequency devices - Unintentional Radiators	2019
ANSI C63.4	American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz	2014

Note: The test methods have no deviation with standards.

5. SUMMARY OF TEST RESULTS

Abbreviations used in this clause:		
Verdict Column	P	Pass
	NA	Not applicable
	F	Fail

Items	Test Name	Clause in FCC rules	Section in this report	Verdict	Test Location
1	Radiated Emission	15.109(a)	B.1	P	CTTL(huayuan North Road)

6. Test Equipments Utilized

NO.	Description	TYPE	SERIES NUMBER	MANUFACTURE	CAL DUE DATE	CALIBRATION INTERVAL
1	Test Receiver	ESW44	103023	R&S	2025-06-06	1 year
2	EMI Antenna	VULB 9163	01223	SCHWARZBECK	2025-07-18	2 years
3	EMI Antenna	3115	00167250	ETS-Lindgren	2025-04-11	1 year

Test software information		
Test Item	Software	Version
Radiated Emission	EMC32	V11.50.00

Semi-anechoic chamber utilized did not exceed following limits along the testing:

Temperature	Min. = 15 ℃, Max. = 35 ℃
Relative humidity	Min. = 15 %, Max. = 75 %
Shielding effectiveness	0.014MHz-1MHz, >60dB; 1MHz - 1000MHz, >90dB.
Electrical insulation	> 2 MΩ
Ground system resistance	< 4 Ω
Normalised site attenuation (NSA)	< ±4 dB, 10 m distance
Site voltage standing-wave ratio (S_{VSWR})	Between 0 and 6 dB, from 1GHz to 6GHz

Shielded room utilized did not exceed following limits along the testing:

Temperature	Min. = 15 ℃, Max. = 35 ℃
Relative humidity	Min. = 20 %, Max. = 75 %
Shielding effectiveness	0.014MHz-1MHz, >60dB; 1MHz－1000MHz, >90dB.
Electrical insulation	> 2 MΩ
Ground system resistance	< 4 Ω

7. Measurement Uncertainty

Where relevant, the following measurement uncertainty(worse case) levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

Location 1: CTTL(huayuan North Road)

Test item	Frequency ranges	Measurement uncertainty
Radiated Emission	30MHz-1GHz	4.72dB(*k*=2)
	1GHz-18GHz	4.84dB(*k*=2)

ANNEX A: MEASUREMENT RESULTS

A.1 Radiated Emission

Reference

FCC: CFR Part 15.109(a).

A.1.1 Method of measurement

The field strength of radiated emissions from the unintentional radiator (USB/OTG mode of MS and charging mode of MS) at distances of 3 meters is tested. Tested in accordance with the procedures of ANSI C63.4 – 2014, section 8.3.

The EUT was placed on a non-conductive table. The measurement antenna was placed at a distance of 3/10 meters from the EUT. During the tests, the antenna height and the EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. This maximization process was repeated with the EUT positioned in each of its three orthogonal orientations.

A.1.2 EUT Operating Mode

The MS is operating in the USB mode and charging mode. During the test MS is connected to a PC via a USB cable in the case of USB mode, and is connected to the other device for charging in OTG mode and is connected to a charger in the case of charging mode.

The EUT was tested while operating in licensed band Rx mode. All licensed band receivers that tune in the range of 30MHz-960MHz, as listed in section 3.4, are investigated. Only the worst case emissions are reported.

All equipment is placed on the test table top and arranged in a typical configuration in accordance with ANSI C63.4-2014 and manipulated to obtain worst case emissions.

The model of the PC is M4000E-17, and the serial number of the PC is M706GWXD. The software is used to let the PC keep on copying data to MS, reading and erasing the data after copy action was finished.

Note：I/O information：Printer – USB, Mouse – PS/2, Keyboard – USB.

The EUT was tested while operating in licensed band Rx mode. All licensed band receivers that tune in the range of 30MHz-960MHz, as listed in section 3.4, are investigated. Only the worst case emissions are reported.

All equipment is placed on the test table top and arranged in a typical configuration in accordance with ANSI C63.4-2014 and manipulated to obtain worst case emissions.

A.1.3 Measurement Limit

Frequency range (MHz)	Field strength limit (μV/m)		
	Quasi-peak	Average	Peak
30-88	100		
88-216	150		
216-960	200		
960-1000	500		
>1000		500	5000

Note: the above limit is for 3 meters test distance. 10 meters' limit is got by converting.

A.1.4 Test Condition

Frequency range (MHz)	RBW/VBW	Sweep Time (s)	Detector
30-1000	120kHz (IF Bandwidth)	5	Peak/Quasi-peak
Above 1000	1MHz/3MHz	15	Peak, Average

A.1.5 Measurement Results

A "reference path loss" is established and the A_{Rpl} is the attenuation of “reference path loss”. It includes the antenna factor of receive antenna and the path loss.

The measurement results are obtained as described below:

Result = $P_{Mea} + A_{Rpl} = P_{Mea} + G_A + G_{PL}$

Where

G_A: Antenna factor of receive antenna

G_{PL}: Path Loss

P_{Mea}: Measurement result on receiver.

Measurement results for Set.2-1:

USB Mode/Average detector

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
6049.680	44.60	-36.36	35.18	45.78	54.00	9.40	H
6049.340	44.40	-36.36	35.18	45.58	54.00	9.60	H
17920.100	43.40	-26.85	42.33	27.92	54.00	10.60	H
17945.260	43.30	-27.02	42.33	27.99	54.00	10.70	V
17956.480	43.30	-27.02	42.33	27.99	54.00	10.70	H
17961.240	43.20	-27.19	42.33	28.06	54.00	10.80	V

USB Mode/Peak detector

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
17951.720	54.60	-27.02	42.33	39.29	74.00	19.40	V
17942.540	54.50	-27.02	42.33	39.19	74.00	19.50	V
17989.800	53.90	-27.36	42.33	38.94	74.00	20.10	H
17909.220	53.90	-26.91	42.24	38.58	74.00	20.10	V
17959.540	53.70	-27.02	42.33	38.39	74.00	20.30	V
17909.900	53.60	-26.91	42.24	38.28	74.00	20.40	H

Measurement results for Set.2-1:

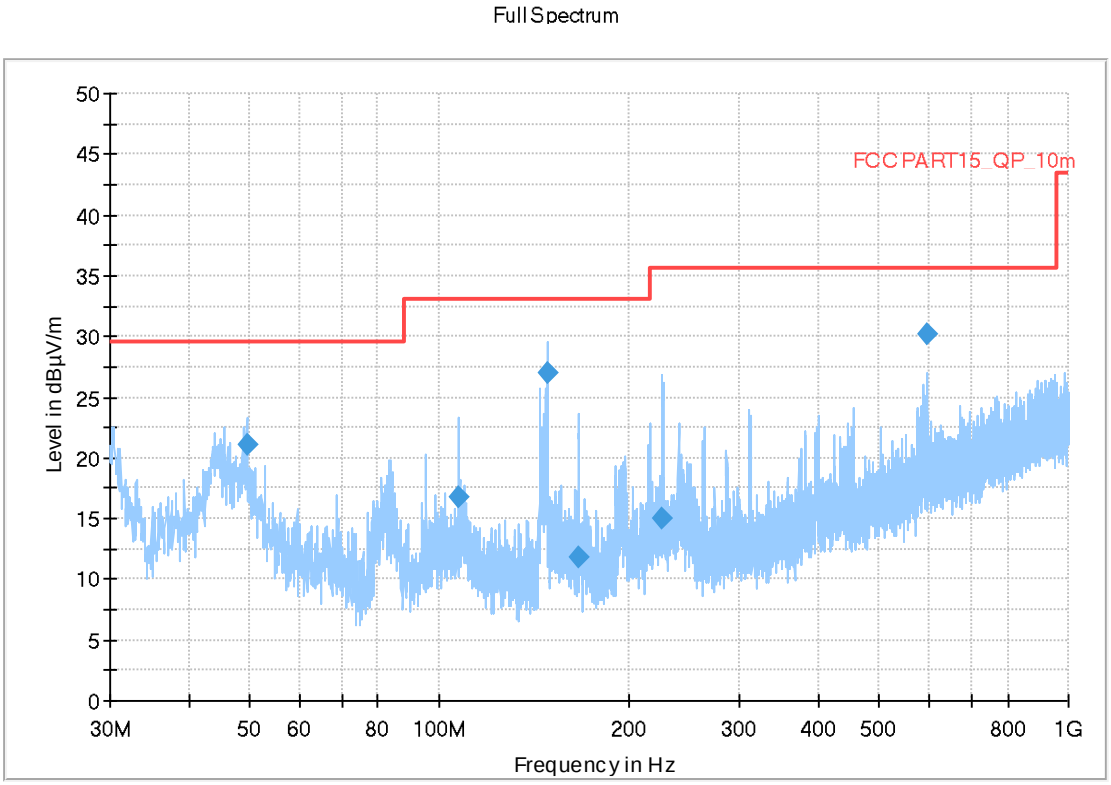

Fig A.1 Radiated Emission from 30MHz to 1GHz

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)
49.448500	21.08	29.54	8.46	120.000	275.0	V	151.0
107.406000	16.71	33.06	16.35	120.000	101.0	V	83.0
148.825000	27.04	33.06	6.02	120.000	109.0	V	-45.0
166.915500	11.82	33.06	21.24	120.000	325.0	H	270.0
226.570500	14.94	35.56	20.62	120.000	283.0	H	136.0
595.461500	30.19	35.56	5.37	120.000	214.0	V	309.0

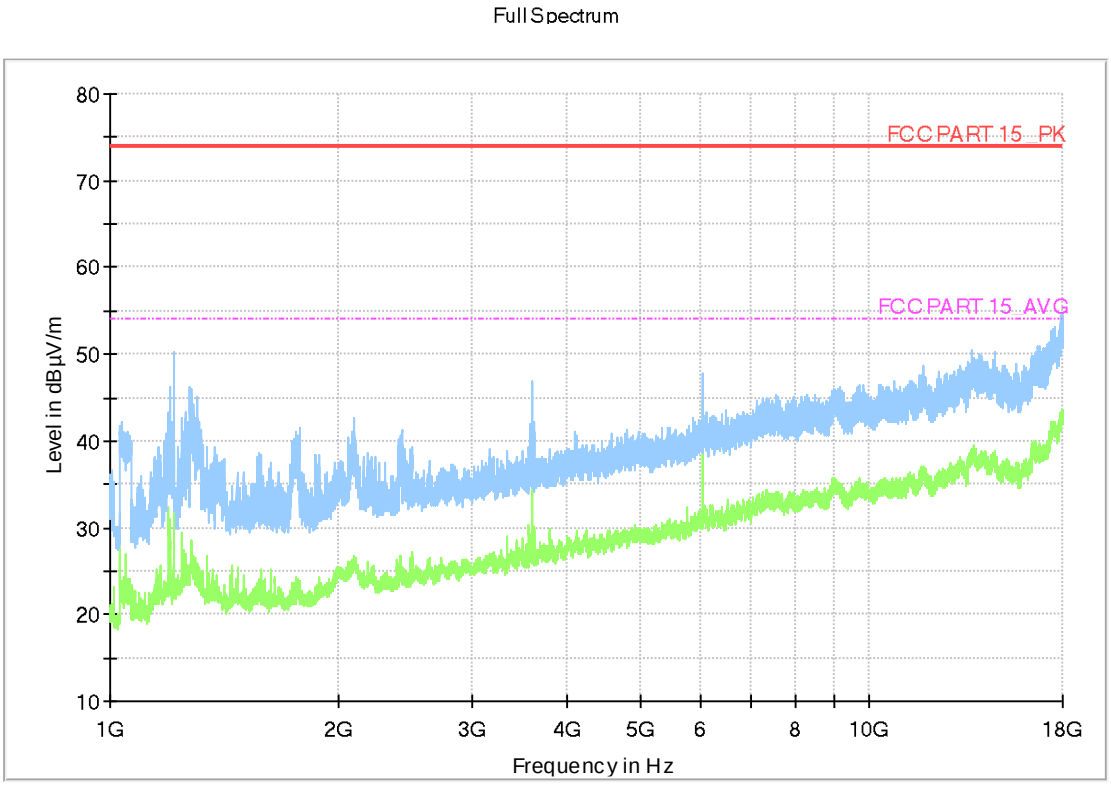

Fig A.2 Radiated Emission from 1GHz to 18GHz

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