FCC WPT Compliance Test Report

For

INFINIX MOBILITY LIMITED

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

FOTAN NT HONGKONG

FCC ID: X6873

Test Engineer:	Zeng Longhao
Report Number:	WSCT-ANAB-R&E250100001A-SAR
Report Date:	28 March 2025
FCC ID:	2AIZN-X6873
Check By:	Wei Liangmei
Approved By:	Li Huaibi
Prepared By:	World Standardization Certification & Testing Group (Shenzhen) Co., Ltd. Building A-B,Baoli'an Industrial Park,No.58 and 60,Tangtou Avenue, Shiyan Street, Bao'an District, Shenzhen City, Guangdong Province, China Tel: +86-755-26996192 Fax: +86-755-86376605

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Modified History

REV.	Modification Description	Issued Date	Remark
REV.1.0	Initial Test Report Relesse	28 March 2025	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 Application details

Date of receipt of test item:	2025-01-08
Start of test:	2025-01-09
End of test:	2025-03-25

1.3 EUT Information

Device Information:	
Product Type:	Mobile Phone
Model:	X6873
Trade Name:	Infinix
Device Type:	Portable device
Exposure Category:	uncontrolled environment / general population
Software version :	X6873-15.0.3
Hardware version:	V1.2
Power Source:	Rechargeable Li-ion Polymer Battery: BL-55AX Rated Voltage: 3.91V Rated Capacity: 5350mAh/20.92Wh Typical Capacity: 5500mAh/21.51Wh Limited Charge Voltage: 4.50V

Antenna Type	Operation Frequency	Wireless Output	Maximum Coil operating current	Modulation Type
Coil	115-148 kHz	4Watts	4A	ASK&FSK

EUT Methods for Complying with Section §15.203

☒Permanently attached antenna

☐Antennas using unique coupling with intentional radiators

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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 Test Environment

Otherwise required by the applicant or Product Regulations, Decision Rule in this report did not consider the uncertainty. The extended uncertainty given in this report is obtained by combining the standard uncertainty times the coverage factor K with the 95% confidence interval.

Parameter	Measurement Uncertainty
Temperature	±1℃
Humidity	±5%
H-field	2.11dB
E-field	2.18dB

5 Applicant and Manufacturer

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

6 Test standard/s:

No.	Identity	Document Title
1	47 CFR Part 2.1093	Radiofrequency radiation exposure evaluation: portable devices
2	47 CFR Part 1.1310	Maximum Permissible Exposure
3	47 CFR Part 15 Subpart C	Radio Frequency Devices:Intentional Radiators

7 RF exposure limits

<Limit for peak spatial-average SAR>

Pursuant to §1.1310(c):

The SAR limits for general population/uncontrolled exposure are 0.08 W/kg, as averaged over the whole body, and a peak spatial-average SAR of 1.6 W/kg, averaged over any 1 gram of tissue (defined as a tissue volume in the shape of a cube). Exceptions are the parts of the human body treated as extremities, such as hands, wrists, feet, ankles, and pinnae, where the peak spatial-average SAR limit is 4 W/kg, averaged over any 10 grams of tissue (defined as a tissue volume in the shape of a cube). Exposure may be averaged over a time period not to exceed 30 minutes to determine compliance with general population/uncontrolled SAR limits.

<Limits for Maximum Permissible Exposure>

According to §1.1310 (d)(2)

For operations within the frequency range of 300 kHz and 6 GHz (inclusive), the limits for maximum permissible exposure (MPE), derived from whole-body SAR limits and listed in Table 1 in paragraph (e)(1) of this section, may be used instead of whole-body SAR limits as set forth in paragraphs (a) through (c) of this section to evaluate the environmental impact of human exposure to RF radiation as specified in § 1.1307(b) of this part, except for portable devices as defined in § 2.1093 of this chapter as these evaluations shall be performed according to the SAR provisions in § 2.1093.

Pursuant to §1.1310, systems operating under the provisions of this section shall be operated in a manner that in such a manner as to ensure that the public is not exposed to radio frequency energy levels in excess of the Commission guidelines

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm^2)	Averaging time (minutes)
(i) Limits for Occupational/Controlled Exposure				
0.3-3.0	614	1.63	*(100)	≤6
3.0-30	1842/f	4.89/f	*($900/f^2$)	<6
30-300	61.4	0.163	1.0	<6
300-1,500			f/300	<6
1,500-100,000			5	<6
(ii) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*(100)	<30
1.34-30	824/f	2.19/f	*($180/f^2$)	<30
30-300	27.5	0.073	0.2	<30
300-1,500			f/1500	<30
1,500-100,000			1.0	<30

f = frequency in MHz. * = Plane-wave equivalent power density

According to KDB 680106 D01 V04 clause 3.2

Accordingly, for § 2.1091-Mobile devices, the MPE limits between 100 kHz to 300 kHz are to be considered the same as those at 300 kHz in Table 1 of § 1.1310, that is, 614 V/m and 1.63 A/m, for the electric field and magnetic field, respectively. For § 2.1093-Portable devices below 4 MHz and down to 100 kHz, the MPE limits in § 1.1310 (with the 300 kHz limit applicable all the way down to 100 kHz) can be used for the purpose of equipment authorization in lieu of SAR evaluations.

8 Measurement System

8.1 MAGPy Probe Information

The full MAGPy-8H3D+E3D V2 probe consists of eight isotropic H-field subprobes and one isotropic E-field subprobe that are all integrated inside the probe head with a flat tip. Each isotropic H-field subprobe comprises three concentric orthogonal loop coil sensors. The isotropic E-field subprobe is composed of three orthogonal sensors (x and y sensors are dipoles and the sensor measuring the z component is a monopole). In total, the MAGPy-8H3D+E3D V2 probe is thus composed of nine subprobes and 27 single sensors that measure in the time-domain. The flat-tip probe design brings the sensors closer to the tip (e.g., the closest H-field sensors are now 7.5mm from the tip). The probe specifications are provided in Table 2.1.

Parameter	Specs
PROBE DESIGN	
Diameter	60 mm
8 isotropic H-field sensors	concentric loops of 1 cm^2 arranged at the corner of a cube of 22 mm side length
1 isotropic E-field sensor	orthogonal dipole/monopole (arm length: 50 mm)
Measurement center	18.5 mm from the probe tip
Temperature range	0–40 °C
Dimensions	110 × 635 × 35 mm (MAGPy-8H3D+E3D V2 & MAGPy-DAS V2)
H-FIELD SPECIFICATION	
Frequency range	3 kHz–10 MHz
Measurement range	0.1–3200 A/m, 0.12 µT–4 mT
Gradient range	0–80 T/m/T
E-FIELD SPECIFICATION	
Frequency range	3 kHz–10 MHz
Measurement range	0.08–2000 V/m

Table 2.1: MAGPy-8H3D+E3D V2 probe specifications

The following figure shows the system.

8.2 Measurement procedure

Place the EUT on the test bench to stimulate the wireless charging mode, manually adjust the initial position of the probe to the highest center point of the EUT horizontal plane, the distance between a piece of A4 paper, set up the parameters in the WPT software to test

Six aspects of the EUT were tested successively, and H-field,E-field,PsSAR were obtained after the test, and the results were recorded

8.3 System verification

Below table shows the target value and measured value after normalized to 1A and comparing to the Target value provided by SPEAG calibration, the verification data should be within its specification of 1.33dB(16.6%,k=2)

Test Date	Calibrated Parameters (kHz)	Distance (mm)	Target H-field (A/m)	Measurement H-field(A/m)
2025.01.22	3	2	150	153
2024.11.01	85	2	189	200
2025.01.18	400	2	249	232

9 Test results

H-Field(A/m) & E-Field(V/m) result

Measuring Position	Test Frequency(kHz)	
Front side	125.01	
Measuring Distance (mm)	H-Field(A/m)	E-Field(V/m)
0	8.36	98.1
5	5.99	59.4
10	4.10	24.8
15	2.81	17.7
20	2.01	16.7

Measuring Position	Test Frequency(kHz)	
Rear side	125.01	
Measuring Distance (mm)	H-Field(A/m)	E-Field(V/m)
0	8.50	11.9
5	5.69	7.73
10	3.62	3.85
15	3.02	2.78
20	2.13	2.63

Measuring Position	Test Frequency(kHz)	
Left side	125.01	
Measuring Distance (mm)	H-Field(A/m)	E-Field(V/m)
0	16.6	26.5
5	11.7	16.9
10	7.79	8.07
15	4.84	5.68
20	3.35	5.36

Measuring Position	Test Frequency(kHz)	
Right side	125.01	
Measuring Distance (mm)	H-Field(A/m)	E-Field(V/m)
0	18.1	25.0
5	12.6	16.7
10	8.10	8.94
15	5.02	6.39
20	3.55	6.05

Measuring Position	Test Frequency(kHz)	
Top side	125.01	
Measuring Distance (mm)	H-Field(A/m)	E-Field(V/m)
0	1.85	36.9
5	1.28	24.0
10	0.832	12.2
15	0.578	8.68
20	0.435	8.21

Measuring Position	Test Frequency(kHz)	
Bottom side	125.01	
Measuring Distance (mm)	H-Field(A/m)	E-Field(V/m)
0	0.901	30.6
5	0.713	19.6
10	0.611	9.76
15	0.576	7.55
20	0.576	7.25

The H-Field and E-Field values for each measured 0 mm position

Measuring Position	Measuring Distance (mm)	Measured H-Field (A/m)	Limit
Front side	0	8.36	1.63
Rear side		8.50	
Left side		16.6	
Right side		18.1	
Top side		1.85	
Bottom side		0.901	

Measuring Position	Measuring Distance (mm)	Measured E-Field (V/m)	Limit
Front side	0	98.1	614
Rear side		11.9	
Left side		26.5	
Right side		25.0	
Top side		36.9	
Bottom side		30.6	

An assessment against the Limit for peak spatial-average SAR shall be performed for the EUT when the Limits for Maximum Permissible Exposure are exceeded.

Peak spatial-average SAR Result

Position	Test Distance (mm)	Measured 1g avg. (W/kg)	1g Limit (W/kg)	Result
Front side	0	0.002	1.6	Pass
Rear side	0	＜0.0001	1.6	Pass
Left side	0	＜0.0001	1.6	Pass
Right side	0	＜0.0001	1.6	Pass
Top side	0	＜0.0001	1.6	Pass
Bottom side	0	＜0.0001	1.6	Pass

Conclusion:
compliance with Peak spatial-average SAR Result < 1.6W/kg.

10 Test equipment and ancillaries used for tests

To simplify the identification of the test equipment and/or ancillaries which were used, the reporting of the relevant test cases only refer to the test item number as specified in the table below.

Manufacturer	Device Type	Type(Model)	Serial number	calibration	
				Last Cal.	Due Date
SPEAG	Probe	MAGPY-8H3D+E3DV2	3087	2024.11.01	2025.10.31
SPEAG	V&V Source	V-Coil500/3V2	1028	2024.11.13	2027.11.14
SPEAG	V&V Source	V-Coil50/400V2	1034	2024.10.31	2027.11.01
SPEAG	V&V Source	V-Coil350/85V2	1035	2024.11.06	2027.11.07

Note: V&V:verification & validation

Test photos to see X6873_ test setup photos file