

Design Pool Ltd

TEST REPORT

SCOPE OF WORK

SAR Assessment—RNE33

REPORT NUMBER

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PAGES

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DOCUMENT CONTROL NUMBER

RF Exposure

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Test Report

Applicant : Design Pool Ltd
33/F, 88 Hing Fat Street, Causeway Bay, Hong Kong

Manufacturer : Design Pool Ltd
33/F, 88 Hing Fat Street, Causeway Bay, Hong Kong

Sample Description

Product : ACTIVE POWER BANK

Model No. : RNE33

Brand Name : Native Union

FCC ID : X3QRNE33

Electrical Rating : Battery: DC 3.6V 5000mAh 18Wh
Input: USB-C 5.0V=3.0A, 9.0V=2.0A, 12.0V=1.5A
Output: USB-C 5.0V=3.0A, 9.0V=2.2A, 12.0V=1.67A
Wireless 5W-15W
Total Output: USB-C 5.0V=1.0A + Wireless 5W, Max. 10W

Date Received : 09 January 2025

Date Test Conducted : 09 January 2025 to 14 March 2025

Test Requested : Test for compliance with CFR 47 part 1

Test Method : Environmental evaluation and exposure limit according to FCC CFR 47 part 1, 1.1307(c) and (d), 1.1310
KDB 680106 D01 RF Exposure Wireless Charging v04

Test Result : Pass

Conclusion : When determining of test conclusion, measurement uncertainty of tests have been considered.

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Prepared and Checked By:

Robin Zhou
Senior Project Engineer**Approved By:**

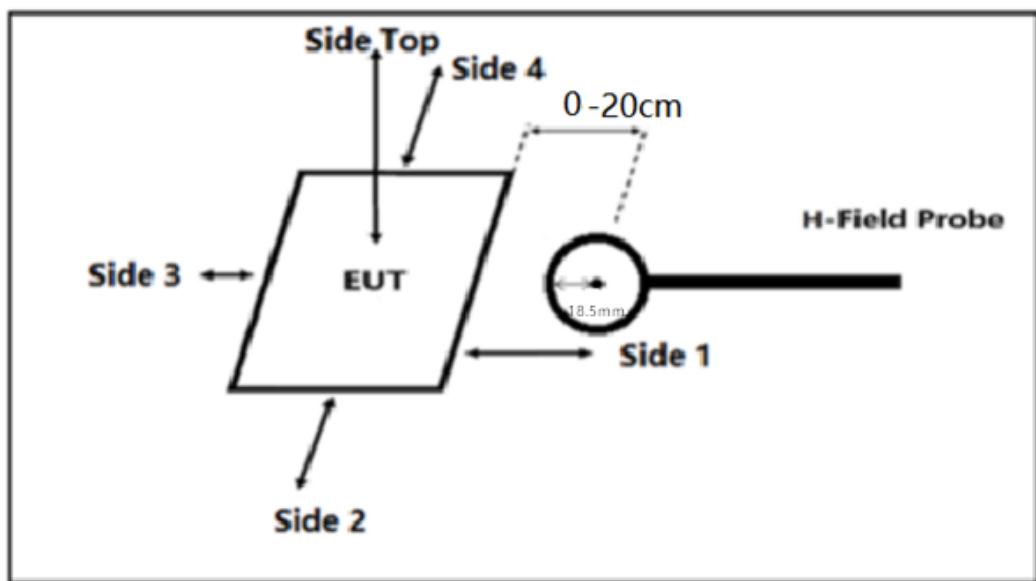
Johnny Wang
Project Engineer
Date: 29 April 2025

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Test Report

Test Setup Configuration



Note:

- The RF exposure test is performed in the shield room.
- The test distance is measured from the center of the test probe along all three axes of the device, from 0 cm to 20 cm, from the edge of the device coil in minimum 2 cm increments.

Test Equipment List

Equipment No.	Equipment	Manufacturer	Model No.	Cal. Date	Due Date
SZ186-06	The Magnetic Amplitude and Gradient Probe System	SPEAG	MAGPy-8D3D+E3D	2024-03-07	2026-03-07

This product was tested in the following configuration:

Description	Manufacturer	Detail
Mobile phone	Apple (Provided by Intertek)	Model: iPhone (A2892)
Adapter	Xiaomi (Provided by Intertek)	Model: AD201 Input: 100-240V~ 50/60Hz 0.5A Output: USB-C 5.0V=3.0A, 9.0V=2.22A, 12.0V=1.67A

Justification

Operating frequency: 111-205kHz

The EUT was powered by an adapter with AC 120V60Hz input during the test. All power input voltages (DC 5.0V=3.0A, 9.0V=2.0A, DC 12.0V=1.5A) and all rated output powers have been tested. All of the following EUT modes are considered for pre-scanning:

Per test mode	Description
Mode 1	Standby mode
Mode 2	Mobile phone is charging at 1% battery power
Mode 3	Mobile phone is charging at 50% battery power
Mode 4	Mobile phone is charging at 99% battery power

Note:

1. The EUT meets the following requirement: a “low-frequency” coil emitting structures that lead to dominant H-field near-field emissions with E/H ratio less than 1/10 of the 377-ohm free space wave impedance, typically frequencies less than 1 MHz. Only H-field measurements are sufficient for demonstrating MPE limit compliance.
2. H-field data are measured in minimal increments of 2 cm from the edge of the device along all three axes of the device, from 0 cm to 20 cm, one axis is consistent with the axis of the main coil, all modes and distances have been fully tested. The worst-case testing data were recorded in this report.

Reference Limit:

Environmental evaluation and exposure limit according to FCC CFR 47 part 1, 1.1307(c) and (d), 1.1310

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation.

LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency Range (MHz)	Electric Field strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm ²)	Average Time (minutes)
(A) Limits for Occupational/Controlled Exposure				
0.3 – 3.0	614	1.63	(100) *	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3 – 1.34	614	1.63	(100) *	30

Note: * = Plane wave equivalent power density

Test Result:

During test, the mobile phone is being charged.

Worst Case Operating Mode: Mode 2 for 2cm to 20cm distance

Center of the probe to the probe outer edge is 1.85 cm, so the test distance can only reach 2cm.

H-field strength measurement result at 2cm to 20 cm:

Test Position	Test distance(cm)										Limit (A/m)
	2	4	6	8	10	12	14	16	18	20	
Side 1	0.35	0.14	0.05	0.03	0.02	0.01	0.01	0.01	0.01	0.01	1.63
Side 2	0.62	0.21	0.07	0.03	0.02	0.01	0.01	0.01	0.01	0.01	1.63
Side 3	0.43	0.24	0.06	0.04	0.02	0.02	0.01	0.01	0.01	0.01	1.63
Side 4	0.14	0.03	0.03	0.03	0.02	0.02	0.02	0.02	0.01	0.01	1.63
Top	0.22	0.10	0.05	0.02	0.01	0.01	0.01	0.01	0.01	0.01	1.63

H-field strength at 0cm:**Validation:**

To determine the H-field strength of 0mm, an extrapolation function by setting to Probe tip in the software of MAGPy handheld system has been used.

The validation for this extrapolation is as follows:

Test mode	Distance (cm)	Estimated value (A/m)	30% tolerance (A/m)		Measured value (A/m)
			Min	Max	
Mode 2	1.85	1.21 (probe tip to EUT)	0.85	1.57	1.13 (probe center to EUT)
Mode 2	3.7	0.52 (probe tip to EUT)	0.36	0.68	0.41 (probe center to EUT)
Mode 2	5.55	0.12 (probe tip to EUT)	0.08	0.16	0.09 (probe center to EUT)

Conclusion: Estimated value has 30% agreement with actual measurement, verified the probe tip function.

Note:

1. According to KDB 680106 D01 V04, the validation is considered sufficient if a 30% agreement between the Estimated value and the (E- and/ H-field) probe measurements is demonstrated.
2. Estimated value is obtained from the tip function of the probe.

Estimated H-field Result at 0 cm:

EUT Operation mode	Side 1(A/m)	Side 2(A/m)	Side 3(A/m)	Side 4(A/m)	Top(A/m)	Limits (A/m)
Mode 2	1.35	1.32	1.28	1.34	1.33	1.63

Configuration photo of the test:

H-Field Strength

Front



Rear



Left



Right



Top



***** End of Report*****