Nanjing PowerCore Technology Co., Ltd.

MPE ASSESSMENT REPORT

Report Type:
FCCC MPE assessment report

Model:
NKR-AC006

REPORT NUMBER:
221001931SHA-002

ISSUE DATE:
March 10, 2023

DOCUMENT CONTROL NUMBER:
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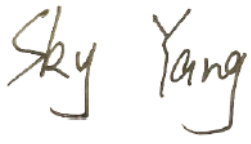
TEST REPORT

Report no.: 221001931SHA-002

Applicant:	Nanjing PowerCore Technology Co., Ltd. 4th Floor, Jiangsu Science and Technology Finance Building, Yuhuatai District, Nanjing, Jiangsu, China
Manufacturer:	Nanjing PowerCore Technology Co., Ltd. 4th Floor, Jiangsu Science and Technology Finance Building, Yuhuatai District, Nanjing, Jiangsu, China
Factory:	Nanjing PowerCore Technology Co., Ltd. 4th Floor, Jiangsu Science and Technology Finance Building, Yuhuatai District, Nanjing, Jiangsu, China
FCC ID:	2A98K-AC006

SUMMARY:

The equipment complies with the requirements according to the following standard(s) or Specification:
KDB447498 D01 General RF Exposure Guidance v06 FCC Part2.1091, FCC Part2.1093 FCC Part1.1307(b)

PREPARED BY:	**REVIEWED BY:**
	
Project Engineer Sky Yang	Reviewer Eric Li

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Revision History

Report No.	Version	Description	Issued Date
221001931SHA-002	Rev. 01	Initial issue of report	March 10, 2023

TEST REPORT

1 GENERAL INFORMATION

1.1 Description of Equipment Under Test (EUT)

Product name:	AC Charger
Type/Model:	NKR-AC006
Description of EUT:	The EUT is electric vehicle AC charger with RFID and WIFI function, the WIFI module FCC ID is 2AC7Z-ESPWROOM32UE. It has three types of rated power. All three types are electrically identical except the rated power. We choose the 11kW types to test as representative and list the results in this report.
Rating:	Input: 240VAC±10%, 50/60Hz Output: 240V±10%, 7kW/9kW/11kW
EUT type:	☒ Table top ☐ Floor standing
Software Version:	-
Hardware Version:	-
Serial numbers:	0221103-24-001
Sample received date:	February 3, 2023
Date of test:	February 6, 2023 ~ February 13, 2023

1.2 Technical Specification

Frequency Range:	13.56 MHz ~ 13.56 MHz
Modulation:	ASK
Antenna gain:	PCB antenna

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1.3 Description of Test Facility

Name:	Intertek Testing Services Shanghai
Address:	Building 86, No. 1198 Qinzhou Road(North), Shanghai 200233, P.R. China
Telephone:	86 21 61278200
Telefax:	86 21 54262353

The test facility is recognized, certified, or accredited by these organizations:	CNAS Accreditation Lab Registration No. CNAS L0139
	FCC Accredited Lab Designation Number: CN0175
	IC Registration Lab CAB identifier.: CN0014
	VCCI Registration Lab Member No.: 3598 (Registration No.: R-14243, G-10845, C-14723, T-12252)
	A2LA Accreditation Lab Certificate Number: 3309.02

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2 MPE Assessment

Test result: Pass

2.1 MPE Assessment Limit

Mobile device exposure for standalone operations:

According to§1.1310, the limit for general population/uncontrolled exposures

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm^2)	Averaging time (minutes)
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*(180/f2)	30
30-300	27.5	0.073	0.2	30
300-1500	/	/	f/1500	30
1500-100,000	/	/	1.0	30

Note: Limit for 13.56MHz is 60.77 V/m

Mobile device exposure for simultaneous transmission operations: **the sum of the MPE ratios for all simultaneously transmitting antennas incorporated in a host device is ≤ 1.0**

2.2 Assessment Results

Power density (S) is calculated according to the formula:

$S = P / (4\pi R^2)$

Where S = power density in mW/cm^2

P = Radiated transmit power in mW

R = distance (cm)

As we can see from the test report 221001931SHA-001:
63.1dBuV/m@3m, @20cm=@3m+40log(3/0.2)=110.14dBuV/m=0.32V/m<60.77.

The power for WIFI module refers to certificate of FCC ID: 2AC7Z- ESPWROOM32UE

The calculations in the table below use the highest gain of antenna for client EUT. These calculations represent worst case in terms of the exposure levels.

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Frequency Range	EIRP		Antenna Gain	R	S	Limits
(MHz)	(dBm)	(mW)	(dBi)	(cm)	(mW/cm2)	(mW/cm2)
WIFI 2.4G	19.92	98.18	4	20	0.0195	1
Bluetooth	11.59	14.42	4	20	0.00286	1

Note: 1 mW/cm2 from 1.310 Table 1.

RFID and WIFI can transmit simultaneously, so the maximum rate of MPE is,
0.32/60.77+0.0195/1=0.025 <1.0.

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Appendix I

Definition below must be outlined in the User Manual:

To satisfy FCC RF exposure requirements, a separation distance of 20 cm or more should be maintained between the antenna of this device and persons during device operation.
To ensure compliance, operations at closer than this distance is not recommended.

**********END**********