

Xiamen Linkpower Tech. Co., Ltd.

MPE ASSESSMENT REPORT

REPORT TYPE:

FCC MPE Assessment Report

MODEL:

DSxxx-x/xxA/xx/xxC/xx

(See details in page 4 of this report)

REPORT NUMBER:

2406B1389SHA-002

ISSUE DATE:

January 2, 2025

DOCUMENT CONTROL NUMBER:

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FCC ID: 2BBSV-LD48

SUMMARY:

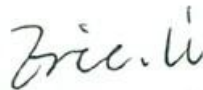
The equipment complies with the requirements according to the following standard(s) or Specification:

KDB447498 D01 General RF Exposure Guidance v06

FCC Part2.1091, FCC Part1.1307(b)

PREPARED BY:**REVIEWED BY:**

Project Engineer
Scout Gong


Reviewer
Eric Li

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Revision History

Report No.	Version	Description	Issued Date
2406B1389SHA-002	Rev. 01	Initial issue of report	January 2, 2025

1 GENERAL INFORMATION

1.1 Description of Equipment Under Test (EUT)

Product name:	Electric Vehicle AC Charger
Type/Model:	DSxxx-x/xxx/xx/xxC/xx “xxx” denotes Appearance, can be 308=308type, 306=306 type “x” denotes Plug, can be S=single plug, D=dual plugs “xxx” denotes Wattage, can be 32=32A, 40=40A, 48=48A, 64=64A, 80=80A, 96= 96A “xx” denotes Functions, can be 01=WiFi, 02=WiFi+4G, 03=WiFi+ISO15118, 04=WiFi+4G+ISO15118 “xxC” denotes Outlet type, can be 18C=18ft, 25C=25ft “xx” denotes Colour, can be BK=Black, WT=White, BL=Blue, SR=Sliver, GR=Grey
Description of EUT:	The EUT is an electric vehicle AC charger with RFID function, it supports Wi-Fi and LTE function. DS308-96A0425CBK was tested as a representative. For the Wi-Fi module, FCC ID is 2ATPO-AIWB2. For the LTE module, FCC ID is XMR201909EC25AFX.
Rating:	208-240VAC, 60Hz
EUT type:	☒ Tabletop ☐ Floor standing
Software Version:	/
Hardware Version:	/
Serial numbers:	A240807-23-001
Sample received date:	December 7, 2024
Date of test:	December 7, 2024, to January 2, 2025

1.2 Technical Specification

Frequency Range:	13.56 MHz ~ 13.56 MHz
Modulation:	AM 100%

1.3 Description of Test Facility

Name:	Intertek Testing Services (Shanghai FTZ) Co., Ltd.
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 L21189
	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

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/f ²)	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:

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

Where S = power density in mW/cm²

P = Radiated transmit power in mW

G = numeric gain of transmit antenna

R = distance (cm)

As we can see from the test report 2406B1389SHA-001: 60.20 dBuV/m at 3m
@20cm = @3m + 40 × log (3/0.2) = 107.24 dBuV/m = 0.23 V/m < 60.77 V/m

The power for WIFI/Bluetooth/BLE module refers to certificate of FCC ID: 2ATPO-AIWB2.

The power for LTE module refers to certificate of FCC ID: XMR201909EC25AFX.

The calculations in the table below use the highest gain of antenna for client EUT. These calculations represent the worst case in terms of the exposure levels. Here listed the maximum RF exposure according to the modules' certificated reports.

Radio	Frequency Range	P		G		R	S	Limits
	MHz	dBm	mW	dBi	Numeric	cm	mW/cm ²	mW/cm ²
BLE	2400 – 2483.5	6.00	3.98	3.00	1.995	20	0.0016	1.000
2.4G Wi-Fi	2400 – 2483.5	21.00	125.89	3.00	1.995	20	0.0499	1.000
WCDMA	Band II	25.00	316.23	2.00	1.585	20	0.0998	1.000
	Band IV	25.00	316.23	2.00	1.585	20	0.0998	1.000
	Band V	25.00	316.23	2.00	1.585	20	0.0998	0.550
LTE	Band 2	25.00	316.23	2.00	1.585	20	0.0998	1.000
	Band 4	25.00	316.23	2.00	1.585	20	0.0998	1.000
	Band 5	25.00	316.23	2.00	1.585	20	0.0998	0.550
	Band 12	25.00	316.23	2.00	1.585	20	0.0998	0.470
	Band 13	25.00	316.23	2.00	1.585	20	0.0998	0.520
	Band 14	25.00	316.23	2.00	1.585	20	0.0998	0.530
	Band 66	25.00	316.23	2.00	1.585	20	0.0998	1.000
	Band 71	25.00	316.23	2.00	1.585	20	0.0998	0.450

Note: Limits are calculated from 1.1310 Table 1.

RFID, Wi-Fi 2.4G, LTE module can transmit simultaneously, so the maximum rate of MPE is:

$$0.23/60.77 + 0.0499/1 + 0.0998/0.45 = 0.276 < 1.000$$

RFID, BLE, LTE module can transmit simultaneously, so the maximum rate of MPE is:

$$0.23/60.77 + 0.0016/1 + 0.0998/0.45 = 0.228 < 1.000$$

Therefore, the MPE requirement is deemed to be satisfied without test.

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*****