

Shenzhen EVI New Energy Technology Co., Ltd.

MPE ASSESSMENT REPORT

REPORT TYPE:

FCC MPE Assessment Report

MODEL:

Please see details in page 4 of this report

REPORT NUMBER:

2406B1399SHA-002

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FCC ID: 2BMC7-EVDC1-30K-CUS

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
2406B1399SHA-002	Rev. 01	Initial issue of report	December 4, 2024

1 GENERAL INFORMATION

1.1 Description of Equipment Under Test (EUT)

Product name:	DC Charging Station					
Type/Model:	EVDC1-30K-C-US-01, EVDC1-30K-C-US-02, EVDC1-30K-C-US-03 EVDC1-30K-C-US-04, EVDC1-30K-C-US-05, EVDC1-30K-C-US-06 EVDC1-30K-C-US-07, EVDC1-30K-C-US-08, EVDC1-30K-C-US-09 EVDC1-30K-C-US-10, EVDC1-30K-C-US-11, EVDC1-30K-C-US-12 EVDC1-30K-C-US-13, EVDC1-30K-C-US-14, EVDC1-30K-C-US-15 EVDC1-30K-C-US-16, EVDC1-30K-C-US-17, EVDC1-30K-C-US-18 EVDC1-30K-C-US-19, EVDC1-30K-C-US-20, EVDC1-30K-C-US-21 EVDC1-30K-C-US-22, EVDC1-30K-C-US-23, EVDC1-30K-C-US-24					
Description of EUT:	<p>The EUT is an electric vehicle DC charger with verified Wi-Fi/BT, LTE wireless module. The EUT also supports RFID function.</p> <p>Here is the certificate information about the wireless module which EUT equipped.</p> <p>For the Wi-Fi/BT modular, FCC ID is VPYLB1XK.</p> <p>For the LTE modular, FCC ID is XMR201903EG25G.</p> <p>There are 24 models, all models have the same main part. Only the supporting functions are different:</p>					
	Model	Output Cord	4G Module	Electricity Meter	POS Machine	Heater
	EVDC1-30K-C-US-01	Type CCS1 100A Max (16.5 Feet)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	EVDC1-30K-C-US-02		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	EVDC1-30K-C-US-03		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	EVDC1-30K-C-US-04		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	EVDC1-30K-C-US-05		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	EVDC1-30K-C-US-06		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	EVDC1-30K-C-US-07		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	EVDC1-30K-C-US-08		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	EVDC1-30K-C-US-09	Type NACS UHF 80A Max (16.5 Feet)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	EVDC1-30K-C-US-10		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	EVDC1-30K-C-US-11		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	EVDC1-30K-C-US-12		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	EVDC1-30K-C-US-13		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	EVDC1-30K-C-US-14		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	EVDC1-30K-C-US-15		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	EVDC1-30K-C-US-16		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	EVDC1-30K-C-US-17	Type NACS 80A Max (16.5 Feet)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	EVDC1-30K-C-US-18		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	EVDC1-30K-C-US-19		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	EVDC1-30K-C-US-20		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	EVDC1-30K-C-US-21		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	EVDC1-30K-C-US-22		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	EVDC1-30K-C-US-23		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	EVDC1-30K-C-US-24		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

TEST REPORT

Rating:	Input: L1+L2+L3+PE, 480V AC, 38A, 60Hz Output: 200-1000V DC, 100A, 30kW Max
EUT type:	<input checked="" type="checkbox"/> Tabletop <input type="checkbox"/> Floor standing
Software Version:	/
Hardware Version:	/
Serial numbers:	A241125-05-001
Sample received date:	November 25, 2024
Date of test:	November 25, 2024, to December 4, 2024

1.2 Technical Specification

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

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

TEST REPORT

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**

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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 2406B1399SHA-001: 66.50 dBuV/m at 3m

$$@20\text{cm} = @3\text{m} + 40 \times \log(3/0.2) = 113.54 \text{ dBuV/m} = 0.48 \text{ V/m} < 60.77 \text{ V/m}$$

The power for WIFI/BT module refers to the certificate of FCC ID: VPYLB1XK.

The power for LTE module refers to the certificate of FCC ID: XMR201903EG25G.

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
BT	2402.00	6.04	4.018	3.60	2.29	20	0.0018	1.0000
WLAN 2.4G	2412.00	18.99	79.250	3.60	2.29	20	0.0360	1.0000
WLAN 5G	5300.00	17.96	62.517	4.75	2.98	20	0.0370	1.0000
GSM	850	25.81	381.06	2.29	1.69	20	0.1285	0.5495
	1900	22.81	190.98	1.59	1.44	20	0.0548	1.0000
WCDMA	Band 2	25.00	316.22	1.59	1.44	20	0.0908	1.0000
	Band 4	25.00	316.22	2.00	1.58	20	0.0998	1.0000
	Band 5	25.00	316.22	2.29	1.69	20	0.1066	0.5509
LTE	Band 2	25.00	316.22	1.59	1.44	20	0.0908	1.0000
	Band 4	25.00	316.22	2.00	1.58	20	0.0998	1.0000
	Band 5	25.00	316.22	2.29	1.69	20	0.1066	0.5498
	Band 7	25.00	316.22	3.00	1.99	20	0.1256	1.0000
	Band 12	25.00	316.22	3.26	2.11	20	0.1333	0.4665
	Band 13	25.00	316.22	4.45	2.78	20	0.1754	0.5197
	Band 25	25.00	316.22	1.59	1.44	20	0.0908	1.0000
	Band 26 (814-824)	25.00	316.22	2.53	1.79	20	0.1127	0.5431
	Band 26 (824-849)	25.00	316.22	2.53	1.79	20	0.1127	0.5498
	Band 38	25.00	316.22	2.06	1.60	20	0.1011	1.0000
	Band 41	25.00	316.22	3.00	1.99	20	0.1256	1.0000

Note: Limits are calculated from 1.1310 Table 1.

RFID, BT, WLAN 2.4G, WLAN 5G, LTE module can transmit simultaneously, so the maximum rate of MPE is: $0.48/60.77 + 0.0018/1 + 0.036/1 + 0.037/1 + 0.1754/0.5197 = 0.420 < 1.000$.

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*****