



RF TEST REPORT

Product Name: EV DC Charger

Model Name: L3D-DC240XYZ 240kW, L3D-DC60XYZ 60kW, L3D-DC80XYZ 80kW, L3D-DC120XYZ 120kW, L3D-DC160XYZ 160kW, L3D-DC180XYZ 180kW

FCC ID: 2BBSV-L240G

Issued For : Xiamen LinkPower Tech. Co., Ltd

Building #3, No.29 Xinle Road, Haicang District, Xiamen, 361026, China

Issued By : Shenzhen LGT Test Service Co., Ltd.

Room 205, Building 13, Zone B, Zhenxiong Industrial Park, No.177, Renmin West Road, Jinsha, Kengzi Street, Pingshan District, Shenzhen, Guangdong, China

Report Number: LGT24G069HA01

Sample Received Date: Jul. 10, 2024

Date of Test: Jul. 10, 2024 – Sep. 04, 2024

Date of Issue: Sep. 04, 2024

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TEST REPORT CERTIFICATION

Applicant: Xiamen LinkPower Tech. Co., Ltd

Address: Building #3, No.29 Xinle Road, Haicang District, Xiamen, 361026, China

Manufacture: Xiamen LinkPower Tech. Co., Ltd

Address: Building #3, No.29 Xinle Road, Haicang District, Xiamen, 361026, China

Product Name: EV DC Charger

Trademark: LinkPower

Model Name: L3D-DC240XYZ 240kW, L3D-DC60XYZ 60kW, L3D-DC80XYZ 80kW, L3D-DC120XYZ 120kW, L3D-DC160XYZ 160kW, L3D-DC180XYZ 180kW

Sample Status: Normal

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
FCC 47 CFR §2.1091 KDB 447498 D01 General RF Exposure Guidance v06	PASS

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TABLE OF CONTENTS

1 . GENERAL INFORMATION	5
1.1 GENERAL DESCRIPTION OF THE EUT	5
1.2 TEST LABORATORY	5
2 . FCC 47CFR § 2.1091 REQUIREMENT	6
2.1 TEST STANDARDS	6
2.2 LIMIT	6
2.3 EUT OPERATION CONDITION	6
2.4 CLASSIFICATION	6
2.5 TEST RESULT	7
APPENDIX I - PHOTOGRAPHS OF EUT CONSTRUCTIONAL DETAILS	9



Revision History

Rev.	Issue Date	Revisions
00	Sep. 04, 2024	Initial Issue



1. GENERAL INFORMATION

1.1 GENERAL DESCRIPTION OF THE EUT

Product Name:	EV DC Charger	
Trademark:	LinkPower	
Model Name:	L3D-DC240XYZ 240kW	
Series Model:	L3D-DC60XYZ 60kW, L3D-DC80XYZ 80kW, L3D-DC120XYZ 120kW, L3D-DC160XYZ 160kW, L3D-DC180XYZ 180kW	
Model Difference:	<p>All models are designed in the same electrical structure, software and critical components, except different rating of components which may include main circuit breaker, main AC contact, power module and different enclosure.</p> <p>L3D-DC60 maybe wall mounted or floor mounted, but are identicle expect enclosure.</p> <p>L3D-DC60 and 180 use 30kW power module, L3D-DC80 and160 use 40kW power module,</p> <p>L3D-DC120 and 240 use 30kW or 40KW power module.</p>	
Frequency Bands:	WCDMA	Band V: 869 MHz~894 MHz Band II: 1930 MHz~1990 MHz Band IV: 2110 MHz~2155 MHz
	LTE	LTE FDD Band 2: 1850~1910MHz LTE FDD Band 4: 1710~1755MHz LTE FDD Band 5: 824~849MHz LTE FDD Band 12: 699~716MHz LTE FDD Band 13: 777~787MHz LTE FDD Band 14: 788~798MHz LTE FDD Band 66: 1710~1780MHz LTE FDD Band 71: 663~698MHz
	RFID	13.56MHz
Rating:	<p>Input Voltage: 480±10%Vac Frequency: 60Hz Output Voltage: DC 200-1000V Max Output Current: 200A for L3D-DC60, 266A for L3D-DC80, 400A for L3D-DC120, 532A for L3D-DC160, 600A for L3D-DC180, 700A for L3D-DC240.</p>	
Hardware Version:	V1.0	
Software Version:	V13	

1.2 TEST LABORATORY

Company Name:	Shenzhen LGT Test Service Co., Ltd.
Address:	Room 205, Building 13, Zone B, Zhenxiong Industrial Park, No.177, Renmin West Road, Jinsha, Kengzi Street, Pingshan District, Shenzhen, Guangdong, China
Accreditation Certificate	A2LA Certificate No.: 6727.01
	FCC Registration No.: 746540
	CAB ID: CN0136



2. FCC 47CFR §2.1091 REQUIREMENT

2.1 TEST STANDARDS

The limit for Maximum Permissible Exposure (MPE) specified in FCC 1.1310 is followed. The gain of the antennas used in the product is extracted from the Antenna data sheets provided and also the maximum total power input to the antenna is measured. Through the Friis transmission formula and the maximum gain of the antenna, we can calculate the distance, away from the product, where the limit of MPE is reached.

Although the Friis Transmission formula is far field assumption, the calculated result of that is an over-prediction for near field power density. It is taken as worst case to specify the safety range.

2.2 LIMIT

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environmental impact of the human exposure to radio-frequency (RF) radiation as specified in 1.1307 (b)

Limits for Maximum Permissible Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm ²)
Limits for Occupational / controlled Exposures			
300 - 1500	--	--	F/300
1500 – 100000	--	--	5.0
Limits for General population / Uncontrolled Exposure			
300 - 1500	--	--	F/1500
1500 – 100000	--	--	1.0

F= Frequency in MHz

Friis Formula

Friis Transmission Formula: $P_d = (P_{out} * G) / (4\pi r^2)$

Where

P_d = power density in mW/cm²

P_{out} = output power to antenna in mW

G = gain of antenna in linear scale

π = 3.1416

R = Distance between observation point and the center of radiator in cm

If we know the maximum gain of the antenna and the total output power to the antenna, through calculation, we will know MPE value at distance 20cm.

2.3 EUT OPERATION CONDITION

EUT was enabled to transmit and receive at lowest, middle and highest channels.

2.4 CLASSIFICATION

The antenna of this product, under normal use condition, is at least 20cm away from the body of the user. Warning statement to the user for keeping at least 20cm or more separation distance from the antenna should be included in the User manual. So, this device is classified as Mobile device.



2.5 TEST RESULT

Turn up Result

WCDMA B2	23.5±1dBm
WCDMA B4	23±1dBm
WCDMA B5	23±1dBm
LTE B2	24±1dBm
LTE B4	23±1dBm
LTE B5	24.5±1dBm
LTE B12	24±1dBm
LTE B13	24±1dBm
LTE B14	23.5±1dBm
LTE B66	23.5±1dBm
LTE B71	24±1dBm
RFID	-30±1dBm

**The MPE result of worst mode:**

RF Function	Frequency (MHz)	Max Turn up Power (dBm)	Duty cycle factor	Max Power (dBm)	Max Power (mW)	ANT Gain (dBi)	ANT Gain (gain of antenna in linear scale)	Power Density (mW/cm²)	Limit (mW/cm²)	Ratio	Result
WCDMA	1852.4	24.5	0	24.5	281.84	0.44	1.11	0.062	1	0.062	Pass
LTE	699.7	25	0	25	316.23	2.7	1.86	0.117	0.466	0.251	Pass

RF Function	Frequency (MHz)	Max Turn up Power (dBm)	Max Turn up Power (mW)	ANT Gain (dBi)	ANT Gain (gain of antenna in linear scale)	Power Density (mW/cm²)	Limit (mW/cm²)	Ratio	Result
RFID	13.56	-29.00	0.0013	0	1.00	0.0000003	0.98	0.0000003	Pass

The max MPE of simultaneous transmission:

$$\text{LTE}(0.117) + \text{RFID}(0.0000003) = 0.1170003 < 1$$

Note: The Maximum Power Density is less than the limit, complies with the exemption requirements.



APPENDIX I - PHOTOGRAPHS OF EUT CONSTRUCTIONAL DETAILS

Note: Please see the attached L3D-DC240XYZ 240kW_EUT Photos.

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