



RF Exposure Evaluation

For

OBDSTAR Technology Co, Ltd

Diagnostic Tool

Test Model: MD700

Additional Model No.: Please Refer to Page 6

Prepared for : OBDSTAR Technology Co, Ltd
Address : 19th floor, Building T1, Hi Park, Luoizu Community, Shiyao Street,
Baoan District, Shenzhen, Guangdong, P.R.China

Prepared by : Shenzhen LCS Compliance Testing Laboratory Ltd.
Address : 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei,
Shajing Street, Baoan District, Shenzhen, 518000, China

Tel : (+86)755-82591330

Fax : (+86)755-82591332

Web : www.LCS-cert.com

Mail : webmaster@LCS-cert.com

Date of receipt of test sample : May 19, 2025

Number of tested samples : 2

Sample number : A250519009-1, A250519009-2

Serial number : Prototype

Date of Test : May 19, 2025 ~ May 27, 2025

Date of Report : May 28, 2025



**RF Exposure Evaluation****Report Reference No.** : **LCSA05135120EB****Date of Issue** : May 28, 2025**Testing Laboratory Name** : **Shenzhen LCS Compliance Testing Laboratory Ltd.****Address** : 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China**Testing Location/ Procedure** : Full application of Harmonised standards ■
Partial application of Harmonised standards □
Other standard testing method □**Applicant's Name** : **OBDSTAR Technology Co, Ltd****Address** : 19th floor, Building T1, Hi Park, Luoqu Community, Shiyuan Street, Baoan District, Shenzhen, Guangdong, P.R.China**Test Specification****Standard** : FCC KDB publication 447498 D01 General RF Exposure Guidance v06

FCC CFR 47 part1 1.1310

FCC CFR 47 part2 2.1091

Test Report Form No. : TRF-4-E-214 A/0**TRF Originator** : Shenzhen LCS Compliance Testing Laboratory Ltd.**Master TRF** : Dated 2011-03**Shenzhen LCS Compliance Testing Laboratory Ltd. All rights reserved.**

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EUT Description : **Diagnostic Tool****Trade Mark** : N/A**Test Model** : MD700**Ratings** : Input: DC 5V
DC 3.7V by Rechargeable Li-ion Battery, 3700mAh**Result** : **Positive****Compiled by:***Joker Hu*

Joker Hu/Administrator

Supervised by:*Cary Luo*

Cary Luo/ Technique principal

Approved by:*Gavin Liang*

Gavin Liang/ Manager



Shenzhen LCS Compliance Testing Laboratory Ltd.
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China
Tel: +(86) 0755-82591330 | E-mail: webmaster@lcs-cert.com | Web: www.lcs-cert.com
Scan code to check authenticity



RF Exposure Evaluation

Test Report No. : LCSA05135120EB	<u>May 28, 2025</u> Date of issue
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Test Model.....	: MD700
EUT.....	: Diagnostic Tool
Applicant.....	: OBDSTAR Technology Co, Ltd
Address.....	: 19th floor, Building T1, Hi Park, Luoqu Community, Shiyan Street, Baoan District, Shenzhen, Guangdong, P.R.China
Telephone.....	: /
Fax.....	: /
Manufacturer.....	: OBDSTAR Technology Co, Ltd
Address.....	: 19th floor, Building T1, Hi Park, Luoqu Community, Shiyan Street, Baoan District, Shenzhen, Guangdong, P.R.China
Telephone.....	: /
Fax.....	: /
Factory.....	: OBDSTAR Technology Co, Ltd
Address.....	: 19th floor, Building T1, Hi Park, Luoqu Community, Shiyan Street, Baoan District, Shenzhen, Guangdong, P.R.China
Telephone.....	: /
Fax.....	: /

Test Result	Positive
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The test report merely corresponds to the test sample.

It is not permitted to copy extracts of these test result without the written permission of the test laboratory.





Revision History

Report Version	Issue Date	Revision Content	Revised By
000	May 28, 2025	Initial Issue	--
At the customer's request, the revised report was submitted to LCSA05135120EB applicant by quoting the test data of RF Exposure Evaluation-FCC original report. Added Test model: ZSCAN(Pad)- II Replaced the external product photo. Conduction and radiation were retested, The relevant data and test photos have been replaced.			





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1. Product Information

Product name	Diagnostic Tool
Test Model	MD700
Additional Model No.	iScan Pro, iScan Pros,MOTOSTAR, MOTOSTAR Pro , MOTOSTAR Pros,MS70 Pro, MS70 Pros, Moto Tuner,Marine Pro, D700 Pro, D700 Pros, D700 S,DC706 Pro, DC706 Pros,ECU Pro, HDECU,HDECUPRO,AutoEcu ,ECU MASTER , HD ECU PROS ,Moto ECU,Diesel ECU pro, Diesel Pro,M700, M700 PRO, M700 PROS, M700 MASTER ,FK100, FK100 Pro,IM700, IM700 S, IM700 Pro,IM706, IM706S, IM706 Pro,KeyMaster 7,KeyMaster 7S, KeyMaster 7 Pro,Odo Master Pro, Boat Master,MS75, MS75S, MS75 Pro,DB700, DB700 Pro,DB700S,DB706, DB706 Pro,DB706S,MS70 Pro, MS70 Pros,iScan 700, iScan 700S, iScan 700 Pro, iScan 700 Pros,MOTO 700, MOTO 700S,MOTO 700 Pro, MOTO 700 Pros,MK75, MK75S, MK75 Pro,MK75 Pros,MK70S, MK70 Pro,MK70 Pros,MK706, MK706S, MK706 Pro, ZSCAN(Pad)- II
Model Declaration	PCB board, structure and internal of these model(s) are the same, So no additional models were tested
Power Supply	Input: DC 5V DC 3.7V by Rechargeable Li-ion Battery, 3700mAh
Hardware Version	V1.0
Software Version	V1.0
Frequency Range	2412MHz ~ 2462MHz
Channel Spacing	5MHz
Channel Number	11 Channels for 20MHz bandwidth (2412~2462MHz)
Modulation Type	IEEE 802.11b: DSSS (CCK, DQPSK, DBPSK) IEEE 802.11n: OFDM (64QAM, 16QAM, QPSK, BPSK)
Antenna Description	Internal Antenna, 1.62dBi (max.)
Exposure category	General population/uncontrolled environment
EUT Type	Production Unit
Device Type	Mobile Devices

Note: For a more detailed antenna description, please refer to the antenna specifications or the antenna report provided by the customer.





2. Evaluation Method

Systems operating under the provisions of FCC 47 CFR section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines. In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as mobile device whereby a distance of 0.2m normally can be maintained between the user and the device, and below RF Permissible Exposure limit shall comply with.

In accordance with KDB447498D01 for Simultaneous transmission MPE test exclusion applies when the sum of the MPE ratios for all simultaneous transmitting antennas incorporated in a host device, based on the calculated/estimated, numerically modelled or measured field strengths or power density, is ≤ 1.0 . The MPE ratio of each antenna is determined at the minimum test separation distance required by the operating configurations and exposure conditions of the host device, according to the ratio of field strengths or power density to MPE limit, at the test frequency. Either the maximum peak or spatially averaged results from measurements or numerical simulations may be used to determine the MPE ratios. Spatial averaging does not apply when MPE is estimated using simple calculations based on far-field plane-wave equivalent conditions. The antenna installation and operating requirements for the host device must meet the minimum test separation distances required by all antennas, in both standalone and simultaneous transmission operations, to satisfy compliance.

3. Limit

3.1 Refer Evaluation Method

[ANSI C95.1-1999](#): IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz.

[FCC KDB publication 447498 D01 General 1 RF Exposure Guidance v06](#): Mobile and Portable Devices RF Exposure Procedures and Equipment Authorization Policies.

[FCC CFR 47 part1 1.1310](#): Radiofrequency radiation exposure limits.

[FCC CFR 47 part2 2.1091](#): Radiofrequency radiation exposure evaluation: mobile devices

3.2 Limit

Limits for Maximum Permissible Exposure (MPE)/Controlled Exposure

Frequency Range(MHz)	Electric Field Strength(V/m)	Magnetic Field Strength(A/m)	Power Density (mW/cm ²)	Averaging Time (minute)
Limits for Occupational/Controlled Exposure				
0.3 – 3.0	614	1.63	(100)*	6
3.0 – 30	1842/f	4.89/f	(900/f ²)*	6
30 – 300	61.4	0.163	1.0	6
300 – 1500	/	/	f/300	6
1500 – 100,000	/	/	5	6

Limits for Maximum Permissible Exposure (MPE)/Uncontrolled Exposure

Frequency Range(MHz)	Electric Field Strength(V/m)	Magnetic Field Strength(A/m)	Power Density (mW/cm ²)	Averaging Time (minute)
Limits for Occupational/Controlled Exposure				
0.3 – 3.0	614	1.63	(100)*	30
3.0 – 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

F=frequency in MHz

*=Plane-wave equivalent power density





4. MPE Calculation Method

Predication of MPE limit at a given distance
Equation from page 18 of OET Bulletin 65, Edition 97-01

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

Where: S=power density

P=power input to antenna

G=power gain of the antenna in the direction of interest relative to an isotropic radiator

R=distance to the center of radiation of the antenna

5. Antenna Information

EUT can only use antennas certificated as follows provided by manufacturer;

Internal Identification	Antenna type and antenna number	Operate frequency band	Maximum antenna gain	Note
Antenna	Internal Antenna	2412MHz-2462MHz	1.62dBi(Max.)	WIFI Antenna

6. Conducted Power

<2.4G WIFI>

Mode	Channel	Frequency(MHz)	Max Conducted Power (dBm)
IEEE 802.11b	1	2412	15.46
	6	2437	15.38
	11	2462	15.16
IEEE 802.11n HT20	1	2412	14.36
	6	2437	14.51
	11	2462	14.37

7. Manufacturing Tolerance

<2.4G WIFI>

11B (Peak)			
Channel	Channel 1	Channel 6	Channel 11
Target (dBm)	15.0	15.0	15.0
Tolerance ±(dB)	1.0	1.0	1.0
11N20SISO (Peak)			
Channel	Channel 1	Channel 6	Channel 11
Target (dBm)	14.0	14.0	14.0
Tolerance ±(dB)	1.0	1.0	1.0

8. Measurement Results

8.1 Standalone MPE

As declared by the Applicant, the EUT is a wireless device used in a fix application, at least 20 cm from any body part of the user or nearby persons; from the maximum EUT RF output power, the minimum separation distance, $r=20\text{cm}$, as well as the gain of the used antenna refer to antenna information, the RF power density can be obtained.





[2.4GWLAN]

Modulation Type	Output power		Antenna Gain (dBi)	Antenna Gain (linear)	MPE (mW/cm ²)	MPE Limits (mW/cm ²)
	dBm	mW				
IEEE 802.11b	16.0	39.8107	1.62	1.5346	0.0120	1.0000
IEEE 802.11n HT20	15.0	39.8107	1.62	1.5346	0.0091	1.0000

Remark:

1. Output power including tune-up tolerance;
2. MPE evaluate distance is 20cm from user manual provide by manufacturer;

8.2 Simultaneous Transmission MPE

Not Applicable

9. Conclusion

The measurement results comply with the FCC Limit per 47 CFR 2.1091 for the uncontrolled RF Exposure of mobile device.

10. Description of Test Facility

NVLAP Accreditation Code is 600167-0.

FCC Designation Number is CN5024.

CAB identifier is CN0071.

CNAS Registration Number is L4595.

Test Firm Registration Number: 254912.

11.Measurement Uncertainty

Test Item	Frequency Range	Uncertainty	Note
Output power	1GHz-40GHz	±0.57dB	(1)

- (1). This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

.....THE END OF REPORT.....

