RF Exposure Report

Report No.: AGC09770200704FH03

APPLICATION PURPOSE	:	Original Equipment
PRODUCT DESIGNATION	:	Ford Ranger/Everest Wireless Charge Mat
BRAND NAME	:	Directed
MODEL NAME	:	VKB3Z-19A464-B
APPLICANT	:	Directed Electronics OE Pty Ltd
DATE OF ISSUE	:	Jul. 27, 2020
STANDARD(S)	:	KDB680106 D01 RF Exposure Wireless Charging Base App v03
REPORT VERSION	:	V1.0

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REPORT REVISE RECORD

Report Version	Revise Time	Issued Date	Valid Version	Notes
V1.0	/	Jul. 27, 2020	Valid	Initial Release

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1. VERIFICATION OF CONFORMITY

Applicant	Directed Electronics OE Pty Ltd
Address	115-119 Link Road, Melbourne Airport, Victoria, 3045, Australia
Manufacturer	Directed Electronics OE Pty Ltd
Address	115-119 Link Road, Melbourne Airport, Victoria, 3045, Australia
Factory	Directed Electronics OE Pty Ltd
Address	115-119 Link Road, Melbourne Airport, Victoria, 3045, Australia
Product Designation	Ford Ranger/Everest Wireless Charge Mat
Brand Name	Directed
Test Model:	VKB3Z-19A464-B
Date of test	Jul. 07, 2020 to Jul. 27, 2020
Deviation	No any deviation from the test method
Condition of Test Sample	Normal
Report Template	AGCRT-US-BR/RF

We hereby certify that:

The above equipment was tested by Attestation of Global Compliance(Shenzhen) Co., Ltd. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in KDB680106 D01.

The results of testing in this report apply to the product/system which was tested only.

Prepared By	Sky Dong (Project Engineer)	Jul. 27, 2020
Reviewed By	Max Zhang (Reviewer)	Jul. 27, 2020
Approved By	Forrest Lei (Authorized Officer)	Jul. 27, 2020

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2. GENERAL INFORMATION

2.1.PRODUCT DESCRIPTION

A major technical description of EUT is described as following

Operation Frequency	110-205 kHz
Test Frequency	145kHz
Maximum field strength	67.95dBuV/m(PK)@3m
Number of channels	1
Antenna Designation	Coil Antenna (Met 15.203 Antenna requirement)
Hardware Version	V1.0
Software Version	V1.0
Power Supply	DC 12V by battery

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3. DESCRIPTION OF TEST MODES

NO.	TEST MODE DESCRIPTION
1	Wireless charging Mode(Full load)
2	Wireless charging Mode(Half load)
3	Wireless charging Mode(Null load)

Note:
1. The mode 1 was the worst case and only the data of the worst case record in this report.
2. The antenna 1, antenna 2 and antenna 3 can't work at the same time and each antenna has been tested. The antenna 2 is the worst case and recorded in the report.

4. SYSTEM TEST CONFIGURATION

Item	Equipment	Model No.	ID or Specification	Remark
1	Ford Ranger/Everest Wireless Charge Mat	VKB3Z-19A464-B	2AWVX-VKB3Z	EUT
2	Battery	N300	DC 12V	AE
3	Wireless Load	N/A	10W	AE

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5. TEST FACILITY

TestSite	Attestation of Global Compliance(Shenzhen) Co., Ltd
Location	1-2/F,Building19,JunfengIndustrialPark,ChongqingRoad,HepingCommunity,FuhaiStreet,Bao'anDistrict,Shenzhen,Guangdong,China
Designation Number	CN1259
FCC Test Firm Registration Number	975832
A2LA Cert. No.	5054.02
Description	Attestation of Global Compliance(Shenzhen) Co., Ltd is accredited by A2LA

TEST EQUIPMENT LIST

Description	Manufacturer	Model	S/N	Cal. Date	Cal. Due
Broadband Field Meter	Narda Safety Test Solutions GmbH	ELT-400	J-0004	Jul.02,2020	Jul.01,2021
Probe FHP	Narda Safety Test Solutions GmbH	2300/90.10	J-0015	Jul.02,2020	Jul.01,2021

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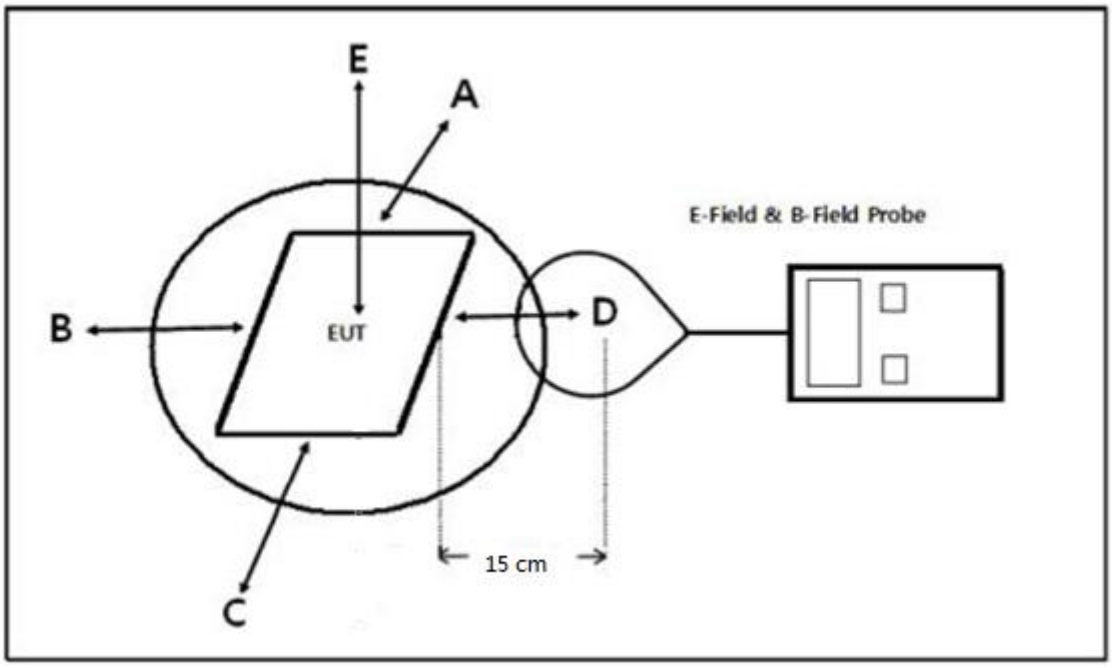
6. RADIO FREQUENCY(RF) EXPOSURETEST

6.1. LIMITS

For devices designed for typical desktop applications, such a wireless charging pads, RF exposure evaluation should be conducted assuming a user separation distance of 15 cm. E and H field strength measurements or numerical modeling may be used to demonstrate compliance. Measurements should be made from all sides and the top of the primary/client pair, with the 15 cm measured from the center of the probe(s) to the edge of the device. Emissions between 100 kHz to 300 kHz should be assessed versus the limits at 300 kHz in Table 1 of Section 1.1310: 614 V/m and 1.63 A/m.

6.2. TEST SETUP



Note: Position A: Front of EUT; Position B: Left of EUT; Position C: back of EUT; Position D: Right of EUT; Position E: Top of EUT(20 cm measure distance);

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6.3. TEST PROCEDURE

The EUT was placed on a non-conductive table top and the ancillary equipment (e.g.mobile phone) was placed on the EUT for charging.

Maximum E-field and H-field measurements were tested 15cm from each side of the EUT. For top side the measure distance is 20cm.

Along the side of the EUT to center of E-field probe and H-field probe were positioned at the location to search maximum field strength.

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6.4. TEST RESULT

Test condition: Mode 1

E-field strength test result:

Frequency Range	Probe Position A (V/m)	Probe Position B (V/m)	Probe Position C (V/m)	Probe Position D (V/m)	Probe Position E (V/m)	Limit (V/m)
145.0kHz	1.08	1.08	1.09	1.09	1.62	307

H-field strength test result:

Frequency Range	Probe Position A (A/m)	Probe Position B (A/m)	Probe Position C (A/m)	Probe Position D (A/m)	Probe Position E (A/m)	Limit (A/m)
145.0kHz	0.51	0.49	0.52	0.49	0.67	0.82

Test condition: Mode 2

E-field strength test result:

Frequency Range	Probe Position A (V/m)	Probe Position B (V/m)	Probe Position C (V/m)	Probe Position D (V/m)	Probe Position E (V/m)	Limit (V/m)
152.6kHz	0.88	0.85	0.86	0.86	0.99	307

H-field strength test result:

Frequency Range	Probe Position A (A/m)	Probe Position B (A/m)	Probe Position C (A/m)	Probe Position D (A/m)	Probe Position E (A/m)	Limit (A/m)
152.6kHz	0.32	0.30	0.21	0.31	0.49	0.82

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Test condition: Mode 3

E-field strength test result:

Frequency Range	Probe Position A (V/m)	Probe Position B (V/m)	Probe Position C (V/m)	Probe Position D (V/m)	Probe Position E (V/m)	Limit (V/m)
158.8kHz	0.67	0.68	0.66	0.67	0.75	307

H-field strength test result:

Frequency Range	Probe Position A (A/m)	Probe Position B (A/m)	Probe Position C (A/m)	Probe Position D (A/m)	Probe Position E (A/m)	Limit (A/m)
158.8kHz	0.13	0.15	0.15	0.16	0.19	0.82

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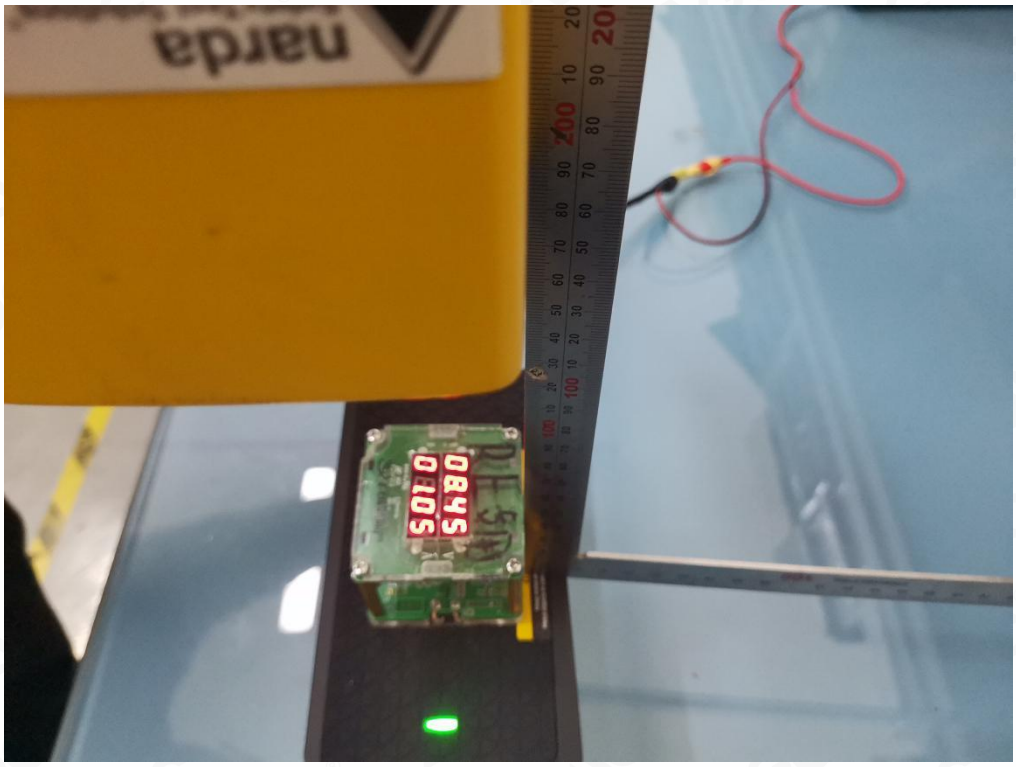
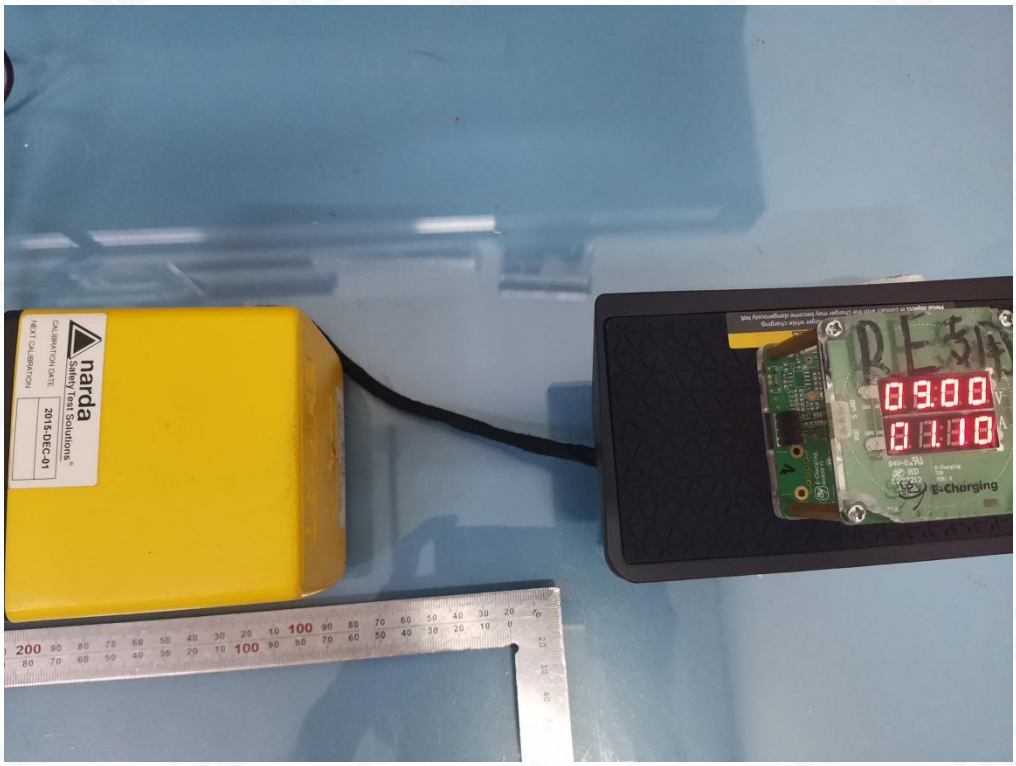
Position E



Position A



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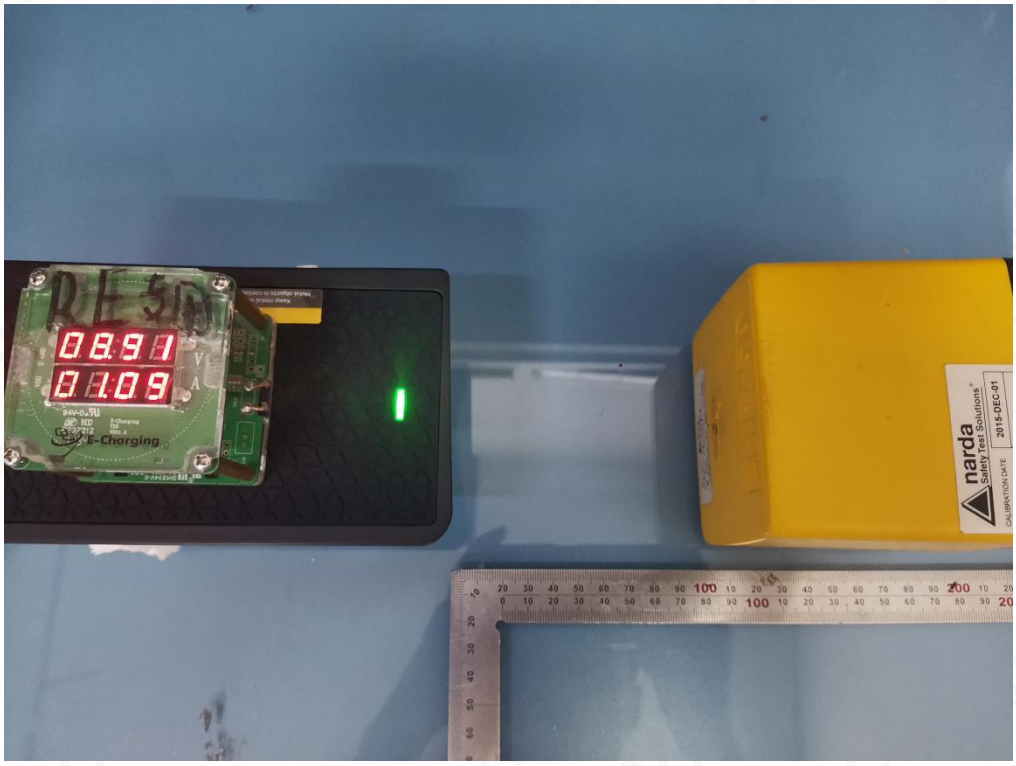
Position B

Position C



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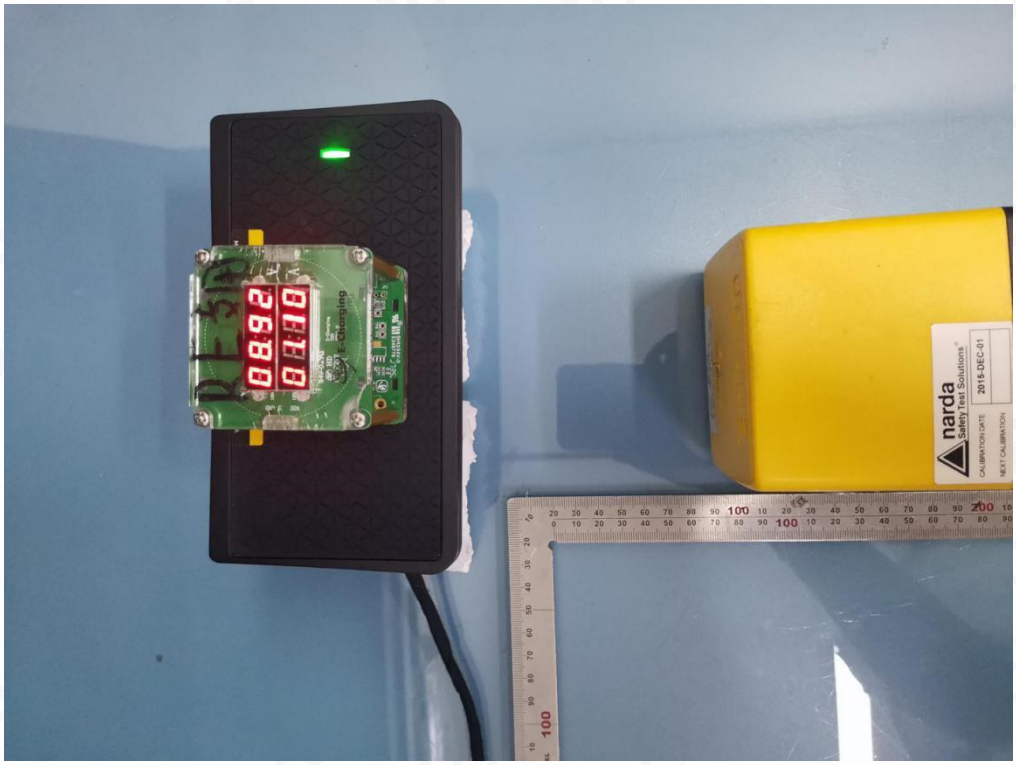
Position D



----END OF REPORT----

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2. Any report issued by Company as a result of this application for testing services (the "Report") shall be issued in confidence to the Clients and the Report will be strictly treated as such by the Company. It may not be reproduced either in its entirety or in part and it may not be used for advertising or other unauthorized purposes without the written consent of the Company. The Clients to whom the Report is issued may, however, show or send it, or a certified copy thereof prepared by the Company to its customer, supplier or other persons directly concerned. The Company will not, without the consent of the Clients, enter into any discussion or correspondence with any third party concerning the contents of the Report, unless required by the relevant governmental authorities, laws or court orders.

3.The Company shall not be called or be liable to be called to give evidence or testimony on the Report in a court of law without its prior written consent, unless required by the relevant governmental authorities, laws or court orders.

4. The non-CMA report issued by AGC is only permitted to be used by the client as internal reference use and shall not be used for public demonstration purpose.

5. In the event of the improper use of the report as determined by the Company, the Company reserves the right to withdraw it, and to adopt any other additional remedies which may be appropriate.

6. Samples submitted for testing are accepted on the understanding that the Report issued cannot form the basis of, or be the instrument for, any legal action against the Company.

7. The Company will not be liable for or accept responsibility for any loss or damage however arising from the use of information contained in any of its Reports or in any communication whatsoever about its said tests or investigations.

8.Clients wishing to use the Report in court proceedings or arbitration shall inform the Company to that effect prior to submitting the sample for testing.

9. The Company is not responsible for recalling the electronic version of the original report when any revision is made to them. The Client assumes the responsibility to providing the revised version to any interested party who uses them.

10. Subject to the variable length of retention time for test data and report stored hereinto as otherwise specifically required by individual accreditation authorities, the Company will only keep the supporting test data and information of the test report for a period of six years. The data and information will be disposed of after the aforementioned retention period has elapsed. Under no circumstances shall we provide any data and information which has been disposed of after retention period. Under no circumstances shall we be liable for damage of any kind, including (but not limited to) compensatory damages, lost profits, lost data, or any form of special, incidental, indirect, consequential or punitive damages of any kind, whether based on breach of contract of warranty, tort (including negligence), product liability or otherwise, even if we are informed in advance of the possibility of such damages.

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