Report No. 270798-3

Test Report

Product	Inductive Charger for Wireless Sheep Locators
Name and address of the applicant	Findmysheep AS Ulset NO-2512 Kvikne, NORWAY
Name and address of the manufacturer	Findmysheep AS Ulset NO-2512 Kvikne, NORWAY
Model	Lader FMS
Rating	24 V DC (Used external AC/DC Adapter)
Trademark	/
Serial number	822616
Additional information	Only for use with the E-bell
Tested according to	**FCC KDB 680106 D01 RF Exposure Wireless Charging Apps v02** **FCC Part 1.1310 Radiofrequency radiation exposure limits**
Order number	270798
Tested in period	2015.01.08
Issue date	2015.04.24
Name and address of the testing laboratory	Nemko Instituttveien 6 Kjeller, Norway FCC No: 994405 IC OATS: 2040D-1 TEL: (+47) 22 96 03 30 FAX: (+47) 22 96 05 50

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Template version: B

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1 INFORMATION

1.1 Test Item

Name :	Findmysheep
FCC ID :	2ADX2-LADERFMS
Industry Canada ID :	/
Model/version :	Lader FMS
Serial number :	822616
Hardware identity and/or version:	311012AUA04 10W Pri 5 Charges BOM 0.32/PCB Rev B
Software identity and/or version :	WPC-ST-FMS-02 Rev 1.2
Tunable Bands :	No
Frequency Range Charger :	119 – 150 kHz
Maximum Charging Power :	10 Watts
Type of Modulation :	None
User Frequency Adjustment :	No
Type of Power Supply :	24 V DC (Used External AC/DC Adapter)

Description of Test Item

The EUT is an inductive charger for E-Bell wireless sheep locators. Up to 5 E-Bell sheep locators can be charged simultaneously.

1.2 Test Environment

1.2.1 Normal test condition

Temperature:	21.2 – 21.3 °C
Relative humidity:	40 - 43 %
Normal test voltage:	120 V AC / 60Hz

The values are the limit registered during the test period.

1.3 Test Engineer(s)

Frode Sveinsen

1.4 Test Equipment

See list of test equipment in clause 4.

2 TEST REPORT SUMMARY

2.1 General

All measurements are tracable to national standards.

The tests were conducted for the purpose of demonstrating compliance with FCC KDB 680106 D01 RF Exposure Wireless Charging Apps v02.

2.2 Test Summary

Name of test	FCC Reference	Result
Electrical Field Strength	Part 1.1310(e) Table 1	Passed
Magnatical Field Strength	Part 1.1310(e) Table 1	Passed

2.3 Description of modification for Modification Filing

Not applicable.

2.4 Comments

All ports were populated during spurious emission measurements.

Power supply variation within 85% to 115% of nominal value has no influence on measured values.

External AC Adaptor used during testing: I.T.E Power Supply, Model: CENB1090A2403F01

2.5 Family List Rational

Not Applicable.

3 TEST RESULTS

3.1 Measured RF Field Strength

Electrical and Magnetic Field Strength was measured with field sensors at 20 cm

Tested in charging mode with 5 E-Bells as charging load

Measurements were performed in three positions above, under, front and back of the charger as shown on the illustration, in addition to one position on either side of the charger. All measurements were performed at 20cm measured from the center of the probe.

Measurement results are compared with the limits in FCC 1.1310(e) Table 1 at 300 kHz for General Population/Uncontrolled Exposure.

During testing it was verified that all trackers were charging by observing that all charging LEDs were flashing.

Measurement Data:

Position	Measured Electrical Field Strength (RMS) V/m	Correction Factor	Corrected Electrical Field Strength (RMS) V/m	Verdict
Above – 1	4.2	1.15	4.8	Pass
Above – 2	4.5		5.2	Pass
Above – 3	4.0		4.6	Pass
Below - 1	2.6		3.0	Pass
Below – 2	3.2		3.7	Pass
Below – 3	2.7		3.1	Pass
Front – 1	3.1		3.6	Pass
Front – 2	3.4		3.9	Pass
Front – 3	3.1		3.6	Pass
Back - 1	2.8		3.2	Pass
Back – 2	3.5		4.0	Pass
Back – 3	3.3		3.8	Pass
Left Side	3.3		3.8	Pass
Right Side	2.5		2.9	Pass
Limit			**614**	

Measurement Data:

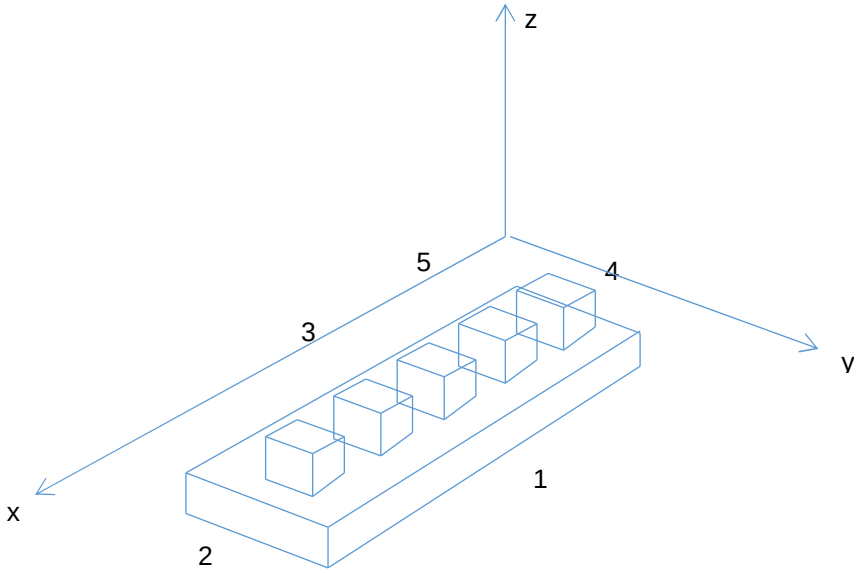
Position	Measured Magnetic Induction (RMS) nT	Calculated Magnetic Field (RMS) A/m	Verdict
Above – 1	55	0.044	Pass
Above – 2	58	0.046	Pass
Above – 3	52	0.041	Pass
Below - 1	44	0.035	Pass
Below – 2	46	0.037	Pass
Below – 3	43	0.034	Pass
Front – 1	48	0.038	Pass
Front – 2	48	0.038	Pass
Front – 3	47	0.037	Pass
Back - 1	48	0.038	Pass
Back – 2	50	0.040	Pass
Back – 3	48	0.038	Pass
Left Side	47	0.037	Pass
Right Side	52	0.041	Pass
Limit	**/**	**1.63**	**/**

Magnetic Field (H) = Magnetic Induction (B) / Permeability Constant (μ_0)

The ELT-400 Exposure Level Tester was used in Field Strength Mode with the range set to 320 µT.

The level measurement was measured at 14 positions according to the figure below:

1 – 3 Front positions (where charging indicators are located)
2 – 1 Left position
3 – 3 Back positions
4 – 1 Right position
5 – 3 Above positions (20cm above charger, positive Z-axis)
6 – 3 Below positions (20cm below charger, negative Z-axis)

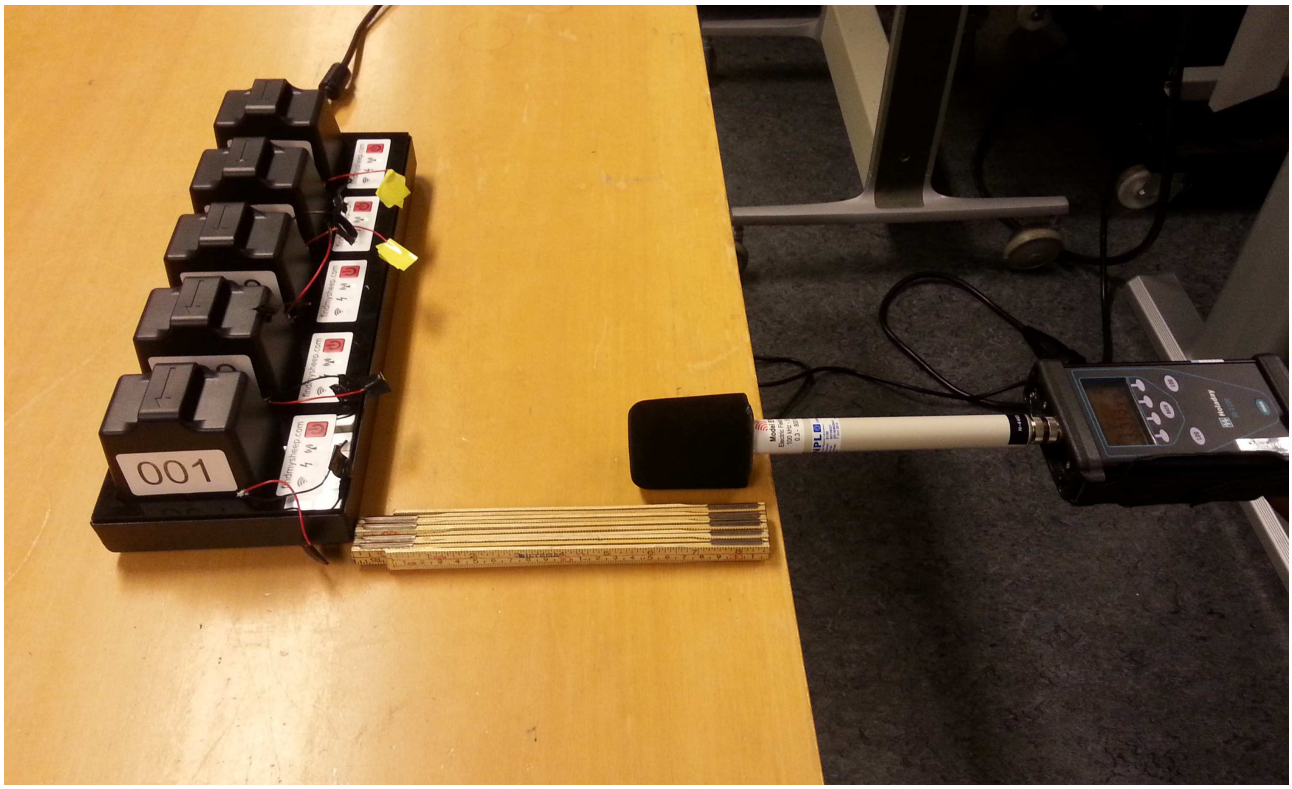


4 LIST OF TEST EQUIPMENT

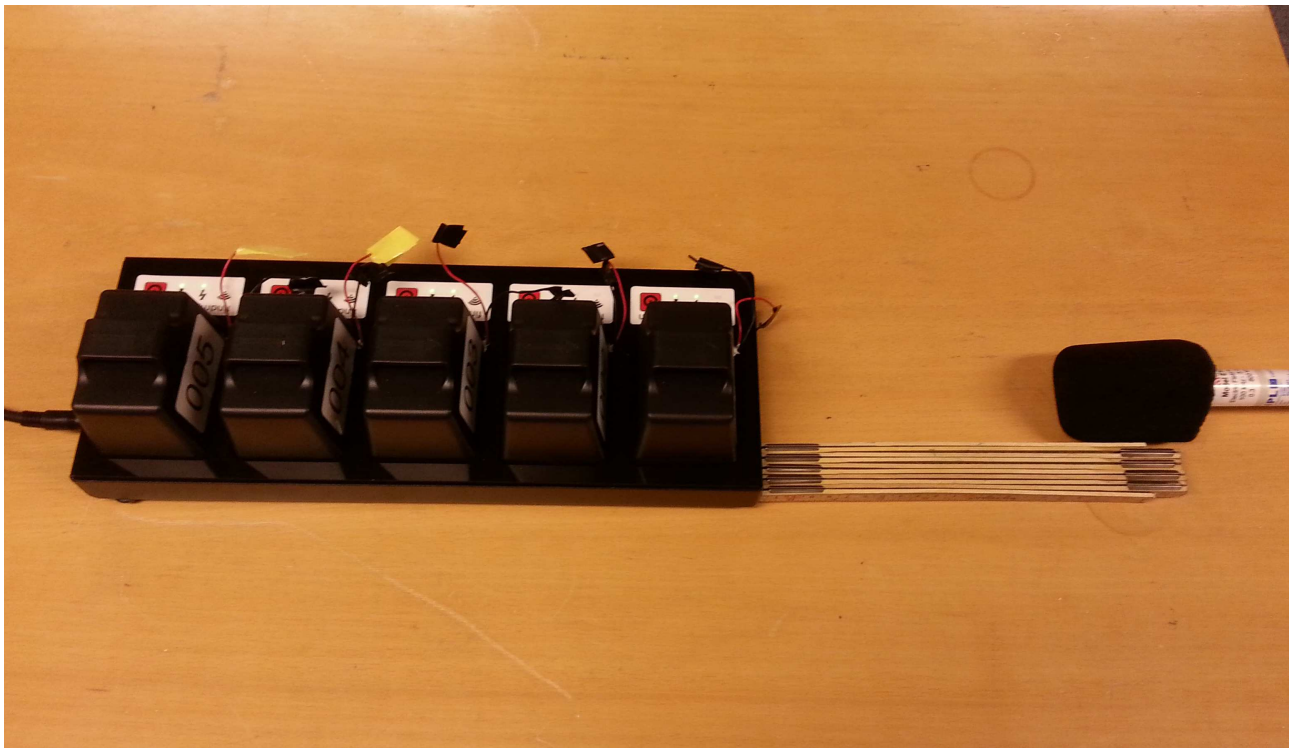
To facilitate inclusion on each page of the test equipment used for related tests, each item of test equipment and ancillaries are identified (numbered) by the Test Laboratory.

No.	Model number	Description	Manufacturer	Ref. no.	Cal. date	Cal. Due
1	ELT-400	Exposure Level Tester	Narda	N-4222	2014.10	2016.10
2	BN 2300/90.10	B-Field Sensor	Narda	N-4222.01	2014.10	2019.08
3	HI-2200	RF Survey Meter	Holaday	N-4463	2014.10	2019.08
4	Model E100	Electric Field Probe	EMCO	N-4463	2014.10	2019.08
5	HP-6812B	AC Power Source/Analyzer	Agilent	LR-1515	N/A	

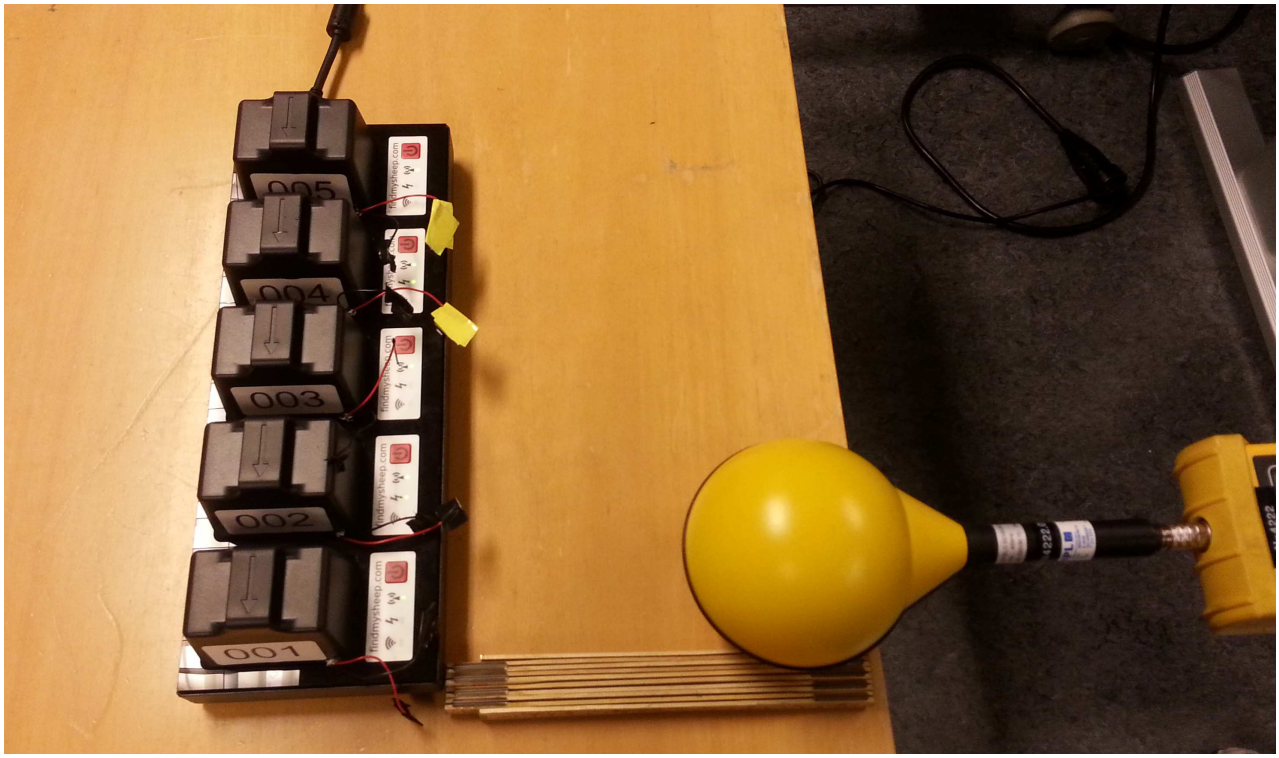
5 Test Setup Photos



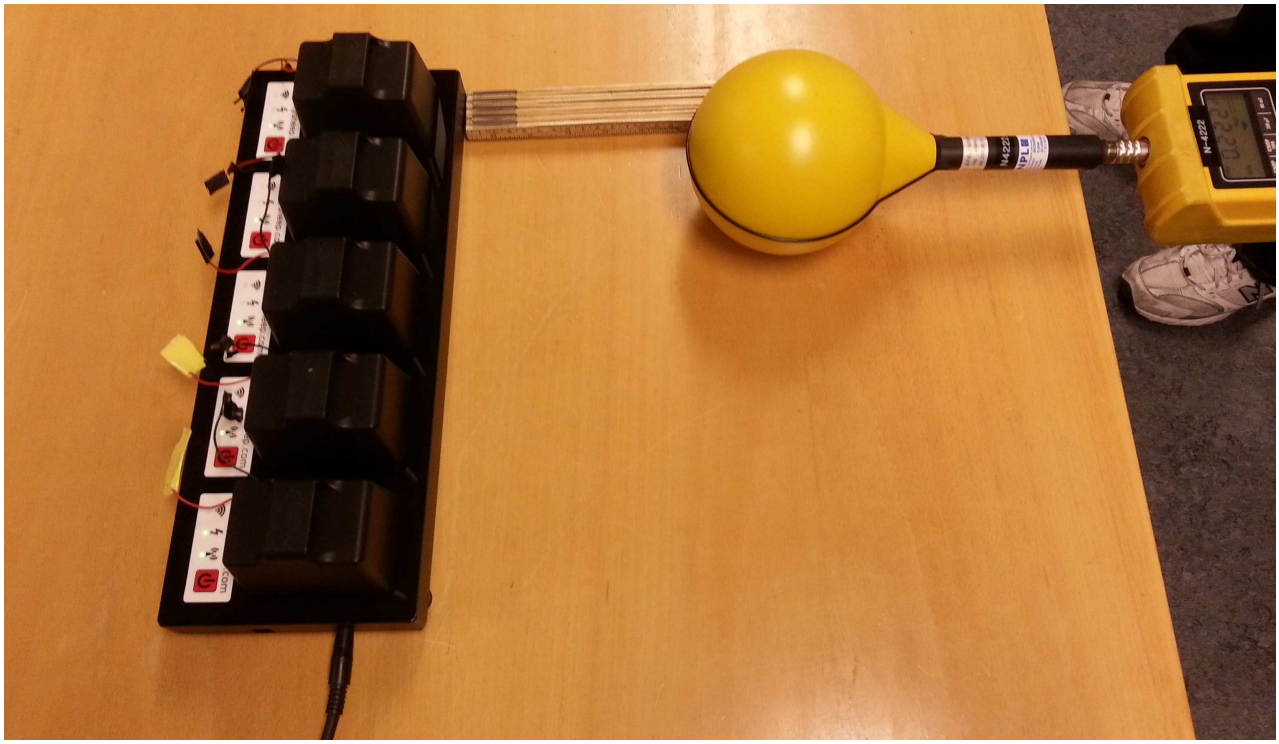
E-Field Measurement, Front Position



E-Field Measurement, Left Position



H-Field Measurement, Front Position



H-Field Measurement, Back Position