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TEST REPORT

EROAD EHUBO Gen1 Electronic Hubometer

tested to the specification

AS/NZS CISPR 22: 2009 + Amendment 1: 2009

for

EROAD Ltd

This Test Report is issued with the authority of:

A handwritten signature in black ink, appearing to read "Andrew Cutler".

Andrew Cutler- General Manager

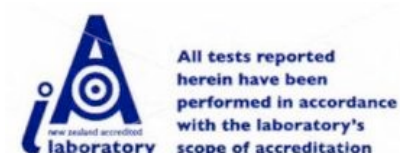


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1. STATEMENT OF COMPLIANCE

The **EROAD EHUBO Gen1 Electronic Hubometer** complies with AS/NZS CISPR 22: 2009 + Amendment 1: 2009 as a Class B device.

2. RESULTS SUMMARY

The results of testing, carried out on 30th May 2012, are summarised below.

Parameter	Result
AC Mains Port Conducted Emissions 0.15 - 30 MHz	Not Applicable.
Telcommunications Port Conducted Emissions 0.15 – 30.0 MHz	Not applicable. Device does not have a telecom port
Enclosure Radiated Emissions 30 - 6000 MHz	Complies .

3. INTRODUCTION

This report describes the tests and measurements performed for the purpose of determining compliance with the specification.

The client selected the test sample.

This report relates only to the sample tested.

This report contains no corrections or erasures.

Measurement uncertainties with statistical confidence intervals of 95% are shown below test results. Both Class A and Class B uncertainties have been accounted for, as well as influence uncertainties where appropriate.

4. CLIENT INFORMATION

Company Name	EROAD Ltd
Address	102 Rosedale Rd, Abany,
City	Auckland 0632
Country	New Zealand.
Contact	Barry Hayworth

5. DESCRIPTION OF TEST SAMPLE

Brand Name	EROAD
Model Number	EHUBO Gen1
Product	Electronic Hubometer
Manufacturer	EROAD Ltd
Country of Origin	New Zealand
Serial Number	-

6. SETUPS AND PROCEDURES

Standard

The sample was tested in accordance with AS/NZS CISPR 22: 2009 .

Methods and Procedures

The measurement methods and procedures used were as follows:

Description of Radiated Emissions Test Setup

Testing was carried out between 30 – 6000 MHz .

Testing was carried out at the laboratory's open area test site - located at 670 Kawakawa-Orere Road, RD5, Papakura, New Zealand (Note: Site conforms to the requirements of CISPR 16, Part 1, Clause 16, and ANSI C63.4 - 2003).

Before testing was carried out, a receiver self-calibration was undertaken. Additionally, a check of all cables and programmed antenna factors was carried out.

The device was placed on the test tabletop, which was a total of 0.8 m above the test site ground plane and 3 m from the antenna.

Testing was carried out in a mode in which the device operated normally.

Any external cables were orientated for the worst-case emissions level.

Testing was carried out by manually scanning between 30 MHz and 6000 MHz in 100 kHz steps while aurally and visually monitoring for emissions.

When an emission is located, it is positively identified and its maximum level is found by rotating the automated turntable, and by varying the antenna height with an automated antenna tower.

The emission is measured in both vertical and horizontal antenna polarisations.

During the test, a number of ambient emissions are identified (list of which can be provided upon request).

The emission level is determined in field strength by taking the following into consideration:
Level (dBµV/m) = Receiver Reading (dBµV) + Antenna Factor (dB) + Coax Loss (dB)

Measurement uncertainty with a confidence interval of 95% is:

- Free radiation tests (30 - 6000 MHz) ± 4.1 dB

7. TEST EQUIPMENT USED

Instrument	Manufacturer	Model	Serial No	Asset Ref
Aerial Controller	EMCO	1090	9112-1062	RFS 3710
Aerial Mast	EMCO	1070-1	9203-1661	RFS 3708
Biconical Antenna	Schwarzbeck	BBA 9106	-	RFS 3612
Log Periodic Antenna	Schwarzbeck	VUSLP 9111	9111-2801	3785
Horn Antenna	EMCO	3115	9511-4629	E1526
Measurement Receiver	Rohde & Schwarz	ESIB-40	100171	R-27-1
Turntable	EMCO	1080-1-2.1	9109-1578	RFS 3709
Measurement Receiver	Rohde & Schwarz	ESHS 10	828404/005	RFS 3728
Artificial Mains Network	Rohde & Schwarz	ESH2-Z5	8813262/034	RFS 3628
Two Balance Pairs ISN	FCC-TLISN-T4-02	FCC	091318	-

8. ACCREDITATIONS

The tests were carried out in accordance with the terms of EMC Technologies (NZ) Ltd's International Accreditation New Zealand (IANZ) Accreditation to NZS/IEC/ ISO 17025.

All measurement equipment has been calibrated in accordance with the terms of EMC Technologies (NZ) Ltd's International Accreditation New Zealand (IANZ) Accreditation to NZS/IEC/ ISO 17025.

International Accreditation New Zealand has Mutual Recognition Arrangements for testing and calibration with various accreditation bodies in a number of economies. This includes NATA (Australia), UKAS (UK), SANAS (South Africa), NVLAP (USA), A2LA (USA), SWEDAC (Sweden). Further details can be supplied on request.

9. RESULTS

Radiated Emissions 30 – 6000 MHz

The device was powered from at 12 Vdc and 24 Vdc using lead acid batteries.

The device was placed in the center of the test table standing upright connected via the data and power supply cables to the supply batteries and test simulator box located on the test site ground plane.

The device was tested with the ODO indicating 316 Hz, the ignition was on, the GPS was activated , however the cell was not activated as there is no cellphone coverage at the test site.

No emissions were detected within 15 dB of the applicable limit when measurements were attempted between 30 MHz & 6 GHz using both vertical and horizontal polarisations.

10. PHOTOGRAPHS

