

Scope of Accreditation

(Measurement Method)

Accreditation Number : VLAC-018-1

Expiration Date : September 7, 2023

[Name of Laboratory] **e-OHTAMA, LTD.**

[Test site name] **Tokyo EMC Center, Tokyo Laboratory**

[Test site Address]

2-8-20, Kurigi, Asao-ku, Kawasaki-shi, Kanagawa 215-0033 JAPAN

[Measurement Method]

Emission test

Radiated disturbance : Enclosure Port

Disturbance electric field test

[Test Condition] **On the reference ground plane, Measurement distance : 3m/10m
Measurement Frequency Range : 30 MHz – 1 GHz**

[Test Condition] **On the reference ground plane, In-vehicle equipment test (1m Method)
Measurement Frequency Range : 9 kHz – 6 GHz**

[Test Condition] **Quasi Free Space
Measurement Frequency Range : 1 GHz – 30 GHz**

Disturbance magnetic field strength measurement [Test Condition] **Loop Antenna**

Disturbance electric power measurement [Test Condition] **Absorption clamp**

Conducted disturbance measurement : AC mains port

Disturbance voltage measurement [Test Condition] **AMN, High impedance probe**

Conductive interference measurement : Telecommunication port

Disturbance voltage measurement [Test Condition] **ISN, AAN, Capacitive Voltage Probe**

Disturbance current measurement [Test Condition] **Current probe**

Conductive interference measurement : DC power line port

Disturbance voltage measurement [Test Condition] **AMN, High impedance probe**

Conductive interference test against in-vehicle equipment

Immunity test

Electro static discharge test **Contact discharge, Air discharge, Indirect discharge**

**Radiated electromagnetic field strength
against in-vehicle** **Measurement frequency: 26 MHz – 6 GHz
Measurement Frequency Range : 200 MHz – 5 GHz**

Radiated fields in close proximity **Measurement Frequency Range : 360 MHz – 6 GHz**

Electrical fast transient/burst (EFT/B) **Mains port, Telecommunication/Signal port**

Immunity to transient disturbances conducted along supply lines / other than supply lines

Surge **Mains port, Telecommunication/Signal port**

RF conducted interference

Mains port measurement frequency range: 150 kHz – 80 MHz

Telecommunication/Signal port measurement frequency range: 150 kHz – 80 MHz

Bulk current injection test, measurement frequency range: 10 kHz – 400 MHz

Conducted Common mode disturbances

Radiated magnetic field

Road vehicles - Immunity to magnetic fields

Low frequency immunity **Mains Harmonics and Interharmonics**

Interruptions and Voltage variations

Harmonic current

Harmonic current test

Voltage changes, Voltage fluctuations and Flicker test

Vehicle /In-vehicle equipment test

ESA (In-vehicle equipment) Emission

ESA (In-vehicle equipment) Immunity

Voluntary EMC Laboratory Accreditation Center Inc.

Scope of Accreditation

(Test standards)

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[Test standards]

Emission test

VCCI Technical Requirements: VCCI-CISPR 32*1, J55032*1

FCC 47CFR Part15 Subpart B : ANSI C63.4 -2014(up to 30 GHz)

CISPR 11, EN 55011, AS CISPR 11, CISPR 32, EN 55032*1, AS/NZS CISPR 32

ICES-001, ICES-003

IEC 61000-6-3, EN 61000-6-3, IEC 61000-6-4, EN 61000-6-4

IEC 62236-3-2, EN 50121-3-2, IEC 62236-4, EN 50121-4, EN 50370-1

IEC 61800-3:2004+A1*2, EN 61800-3:2004+A1*2

IEC 61326-1, EN 61326-1, JIS C 61326-1

IEC 60601-1-2, IEC 60601-2-37

EN 60601-1-2, EN 60601-2-37

JIS T 0601-1-2, JIS T 0601-2-37

*1: Except for Annex C4.2, C4.3 and Annex H

*2: Except for commutation notches and fieldbus in emission measurements

Immunity test

CISPR 14-2, EN 55014-2, CISPR 24, EN 55024, CISPR 35, EN55035

IEC 61000-4-2/-4-3/-4-4/-4-5/-4-6/-4-8/-4-11/-4-13(only §8.2.1) /-4-16

EN 61000-4-2/-4-3/-4-4/-4-5/-4-6/-4-8/-4-11/-4-13(only § 8.2.1) /-4-16

JIS C 61000-4-2/-4-3/-4-4/-4-5/-4-6/-4-8/-4-11/-4-16

IEC 61000-6-1, EN 61000-6-1, JIS C 61000-6-1

IEC 61000-6-2, EN 61000-6-2, JIS C 61000-6-2

IEC 61000-6-7*3, EN 61000-6-7*4

IEC 62236-3-2, EN 50121-3-2, IEC 62236-4, EN 50121-4, EN 50370-2

IEC 61326-3-1*3, EN 61326-3-1*4, JIS C 61326-3-1*3

IEC 61800-3:2004+A1, EN 61800-3:2004+A1

IEC 61800-5-2*5, EN 61800-5-2*5

IEC 62061:2005+A1+A2, EN 62061:2005+A1+A2

IEC 61326-1, EN 61326-1, JIS C 61326-1

IEC 60601-1-2(Except for § 8.11), IEC 60601-2-18/-2-24/-2-37

EN 60601-1-2 (Except for § 8.11), EN 60601-2-18/-2-24/-2-37

JIS T 0601-1-2, JIS T 0601-2-18/-2-24/-2-37

*3: Except for IEC 61000-4-29

*4: Except for EN 61000-4-29

*5: Except for § 9.1, §9.2, §9.4 and §9.5

Harmonic Test in Public Low Voltage Systems

IEC 61000-3-2, JIS C 61000-3-2, EN 61000-3-2, IEC 61000-3-3, EN 61000-3-3

IEC 61000-6-3, EN 61000-6-3

IEC 61326-1, EN 61326-1, JIS C 61326-1

IEC 60601-1-2, EN 60601-1-2, JIS T 0601-1-2

Vehicle /In-vehicle equipment test

ECE R-10 Clause 6.5, 6.6, 6.7, 6.8, 6.9

CISPR 25:2016/2008/2002, EN 55025:2017, ISO 11452-2:2019/2004 (200 MHz - 5 GHz)

ISO 11452-4:2011(only BCI method) /2005/2001, ISO 11452-8:2015/2007

ISO 11452-9:2012(only Broadband antenna)

ISO 7637-2:2011/2004, ISO 7637-3:2016/2007 (Only CCC method)

ISO 16750-2:2012(only Load dump and Starting profile) /2006(only Starting profile)

ISO 10605:2008/2001/1994, EN 50498:2010

ISO 13766-1:2018*⁶, ISO 13766-2:2018*⁶, EN ISO 13766-1:2018*⁶, EN ISO 13766-2:2018*⁶

***⁶: Only ESA**

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