

Scope of Accreditation

(Measurement Method)

Accreditation Number: VLAC-018-1

Expiration Date: September 7, 2025

[Name of Laboratory]

e-OHTAMA, LTD.

[Test site name]

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: 3 m / 10 m**
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

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

Electrical transient conduction along supply lines

Immunity test

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

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

Radiated fields in close proximity Measurement Frequency Range: 9 kHz – 30 MHz
against in-vehicle 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 – 100 MHz

Telecommunication/Signal port measurement frequency range: 150 kHz – 100 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)

Accreditation Number: VLAC-018-1

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[Name of Laboratory]

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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 / ANSI C63.4a-2017 (up to 30 GHz)

CISPR 11:2015+A1:2016+A2:2019^{*2}, EN 55011:2016+A1:2017+A2:2021+A11:2020^{*2}

AS CISPR 11:2017+A1:2020

CISPR 32:2015^{*1}, EN 55032:2015+A11:2020^{*1}, AS/NZS CISPR 32:2015^{*1}

ICES-001(Issue5), ICES-003(Issue7)

IEC 61000-6-3:2006+A1:2010, EN 61000-6-3:2007+A1:2011

IEC 61000-6-4:2006+A1:2010 / 2018, EN 61000-6-4:2007+A1:2011 / 2019

IEC 62236-3-2:2008, EN 50121-3-2:2006, IEC 62236-4:2008, EN 50121-4:2006, EN 50370-1:2005

IEC 61800-3:2004+A1:2011^{*3}, EN 61800-3:2004+A1:2012^{*3}

IEC 61326-1:2012 / 2020, EN 61326-1:2013, EN IEC 61326-1:2021, JIS C 61326-1:2022

IEC 60601-1-2:2014+A1:2020, IEC 60601-2-37:2007+A1:2015

EN 60601-1-2:2015+A1:2021, EN 60601-2-37: 2008+A1:2015

JIS T 0601-1-2:2023, JIS T 0601-2-37:2018

IACS UR E10 Rev8

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

^{*2}: Except for Table 3-5 and Table 13-15

^{*3}: Except for commutation notches and fieldbus

Immunity test

CISPR 14-2:2015, EN 55014-2:1997+A1:2001+A2:2008 / 2015

CISPR 24:2010, EN 55024:2010, CISPR 35:2016, EN55035:2017+A11:2020

IEC 61000-4-2:2008 /-4-3:2020 /-4-4:2012 /-4-5:2014+A1:2017 /-4-6:2013 /-4-8:2009 /-4-11:2020

/-4-13:2002+A1:2009+A2:2015 (only §8.2.1) /-4-16:2015 /-4-39:2017(except for Section 5.6)

EN 61000-4-2:2009 /-4-4:2012 /-4-5:2014+A1:2017 /-4-6:2014 /-4-8:2010 /-4-11:2020

/-4-13:2002+A1:2009+A2:2016 (only §8.2.1) /-4-16:2016 /-4-39:2017(except for Section 5.6)

EN IEC 61000-4-3:2020

JIS C 61000-4-2:2012 /-4-3:2022 /-4-4:2015 /-4-5:2018 /-4-6:2017 /-4-8:2016 /-4-11:2021 /-4-16:2017

IEC 61000-6-1:2005 / 2016, EN 61000-6-1:2007, EN IEC 61000-6-1:2019, JIS C 61000-6-1:2019

IEC 61000-6-2:2005 / 2016, EN 61000-6-2:2005, EN IEC 61000-6-2:2019, JIS C 61000-6-2:2019

IEC 61000-6-7:2014^{*4}, EN 61000-6-7:2015^{*5}

IEC 62236-3-2:2008, EN 50121-3-2:2006, IEC 62236-4:2008, EN 50121-4:2006
EN 50370-2:2003

IEC 61326-3-1:2017^{*4}, EN 61326-3-1:2017^{*5}, JIS C 61326-3-1:2020^{*4}

IEC 61800-3:2004+A1:2011, EN 61800-3:2004+A1:2012

IEC 61800-5-2:2016^{*6}, EN 61800-5-2:2017^{*6}

IEC 62061:2005+A1:2012+A2:2015, EN 62061:2005+A1:2013+A2:2015

IEC 61326-1:2012 / 2020, EN 61326-1:2013 / 2021, JIS C 61326-1:2022

IEC 60601-1-2:2014+A1:2020, IEC 60601-2-18:2009 /-2-24:2012 /-2-37:2007+A1:2015

EN 60601-1-2: 2015+A1:2021, EN 60601-2-18:2015 /-2-24:2015 /-2-37:2008+A1:2015

JIS T 0601-1-2:2023, JIS T 0601-2-18:2013 /-2-24:2018 /-2-37:2018

IACS UR E10 Rev8 (except for No.15)

^{*4}: Except for IEC 61000-4-29

^{*5}: Except for EN 61000-4-29

^{*6}: Except for clause 9.1, 9.2, 9.4 and 9.5

Harmonic Test in Public Low Voltage Systems

IEC 61000-3-2:2014 / 2018, EN 61000-3-2:2014, EN IEC 61000-3-2:2019, JIS C 61000-3-2:2019

IEC 61000-3-3:2013+A1:2017, EN 61000-3-3:2013+A1:2019

IEC 61000-6-3:2006+A1:2010, EN 61000-6-3:2007+A1:2011

IEC 61326-1:2012 / 2020, EN 61326-1:2013 / 2021, JIS C 61326-1:2022

IEC 60601-1-2:2014+A1:2020, EN 60601-1-2:2015+A1:2021, JIS T 0601-1-2:2023

Vehicle /In-vehicle equipment test

ECE R-10 (Clause 6.5, 6.6, 6.7, 6.8 and 6.9)

CISPR 25:2002 / 2008 / 2016, EN 55025:2017

ISO 11452-2 (200 MHz - 5 GHz):2004 / 2019

ISO 11452-4:2001 / 2005 / 2011(only BCI method)

ISO 11452-8:2007 / 2015

ISO 11452-9 (only Broadband antenna):2012

ISO 7637-2:2004 / 2011

ISO 7637-3 (only CCC method):2007 / 2016

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

ISO 10605:1994 / 2001 / 2008

EN 50498:2010

ISO 13766-1:2018^{*7}, EN ISO 13766-1:2018^{*7}, ISO 13766-2:2018^{*7}, EN ISO 13766-2:2018^{*7}

^{*7}: Only ESA

Voluntary EMC Laboratory Accreditation Center Inc.

The laboratory is only accredited for testing activities outlined within the test methods listed above. If test standards do not include the edition, it means the latest one at the date of renewal (9.8, 2023).