

Scope of Accreditation

(Measurement Method)

Accreditation Number: VLAC-008-3

Expiration Date: December 31, 2025

[Name of Laboratory]

Intertek Japan K.K.

[Test site name]

Matsuda Laboratory

[Test site Address]

**1283 Yadoriki, Matsuda-machi, Ashigarakami-gun,
Kanagawa 258-0001 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: 150 kHz - 2.5 GHz**

[Test condition] **Quasi Free Space, Measurement Frequency Range: 1 GHz - 40 GHz**

Disturbance magnetic field strength measurement

[Test condition] **Loop Antenna, Three axis loop antenna**

Disturbance power measurement [Test condition] Absorbing clamp

Conducted disturbance Measurement: AC mains port

Voltage measurement [Test condition] AMN, High impedance voltage probe

Conducted disturbance Measurement: Telecommunication port

Voltage measurement [Test condition] AAN, Capacitive voltage probe

Current measurement [Test condition] Current probe

Conducted disturbance Measurement: DC power line port

Voltage measurement [Test condition] AMN, High impedance voltage probe

Conductive interference test against in-vehicle equipment

Electrical transient conduction along supply lines

Conducted disturbance Measurement:

Antenna port, RF modulator output port, Tuner port, Fiber port

Wanted signal and disturbance voltage test at the RF output, Selective voltmeter

Immunity test

Electro static discharge test

Contact discharge, Air discharge, Direct discharge

**Radiated electromagnetic field strength
against in-vehicle equipment**

Measurement frequency: 26 MHz - 6 GHz

Measurement frequency: 200 MHz - 4 GHz

Radiated fields in close proximity

Measurement Frequency Range: 9 kHz - 26 MHz

Electrical fast transient/burst (EFT/B)

**Mains port, Telecommunication/Signal port,
against in-vehicle equipment**

Surge

Mains port, Telecommunication/Signal port

RF conducted interference

Mains port measurement frequency range: 150 kHz - 230 MHz

Telecommunication/Signal port measurement frequency range: 150 kHz - 230 MHz

Bulk current injection test, measurement frequency range: 20 MHz - 200 MHz

Radiated magnetic field

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

Telecommunication equipment performance 1

Intentional Radiators (FCC Part 15 Subpart C)

Based on European standards

Telecommunication equipment performance 2

Magnetic field strength [Test condition] Magnetic probe

Electric field strength [Test condition] Electric field probe

Environment (Power consumption)

Standard power consumption level TEC method

Operation method OM method

Voluntary EMC Laboratory Accreditation Center Inc.

Scope of Accreditation

(Test standards)

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Kanagawa 258-0001 Japan**

[Test Standards]

Emission test

VCCI Technical Requirements: VCCI-CISPR 32:2016^{*1*2}

Technical requirements under the Electrical Appliances and Materials safety Act appendix 10
Chapter 2, 4, 5, 7 and 9

J55014-1(H27), J55015(H29), CISPRJ 15:2017, J55032(H29)^{*1*2}, CISPRJ 32:2017^{*1*2}

FCC 47 CFR Part 15 Subpart B: ANSI C63.4-2014 (Up to 40 GHz)

FCC 47 CFR Part 15 Subpart B: ANSI C63.4a-2017 (Up to 40 GHz)

FCC 47 CFR Part 18: FCC MP-5 (February 1986) (Up to 40 GHz)

CISPR 11:2009+A1:2010 / 2015+A1:2016+A2:2019

CISPR 14-1:2005+A1:2008+A2:2011 / 2016 / 2020, CISPR 15:2013+A1:2015 / 2018

CISPR 22:2008, CISPR 32:2012^{*1*2} / 2015+A1:2019^{*1*2}

IEC 61000-6-3:2006+A1:2010 / 2020, IEC 61000-6-4:2006+A1:2010 / 2018, IEC 61000-6-8:2020

EN 55011:2009+A1:2010 / 2016+A1:2017+A11:2020+A2:2021, EN 55014-1:2017+A11:2020

EN IEC 55014-1:2021, EN IEC 55015:2019+A11:2020, EN 55032:2015+A11:2020+A1:2020^{*1*2}

EN 55103-1:2009

EN 61000-6-3:2007+A1:2011, EN IEC 61000-6-3:2021, EN 61000-6-4:2007+A1:2011

EN IEC 61000-6-4:2019, EN IEC 61000-6-8:2020

AS CISPR 11:2017, AS CISPR 14.1:2018, AS CISPR 15:2017

AS/NZS CISPR 32:2015+A1:2020^{*1*2}

AS/NZS 3200.1.2:2005, AS/NZS 61000.6.3:2021, AS/NZS 61000.6.4:2012

ICES-001(Issue5), ICES-003(Issue7), ICES-005(Issue5), ICES-Gen(Issue1+A1:2021)

KS C 9811:2019, KS C 9832:2019^{*1*2} / 2023^{*1*2}, KS C 9610-6-3:2023, KS C 9610-6-4:2022

KS C 9816-2-1:2020, KS C 9816-2-2:2020, KS C 9816-2-3:2020

CISPR 25:2021, ISO 7637-2:2011, IEC 62236-3-2:2018, EN 55025:2022

EN 50121-3-2:2016+A1:2019

CNS 13803:2003, CNS 13438:2006, CNS 13783-1:2013, CNS 15936:2016

SANS 211:2010, SANS 214-1:2020, SANS 215:2019, SANS 2332:2017,

SANS 60601-1-2:2018, SANS 61326-1:2007, SANS 61000-6-3:2011, SANS 61000-6-4:2011

^{*1} Except for measurement in a FAR. ^{*2} Except for broadcast radio receivers.

The following groups of test standards are included in Emission tests, Immunity tests and Harmonic Test in Public Low Voltage Systems. [Note.1]

IEC 61326-1:2012 / 2020, IEC 61326-2-1:2012 /-2-1:2020 /-2-2:2012 /-2-2:2020 /-2-3:2012 /-2-3:2020 /-2-4:2012 /-2-4:2020 /-2-5:2012 /-2-5:2020 /-2-6:2012 /-2-6:2020
EN 61326-1:2013, EN IEC 61326-1:2021, EN 61326-2-1:2013 /-2-2:2013 /-2-3:2013 /-2-4:2013 /-2-5:2013 /-2-6:2013, EN IEC 61326-2-1:2021 /-2-2:2021 /-2-3:2021 /-2-4:2021 /-2-5:2021 /-2-6:2021
JIS C 61326-1:2017 / 2022, JIS C 61326-2-1:2017 /-2-1:2022 /-2-2:2017 /-2-3:2019 /-2-6:2019 /-2-6:2023

IEC 60601-1-2:2014+A1:2020, IEC 60601-2-1:2020 /-2-2:2017+A1:2023
/-2-3:2012+A1:2016+A2:2022 /-2-4:2010+A1:2018 /-2-5:2009 /-2-6:2012+A1:2016+A2:2022
/-2-8:2010+A1:2015 /-2-10:2012+A1:2016+A2:2023 /-2-11:2013 /-2-12:2001 /-2-16:2018 /-2-17:2013
/-2-18:2009 /-2-19:2020 /-2-20:2020 /-2-21:2020 /-2-22:2019 /-2-23:2011 /-2-24:2012 /-2-25:2011
/-2-26:2012 /-2-27:2011 /-2-28:2017 /-2-29:2008 /-2-31:2020 /-2-33:2022 /-2-34:2011 /-2-35:2020
/-2-36:2014 /-2-37:2007+A1:2015 /-2-39:2018 /-2-40:2016 /-2-41 :2021 /-2-43 :2022
/-2-44:2009+A1:2012+A2:2016 /-2-45:2011+A1:2015+A2:2022 /-2-47:2012 /-2-49:2018 /-2-50:2020
/-2-52:2009+A1:2015 /-2-54:2022 /-2-57:2011 /-2-62:2013 /-2-63:2012+A1:2017+A2:2021 /-2-64:2014
/-2-65:2012+A1:2017+A2:2021 /-2-66:2019 /-2-68:2014 /-2-75:2017+1:2023 /-2-76:2018
/-2-83:2019+A1:2022, IEC 80601-2-26:2019 /-2-30:2018 /-2-49:2018 /-2-58:2014+A1:2016
/-2-59:2017+A1:2023 /-2-60:2019 /-2-71:2015 /-2-77:2019 /-2-78:2019, ISO 80601-2-12:2020
/-2-13:2022 /-2-55:2018 /-2-56:2017+A1:2018 /-2-61:2017 /-2-67:2020 /-2-69:2020 /-2-70:2020
/-2-74:2021 /-2-79:2018 /-2-80:2018

EN 60601-1-2:2015+A1:2021, EN 60601-2-3:2015+A1:2016 /-2-4:2011+A1:2019 /-2-5:2015
/-2-6:2015+A1:2016 /-2-8:2015+A1:2016 /-2-10:2015+A1:2016 /-2-11:2015 /-2-12:2006 /-2-17:2015
/-2-18:2015 /-2-23:2015 /-2-24:2015 /-2-25:2015 /-2-26:2015 /-2-27:2014 /-2-29:2008+A1:2011
/-2-33:2010+A1:2016 /-2-34:2014 /-2-36:2015 /-2-37:2008+A1:2015 /-2-40:2019
/-2-44:2009+A2:2016 /-2-45:2011+A1:2015 /-2-47:2015 /-2-52:2010+A1:2015
/-2-54:2009+A1:2015+A2:2019 /-2-57:2011 /-2-62:2015 /-2-63:2015+A1:2019+A2:2021 /-2-64:2015
/-2-65:2013+A1:2020+A2:2021 /-2-68:2015, EN IEC 60601-2-1:2021 /-2-2:2018 /-2-16:2019
/-2-19:2021 /-2-20:2020 /-2-21:2021 /-2-22:2020 /-2-28:2019 /-2-31:2020 /-2-39:2019 /-2-41:2021
/-2-43:2023 /-2-50:2021 /-2-66:2020 /-2-75:2019 /-2-76:2019 /-2-83:2020+A1:2021
, EN 80601-2-58:2015+A1:2019, EN IEC 80601-2-26:2020 /-2-30:2019 /-2-49:2019
/-2-59:2019+A1:2023 /-2-60:2020 /-2-71:2018, EN ISO 80601-2-12:2020 /-2-13:2022 /-2-55:2018
/-2-56:2017+A1:2020 /-2-61:2019 /-2-67:2020 /-2-69:2020 /-2-70:2020 /-2-74:2021 /-2-79:2019
/-2-80:2019

JIS T 0601-1-2:2018 / 2023, JIS T 0601-2-2:2020 /-2-3:2015 /-2-5:2015 /-2-6:2015 /-2-10:2015
/-2-16:2022 /-2-18:2013 /-2-21:2019 /-2-24:2018 /-2-25:2014 /-2-35:2015 /-2-37:2018 /-2-39:2023
/-2-40:2005 /-2-64:2016 /-2-66:2015 /-2-201:2015 /-2-202:2015 /-2-203:2015 /-2-204:2015
/-2-205:2015 /-2-206:2015 /-2-207:2015 /-2-208:2015, JIS T 60601-2-47:2018 /-2-63:2019
/-2-65:2019 /-2-68:2019, JIS T 80601-2-55:2014 /-2-60:2021 /-2-61:2014 /-2-78:2022

Immunity test

[Including the test standards listed in Note 1.]

CISPR 14-2:2015 / 2020, CISPR 35:2016^{*3}, IEC 61547:2020
IEC 61000-6-1:2005 / 2016, IEC 61000-6-2:2005 / 2016
IEC 61000-4-2:2008 /-4-3:2006+A1:2007+A2:2010 /-4-3:2020 /-4-4:2012 /-4-5:2014+A1:2017
/-4-6:2013 /-4-6:2023 /-4-8:2009 /-4-11:2004+A1:2017 /-4-11:2020 /-4-39:2017 (9 kHz - 26 MHz)
IEC TR 60601-4-2:2016, IACS UR E10:Rev.7 / Rev.8

EN 55014-2:1997+A1:2001+A2:2008 / 2015, EN IEC 55014-2:2021, EN 55035:2017+A11:2020^{*3}
EN 55103-2:2009, EN 61547:2009, EN IEC 61547:2023
EN 61000-6-1:2007, EN IEC 61000-6-1:2019, EN 61000-6-2:2005, EN IEC 61000-6-2:2019
EN 61000-4-2:2009 /-4-3:2006+A1:2008+A2:2010 /-4-4:2012 /-4-5:2014+A1:2017 /-4-6:2014
/-4-8:2010 /-4-39:2017 (9 kHz - 26 MHz), EN IEC 61000-4-3:2020 /-4-11:2020

AS/NZS CISPR 14.2:2021, AS/NZS 3200.1.2:2005
AS/NZS 61000.6.1:2006, AS/NZS 61000.6.2:2022

JIS C 61000-6-1:2019, JIS C 61000-6-2:2019
JIS C 61000-4-2:2012 /-4-3:2012 /-4-3:2022 /-4-4:2015 /-4-5:2018 /-4-6:2017 /-4-8:2016 /-4-11:2008
KS C 9835:2019^{*3}, KS C 9610-6-1:2019, KS C 9610-6-2:2019
KS C 9610-4-2:2017 /-4-3:2017 /-4-4:2020 /-4-5:2020 /-4-6:2020 /-4-8:2017 /-4-11:2020

ISO 11452-2:2019, ISO 11452-4:2020, ISO 7637-2:2011
IEC 62236-3-2:2018, EN 50121-3-2:2016+A1:2019, EN 50130-4:2011+A1:2014

SANS 214-2:2009, SANS 2335:2018, SANS 60601-1-2:2018 / 2022
SANS 61326-1:2007, SANS 61547:2012 / 2021, SANS 61000-6-1:2005, SANS 61000-6-2:2005
SANS 61000-4-2:2009 /-4-3:2008 /-4-4:2011 /-4-5:2006 /-4-6:2017 /-4-8 :2009 /-4-11:2005

^{*3} Except for Annex A, Annex H and xDSL Equipments.

Harmonic Test in Public Low Voltage Systems

[Including the test standards listed in Note 1.]

IEC 61000-3-2:2014 / 2018+A1:2020, IEC 61000-3-3:2013+A1:2017+A2:2021
IEC 61000-6-3:2006+A1:2010 / 2020, IEC 61000-6-8:2020

EN 61000-3-2:2014, EN IEC 61000-3-2:2019+A1:2021, EN 61000-3-3:2013+A1:2019+A2:2021
EN 61000-6-3:2007+A1:2011, EN IEC 61000-6-3:2021, EN IEC 61000-6-8:2020

AS/NZS 3200.1.2:2005, AS/NZS 61000.3.2:2021, AS/NZS 61000.3.3:2012
JIS C 61000-3-2:2019, JIS C 61000-6-3:2011
KS C 9610-3-2:2020, KS C 9610-3-3:2020
SANS 61000-3-2:2009, SANS 61000-3-3:2009, SANS 61000-6-3:2011

Vehicle /In-vehicle equipment test

ECE R-10 Clause 6.5/ 6.6/ 6.7 /6.8/ 6.9: Rev.6+A1:2020+A2:2022
EN 50498:2010

Telecommunication characteristic 1

Intentional Radiators (FCC Part 15 Subpart C): ANSI C63.10-2013 (Up to 26.5 GHz)

Intentional Radiators (FCC Part 15 Subpart C): ANSI C63.10-2020 (Up to 26.5 GHz)

EN 300 328:V2.2.2 (spurious emissions method only)

EN 300 330:V2.1.1 (Limited to Product Class 1)

EN 300 440:V2.2.1

EN 301 489-1:V2.2.3

EN 301 489-3:V2.1.1 / V2.3.2

EN 301 489-5:V2.2.1

EN 301 489-15:V2.2.1

EN 301 489-17:V3.2.4

EN 301 489-19:V2.1.1 / V2.2.1

EN 303 413:V1.2.1

Telecommunication characteristic 2

IEC 62233:2005, IEC 62311:2019, IEC 62479:2010

EN 62233:2008, EN 62311:2008, EN IEC 62311:2020, EN 62479:2010

FCC OET Bulletin 65 Supplement C Ed01-1 (MPS method only)

IC RSS-102:2015+A1:2021 (MPS method only)

Environment (Power consumption)

International Energy Star Program operational byelaw: Imaging Equipment

USA Energy Star program operational byelaw: Imaging Equipment

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 (1.1, 2024).**