

Scope of Accreditation

(Measurement Method)

Accreditation Number: VLAC-025

Expiration Date: July 14, 2025

[Name of Laboratory]

ISHIKAWA Co., Ltd.

[Test site name]

ISHIKAWA Co., Ltd. EMC Laboratory

[Test site Address]

2-3-18, Namamugi, Tsurumi-ku, Yokohama, Kanagawa 230-0052 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] **Quasi Free Space, Measurement Frequency Range : 1 GHz - 40 GHz**

Disturbance magnetic field strength measurement

[Test condition] **Loop Antenna , 3-Axis Large Loop Antenna**

Disturbance Power measurement

[Test condition] **Absorbing Clamp**

Conducted disturbance Measurement: AC mains port

Voltage measurement [Test condition] AMN, High Impedance Probe

Conducted disturbance Measurement: Telecommunication port

Voltage measurement [Test condition] ISN, AAN, Capacitive Voltage Probe

Current measurement [Test condition] Current probe

Conducted disturbance Measurement: DC power line port

Voltage measurement [Test condition] AMN, High Impedance Probe

Conducted disturbance Measurement:

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

Voltage measurement [Test condition] Capacitive voltage probe

Current measurement [Test condition] Current probe

Immunity test

Electro static discharge test

Contact discharge, Air discharge, Indirect discharge

Radiated electromagnetic field strength

Measurement frequency range: 26 MHz – 6 GHz

Radiated fields in close proximity

Measurement Frequency Range: 9 kHz – 26 MHz

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: 0.15 MHz - 230 MHz

Telecommunication port measurement frequency range: 0.15 MHz - 230 MHz

Radiated magnetic field

Pulse magnetic field immunity test

Interruptions and Voltage variations

Harmonic current

Harmonic current test

Voltage changes, Voltage fluctuations and Flicker test

Telecommunication equipment performance 1

Based on European Standards : EMC Test only

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

J55011, J55014-1, J55015, J55032*¹, CISPRJ 15, CISPRJ 32*¹

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

FCC 47CFR Part15 Subpart B :ANSI C63.4-2014

FCC 47CFR Part15 Subpart B :ANSI C63.4a-2017

FCC 47CFR Part18 :FCC MP-5 (February 1986)

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

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

CISPR 22:2008, CISPR 32*¹:2015 / 2015+A1:2019

EN 55011:2009+A1:2010 / 2016 / 2016+A1:2017 / 2016+A11:2020 / 2016+A1:2017+A2:2021

EN 55014-1:2006+A1:2009+A2:2011 / 2017 / 2017+A11:2020, EN IEC 55014-1:2021

EN IEC 55015:2019 / 2019+A11:2020, EN 55022:2010

EN 55032*¹: 2015 / 2015+A11:2020 / 2015+A1:2020

AS CISPR 11:2017 / 2017+A1:2020, AS/NZS CISPR 14.1:2021, AS CISPR 15:2017

AS/NZS CISPR 32*¹: 2015 / 2015+A1:2020

AS/NZS 61000.6.3:2012 / 2021, AS/NZS 61000.6.4:2012, AS 61000.6.4:2020

AS/NZS 61000.6.8:2021

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

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

IEC 62236-3-2:2008 / 2018, IEC 62236-4:2008 / 2018

EN 50121-3-2:2016 / 2016+A1:2019, EN 50121-4:2016 / 2016+A1:2019

ICES-003(Issue 7), BETS-7(Issue 3)

CNS 13803:2018, CNS 13438:2006, CNS 13783-1:2013, CNS 15936:2016*¹

***¹: 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 /-2-6:2012 /-2-6:2020

EN 61326-1:2013, EN 61326-2-1:2013 /-2-2:2013 /-2-3:2013 /-2-6:2013

EN IEC 61326-1:2021, EN IEC 61326-2-1:2021 /-2-2:2021 /-2-3:2021 /-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 / 2014+A1:2020, IEC 60601-2-2:2017 /-2-3:2012+A1:2016+A2:2022 /-2-5:2009 /-2-6:2012+A1:2016+A2:2022 /-2-16:2018 /-2-21:2020 /-2-24:2012 /-2-25:2011 /-2-35:2020 /-2-37:2007+A1:2015 /-2-39:2018

EN 60601-1-2:2015 / 2015+A1:2021, EN 60601-2-3:2015+A1:2016 /-2-5:2015 /-2-6:2015+A1:2016 /-2-24:2015 /-2-25:2015 /-2-37:2008+A1:2015

EN IEC 60601-2-2:2018 /-2-16:2019 /-2-21:2021 /-2-35:2021 /-2-39:2019

JIS T 0601-1-2:2018 / 2023, JIS T 0601-2-2:2020 /-2-3:2015 /-2-5:2015 /-2-6:2015 /-2-16:2022 /-2-21:2019 /-2-24:2018 /-2-25:2014 /-2-35:2015 /-2-37:2018 /-2-39:2013

AS/NZS 3200.1.2:2005, AS/NZS 3200.2.2:1999, AS/NZS 3200.2.5:2002, AS/NZS 3200.2.6:2005

AS/NZS 3200.2.16:1999, AS/NZS 3200.2.21:1994, AS/NZS 3200.2.24:1999

AS/NZS 3200.2.25:1993, AS/NZS 3200.2.35:1999, AS/NZS 3200.2.39:2001

AS IEC 60601.1.2 2017, AS/NZS IEC 60601.2.2:2016, AS 60601.2.5:2018, AS 60601.2.6:2018

AS/NZS IEC 60601.2.16:2015, AS/NZS IEC 60601.2.21:2015, AS 60601.2.24:2018

AS/NZS IEC 60601.2.25:2016, AS/NZS IEC 60601.2.35:2022, AS/NZS IEC 60601.2.39:2022

Immunity test

[Including the test standards listed in Note 1.]

IEC 61000-4-2:2008 /-4-3:2006+A1:2007+A2:2010 /-4-3:2020 /-4-4:2012 /-4-5:2005 /-4-5:2014 /-4-5:2014+A1:2017 /-4-6:2008 /-4-6:2013 /-4-8:2009 /-4-9:2016 /-4-11:2004 /-4-11 2004+A1:2017 /-4-11:2020 /-4-39:2017

EN 61000-4-2:2009 /-4-3:2006+A1:2008+A2:2010 /-4-4:2012 /-4-5:2006 /-4-5:2014 /-4-5:2014+A1:2017 /-4-6:2009 /-4-6:2014 /-4-8:2010 /-4-9:2016 /-4-11:2004 /-4-11:2004+A1:2017 /-4-39:2017, EN IEC 61000-4-3:2020 /-4-11:2020

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 /-4-11:2021

CISPR 14-2:1997+A1:2001+A2:2008 / 2015 / 2020, CISPR 24:2010 / 2010+A1:2015

CISPR 35:2016

EN 55014-2:1997+A1:2001+A2:2008 / 2015, EN IEC 55014-2:2021

EN 55024:2010 / 2010+A1:2015, EN 55035:2017 / 2017+A1:2020

IEC 61000-6-1:2005 / 2016, IEC 61000-6-2:2005 / 2016

EN 61000-6-1:2007, EN IEC 61000-6-1:2019, EN 61000-6-2:2005, EN IEC 61000-6-2:2019

JIS C 61000-6-1:2019, JIS C 61000-6-2:2019

IEC 62236-3-2:2008 / 2018, IEC 62236-4:2008 / 2018

EN 50121-3-2:2016 / 2016+A1:2019, EN 50121-4:2016 / 2016+A1:2019

IEC 61547:2009 / 2020, EN 61547:2009, EN IEC 61547:2023, EN 50130-4:2011 / 2011+A1:2014

AS/NZS CISPR 14.2:2015 / 2021, AS CISPR 24:2013 / 2013+A1:2017

AS/NZS 61000.6.1:2006, AS/NZS 61000.6.2:2006 / 2022

Harmonic Test in Public Low Voltage Systems [Including the test standards listed in Note 1.]

IEC 61000-3-2:2005+A1:2008+A2:2009 / 2014 / 2018 / 2018+A1:2020, IEC 61000-3-3:2008 / 2013 / 2013+A1:2017 / 2013+A1:2017+A2:2021, IEC 61000-3-11:2000 / 2017
EN 61000-3-2:2006+A1:2009+A2:2009 / 2014, EN 61000-3-3:2008 / 2013 / 2013+A1:2019 / 2013+A1:2019+A2:2021, EN 61000-3-11:2000, EN IEC 61000-3-2:2019 / 2019 +A1:2021
EN IEC 61000-3-11:2019, JIS C 61000-3-2:2019
AS/NZS 61000.3.2:2013, AS/NZS 61000.3.3:2012, AS/NZS 61000.3.11:2002

IEC 61000-6-3:2006+A1:2010 / 2020, IEC 61000-6-8:2020
EN 61000-6-3:2007+A1:2011, EN IEC 61000-6-3:2021, EN IEC 61000-6-8:2020
AS/NZS 61000.6.3: 2012 / 2021, AS/NZS 61000.6.8:2021

Telecommunication characteristic test 1

EN 301 489-1: V.2.1.1 / V.2.2.3, EN 301 489-3: V.2.1.1 / V.2.3.2
EN 301 489-4: V.3.2.1 / V.3.3.1, EN 301 489-17: V.3.1.1 / V.3.2.4
EN 301 489-19: V.2.1.1 / V.2.2.1

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