

Scope of Accreditation

(Measurement Method)

Accreditation Number: VLAC-022-1

Expiration Date: November 28, 2024

[Name of Laboratory]

**mitsubishi electric engineering Co., Ltd.
EMC West Japan Center**

[Test site name]

EMC West Japan Center (MEE EMC WJC)

[Test site Address]

3-29-18 Akebono-cho, Fukuyama city, HIROSHIMA, 721-0952 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] **Quasi Free Space**

Measurement Frequency Range: 1 GHz - 6 GHz

Disturbance magnetic field strength measurement

[Test condition] **Loop Antenna, 3-axis loop antenna**

Disturbance power measurement

[Test condition] **Absorption 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

Current measurement [Test condition] Current probe

Conducted disturbance Measurement: DC power line port

Voltage Measurement [Test condition] AMN, High-impedance probe

Conducted disturbance Measurement: PLC port

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 : 80 MHz - 6 GHz

Electrical fast transient/burst (EFT/B)

Mains port, Telecommunication/Signal port

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

Conducted Common mode disturbances

Radiated magnetic field

Pulse magnetic immunity test

Damped oscillatory magnetic field immunity test

Interruptions and Voltage variations

Power transmission equipment Immunity test

Damped oscillatory wave immunity test

Ripple on d.c. input power port immunity test

Harmonics and interharmonics including mains signaling at a.c. power port, low frequency immunity tests

Harmonic current

Harmonic current test

Voltage changes, Voltage fluctuations and Flicker test

Voluntary EMC Laboratory Accreditation Center Inc.

Scope of Accreditation

(Test standards)

Accreditation Number: VLAC-022-1

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[Name of Laboratory]

**MITSUBISHI ELECTRIC ENGINEERING Co., Ltd.
EMC West Japan Center**

[Test site name]

EMC West Japan Center (MEE EMC WJC)

[Test site Address]

3-29-18 Akebono-cho, Fukuyama city, HIROSHIMA, 721-0952 JAPAN

[Test Standards]

Emission test

VCCI Technical Requirements: VCCI-CISPR 32

FCC 47 CFR Part15 Subpart B: ANSI C63.4-2014 (up to 6 GHz)

FCC 47 CFR Part15 Subpart B: ANSI C63.4a-2017 (up to 6 GHz)

FCC 47 CFR Part18: FCC MP-5 (up to 6 GHz)

CISPR 11, CISPR 12 :2007 / 2007+A1:2009, CISPR 14-1 :2016 / 2020

CISPR 15 :2013 / 2018+ISH:2019, CISPR 22, CISPR 32

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

EN 55012 :2007 / 2007+A1:2009, EN 55014-1, EN IEC 55014-1, EN 55015, EN IEC 55015

EN 55022, EN 55032

IEC 61800-3, EN 61800-3, EN IEC 61800-3

**Technical requirements under the Electrical Appliances and Materials safety Act appendix 10
Chapter 2/3/4/5**

J55011, J55014-1, J55015, J55032

**Enforcement rule of Radio Law: Article 46.2.1.5 (Broad band electric power line carrier
communication facility) /Ministry of Public Management, Home Affairs, Posts and
Telecommunications notification No.520 (H18.10.4)**

AS CISPR 11 :2017/ 2017+A1:2020, AS/NZS CISPR 12, AS CISPR 14.1, AS CISPR 15

AS/NZS CISPR 22, AS/NZS CISPR 32, AS/NZS 61000.6.3, AS/NZS 61000.6.4

IEC 61131-2, EN 61131-2, ICES-001, ICES-003

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

IEC 60945, EN 60945

**Nippon Kaiji Kyokai Technical rule of Materials and Equipment for Marine Use: Article 7 Chapter
1(Rules for the Automatic and Remote control)**

IEC 61326-1, IEC 61326-2-1/-2-2/-2-3/2-6

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

EN IEC 61326-1, EN IEC 61326-2-1/-2-2/-2-3/2-6

IEC 60601-1-2 Ed.4.0:2014, EN 60601-1-2:2015, JIS T 0601-1-2:2018

Immunity test

IEC 61000-4-2/-4-4/-4-8/-4-9/-4-10/-4-11/-4-16/-4-17/-4-18/-4-29

IEC 61000-4-3 :2006+A1:2007+A2:2010 / 2020

IEC 61000-4-5:2005, IEC 61000-4-6 :2008 / 2013+Cor1:2015

EN 61000-4-2/-4-3/-4-4/-4-8/-4-9/-4-10/-4-16/-4-17/-4-18/-4-29

EN 61000-4-5 :2006 / 2014 / 2014+A1:2017, EN 61000-4-6 :2009 / 2014+AC:2015

EN 61000-4-11 :2004+A1:2017, EN IEC 61000-4-3/-4-18, EN IEC 61000-4-11 :2020 / 2020+AC:2020

CISPR 14-2, EN 55014-2, EN IEC 55014-2, CISPR 24, EN 55024, CISPR 35*¹, EN 55035*¹
IEC 61000-6-1/-6-2, EN IEC 61000-6-1/-6-2
EN 61000-6-1:2007, EN 61000-6-2 :2005+IS1:2005+Cor1:2005
AS/NZS CISPR 14.2, AS/NZS 61000.6.1, AS/NZS 61000.6.2:2006
JIS C 61000-6-1, JIS C 61000-6-2
IEC 61800-3, EN 61800-3, IEC 61326-3-1, IEC 61326-3-2, IEC 60945, EN 60945
Nippon Kaiji Kyokai Technical rule of Materials and Equipment for Marine Use: Article 7 Chapter
1(Rules for the Automatic and Remote control)
IEC 61326-1, IEC 61326-2-1/-2-2/-2-3/2-6
EN 61326-1, EN 61326-2-1/-2-2/-2-3/2-6
EN IEC 61326-1, EN 61326-2-1/-2-2/-2-3/2-6
IEC 60601-1-2 Ed.4.0:2014*², EN 60601-1-2:2015*², JIS T 0601-1-2:2018*²
IEC 60255-26
JEC-2501 (except for Square Wave Impulse Immunity Test)
*¹ : Except for “Broadband impulsive conducted disturbances”, Annex A, Annex G and Annex H
*² : Except for the testing to the patient-coupled port with a current probe.

Harmonic Test in Public Low Voltage Systems

IEC 61000-3-2, EN 61000-3-2, EN IEC 61000-3-2
JIS C 61000-3-2, IEC 61000-3-3, EN 61000-3-3
IEC 61000-6-3, EN 61000-6-3, EN IEC 61000-6-3
IEC 61326-1, IEC 61326-2-1/-2-2/-2-3/2-6
EN 61326-1, EN 61326-2-1/-2-2/-2-3/2-6
EN IEC 61326-1, EN IEC 61326-2-1/-2-2/-2-3/2-6
IEC 60601-1-2 Ed.4.0:2014, EN 60601-1-2:2015, JIS T 0601-1-2:2018

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