

Scope of Accreditation

(Measurement Method)

Accreditation Number : VLAC-001-5

Expiration Date : March 30, 2022

[Name of Laboratory]

Japan Quality Assurance Organization

[Test site name]

Safety & EMC Center

[Test site Address]

4-4-4, Minamiosawa, Hachioji-shi, Tokyo 192-0364, Japan

[Measurement Method]

Emission test

Radiated disturbance : Enclosure Port

Disturbance electric field test

[Test condition] **On the reference ground plane, Measurement distance : 3m**

Measurement Frequency Range : 9 kHz - 1 GHz

[Test condition] **On the reference ground plane: In-vehicle equipment test(1m Method)**

Measurement Frequency Range : 150 kHz - 6 GHz*3

[Test condition] **Quasi Free Space**

Measurement Frequency Range : 1 GHz - 40 GHz

Disturbance magnetic field strength measurement

[Test condition] **Loop Antenna**

Disturbance electric 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

Conductive interference test against in-vehicle equipment

Electrical transient conduction along supply lines *4

Conducted disturbance Measurement: PLC power line port

Current measurement [Test condition] Current probe

Disturbance electric field test Antenna port / RF Modulator output power / Tuner port / Fiber port

Voltage test [Test condition] AAN, Capacitive voltage probe

Current test [Test condition] Current probe

Wanted signal and Voltage test at the RF output [Test condition] Selective voltmeter

Local oscillator power at the input terminal of the outdoor unit

*3: Frequency range expanded as of February 23, 2021

*4: Added as of February 23, 2021

Immunity test

Electro static discharge test

Contact discharge, Air discharge, Indirect discharge

Radiated electromagnetic field strength

Measurement Frequency Range : 26 MHz – 6 GHz

against in-vehicle

Measurement Frequency Range : 200 MHz – 6 GHz*4

TEM cell

Measurement Frequency Range : 1 MHz – 400 GHz*4

Stripline

Measurement Frequency Range : 10 kHz – 1 GHz*4

Tri-plate line

Measurement Frequency Range : 10 kHz – 1 GHz*4

Reverberation chamber

Measurement Frequency Range : 160 MHz – 6 GHz*4

Scope of Accreditation

(Test standards)

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[Test standards]

Emission test

VCCI Technical Requirements: VCCI-CISPR 32*¹

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

FCC 47 CFR Part 18: FCC MP-5 (up to 40 GHz)

CISPR 11, CISPR 14-1, CISPR 32*¹, EN 55011, EN 55014-1, EN 55032*¹

J55001, J55011, J55013, J55014-1, J55022, J55032, CISPRJ 32*¹

Technical requirements under the Electrical Appliances and Materials safety Act appendix 10 Chapter 2/ 3/ 4/ 5/ 6/ 7/ 8/ 9

Regulations for Enforcement of the Radio Act: Article 46.2.5 (Broad band electric power line carrier communication facility) / Notification 520 of the Ministry of Posts and Telecommunications (H18.10.4)

Regulations for Enforcement of the Radio Act: Article 46.7 (Microwave Oven or IH Cooking Heater)

AS CISPR 11, AS CISPR 14.1, AS/NZS CISPR 32*¹, AS/NZS 61000.6.3, AS/NZS 61000.6.4

ICES-Gen, ICES-001, ICES-003, CNS 13438, CNS 13439, CNS 13783-1, GB 9254, GB 13837

GB 4343.1, GB 4824

GOST R51318.11, GOST R51318.14.1, GOST R51318.22, GOST R 51317.6.3, GOST R 51317.6.4

IEC 61000-6-3, EN 61000-6-3, IEC 61000-6-4, EN 61000-6-4, IEC 61131-2, EN 61131-2

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

JIS C 61326-1, JIS C 61326-2-1/-2-2/-2-3/-2-6

IEC 60601-1-2, IEC 60601-2-10/-2-18*⁸/-2-24, JIS T 1115*⁴

EN 60601-1-2, EN 60601-2-10/-2-18*⁸/-2-24

JIS T 0601-1-2, JIS T 0601-2-18*⁸, KN 60601-1-2, KS C IEC 60601-1-2*⁷

YY 0505, IEC 60092-504, IEC 62040-2, EN 62040-2, JIS C 4411-2, IEC 61204-3, EN 61204-3

EN 55104, EN 60079-29-1, EN 50270, IEC 60533, EN 60533, JIS F 8081, IACS UR E10

KN 11, KS C 9811*⁷, KN 14-1, KS C 9814-1*⁷, KN 32*¹, KS C 9832*^{1,7}

KN 61000-6-3, KS C 9610-6-3*⁷, KN 61000-6-4, KS C 9610-6-4*⁷

Nippon Kaiji Kyokai Technical rule of Materials and Equipment for Marine Use : Article 7 Chapter 1

*¹: Except for Annex H (Outdoor unit of home satellite receiving systems)

*⁴: Added as of February 23, 2021 *⁷: Added as of April 20, 2021 *⁸: Added as of July 21, 2021

Immunity test

CISPR 14-2, CISPR 24, CISPR 35*², EN 55014-2, EN 55024, EN 55035*²

KN 14-2, KS C 9814-2*⁷, KN 35*², KS C 9835*^{2,7}

IEC 61000-4-2/-4-3/-4-4/-4-5/-4-6/-4-8/-4-11/-4-13/-4-16/4-20*⁴/4-21*⁴/-4-39*⁵

EN 61000-4-2/-4-3/-4-4/-4-5/-4-6/-4-8/-4-11/-4-13/-4-16/4-20*⁴/4-21*⁴/-4-39*⁶

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

KN 61000-4-2/-4-3/-4-4/-4-5/-4-6/-4-8/-4-11, KS C 9610-4-2/-4-3/-4-4/-4-5/-4-6/-4-8/-4-11*⁷

IEC 61000-6-1/-6-2/-6-7, EN 61000-6-1/-6-2/-6-7, JIS C 61000-6-1/-6-2

KN 61000-6-1/-6-2, KS C 9610-6-1/-6-2*⁷

IEC 61326-1, IEC 61326-2-1/-2-2/-2-3/-2-6, IEC 61326-3-1/-3-2
EN 61326-1, EN 61326-2-1/-2-2/-2-3/-2-6, EN 61326-3-1/-3-2
JIS C 61326-1, JIS C 61326-2-1/-2-2/-2-3/-2-6
IEC 60601-1-2, IEC 60601-2-10/-2-18^{*8}-2-24, JIS T 1115^{*4}
EN 60601-1-2, EN 60601-2-10/-2-18^{*8}-2-24
JIS T 0601-1-2, JIS T 0601-2-18^{*8}, KN 60601-1-2, KS C IEC 60601-1-2^{*7}
GB 4343.2, IEC 62040-2, EN 62040-2, YY0505, JIS C 1516, IEC 61131-2, EN 61131-2
IEC 60335-1 section 19.11.4, EN 60335-1 section 19.11.4, IEC 61204-3, EN 61204-3, EN 50270
JIS B 7611-2 Appendix B.3, IEC 60533, EN 60533, JIS F 8081, IACS UR E10
Nippon Kaiji Kyokai Technical rule of Materials and Equipment for Marine Use : Article 7 Chapter 1
IEC 60945, EN 60945, IEC 61496-1^{*4}, IEC 80601-2-30 clause 202^{*4}
JIS B 9704-1^{*4}, JIS C 9335-1 clause 19.11.4^{*4}
^{*2}: Except for “Broadband impulsive conducted disturbances” and Annex H (Telephony function)
^{*4}: Added as of February 23, 2021
^{*5}: Added as of February 23, 2021, IEC 60601-1-2 Ed 4.1 frequency / test level only.
^{*6}: Added as of February 23, 2021, EN 60601-1-2 Ed 4.1 frequency / test level only.
^{*7}: Added as of April 20, 2021 ^{*8}: Added as of July 21, 2021

Harmonic Test in Public Low Voltage Systems

IEC 61000-3-2, IEC 61000-3-3, EN 61000-3-2, EN 61000-3-3, JIS C 61000-3-2, GB 17625.1
IEC 61000-6-3, EN 61000-6-3, GOST R51317.3.2, GOST R51317.3.3
IEC 61326-1, IEC 61326-2-1/-2-3/-2-6, EN 61326-1, EN 61326-2-1/-2-3/-2-6
JIS C 61326-1, JIS C 61326-2-1/-2-3/-2-6
IEC 60601-1-2, JIS T 1115^{*4}
EN 60601-1-2, KN 60601-1-2, KS C IEC 60601-1-2^{*7}
YY 0505, IEC 62040-2, EN 62040-2, IEC 61204-3, EN 61204-3, EN 50270
^{*4}: Added as of February 23, 2021 ^{*7}: Added as of April 20, 2021

Vehicle /In-vehicle equipment test

EU Directive 2004/104/EC, Annex I, Clause 6.5/ 6.6/ 6.8/ 6.9 ^{*4}
ECE R-10 Clause 6.5/ 6.6/ 6.8^{*4}/ 6.9^{*4}
CISPR 25, EN 55025^{*4}, EN 50498^{*4}, ISO-7637-2^{*4}, ISO-7637-3^{*4}
ISO 11452-1^{*4}-2^{*4}-3^{*4}-4^{*4}-5^{*4}-8^{*4}-9^{*4}-11^{*4}, ISO 10605^{*4}, ISO 13766-1^{*4}, SAE J1113-25^{*4}
^{*4}: Added as of February 23, 2021

Telecommunication equipment performance 1

Intentional Radiators (FCC Part 15 Subpart C): ANSI C63.10-2013 (up to 40 GHz)
U-NII without DFS Intentional Radiators (FCC Part 15 Subpart E): ANSI C63.10-2013 (up to 40 GHz)
U-NII with DFS Intentional Radiators (FCC Part 15 Subpart E):
 FCC KDB Publication 905462 D02 U-NII DFS Compliance Procedures New Rules v02 (April 8, 2016)
 (up to 40 GHz)
EN 300 328, EN 300 330, EN 300 440, EN 301 489-1/-3/-9/-17/-19/-34, EN 301 893
EN 303 345, EN 303 345-1/-2/-3/-4, EN 303 413

Telecommunication equipment performance 2

IEC 62233, IEC 62311, IEC 62479, IEC 62493, EN62479, EN 62311, EN 62233

Electrical installations in ships - Durability and resistance to environmental conditions

Nippon Kaiji Kyokai Technical rule of Materials and Equipment for Marine Use : Article 7 Chapter 1^{*8}
IACS UR E10^{*8}, IEC 60945^{*8}, EN 60945^{*8}
IEC 60068-2-1/-2-2/-2-6/-2-30^{*8}, IEC 60695-11-5^{*8}
^{*8}: Added as of July 21, 2021

Tests for medical electrical equipment based on products safety standards

IEC 60601-1:1988+A1:1991+A2:1995	EN 60601-1:1990+A1:1993	JIS T 0601-1:1999
IEC 60601-1:2005	EN 60601-1:2006	JIS T 0601-1:2012
IEC 60601-1:2005+A1:2012	EN 60601-1:2006+A12:2014	JIS T 0601-1:2012+A1:2014
		JIS T 0601-1:2017
IEC 60601-1-1:2000	EN 60601-1-1:2001	JIS T 0601-1-1:2005
IEC 60601-1-6:2010	EN 60601-1-6:2010	
IEC 60601-1-6:2010+A1:2013	EN 60601-1-6:2010+A1:2015	
IEC 60601-1-8:2006+A1:2012	EN 60601-1-8:2007+A1:2013+AC:2014	JIS T 0601-1-8:2012
	EN 60601-1-8:2007+A11:2017	
IEC 60601-1-11:2010		
IEC 60601-1-11:2015		
IEC 60601-2-2:1998		
IEC 60601-2-2:2006		JIS T 0601-2-2:2012
IEC 60601-2-2:2009		JIS T 0601-2-2:2014
IEC 60601-2-2:2017		
IEC 60601-2-6:2012	EN 60601-2-6:2015	JIS T 0601-2-6:2015
IEC 60601-2-6:2012+A1:2016	EN 60601-2-6:2015+A1:2016	
IEC 60601-2-10:2012	EN 60601-2-10:2015	JIS T 0601-2-10:2015
IEC 60601-2-10:2012+A1:2016	EN 60601-2-10:2015+A1:2016	
IEC 60601-2-16:2008		
IEC 60601-2-16:2012	EN 60601-2-16:2015	JIS T 0601-2-16:2014
IEC 60601-2-16:2018		
IEC 60601-2-18:1996		
IEC 60601-2-18:1996+A1:2000		JIS T 0601-2-18:2005
IEC 60601-2-18:2009		JIS T 0601-2-18:2013
IEC 60601-2-24:1998		JIS T 0601-2-24:2005
IEC 60601-2-24:2012		JIS T 0601-2-24:2018
IEC 60601-2-30:1999		
IEC 60601-2-37:2001		
IEC 60601-2-37:2001+A1:2004+A2:2005		
IEC 60601-2-37:2007		JIS T 0601-2-37:2013
IEC 60601-2-37:2007+A1:2015		JIS T 0601-2-37:2018
IEC 60601-2-46:2010	EN 60601-2-46:2011	
IEC 60601-2-46:2016		
IEC 60601-2-57:2011	EN 60601-2-57:2011	
IEC 80601-2-30:2009	EN 80601-2-30:2010	
IEC 80601-2-30:2009+A1:2013	EN 80601-2-30:2010+A1:2015	
IEC 80601-2-30:2018		
IEC 62304:2006	EN 62304:2006	JIS T2304:2012
IEC 62304:2006+A1:2015	EN 62304:2006+A1:2015	JIS T2304:2017
IEC 62366:2007	EN 62366:2008	
IEC 62366:2007+A1:2014	EN 62366:2008+A1:2015	
IEC 62366-1:2015	EN 62366-1:2015+AC:2015	JIS T62366-1:2019

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