| Accreditation No. | RTL03220 |
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# Accreditation Certificate Appendix



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| Type of Laboratory | Testing |
| Name of Laboratory | Labotech International Co., Ltd. |
| Address | 1-16 Fukazu-cho, Nishinomiya-shi, Hyogo, 663-8203, Japan |

1) Premises on which testing activities are performed

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| Name of Premises | Kishu Lab. |
| Address | 579-1, Umehara, Wakayama-shi, Wakayama, 640-8452 Japan |
| Testing service at permanent facilities or on site testing service | ■ Testing service at permanent facilities<br>□ On site testing service |

Scope of Accreditation

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|---|---|
| FIELD | M21 Electrical Testing |

| CODE OF CLASSIFICATION, NAME | TEST METHOD STANDARD |
|---|---|
| M21 Electrical testing<br>M21.4 Electromagnetic compatibility testing<br><br>M21.4.1 Continuous disturbance tests | CISPR 11 (except 10, Annex H), EN 55011 (except 10, Annex H)<br>CISPR 22 (except 7), EN 55022 (except 7)<br>CISPR 32 (except Table A.6, Table A.7, Table A.13)<br>EN 55032 (except Table A.6, Table A.7, Table A.13)<br>IEC 61000-6-3, EN 61000-6-3<br>IEC 61000-6-4, EN 61000-6-4<br>IEC 60945, EN 60945, JIS F 0812, EN 301 843-1<br>IEC 60601-1-2, EN 60601-1-2, JIS T 0601-1-2<br>IEC 61326-1, EN 61326-1, JIS C 1806-1<br>IEC 61326-2-6, EN 61326-2-6<br>IEC 62236-3-2 (except Table 1, 1.2), EN 50121-3-2 (except Table 1, 1.2)<br>VCCI Technical requirements<br>ANSI C63.4 : 2014<br>FCC Part 15 Subpart B<br>CISPR 14-1 (except Table 4 Loop antenna system)<br>EN 55014-1 (except Table 4 Loop antenna system)<br>EN 301 489-1, EN 301 489-17 |
| M21 Electrical testing<br>M21.4 Electromagnetic compatibility testing<br><br>M21.4.3 Discontinuous disturbance tests | CISPR 14-1 (except Table 4 Loop antenna system)<br>EN 55014-1 (except Table 4 Loop antenna system)<br>IEC 61000-6-3, EN 61000-6-3<br>IEC 61000-6-4, EN 61000-6-4<br>ANSI C63.4 : 2014 |

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| Type of Laboratory | Testing |
| Name of Laboratory | Labotech International Co., Ltd. |
| Address | 1-16 Fukazu-cho, Nishinomiya-shi, Hyogo, 663-8203, Japan |

| CODE OF CLASSIFICATION, NAME | TEST METHOD STANDARD |
|---|---|
| M21 Electrical testing<br>M21.4 Electromagnetic compatibility testing<br>M21.4.4 Conducted emission tests at telecommunication ports | CISPR 22 (except 7), EN 55022 (except 7)<br>CISPR 32 (except Table A.6, Table A.7, Table A.13)<br>EN 55032 (except Table A.6, Table A.7, Table A.13)<br>IEC 61000-6-3, EN 61000-6-3<br>IEC 61000-6-4, EN 61000-6-4<br>EN 301 489-1, EN 301 489-17<br>VCCI Technical requirements |
| M21 Electrical testing<br>M21.4 Electromagnetic compatibility testing<br><br>M21.4.5 Magnetic/Electric field test(up to 30MHz) | CISPR 11 (except 10, Annex H)<br>EN 55011 (except 10, Annex H)<br>IEC 60945, EN 60945, JIS F 0812<br>IEC 60601-1-2, EN 60601-1-2, JIS T 0601-1-2<br>CISPR 14-1 (except Table 4 Loop antenna system)<br>EN 55014-1 (except Table 4 Loop antenna system)<br>EN 302 248 |
| M21 Electrical testing<br>M21.4 Electromagnetic compatibility testing<br><br>M21.4.6 Electric field test(30MHz to 1GHz) | CISPR 11(except 10, Annex H), EN 55011 (except 10, Annex H),<br>CISPR 22 (except 7), EN 55022 (except 7)<br>CISPR 32 (except Table A.6, Table A.7, Table A.13)<br>EN 55032 (except Table A.6, Table A.7, Table A.13)<br>IEC 61000-6-3, EN 61000-6-3<br>IEC 61000-6-4, EN 61000-6-4<br>IEC 60945, EN 60945, JIS F 0812<br>EN 301 843-1<br>IEC 60601-1-2, EN 60601-1-2, JIS T 0601-1-2<br>IEC 61326-1, EN 61326-1, JIS C 1806-1<br>IEC 61326-2-6, EN 61326-2-6<br>IEC 62236-3-2 (except 1.2 of Table 1), EN 50121-3-2 (except 1.2 of Table 1)<br>VCCI Technical requirements<br>ANSI C63.4 : 2014<br>FCC Part 15 Subpart B<br>CISPR 14-1, EN 55014-1<br>EN 302 248<br>EN 301 489-1, EN 301 489-17 |

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| Type of Laboratory | Testing |
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| Address | 1-16 Fukazu-cho, Nishinomiya-shi, Hyogo, 663-8203, Japan |

| CODE OF CLASSIFICATION, NAME | TEST METHOD STANDARD |
|---|---|
| -M21 Electrical testing<br>M21.4 Electromagnetic compatibility testing<br><br>M21.4.7 Electric field test(1GHz and over) | CISPR 11(except 10, Annex H), EN 55011 (except 10, Annex H),<br>CISPR 22 (except 7), EN 55022 (except 7)<br>CISPR 32 (except Table A.6, Table A.7, Table A.13)<br>EN 55032 (except Table A.6, Table A.7, Table A.13)<br>IEC 60945, EN 60945, JIS F 0812<br>EN 301 843-1<br>IEC 60601-1-2, EN 60601-1-2, JIS T 0601-1-2<br>IEC 62236-3-2 (except 1.2 of Table 1), EN 50121-3-2 (except 1.2 of Table 1)<br>VCCI Technical requirements<br>ANSI C63.4 : 2014<br>FCC Part 15 Subpart B<br>IEC 61000-6-3, EN 61000-6-3<br>IEC 61000-6-4, EN 61000-6-4<br>CISPR 14-1 (except Table 4 Loop antenna system)<br>EN 55014-1 (except Table 4 Loop antenna system)<br>EN 302 248<br>EN 301 489-1, EN 301 489-17 |
| M21 Electrical testing<br>M21.4 Electromagnetic compatibility testing<br><br>M21.4.9 Disturbance power tests | CISPR 14-1 (except Table 4 Loop antenna system)<br>EN 55014-1 (except Table 4 Loop antenna system) |
| M21 Electrical testing<br>M21.4 Electromagnetic compatibility testing<br><br>M21.4.10 Harmonic current emission tests | IEC 61000-3-2, EN 61000-3-2, JIS C 61000-3-2<br>IEC 61000-6-3, EN 61000-6-3<br>IEC 60601-1-2, EN 60601-1-2, JIS T 0601-1-2<br>IEC 61326-1, EN 61326-1, JIS C 1806-1<br>EN 301 489-1, EN 301 489-17 |
| M21 Electrical testing<br>M21.4 Electromagnetic compatibility testing<br><br>M21.4.12Voltage fluctuation and flicker tests | IEC 61000-3-3, EN 61000-3-3<br>IEC 61000-6-3, EN 61000-6-3<br>IEC 60601-1-2, EN 60601-1-2, JIS T 0601-1-2<br>IEC 61326-1, EN 61326-1<br>EN 301 489-1, EN 301 489-17 |

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| Type of Laboratory | Testing |
| Name of Laboratory | Labotech International Co., Ltd. |
| Address | 1-16 Fukazu-cho, Nishinomiya-shi, Hyogo, 663-8203, Japan |

| CODE OF CLASSIFICATION, NAME | TEST METHOD STANDARD |
|---|---|
| M21 Electrical testing<br>M21.4 Electromagnetic compatibility testing<br><br>M21.4.14 Electrostatic discharge immunity tests | IEC 61000-4-2, EN 61000-4-2<br>IEC 61000-6-1, EN 61000-6-1<br>IEC 61000-6-2, EN 61000-6-2<br>IEC 60945, EN 60945, JIS F 0812<br>EN 301 843-1<br>IEC 60601-1-2, EN 60601-1-2, JIS T 0601-1-2<br>IEC 61326-1, EN 61326-1, JIS C 1806-1<br>IEC 61326-2-6, EN 61326-2-6<br>IEC 62236-3-2, EN 50121-3-2<br>CISPR 14-2, EN 55014-2<br>CISPR 35, EN 55035,<br>EN 301 489-1, EN 301 489-17 |
| M21 Electrical testing<br>M21.4 Electromagnetic compatibility testing<br><br>M21.4.15 RF radiated electromagnetic field immunity tests | IEC 61000-4-3, EN 61000-4-3<br>IEC 61000-6-1, EN 61000-6-1<br>IEC 61000-6-2, EN 61000-6-2<br>IEC 60945, EN 60945, JIS F 0812<br>EN 301 843-1<br>IEC 61326-1, EN 61326-1, JIS C 1806-1<br>IEC 61326-2-6, EN 61326-2-6<br>CISPR 14-2, EN 55014-2<br>CISPR 35, EN 55035<br>EN 301 489-1, EN 301 489-17 |
| M21 Electrical testing<br>M21.4 Electromagnetic compatibility testing<br><br>M21.4.16 Electrical fast transient/burst immunity tests | IEC 61000-4-4, EN 61000-4-4<br>IEC 61000-6-1, EN 61000-6-1<br>IEC 61000-6-2, EN 61000-6-2<br>IEC 60945, EN 60945, JIS F 0812<br>EN 301 843-1<br>IEC 60601-1-2, EN 60601-1-2, JIS T 0601-1-2<br>IEC 61326-1, EN 61326-1, JIS C 1806-1<br>IEC 61326-2-6, EN 61326-2-6<br>IEC 62236-3-2, EN 50121-3-2<br>CISPR 14-2, EN 55014-2<br>CISPR 35, EN 55035<br>EN 301 489-1, EN 301 489-17 |

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| Type of Laboratory | Testing |
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| Address | 1-16 Fukazu-cho, Nishinomiya-shi, Hyogo, 663-8203, Japan |

| CODE OF CLASSIFICATION, NAME | TEST METHOD STANDARD |
|---|---|
| M21 Electrical testing<br>M21.4 Electromagnetic compatibility testing<br><br>M21.4.17 Surge immunity tests | IEC 61000-4-5, EN 61000-4-5<br>IEC 61000-6-1, EN 61000-6-1<br>IEC 61000-6-2, EN 61000-6-2<br>IEC 60945, EN 60945, JIS F 0812<br>EN 301 843-1<br>IEC 60601-1-2, EN 60601-1-2, JIS T 0601-1-2<br>IEC 61326-1, EN 61326-1, JIS C 1806-1<br>IEC 61326-2-6, EN 61326-2-6<br>IEC 62236-3-2, EN 50121-3-2<br>CISPR 14-2, EN 55014-2<br>CISPR 35, EN 55035<br>EN 301 489-1, EN 301 489-17 |
| M21 Electrical testing<br>M21.4 Electromagnetic compatibility testing<br><br>M21.4.18 RF conducted immunity tests | IEC 61000-4-6, EN 61000-4-6<br>IEC 61000-6-1, EN 61000-6-1<br>IEC 61000-6-2, EN 61000-6-2<br>IEC 60945, EN 60945, JIS F 0812<br>EN 301 843-1<br>IEC 60601-1-2 (expect BCI method), EN 60601-1-2 (expect BCI method), JIS T 0601-1-2 (expect BCI method)<br>IEC 61326-1, EN 61326-1, JIS C 1806-1<br>IEC 61326-2-6, EN 61326-2-6<br>IEC 62236-3-2, EN 50121-3-2<br>CISPR 14-2, EN 55014-2<br>CISPR 35, EN 55035<br>EN 301 489-1, EN 301 489-17 |
| M21 Electrical testing<br>M21.4 Electromagnetic compatibility testing<br><br>M21.4.19 Power frequency magnetic field immunity tests | IEC 61000-4-8, EN 61000-4-8<br>IEC 61000-6-1, EN 61000-6-1<br>IEC 61000-6-2, EN 61000-6-2<br>IEC 60601-1-2, EN 60601-1-2, JIS T 0601-1-2<br>IEC 61326-1, EN 61326-1, JIS C 1806-1<br>IEC 61326-2-6, EN 61326-2-6<br>CISPR 35, EN 55035 |

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| Address | 1-16 Fukazu-cho, Nishinomiya-shi, Hyogo, 663-8203, Japan |

| CODE OF CLASSIFICATION, NAME | TEST METHOD STANDARD |
|---|---|
| M21 Electrical testing<br>M21.4 Electromagnetic compatibility testing<br><br>M21.4.20 A.C. power supply fluctuation immunity tests | IEC 61000-4-11, EN 61000-4-11<br>IEC 61000-6-1 (up to 16 A), EN 61000-6-1 (up to 16 A)<br>IEC 61000-6-2, EN 61000-6-2<br>IEC 60945, EN 60945, JIS F 0812<br>EN 301 843-1<br>IEC 60601-1-2, EN 60601-1-2, JIS T 0601-1-2<br>IEC 61326-1, EN 61326-1, JIS C 1806-1<br>IEC 61326-2-6, EN 61326-2-6<br>CISPR 14-2, EN 55014-2<br>CISPR 35, EN 55035<br>EN 301 489-1, EN 301 489-17 |
| M21 Electrical testing<br>M21.4 Electromagnetic compatibility testing<br><br>M21.4.23 Test for immunity to conducted, disturbance in the frequency range 0Hz to 150kHz | IEC 60945:1996 10.2, EN 60945:1997 10.2 |
| M21 Electrical testing<br>M21.4 Electromagnetic compatibility testing<br><br>M21.4.25 Voltage dips, short interruptions and voltage variations on DC input power port immunity tests | IEC 60945 10.8, EN 60945 10.8, JIS F 0812 10.8 |
| M21 Electrical testing<br>M21.5 Environmental testing<br><br>M21.5.18 Vibration tests(sinusoidal) | IEC 60068-2-6 (7, 9, and 11 are limited to visual check by viewing and operation check by electricity. Horizontal: Frequency range 2Hz to 800Hz, Acceleration range ≦100m/s$^2$ Displacement range ≦50mm p-p, Vertical: Frequency range 2Hz to 2000Hz, Acceleration range ≦ 100m/s$^2$ Displacement range ≦50mm p-p),<br>EN 60068-2-6 (7, 9 and 11 are limited to visual check by viewing and operation check by electricity. Horizontal: Frequency range 2Hz to 800Hz, Acceleration range ≦100m/s$^2$ Displacement range ≦50mm p-p, Vertical: Frequency range 2Hz to 2000Hz, Acceleration range ≦ 100m/s$^2$ Displacement range ≦50mm p-p),<br>JIS C 60068-2-6 (7, 9, and 11 are limited to visual check by viewing and operation check by electricity. Horizontal: Frequency range 2Hz to 800Hz, Acceleration range ≦100m/s$^2$ Displacement range ≦50mm p-p, Vertical: Frequency range 2Hz to 2000Hz, Acceleration range ≦ 100m/s$^2$ Displacement range ≦50mm p-p),<br>IEC 60945, EN 60945, JIS F 0812 |

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| CODE OF CLASSIFICATION, NAME | TEST METHOD STANDARD |
|---|---|
| M21 Electrical testing<br>M21.5 Environmental testing<br><br>M21.5.1 Cold tests | IEC 60068-2-1 (6.8, 6.10, and 6.13 are limited to visual check by viewing and operation check by electricity. Test Ab Temperature range -40°C to +5°C),<br>EN 60068-2-1 (6.8, 6.10, and 6.13 are limited to visual check by viewing and operation check by electricity. Test Ab Temperature range -40°C to +5°C),<br>JIS C 60068-2-1 (6.8, 6.10, and 6.13 are limited to visual check by viewing and operation check by electricity. Test Ab Temperature range -40°C to +5°C),<br>IEC 60945, EN 60945, JIS F 0812 |
| M21 Electrical testing<br>M21.5 Environmental testing<br><br>M21.5.2 Dry heat tests | IEC 60068-2-2 (6.7, 6.9, and 6.13 are limited to visual check by viewing and operation check by electricity. Test Bb Temperature range ≦ 100°C),<br>EN 60068-2-2 (6.7, 6.9, and 6.13 are limited to visual check by viewing and operation check by electricity. Test Bb Temperature range ≦ 100°C),<br>JIS C 60068-2-2 (6.7, 6.9, and 6.13 are limited to visual check by viewing and operation check by electricity. Test Bb Temperature range ≦100°C),<br>IEC 60945, EN 60945, JIS F 0812 |
| M21 Electrical testing<br>M21.5 Environmental testing<br><br>M21.5.6 Damp Heat tests, cyclic (12+12-Hour cycle) | IEC 60068-2-30 (6, 8, 10 are limited to visual check by viewing and operation check by electricity.),<br>EN 60068-2-30 (6, 8, 10 are limited to visual check by viewing and operation check by electricity.),<br>JIS C 60068-2-30 (6, 8, 10 are limited to visual check by viewing and operation check by electricity.),<br>IEC 60945, EN 60945, JIS F 0812 |
| M21 Electrical testing<br>M21.27 Radio Transmitter tests<br><br>M21.27.1 Frequency | FCC Part 2.1055, 25.202, 74.861, 80.209, 80.213, 87.133, 90.213, 90.215, 101.107<br>ANSI/TIA-603-E<br>EN 302 248, EN 303 135 V2.1.1 |
| M21 Electrical testing<br>M21.27 Radio Transmitter tests<br><br>M21.27.2 Occupied frequency bandwidth | FCC Part 2.1049, 74.861, 80.209, 80.211, 87.135, 87.137, 87.139, 90.209, 90.210, 101.109 |
| M21 Electrical testing<br>M21.27 Radio Transmitter tests<br><br>M21.27.3 Spurious emission intensity | FCC Part 2.1051, 2.1053, 2.1057, 25.204, 74.861, 80.211, 80.217, 80.273, 87.139, 90.210, 101.111<br>ANSI/TIA-603-E<br>EN 302 248, EN 303 135 V2.1.1 |

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| Address | 1-16 Fukazu-cho, Nishinomiya-shi, Hyogo, 663-8203, Japan |

| CODE OF CLASSIFICATION, NAME | TEST METHOD STANDARD |
|---|---|
| M21 Electrical testing<br>M21.27 Radio Transmitter tests<br><br>M21.27.4 Antenna power | FCC Part 2.1046, 25.204, 25.216, 74.861, 80,215, 80.855, 80.873, 80.909, 80.911, 80.959, 87.131, 90.205, 90.215, 90.217, 101.113<br>ANSI/TIA-603-E<br>EN 302 248, EN 303 135 V2.1.1 |
| M21 Electrical testing<br>M21.27 Radio Transmitter tests<br><br>M21.27.8 Carrier-wave power | FCC Part 2.1046, 30.202, 80,215, 87.131, 95.3167<br>ANSI/TIA-603-E<br>EN 302 248 |
| M21 Electrical testing<br>M21.27 Radio Transmitter tests<br><br>M21.27.11 Transmission rise time and transmission fall time | FCC Part 2.1047, 80.213, 87.141, 90.207 |
| M21 Electrical testing<br>M21.27 Radio Transmitter tests<br><br>M21.27.12 Adjacent channel leakage power or out-band leakage power | FCC Part 2.1051, 2.1053, 2.1057, 80.211, 80.273, 87.139, 90.210<br>ANSI/TIA-603-E<br>EN 302 248, EN 303 135 V2.1.1 |
| M21 Electrical testing<br>M21.28 Radio Receiver tests<br><br>M21.28.1 Limit of radio waves which are secondarily emitted | FCC Section 2.1051, 2.1053, 2.1057, 80.217, 90.210<br>ANSI/TIA-603-E |
| M21 Electrical testing<br>M21.28 Radio Receiver tests<br><br>M21.28.5 Spurious response | EN 303 135 V2.1.1 |
| M21 Electrical testing<br>M21.41 Accreditation Scope of EMC laboratory for FCC<br>M21.41.1 Unintentional Radiators (FCC Part 15, Subpart B) | ANSI C63.4-2014<br>(Measurement frequency : up to 40 GHz) |

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| CODE OF CLASSIFICATION, NAME | TEST METHOD STANDARD |
|---|---|
| M21 Electrical testing<br>M21.41 Accreditation Scope of EMC laboratory for FCC<br>M21.41.13 Maritime and Aviation Radio Services (FCC Licensed Radio Service Equipment)<br>・Part 80<br>・Part 87 | ・ ANSI/TIA-603-E-2016; [1] or<br>・ ANSI C63.26-2015<br><br>(Measurement frequency : up to 40 GHz) |
| M21 Electrical testing<br>M21.41 Accreditation Scope of EMC laboratory for FCC<br>M21.41.14 Microwave and Millimeter Bands Radio Services (FCC Licensed Radio Service Equipment)<br>・ Part 25<br>・ Part 30<br>・ Part 74<br>・ Part 90 (above 3 GHz)<br>・ Part 95 (above 3 GHz)<br>・ Part 97 (above 3 GHz)<br>・ Part 101 | ・ANSI/TIA-603-E-2016; [1] or<br>・ANSI/TIA-102.CAAA-E-2016; [1] or<br>・ANSI C63.26-2015<br><br>(Measurement frequency : up to 40 GHz) |

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| (Notes on Accreditation Certificate)<br>The laboratory is only accredited for laboratory activities outlined within the methods listed above. Reference to any other activity within these standards, such as risk management or risk assessment, does not fall within the laboratory's accredited capabilities. |
| When version information of standards or methods are not identified in the scope, laboratories shall adapt to use the current version of such standards within six months at latest from the issued date of current version. |
| Notes for EMC test laboratory for FCC<br>Accreditation does not imply acceptance to the FCC equipment authorization program. Please see the FCC website (https://apps.fcc.gov/oetcf/eas/) for a listing of FCC approved laboratories. |

**Japan Accreditation Board**