Korea Laboratory Accreditation Scheme

CERTIFICATE OF ACCREDITATION

HCT Co., Ltd.

Accreditation No. : KT197

Corporation Registration No. : 134411-0015635

Address of Laboratory : (Branch site)74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, Republic of Korea
(Satellite facilities-2)37, Cheoldobangmulgwan-ro, Uiwang-si, Gyeonggi-do, Republic of Korea
(Satellite facilities-3)304, Sinwon-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, Republic of Korea

Date of Initial Accreditation : March 28, 2003

Validity of Accreditation : December 12, 2019 ~ December 11, 2023

Scope of Accreditation : Attached Annex

Date of issue : March 20, 2023

This testing laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to Joint ISO-ILAC-IAF Communiqué).

CHIN CHONGWOOK

Head

Korea Laboratory Accreditation Scheme

Korea Laboratory Accreditation Scheme(KOLAS) is a signatory to the ILAC Mutual Recognition Arrangement

No. KT197

03. Electrical Testing

03.004 Electrical materials and components

Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
ANSI/CAN/UL 1973:2022	Electrical materials and components	Batteries for Use in Stationary, And Motive Auxiliary Power Applicantions	DC:(-5 ~ 1500) V DC:(-1000 ~ 1000) A Temperature:(-65 ~ 200) ℃	BS	N
EN 62133-1:2017	Electrical materials and components	Secondary cells and batteries containing alkaline or other non-acid electrolytes - Safety requirements for portable sealed secondary cells, and for batteries made from them, for use in portable applications - Part 1:Nickel systems	DC:(-5 ~ 150) V DC:(-250 ~ 250) A Temperature:(-65 ~ 200) ℃ Pressure: (10.0 ~ 11.6) kPa Vibration:(10 ~ 55) Hz, (Displacement amplitude 0.76 mm, Maximum displacement width 1.52 mm)	BS	N
EN 62133-2:2017	Electrical materials and components	Secondary cells and batteries containing alkaline or other non-acid electrolytes - Safety requirements for portable sealed secondary cells, and for batteries made from them, for use in portable applications - Part 2:Lithium systems	DC:(-5 ~ 150) V DC:(-250 ~ 250) A Temperature:(-65 ~ 200) ℃ Vibration:(7 ~ 200) Hz, (Displacement amplitude 0.8 mm, Maximum displacement width 1.6 mm)	BS	N
EN 62133-2:2017+A1:2021	Electrical materials and components	Secondary cells and batteries containing alkaline or other non-acid electrolytes - Safety requirements for portable sealed secondary cells, and for batteries made from them, for use in portable applications - Part 2: Lithium systems	DC:(-5 ~ 150) V DC:(-250 ~ 250) A Temperature:(-65 ~ 200) ℃ Vibration:(7 ~ 200) Hz, (Displacement amplitude 0.8 mm, Maximum displacement width 1.6 mm)	BS	N
EN 62133:2013	Electrical materials and components	Secondary cells and batteries containing alkaline or other non-acid electrolytes - Safety requirements for portable sealed secondary cells, and for batteries made from them, for use in portable applications	DC:(-5 ~ 150) V DC:(-250 ~ 250) A Temperature:(-65 ~ 200) ℃ Pressure:(10.0 ~ 11.6) kPa Vibration:(10 ~ 55) Hz, (Displacement amplitude 0.76 mm, Maximum displacement width 1.52 mm)	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
IEC 60086-4:2014	Electrical materials and components	Primary batteries - Part 4: Safety of lithium batteries	DC:(-5 ~ 150) V DC:(-250 ~ 250) A Temperature:(-65 ~ 200) ℃ Vibration:(7 ~ 200) Hz, (Displacement amplitude 0.8 mm, Maximum displacement width 1.6 mm)	BS	N
IEC 60086-4:2019	Electrical materials and components	Primary batteries - Part 4: Safety of lithium batteries	DC:(-5 ~ 150) V DC:(-250 ~ 250) A Temperature:(-65 ~ 200) ℃ Pressure: (10.0 ~ 11.6) kPa Vibration:(7 ~ 200) Hz, (Displacement amplitude 0.8 mm, Maximum displacement width 1.6 mm)	BS	N
IEC 61960-3:2017	Electrical materials and components	Secondary cells and batteries containing alkaline or other non-acid electrolytes - Secondary lithium cells and batteries for portable applications - Part 3: Prismatic and cylindrical lithium secondary cells,and batteries made from them	DC voltage:(-5 ~ 150) V DC current:(-250 ~ 250) A Temperature:(-65 ~ 200) ℃	BS	N
IEC 61960:2011	Electrical materials and components	Secondary cells and batteries containing alkaline or other non-acid electrolytes - Secondary lithium cells and batteries for portable applications	DC:(-5 ~ 150) V DC:(-250 ~ 250) A Temperature:(-65 ~ 200) ℃	BS	N
IEC 62133-1:2017	Electrical materials and components	Secondary cells and batteries containing alkaline or other non-acid electrolytes - Safety requirements for portable sealed secondary cells, and for batteries made from them, for use in portable applications - Part 1:Nickel systems	DC:(-5 ~ 150) V DC:(-250 ~ 250) A Temperature:(-65 ~ 200) ℃ Pressure: (10.0 ~ 11.6) kPa Vibration:(10 ~ 55) Hz, (Displacement amplitude 0.76 mm, Maximum displacement width 1.52 mm)	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
IEC 62133-2:2017	Electrical materials and components	Secondary cells and batteries containing alkaline or other non-acid electrolytes - Safety requirements for portable sealed secondary cells, and for batteries made from them, for use in portable applications - Part 2: Lithium systems	DC:(-5 ~ 150) V DC:(-250 ~ 250) A Temperature:(-65 ~ 200) ℃ Vibration:(7 ~ 200) Hz, (Displacement amplitude 0.8 mm, Maximum displacement width 1.6 mm)	BS	N
IEC 62133-2:2017/AMD1:2021	Electrical materials and components	Secondary cells and batteries containing alkaline or other non-acid electrolytes - Safety requirements for portable sealed secondary cells, and for batteries made from them, for use in portable applications - Part 2: Lithium systems	DC:(-5 ~ 150) V DC:(-250 ~ 250) A Temperature:(-65 ~ 200) ℃ Vibration:(7 ~ 200) Hz, (Displacement amplitude 0.8 mm, Maximum displacement width 1.6 mm)	BS	N
IEC 62133:2012	Electrical materials and components	Secondary cells and batteries containing alkaline or other non-acid electrolytes - Safety requirements for portable sealed secondary cells, and for batteries made from them, for use in portable applications	DC:(-5 ~ 150) V DC:(-250 ~ 250) A Temperature:(-65 ~ 200) ℃ Pressure: (10.0 ~ 11.6) kPa Vibration:(10 ~ 55) Hz, (Displacement amplitude 0.76 mm, Maximum displacement width 1.52 mm)	BS	N
IEC 62281:2019	Electrical materials and components	Safety of primary and secondary lithium cells and batteries during transport	DC:(-5 ~ 1500) V DC:(-1000 ~ 1000) A Temperature:(-65 ~ 200) ℃ Pressure: (10.0 ~ 11.6) kPa Vibration:(7 ~ 200) Hz, (Displacement amplitude 0.8 mm, Maximum displacement width 1.6 mm)	BS	N
IEC 62619:2017	Electrical materials and components	Secondary cells and batteries containing alkaline or other non-acid electrolytes - Safety requirements for secondary lithium cells and batteries, for use in industrial applications	DC:(-5 ~ 1500) V DC:(-1000 ~ 1000) A Temperature:(-65 ~ 200) ℃	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
IEC 62619:2022	Electrical materials and components	Secondary cells and batteries containing alkaline or other non-acid electrolytes - Safety requirements for secondary lithium cells and batteries, for use in industrial applications	DC:(-5 ~ 1500) V DC:(-1000 ~ 1000) A Temperature:(-65 ~ 200) ℃	BS	N
IEC 62620:2014	Electrical materials and components	Secondary cells and batteries containing alkaline or other non-acid electrolytes - Secondary lithium cells and batteries for use in industrial applications	DC:(-5 ~ 1500) V DC:(-1000 ~ 1000) A Temperature:(-65 ~ 200) ℃	BS	N
IEC 62660-1:2018	Electrical materials and components	Secondary lithium-ion cells for the propulsion of electric road vehicles - Part 1:Performance testing	DC:(-5 ~ 1500) V DC:(-1000 ~ 1000) A Temperature:(-65 ~ 200) ℃	BS	N
IEC 62660-2:2018	Electrical materials and components	Secondary lithium-ion cells for the propulsion of electric road vehicles - Part 2: Reliability and abuse testing	DC:(-5 ~ 1 500) V DC:(-1 000 ~ 1 000) A Temperature:(-65 ~ 200) ℃ Vibration:(10 ~ 2 000) Hz, (0.14 ~ 20) $(m/s^2)2/Hz$ r.m.s. acceleration 27.8 m/s^2	BS	N
IEC 62660-3:2016	Electrical materials and components	Secondary lithium-ion cells for the propulsion of electric road vehicles - Part 3: Safety requirements	DC:(-5 ~ 1500) V DC:(-1000 ~ 1000) A Temperature:(-65 ~ 200) ℃	BS	N
IEC 63056:2020	Electrical materials and components	Secondary cells and batteries containing alkaline or other non-acid electrolytes - Safety requirements for secondary lithium cells and batteries for use in electrical energy storage systems	DC:(-5 ~ 1500) V DC:(-1000 ~ 1000) A Temperature:(-65 ~ 200) ℃	BS	N
IEC 63057:2020	Electrical materials and components	Secondary cells and batteries containing alkaline or other non-acid electrolytes - Safety requirements for secondary lithium batteries for use in road vehicles not for the propulsion	DC:(-5 ~ 60) V DC:(-1000 ~ 1000) A Temperature:(-65 ~ 200) ℃ Vibration:(7 ~ 50)Hz, (2 ~ 10) m/s^2	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
JIS C 62133-2:2020	Electrical materials and components	Safety of secondary batteries for portable devices-Part 2: Lithium secondary battery	DC:(-5 ~ 150) V DC:(-250 ~ 250) A Temperature:(-65 ~ 200) ℃ Pressure: (10.0 ~ 11.6) kPa Vibration:(7 ~ 200) Hz, (Displacement amplitude 0.8 mm, Maximum displacement width 1.6 mm)	BS	N
KC 62133-2:2020	Electrical materials and components	Secondary cells and batteries containing alkaline or other non-acid electrolytes - Safety requirements for portable sealed secondary cells, and for batteries made from them, for use in portable applications - Part 2:Lithium systems	DC:(-5 ~ 150) V DC:(-250 ~ 250) A Temperature:(-65 ~ 200) ℃ Pressure:(10.0 ~ 11.6) kPa Vibration:(7 ~ 200) Hz, (Displacement amplitude 0.8 mm, Maximum displacement width 1.6 mm)	BS	N
KC 62619:2019	Electrical materials and components	Secondary cells and batteries containing alkaline or other non-acid electrolytes — Safety requirements for secondary Lithium cells and batteries, for use in industrial applications	DC:(-5 ~ 1500) V DC:(-1000 ~ 1000) A Temperature:(-65 ~ 200) ℃	BS	N
KS C IEC 61960-3:2017	Electrical materials and components	Secondary cells and batteries containing alkaline or other non-acid electrolytes - Secondary lithium cells and batteries for portable applications - Part 3:Prismatic and cylindrical lithium secondary cells, and batteries made from them	DC:(-5 ~ 150) V DC:(-250 ~ 250) A Temperature:(-65 ~ 200) ℃	BS	N
KS C IEC 62133-1:2017	Electrical materials and components	Secondary cells and batteries containing alkaline or other non-acid electrolytes - Safety requirements for portable sealed secondary cells, and for batteries made from them, for use in portable applications - Part 1:Nickel systems	DC:(-5 ~ 150) V DC:(-250 ~ 250) A Temperature:(-65 ~ 200) ℃ Pressure:(10.0 ~ 11.6) kPa Vibration:(10 ~ 55) Hz, (Displacement amplitude 0.76 mm, Maximum displacement width 1.52 mm)	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
KS C IEC 62133-2:2017	Electrical materials and components	Secondary cells and batteries containing alkaline or other non-acid electrolytes - Safety requirements for portable sealed secondary cells, and for batteries made from them, for use in portable applications - Part 2:Lithium systems	DC:(-5 ~ 150) V DC:(-250 ~ 250) A Temperature:(-65 ~ 200) ℃ Vibration:(7 ~ 200) Hz, (Displacement amplitude 0.8 mm, Maximum displacement width 1.6 mm)	BS	N
KS C IEC 62133-2:2021	Electrical materials and components	Secondary cells and batteries containing alkaline or other non-acid electrolytes - Safety requirements for portable sealed secondary cells, and for batteries made from them, for use in portable applications - Part 2: Lithium systems	DC:(-5 ~ 150) V DC:(-250 ~ 250) A Temperature:(-65 ~ 200) ℃ Vibration:(7 ~ 200) Hz, (Displacement amplitude 0.8 mm, Maximum displacement width 1.6 mm)	BS	N
KS C IEC 62619:2017	Electrical materials and components	Secondary cells and batteries containing alkaline or other non-acid electrolytes - Safety requirements for secondary lithium cells and batteries, for use in industrial applications	DC:(-5 ~ 1500) V DC:(-1000 ~ 1000) A Temperature:(-65 ~ 200) ℃	BS	N
KS C IEC 62620:2014	Electrical materials and components	Secondary cells and batteries containing alkaline or other non-acid electrolytes - Secondary lithium cells and batteries for use in industrial applications	DC:(-5 ~ 1500) V DC:(-1000 ~ 1000) A Temperature:(-65 ~ 200) ℃	BS	N
Ministerial Ordinance 1,Appendix 9:2008	Electrical materials and components	Technical requirement by the Ministerial Ordinance for electrical appliance Ministerial Ordinance 1, Appendix 9 Lithium ion secondary batteries	DC:(-5 ~ 150) V DC:(-250 ~ 250) A Temperature:(-65 ~ 200) ℃ Pressure: (10.0 ~ 11.6) kPa Vibration:(10 ~ 55) Hz, (Displacement amplitude 0.76 mm, Maximum displacement width 1.52 mm)	BS	N
Regulation No. 100, Revision2	Electrical materials and components	E/ECE324/Rev.2/Add.99/Rev.2-E/ECE/TRANS/505/Rev.2/Add.99/Rev.2	DC:(-5 ~ 1500) V DC:(-1000 ~ 1000) A Temperature:(-65 ~ 200) ℃	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
SPS-C KBIA-10104-03-7312:2022	Electrical materials and components	Secondary Battery Systems for Battery Energy Storage - Performance and Safety Requirements	DC:(-5 ~ 1500) V DC:(-1000 ~ 1000) A Temperature:(-65 ~ 200) ℃	BS	N
SPS-C KBIA-10104-03-7312	Electrical materials and components	Secondary Battery Systems for Battery Energy Storage - Performance and Safety Requirements	DC:(-5 ~ 1500) V DC:(-1000 ~ 1000) A Temperature:(-65 ~ 200) ℃	BS	N
ST/SG/AC.10/11/Rev.7:2019	Electrical materials and components	Recommendations on the TRANSPORT OF DANGEROUS GOODS -Manual of Tests and Criteria (38.3 Lithium metal and lithium ion batteries)	DC:(-5 ~ 1500) V DC:(-1000 ~ 1000) A Temperature:(-65 ~ 200) ℃ Pressure: (10.0 ~ 11.6) kPa Vibration:(7 ~ 200) Hz, (Displacement amplitude 0.8 mm, Maximum displacement width 1.6 mm)	BS	N
ST/SG/AC.10/11/Rev.7:Amend.1:2021	Electrical materials and components	Recommendations on the TRANSPORT OF DANGEROUS GOODS-Manual of Tests and Criteria (38.3 Lithium metal and lithium ion batteries)	DC:(-5 ~ 150) V DC:(-250 ~ 250) A Temperature:(-65 ~ 200) ℃ Vibration:(7 ~ 200) Hz, (Displacement amplitude 0.8 mm, Maximum displacement width 1.6 mm)	BS	N
UL 1642:2020	Electrical materials and components	Lithium Batteries	DC:(-5 ~ 1500) V DC:(-1000 ~ 1000) A Temperature:(-65 ~ 200) ℃ Pressure: (10.0 ~ 11.6) kPa Vibration:(10 ~ 55) Hz, (Displacement amplitude 0.8 mm, Maximum displacement width 1.6 mm)	BS	N
UL 1973:2018	Electrical materials and components	Batteries for Use in Stationary, Vehicle Auxiliary Power and Light Electric Rail (LER) Applications	DC:(-5 ~ 1500) V DC:(-1000 ~ 1000) A Temperature:(-65 ~ 200) ℃	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
UL 2054:2011	Electrical materials and components	Household and Commercial Batteries	DC:(-5 ~ 1500) V DC:(-1000 ~ 1000) A Temperature:(-65 ~ 200) ℃ Pressure: (10.0 ~ 11.6) kPa Vibration:(7 ~ 200) Hz, (Displacement amplitude 0.8 mm, Maximum displacement width 1.6 mm)	BS	N
UL 2271:2018	Electrical materials and components	Standard for Batteries for Use In Light Electric Vehicle (LEV) Applications	DC:(-5 ~ 1500) V DC:(-1000 ~ 1000) A Temperature:(-65 ~ 200) ℃	BS	N
UL 2580:2020	Electrical materials and components	Batteries for Use In Electric Vehicles	DC:(-5 ~ 1 500) V DC:(-1 000 ~ 1 000) A Temperature:(-65 ~ 200) ℃ Vibration:(10 ~ 2 000) Hz, (0.14 ~ 20) $(m/s^2)2/Hz$ r.m.s. acceleration 27.8 m/s^2	BS	N
UL 2595:2018	Electrical materials and components	General requirements for Battery-Powered Appliances	DC:(-5 ~ 1500) V DC:(-1000 ~ 1000) A Temperature:(-65 ~ 200) ℃	BS	N
UL 62133-2:2020	Electrical materials and components	Secondary cells and batteries containing alkaline or other non - acid electrolytes - Safety requirements for portable sealed secondary cells, and for batteries made from them, for use in portable applications - Part 2:Lithium Systems	DC:(-5 ~ 150) V DC:(-250 ~ 250) A Temperature:(-65 ~200) ℃ Vibration:(7 ~ 200)Hz, (Displacement amplitude 0.8 mm, Maximum displacement width 1.6 mm)	BS	N
UL 62133:2017	Electrical materials and components	Secondary cells and batteries containing alkaline or other non - acid electrolytes - Safety requirements for portable sealed secondary cells, and for batteries made from them, for use in portable applications circuit (cells)	DC:(-5 ~ 150) V DC:(-250 ~ 250) A Temperature:(-65 ~ 200) ℃ Pressure: (10.0 ~ 11.6) kPa Vibration:(10 ~ 55) Hz, (Displacement amplitude 0.76 mm, Maximum displacement width 1.52 mm)	BS	N

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03. Electrical Testing

03.005 Measuring instruments

Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
EN 61010-1:2010	Measuring instruments	Safety requirement for electrical equipment for measurement, control and laboratory use - Part 1:General requirements [Exception] 10.5.3 Insulating materials (Vicat) 11.7 Fluid pressure & leakage 12.2 Equipment producing ionizing radiation 12.3 UV Radiation 12.4 Microwave Radiation 12.5 Sound level 12.6 Laser sources 13.2.3 Implosion of cathode ray tubes Annex H Qualification of conformal coating for protection against pollution	Single phase Input Voltage:less than AC 300 V Input Current:less than 20 A Frequency:(50 ~ 60) ㎐ Electric Strength:(0 ~ 5) ㎸ Leakage:less than 10 ㎃ Earth Continuity voltage:less than 12 V Earth Continuity current:less than 45 A Temperature:(0 ~ 200) ℃ Humidity:less than 96 % R.H.	BS	N
EN 61010-1:2010+A1:2019	Measuring instruments	Safety requirement for electrical equipment for measurement, control and laboratory use - Part 1:General requirements [Exception] 10.5.3 Insulating materials (Vicat) 11.7 Fluid pressure & leakage 12.2 Equipment producing ionizing radiation 12.3 UV Radiation 12.4 Microwave Radiation 12.5 Sound level 12.6 Laser sources 13.2.3 Implosion of cathode ray tubes Annex H Qualification of conformal coating for protection against pollution	Single phase Input Voltage:less than AC 300 V Input Current:less than 20 A Frequency:(50 ~ 60) ㎐ Electric Strength:(0 ~ 5) ㎸ Leakage:less than 10 ㎃ Earth Continuity voltage:less than 12 V Earth Continuity current:less than 45 A Temperature:(0 ~ 200) ℃ Humidity:less than 96 % R.H.	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
IEC 61010-1:2010	Measuring instruments	Safety requirement for electrical equipment for measurement, control and laboratory use - Part 1:General requirements [Exception] 10.5.3 Insulating materials (Vicat) 11.7 Fluid pressure & leakage 12.2 Equipment producing ionizing radiation 12.3 UV Radiation 12.4 Microwave Radiation 12.5 Sound level 12.6 Laser sources 13.2.3 Implosion of cathode ray tubes Annex H Qualification of conformal coating for protection against pollution	Single phase Input Voltage:less than AC 300 V Input Current:less than 20 A Frequency:(50 ~ 60) ㎐ Electric Strength:(0 ~ 5) ㎸ Leakage:less than 10 ㎃ Earth Continuity voltage:less than 12 V Earth Continuity current:less than 45 A Temperature:(0 ~ 200) ℃ Humidity:less than 96 % R.H.	BS	N
IEC 61010-1:2010/AMD1:2016	Measuring instruments	Safety requirement for electrical equipment for measurement, control and laboratory use - Part 1: General requirements [Exception] 10.5.3 Insulating materials (Vicat) 11.7 Fluid pressure & leakage 12.2 Equipment producing ionizing radiation 12.3 UV Radiation 12.4 Microwave Radiation 12.5 Sound level 12.6 Laser sources 13.2.3 Implosion of cathode ray tubes Annex H Qualification of conformal coating for protection against pollution	Single phase Input Voltage:less than AC 300 V Input Current:less than 20 A Frequency:(50 ~ 60) ㎐ Electric Strength:(0 ~ 5) ㎸ Leakage:less than 10 ㎃ Earth Continuity voltage:less than 12 V Earth Continuity current:less than 45 A Temperature:(0 ~ 200) ℃ Humidity:less than 96 % R.H.	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
KS C IEC 61010-1:2010	Measuring instruments	Safety requirement for electrical equipment for measurement, control and laboratory use - Part 1: General requirements [Exception] 10.5.3 Insulating materials (Vicat) 11.7 Fluid pressure & leakage 12.2 Equipment producing ionizing radiation 12.3 UV Radiation 12.4 Microwave Radiation 12.5 Sound level 12.6 Laser sources 13.2.3 Implosion of cathode ray tubes Annex H Qualification of conformal coating for protection against pollution	Single phase Input Voltage:less than AC 300 V Input Current:less than 20 A Frequency:(50 ~ 60) Hz Electric Strength:(0 ~ 5) kV Leakage:less than 10 mA Earth Continuity voltage:less than 12 V Earth Continuity current:less than 45 A Temperature:(0 ~ 200) ℃ Humidity:less than 96 % R.H.	BS	N

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03. Electrical Testing

03.007 Electrical machinery for households

Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
AS/NZS 60950.1:2011	Electrical machinery for households	Information technology equipment - Safety Part 1:General requirements[exception] 2.10.8.4 Abrasion resistance test3.2.5.1 AC power supply cords4.2.8 Cathode ray tubes4.3.12 Flammable liquids4.3.13.2 Ionizing radiation4.3.13.3 UV4.3.13.4 Human exposure to ultraviolet (UV) radiation4.3.13.5 LaserANNEX A.3 Hot flaming oil testANNEX H Ionizing radiationANNEX AA Mandrel test	Single phase Input Voltage:less than AC 300 V Input Current:less than 20 A Frequency:(50 ~ 60) Hz Electric Strength:(0 ~ 5) kV Leakage:less than 10 mA Earth Continuity voltage:less than 12 V Earth Continuity current:less than 45 A Temperature:(0 ~ 200) ℃ Humidity:less than 98 % R.H.	BS	N
AS/NZS 60950.1:2015	Electrical machinery for households	Information technology equipment - Safety Part 1:General requirements[exception] 2.10.8.4 Abrasion resistance test3.2.5.1 AC power supply cords4.2.8 Cathode ray tubes4.3.12 Flammable liquids4.3.13.2 Ionizing radiation4.3.13.3 UV4.3.13.4 Human exposure to ultraviolet (UV) radiation4.3.13.5 LaserANNEX A.3 Hot flaming oil testANNEX H Ionizing radiationANNEX AA Mandrel test	Single phase Input Voltage:less than AC 300 V Input Current:less than 20 A Frequency:(50 ~ 60) ㎐ Electric Strength:(0 ~ 5) ㎸ Leakage:(0 ~ 10) ㎃ Earth Continuity voltage:less than 12 V Earth Continuity current:less than 45 A Temperature:(0 ~ 200) ℃ Insulation Resistance voltage:less than DC 1 000 V Insulation resistance:less than 4 000 ㏁ Vibration Frequency:(10 ~ 55) ㎐ Amplitude:less than 0.35 ㎜	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
AS/NZS 62368.1:2018	Electrical machinery for households	Annex G.7 Mains supply cords / Test equipment according IEC 60227 Annex G.9 IC current limiters Annex G.13.6.2 Test method and compliance criteria Annex G.13.6.2 Abrasion resistance test Annex G.15 Hydrostatic pressure Annex G.15 Tubing and fittings compatibility test Annex J Insulated winding wires for use without interleaved insulation Annex M.8.2 Protection against internal ignition from external spark sources - Spark Test Annex S Tests for resistance to heat and fire / Distillate fuel oil as described in Annex S.3.2 Annex U Mechanical strength of CRTs and protection against the effects of implosion	Input voltage: Less than 300 Va.c. Input current: Less than 20 A Frequency range: (50 ~ 60) Hz Electric strength: (0 ~ 5) ㎸ Leakage current : (0 ~ 10) ㎃ Earth continuity voltage: Less than 12 Va.c. or Less than 12 Vd.c. Earth continuity current: Less than 45 Aa.c or Less than 45 Ad.c. Temperature: (0 ~200) ℃ Humidity: Less than 98 % R.H.	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
AS/NZS 62368.1:2018	Electrical machinery for households	Audio/video, information and communication technology equipment - Part 1:Safety requirements [제외항목] 5.4.1.10 Thermoplastic parts on which conductive metallic parts are directly mounted / Vicat test B 50 of ISO 306 5.4.1.4, 9.2.5 Maximum operating temperatures for materials, components and systems / Three phase voltage supply systems 5.4.2, 5.4.3, 5.4.4 Clearances, creepage distance, solid insulation / Test equipment for tracking index per IEC 60112 5.4.2, 5.4.3, 5.4.4 Clearances, creepage distance, solid insulation / Test equipment for tracking index per IEC 60112 / Mandrel (figure 25 to 28), metal foil, equipment suitable for electrical strength test loads Stop watch, weight 5.4.1.5.3 Thermal cycling test procedure 5.6.4.1 Determination of the overcurrent protective device and circuit (Annex R) / Source with at least 1500A short circuit 10 Radiations / Laser (including laser diodes) 10 Radiations / Light emitting diodes (LEDs) 10 Radiations / X-ray 10 Radiations / Effect of UV radiation on materials (Annex C) 10 Radiations / Human exposure to UV radiation (Annex C)	Single phase Input Voltage:less than AC 300 V Input Current:less than 20 A Frequency:(50 ~ 60) Hz Electric Strength:(0 ~ 5) kV Leakage:less than 10 mA Earth Continuity voltage:less than 12 V Earth Continuity current:less than 45 A Temperature:(0 ~ 200) ℃ Humidity:less than 98 % R.H.	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
AS/NZS 62368.1:2022	Electrical machinery for households	Audio/video, information and communication technology equipment - Part 1:Safety requirements [제외항목] 5.4.1.10 Thermoplastic parts on which conductive metallic parts are directly mounted / Vicat test B 50 of ISO 306 5.4.1.4, 9.2.5 Maximum operating temperatures for materials, components and systems / Three phase voltage supply systems 5.4.2, 5.4.3, 5.4.4 Clearances, creepage distance, solid insulation / Test equipment for tracking index per IEC 60112 5.4.2, 5.4.3, 5.4.4 Clearances, creepage distance, solid insulation / Test equipment for tracking index per IEC 60112 / Mandrel (figure 25 to 28), metal foil, equipment suitable for electrical strength test loads Stop watch, weight 5.4.1.5.3 Thermal cycling test procedure 5.6.4.1 Determination of the overcurrent protective device and circuit (Annex R) / Source with at least 1500A short circuit 10 Radiations / Laser (including laser diodes) 10 Radiations / Light emitting diodes (LEDs) 10 Radiations / X-ray 10 Radiations / Effect of UV radiation on materials (Annex C) 10 Radiations / Human exposure to UV radiation (Annex C)	Single phase Input Voltage:less than AC 300 V Input Current:less than 20 A Frequency:(50 ~ 60) Hz Electric Strength:(0 ~ 5) kV Leakage:less than 10 mA Earth Continuity voltage:less than 12 V Earth Continuity current:less than 45 A Temperature:(0 ~ 200) ℃ Humidity:less than 98 % R.H.	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
CAN/CSA-C22.2 No. 60065:03	Electrical machinery for households	Audio, Video and similar electronic apparatus - Safety requirements[exception] 6.1 Ionizing radiation6.2 Laser radiation7.2 Softening Temperature12.3 REMOTE CONTROL devices held in hand14.2 Capacitor14.6 Switch16.1 Flexible cords, not complying with 16.1 etc.17.7 Coed Torque18. Mechanical strength of picture tubes and protection against splashing waterANNEX A Additional requirements for apparatus with protection against splashing waterANNEX H Insulation winding wires for use without interleaved insulation	Single phase Input Voltage:less than AC 300 V Input Current:less than 20 A Frequency:(50 ~ 60) Hz Electric Strength:(0 ~ 5) kV Leakage:(0 ~ 10) mA Earth Continuity voltage:less than 12 V Earth Continuity current:less than 45 A Temperature:(0 ~ 200) ℃ Insulation Resistance voltage:less than DC 1 000 V Insulation resistance:less than 4 000 MΩ Vibration Frequency:(10 ~ 55) Hz Amplitude:less than 0.35 mm	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
CAN/CSA-C22.2 No. 60065:16	Electrical machinery for households	Audio, Video and similar electronic apparatus - Safety requirements [exception] 6.1 Ionizing radiation 6.2 Laser radiation 6.3 Light emitting diodes (LEDs) 7.2 Heat resistance of insulating material 12.3 REMOTE CONTROL device sheldinhand 14.3 Capacitors and RC-units 14.7 Switch 16 External flexible cords 16.1 Flexible cords, not complying with 16.1 etc.) 17.7 Cord Torque 18. Mechanical strength of picture tubes and protection against the effects of implosion ANNEX AA Additional requirements for apparatus with protection against splashing water ANNEX H Insulated winding wires for use without interleaved insulation	Single phase Input Voltage:less than AC 300 V Input Current:less than 20 A Frequency::(50 ~ 60) Hz Electric Strength:(0 ~ 5) kV Leakage:(0 ~ 10) mA Earth Continuity voltage:less than 12 V Earth Continuity current:less than 45 A Temperature:(0 ~ 200) ℃ Insulation Resistance voltage:less than DC 1 000 V Insulation resistance:less than 4 000 MΩ Vibration Frequency:(10 ~ 55) Hz Amplitude:less than 0.35 mm	BS	N
CAN/CSA-C22.2 No. 60950-1A-07	Electrical machinery for households	Information technology equipment - Safety Part1:General requirements[exception] 2.10.8.4 Abrasion resistance test3.2.5.1 AC power supply cords4.2.8 Cathode ray tubes4.3.12 Flammable liquids4.3.13.2 Ionizing radiation4.3.13.3 UV4.3.13.4 Human exposure to ultraviolet (UV) radiation4.3.13.5 LaserANNEX A.3 Hot flaming oil testANNEX H Ionizing radiationANNEX AA Mandrel test	Single phase Input Voltage:less than AC 300 V Input Current:less than 20 A Frequency:(50 ~ 60) Hz Electric Strength:(0 ~ 5) kV Leakage:less than 10 mA Earth Continuity voltage:less than 12 V Earth Continuity current:less than 45 A Temperature:(0 ~ 200) ℃ Humidity:less than 98 % R.H.	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
EN 60065:2002+A1:2006+A11:2008+A2:2010+A12:2011	Electrical machinery for households	Audio, Video and similar electronic apparatus - Safety requirements [Exception] 6.1 Ionizing radiation 6.2 Laser radiation 7.2 Softening Temperature 12.3 REMOTE CONTROL devices held in hand 14.2 Capacitor14.6 Switch 16.1 Flexible cords, not complying with 16.1 etc. 17.7 Coed Torque18. Mechanical strength of picture tubes and protection against splashing water ANNEX A Additional requirements for apparatus with protection against splashing water ANNEX H Insulation winding wires for use without interleaved insulation	Single phase Input Voltage:less than AC 300 V Input Current:less than 20 A Frequency:(50 ~ 60) Hz Electric Strength:(0 ~ 5) kV Leakage:(0 ~ 10) mA Earth Continuity voltage:less than 12 V Earth Continuity current:less than 45 A Temperature:(0 ~ 200) ℃ Insulation Resistance voltage:less than DC 1 000 V Insulation resistance:less than 4 000 ㏁ Vibration Frequency:(10 ~ 55) Hz Amplitude:less than 0.35 mm	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
EN 60065:2014	Electrical machinery for households	Audio, video and similar electronic apparatus - Safety requirements [Exception] 6.1 Ionizing radiation 6.2 Laser radiation 6.3 Light emitting diodes (LEDs) 7.2 Heat resistance of insulating material 12.3 REMOTE CONTROL device sheldinhand 14.3 Capacitors and RC-units 14.7 Switch 16 External flexible cords 16.1 Flexible cords, not complying with 16.1 etc.) 17.7 Cord Torque 18. Mechanical strength of picture tubes and protection against the effects of implosion ANNEX AA Additional requirements for apparatus with protection against splashing water ANNEX H Insulated winding wires for use without interleaved insulation	Single phase Input Voltage:less than AC 300 V Input Current:less than 20 A Frequency::(50 ~ 60) Hz Electric Strength:(0 ~ 5) kV Leakage:(0 ~ 10) mA Earth Continuity voltage:less than 12 V Earth Continuity current:less than 45 A Temperature:(0 ~ 200) ℃ Insulation Resistance voltage:less than DC 1 000 V Insulation resistance:less than 4 000 ㏁ Vibration Frequency:(10 ~ 55) Hz Amplitude:less than 0.35 mm	BS	N
EN 60335-1:2012/A11:2014	Electrical machinery for households	Household and similar electrical appliances - Safety - Part 1:General requirements [Exception] Clause 14 Transient over voltages test Clause 22.32 Rubber aging test Annex F Capacitors Annex H Switches Annex J Coated printed circuit boards Annex R Software evaluation	Input Voltage:less than AC 600 V Input Current:less than 20 A Leakage Current:less than 10 ㎃ Earth Continuity Voltage:less than 8 V Earth Continuity Current:less than 45 A Electric strength Voltage:less than 10 ㎸ Temperature:(- 40 ~ 850) ℃ Humidity:less than 98 % R.H.	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
EN 60335-1:2012/A2:2019	Electrical machinery for households	Household and similar electrical appliances - Safety - Part 1:General requirements [Exception] Clause 14 Transient over voltages test Clause 22.32 Rubber aging test Annex F Capacitors Annex H Switches Annex J Coated printed circuit boards Annex R Software evaluation	Input Voltage:less than AC 600 V Input Current:less than 20 A Leakage Current:less than 10 ㎃ Earth Continuity Voltage:less than 8 V Earth Continuity Current:less than 45 A Electric strength Voltage:less than 10 ㎸ Temperature:(- 40 ~ 850) ℃ Humidity:less than 98 % R.H.	BS	N
EN 60335-2-11:2010/A11:2012	Electrical machinery for households	Household and similar electrical appliances - Safety - Part 2-11:Particular requirements for tumble dryers	Input Voltage:less than AC 600 V Input Current:less than 20 A Leakage Current:less than 10 ㎃ Earth Continuity Voltage:less than 8 V Earth Continuity Current:less than 45 A Electric strength Voltage:less than 10 ㎸ Temperature:(- 40 ~ 850) ℃ Humidity:less than 98 % R.H.	BS	N
EN 60335-2-11:2010/A1:2015	Electrical machinery for households	Household and similar electrical appliances - Safety - Part 2-11:Particular requirements for tumble dryers	Input Voltage:less than AC 600 V Input Current:less than 20 A Leakage Current:less than 10 ㎃ Earth Continuity Voltage:less than 8 V Earth Continuity Current:less than 45 A Electric strength Voltage:less than 10 ㎸ Temperature:(- 40 ~ 850) ℃ Humidity:less than 98 % R.H.	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
EN 60335-2-14:2006+A1:2008+A11:2012+A12:2016	Electrical machinery for households	Household and similar electrical appliances - Safety - Part 2-14:Particular requirements for kitchen machines [exception] 25.7 Addition test	Input Voltage:less than AC 600 V Input Current:less than 20 A Leakage Current:less than 10 ㎃ Earth Continuity Voltage:less than 8 V Earth Continuity Current:less than 45 A Electric strength Voltage:less than 10 ㎸ Temperature:(- 40 ~ 850) ℃ Humidity:less than 98 % R.H.	BS	N
EN 60335-2-15:2002+A1:2005+A2:2008+A11:2012/AC:2013	Electrical machinery for households	Household and similar electrical appliances - Safety - Part 2-15:Particular requirements for appliances for heating liquids [exception] 22.103 Durability test of appliance coupler of cordless appliances	Input Voltage:less than AC 600 V Input Current:less than 20 A Leakage Current:less than 10 ㎃ Earth Continuity Voltage:less than 8 V Earth Continuity Current:less than 45 A Electric strength Voltage:less than 10 ㎸ Temperature:(- 40 ~ 850) ℃ Humidity:less than 98 % R.H.	BS	N
EN 60335-2-15:2016	Electrical machinery for households	Household and similar electrical appliances - Safety - Part 2-15:Particular requirements for appliances for heating liquids [exception] 22.103 Durability test of appliance coupler of cordless appliances	Input Voltage:less than AC 600 V Input Current:less than 20 A Leakage Current:less than 10 ㎃ Earth Continuity Voltage:less than 8 V Earth Continuity Current:less than 45 A Electric strength Voltage:less than 10 ㎸ Temperature:(- 40 ~ 850) ℃ Humidity:less than 98 % R.H.	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
EN 60335-2-16:2003+A1:2008 +A2:2012	Electrical machinery for households	Household and similar electrical appliances - Safety - Part 2-16:Particular requirements for food waste disposers	Input Voltage:less than AC 600 V Input Current:less than 20 A Leakage Current:less than 10 ㎃ Earth Continuity Voltage:less than 8 V Earth Continuity Current:less than 45 A Electric strength Voltage:less than 10 ㎸ Temperature:(- 40 ~ 850) ℃ Humidity:less than 98 % R.H.	BS	N
EN 60335-2-21:2003+A1:2005 +A2:2008	Electrical machinery for households	Household and similar electrical appliances - Safety - Part 2-21:Particular requirements for storage water heaters	Input Voltage:less than AC 600 V Input Current:less than 20 A Leakage Current:less than 10 ㎃ Earth Continuity Voltage:less than 8 V Earth Continuity Current:less than 45 A Electric strength Voltage:less than 10 ㎸ Temperature:(- 40 ~ 850) ℃ Humidity:less than 98 % R.H.	BS	N
EN 60335-2-23:2003+A1:2008 +A11:2010	Electrical machinery for households	Household and similar electrical appliances - Safety - Part 2-23:Particular requirements for appliances for skin or hair care	Input Voltage:less than AC 600 V Input Current:less than 20 A Leakage Current:less than 10 ㎃ Earth Continuity Voltage:less than 8 V Earth Continuity Current:less than 45 A Electric strength Voltage:less than 10 ㎸ Temperature:(- 40 ~ 850) ℃ Humidity:less than 98 % R.H.	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
EN 60335-2-23:2003+A2:2015	Electrical machinery for households	Household and similar electrical appliances - Safety - Part 2-23:Particular requirements for appliances for skin or hair care	Input Voltage:less than AC 600 V Input Current:less than 20 A Leakage Current:less than 10 ㎃ Earth Continuity Voltage:less than 8 V Earth Continuity Current:less than 45 A Electric strength Voltage:less than 10 ㎸ Temperature:(- 40 ~ 850) ℃ Humidity:less than 98 % R.H.	BS	N
EN 60335-2-24:2010	Electrical machinery for households	Household and similar electrical appliances - Safety - Part 2-24:Particular requirements for refrigerating appliances, ice-cream appliances and ice makers [exception] Clause 22.108 Explosion proof test Clause 24 Switch durability test Annex CC Non-sparking "n" electrical apparatus	Input Voltage:less than AC 600 V Input Current:less than 20 A Leakage Current:less than 10 ㎃ Earth Continuity Voltage:less than 8 V Earth Continuity Current:less than 45 A Electric strength Voltage:less than 10 ㎸ Temperature:(- 40 ~ 850) ℃ Humidity:less than 98 % R.H.	BS	N
EN 60335-2-2:2010/A11:2012	Electrical machinery for households	Household and similar electrical appliances - Safety - Part 2-2:Particular requirements for vacuum cleaners and water-suction cleaning appliances	Input Voltage:less than AC 600 V Input Current:less than 20 A Leakage Current:less than 10 ㎃ Earth Continuity Voltage:less than 8 V Earth Continuity Current:less than 45 A Electric strength Voltage:less than 10 ㎸ Temperature:(- 40 ~ 850) ℃ Humidity:less than 98 % R.H.	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
EN 60335-2-2:2010/A1:2013	Electrical machinery for households	Household and similar electrical appliances - Safety - Part 2-2:Particular requirements for vacuum cleaners and water-suction cleaning appliances	Input Voltage:less than AC 600 V Input Current:less than 20 A Leakage Current:less than 10 ㎃ Earth Continuity Voltage:less than 8 V Earth Continuity Current:less than 45 A Electric strength Voltage:less than 10 ㎸ Temperature:(- 40 ~ 850) ℃ Humidity:less than 98 % R.H.	BS	N
EN 60335-2-32:2003+A1:2008	Electrical machinery for households	Household and similar electrical appliances - Safety - Part 2-32:Particular requirements for massage appliances	Input Voltage:less than AC 600 V Input Current:less than 20 A Leakage Current:less than 10 ㎃ Earth Continuity Voltage:less than 8 V Earth Continuity Current:less than 45 A Electric strength Voltage:less than 10 ㎸ Temperature:(- 40 ~ 850) ℃ Humidity:less than 98 % R.H.	BS	N
EN 60335-2-32:2003+A2:2015	Electrical machinery for households	Household and similar electrical appliances - Safety - Part 2-32:Particular requirements for massage appliances	Input Voltage:less than AC 600 V Input Current:less than 20 A Leakage Current:less than 10 ㎃ Earth Continuity Voltage:less than 8 V Earth Continuity Current:less than 45 A Electric strength Voltage:less than 10 ㎸ Temperature:(- 40 ~ 850) ℃ Humidity:less than 98 % R.H.	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
EN 60335-2-40:2003/A13:2012/AC:2013	Electrical machinery for households	Household and similar electrical appliances - Safety - Part 2-40:Particular requirements for electrical heat pumps, air-conditioners and dehumidifiers [exception] Clause 22 Construction (Vacuum pressure apparatus) Annex FF Leak simulation tests	Input Voltage:less than AC 600 V Input Current:less than 20 A Leakage Current:less than 10 ㎃ Earth Continuity Voltage:less than 8 V Earth Continuity Current:less than 45 A Electric strength Voltage:less than 10 ㎸ Temperature:(- 40 ~ 850) ℃ Humidity:less than 98 % R.H.	BS	N
EN 60335-2-4:2010/A1:2015	Electrical machinery for households	Household and similar electrical appliances - Safety - Part 2-4:Particular requirements for spin extractors	Input Voltage:less than AC 600 V Input Current:less than 20 A Leakage Current:less than 10 ㎃ Earth Continuity Voltage:less than 8 V Earth Continuity Current:less than 45 A Electric strength Voltage:less than 10 ㎸ Temperature:(- 40 ~ 850) ℃ Humidity:less than 98 % R.H.	BS	N
EN 60335-2-58:2005	Electrical machinery for households	Household and similar electrical appliances - Safety - Part 2-58:Particular requirements for commercial electric dishwashing machines [exception] Annex BB - Ageing test for elastomeric parts Annex CC - Requirements to avoid backsiphonage	Input Voltage:less than AC 600 V Input Current:less than 20 A Leakage Current:less than 10 ㎃ Earth Continuity Voltage:less than 8 V Earth Continuity Current:less than 45 A Electric strength Voltage:less than 10 ㎸ Temperature:(- 40 ~ 850) ℃ Humidity:less than 98 % R.H.	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
EN 60335-2-5:2015	Electrical machinery for households	Household and similar electrical appliances - Safety - Part 2-5:Particular requirements for dishwashers [exception] Annex BB Ageing test for elastomeric parts	Input Voltage:less than AC 600 V Input Current:less than 20 A Leakage Current:less than 10 ㎃ Earth Continuity Voltage:less than 8 V Earth Continuity Current:less than 45 A Electric strength Voltage:less than 10 ㎸ Temperature:(- 40 ~ 850) ℃ Humidity:less than 98 % R.H.	BS	N
EN 60335-2-65:2003/A11:2012	Electrical machinery for households	Household and similar electrical appliances - Safety - Part 2-65:Particular requirements for air-cleaning appliances [exception] Clause 32 - Radiation, toxicity and similar hazards	Input Voltage:less than AC 600 V Input Current:less than 20 A Leakage Current:less than 10 ㎃ Earth Continuity Voltage:less than 8 V Earth Continuity Current:less than 45 A Electric strength Voltage:less than 10 ㎸ Temperature:(- 40 ~ 850) ℃ Humidity:less than 98 % R.H.	BS	N
EN 60335-2-75:2004/A12:2010	Electrical machinery for households	Household and similar electrical appliances - Safety - Part 2-75:Particular requirements for commercial dispensing appliances and vending machines [exception] Annex AA - Aging test for elastomeric parts	Input Voltage:less than AC 600 V Input Current:less than 20 A Leakage Current:less than 10 ㎃ Earth Continuity Voltage:less than 8 V Earth Continuity Current:less than 45 A Electric strength Voltage:less than 10 ㎸ Temperature:(- 40 ~ 850) ℃ Humidity:less than 98 % R.H.	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
EN 60335-2-80:2003+A2:2009	Electrical machinery for households	Household and similar electrical appliances - Safety - Part 2-80:Particular requirements for fans	Input Voltage:less than AC 600 V Input Current:less than 20 A Leakage Current:less than 10 ㎃ Earth Continuity Voltage:less than 8 V Earth Continuity Current:less than 45 A Electric strength Voltage:less than 10 ㎸ Temperature:(- 40 ~ 850) ℃ Humidity:less than 98 % R.H.	BS	N
EN 60335-2-80:2003/A1:2004	Electrical machinery for households	Household and similar electrical appliances - Safety - Part 2-80:Particular requirements for fans	Input Voltage:less than AC 600 V Input Current:less than 20 A Leakage Current:less than 10 ㎃ Earth Continuity Voltage:less than 8 V Earth Continuity Current:less than 45 A Electric strength Voltage:less than 10 ㎸ Temperature:(- 40 ~ 850) ℃ Humidity:less than 98 % R.H.	BS	N
EN 60335-2-8:2015/A1:2016	Electrical machinery for households	Household and similar electrical appliances - Safety - Part 2-8:Particular requirements for shavers, hair clippers and similar appliances [exception] Annex BB Ageing test for elastomeric parts	Input Voltage:less than AC 600 V Input Current:less than 20 A Leakage Current:less than 10 ㎃ Earth Continuity Voltage:less than 8 V Earth Continuity Current:less than 45 A Electric strength Voltage:less than 10 ㎸ Temperature:(- 40 ~ 850) ℃ Humidity:less than 98 % R.H.	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
EN 60950-1:2006+A11:2009 + A1:2010+A12:2011+A2:2013	Electrical machinery for households	Information technology equipment - Safety Part1:General requirements[exception] 2.10.8.4 Abrasion resistance test3.2.5.1 AC power supply cords4.2.8 Cathode ray tubes4.3.12 Flammable liquids4.3.13.2 Ionizing radiation4.3.13.3 UV4.3.13.4 Human exposure to ultraviolet (UV) radiation4.3.13.5 LaserANNEX A.3 Hot flaming oil testANNEX H Ionizing radiationANNEX AA Mandrel test	Single phase Input Voltage:less than AC 300 V Input Current:less than 20 A Frequency:(50 ~ 60) Hz Electric Strength:(0 ~ 5) kV Leakage:less than 10 mA Earth Continuity voltage:less than 12 V Earth Continuity current:less than 45 A Temperature:(0 ~ 200) ℃ Humidity:less than 98 % R.H.	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
EN 62368-1:2014+A11:2017	Electrical machinery for households	Audio/video, information and communication technology equipment - Part 1:Safety requirements [exception] 5.4.1.10 Thermoplastic parts on which conductive metallic parts are directly mounted / Vicat test B 50 of ISO 306 5.4.1.4, 9.2.5 Maximum operating temperatures for materials, components and systems / Three phase voltage supply systems 5.4.2, 5.4.3, 5.4.4 Clearances, creepage distance, solid insulation / Test equipment for tracking index per IEC 60112 5.4.2, 5.4.3, 5.4.4 Clearances, creepage distance, solid insulation / Test equipment for tracking index per IEC 60112 / Mandrel (figure 25 to 28), metal foil, equipment suitable for electrical strength test loads Stop watch, weight 5.4.1.5.3 Thermal cycling test procedure 5.6.4.1 Determination of the overcurrent protective device and circuit (Annex R) / Source with at least 1500A short circuit 10 Radiations / Laser (including laser diodes) 10 Radiations / Light emitting diodes (LEDs) 10 Radiations / X-ray 10 Radiations / Effect of UV radiation on materials (Annex C) 10 Radiations / Human exposure to UV radiation (Annex C) Annex G.7 Mains supply cords / Test equipment	Single phase Input Voltage:less than AC 300 V Input Current:less than 20 A Frequency:(50 ~ 60) Hz Electric Strength:(0 ~ 5) kV Leakage:less than 10 mA Earth Continuity voltage:less than 12 V Earth Continuity current:less than 45 A Temperature:(0 ~ 200) ℃ Humidity:less than 98 % R.H.	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
		according IEC 60227 Annex G.9 IC current limiters Annex G.13.6.2 Test method and compliance criteria Annex G.13.6.2 Abrasion resistance test Annex G.15 Hydrostatic pressure Annex G.15 Tubing and fittings compatibility test Annex J Insulated winding wires for use without interleaved insulation Annex M.8.2 Protection against internal ignition from external spark sources - Spark Test Annex S Tests for resistance to heat and fire / Distillate fuel oil as described in Annex S.3.2 Annex U Mechanical strength of CRTs and protection against the effects of implosion			

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
EN IEC 62368-1:2020+A11:2020	Electrical machinery for households	Audio/video, information and communication technology equipment - Part 1:Safey requirements [exception] 5.4.1.10 Thermoplastic parts on which conductive metallic parts are directly mounted / Vicat test B 50 of ISO 306 5.4.1.4, 9.2.5 Maximum operating temperatures for materials, components and systems / Three phase voltage supply systems 5.4.2, 5.4.3, 5.4.4 Clearances, creepage distance, solid insulation / Test equipment for tracking index per IEC 60112 5.4.2, 5.4.3, 5.4.4, Annex X Clearances, creepage distance, solid insulation / Test equipment for tracking index per IEC 60112 / Mandrel (figure 25 to 28), metal foil, equipment suitable for electrical strength test loads Stop watch, weight 5.4.1.5.3 Thermal cycling test procedure 5.6.4.1 Determination of the overcurrent protective device and circuit (Annex R) / Source with at least 1500A short circuit 10 Radiation / Laser (including laser diodes) 10 Radiation / Light emitting diodes (LEDs) 10 Radiation / Image Projector 10 Radiation / X-ray 10 Radiation / Effect of UV radiation on materials (Annex C) 10 Radiation / Human exposure to UV radiation (Annex C) Annex C UV radiation /	Single phase Input Voltage:less than AC 300 V Input Current:less than 20 A Frequency:(50 ~ 60) Hz Electric Strength:(0 ~ 5) kV Leakage:less than 10 mA Earth Continuity voltage:less than 12 V Earth Continuity current:less than 45 A Temperature:(0 ~ 200) ℃ Humidity:less than 98 % R.H.	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
		Carbon-arc light-exposure test Annex C UV radiation / Xenon-arc light-exposure test Annex C UV radiation / Tensile strength, ISO 527 Annex C UV radiation / Flexural strength, ISO 178 Annex C UV radiation / Charpy impact, ISO 179 Annex C UV radiation / Izod impact, ISO 180 Annex C UV radiation / Tensile impact, ISO 8256 Annex G.5.3.4 / Test for FIW Annex G.7 Mains supply cords / Test equipment according IEC 60227 Annex G.9 / IC current limiters Annex G.13.6.2 / Test method and compliance criteria Annex G.13.6.2 / Abrasion resistance test Annex G.15 / Hydrostatic pressure Annex G.15 / Tubing and fittings compatibility test Annex J / Insulated winding wires for use without interleaved insulation Annex M.7 / Concentration of hydrogen gas Annex M.8.2 / Protection against internal ignition from external spark sources - Spark Test Annex R / Limited Short-circuit test Annex S Tests for resistance to heat and fire / Distillate fuel oil as described in annex S.3.2 Annex U / Mechanical strength of CRTs and protection against the effects of implosion Annex Y.2 (Annex C) / Ultraviolet light conditioning test Annex Y 3 / Resistance			

Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
		to corrosion, water borne contaminants Annex Y.3.3 / Water-sulphur dioxide test Annex Y.4.3 / Tensile strength and elongation tests Annex Y.4.4 / Compression test Annex Y.4.5 / Oil resistance Annex Y.5 / Protection from moisture Annex Y.5.3 / Water spray test Annex Y.5.5 / Protection from excessive dust Annex Y.6.2 / Impact test			
IEC 60065:2001+A1:2005+A2:2010	Electrical machinery for households	Audio, Video and similar electronic apparatus - Safety requirements[exception] 6.1 Ionizing radiation 6.2 Laser radiation 7.2 Softening Temperature 12.3 REMOTE CONTROL devices held in hand 14.2 Capacitor 14.6 Switch 16.1 Flexible cords, not complying with 16.1 etc. 17.7 Cord Torque 18. Mechanical strength of picture tubes and protection against splashing water ANNEX A Additional requirements for apparatus with protection against splashing water ANNEX H Insulation winding wires for use without interleaved insulation	Single phase Input Voltage:less than AC 300 V Input Current:less than 20 A Frequency:(50 ~ 60) Hz Electric Strength:(0 ~ 5) kV Leakage:(0 ~ 10) mA Earth Continuity voltage:less than 12 V Earth Continuity current:less than 45 A Temperature:(0 ~ 200) ℃ Insulation Resistance voltage:less than DC 1 000 V Insulation resistance:less than 4 000 MΩ Vibration Frequency:(10 ~ 55) Hz Amplitude:less than 0.35 mm	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
IEC 60065:2014	Electrical machinery for households	Audio, video and similar electronic apparatus - Safety requirements [exception] 6.1 Ionizing radiation 6.2 Laserradiation 6.3 Light emitting diodes (LEDs) 7.2 Heat resistance of insulating material 12.3 REMOTE CONTROL devices held in hand 14.3 Capacitors and RC-units 14.7 Switch 16 External flexible cords 16.1 Flexible cords, not complying with 16.1 etc.) 17.7 Cord Torque 18. Mechanical strength of picture tubes and protection against the effects of implosion ANNEX AA Additional requirements for apparatus with protection against splashing water ANNEX H Insulated winding wires for use without interleaved insulation	Input Voltage:less than AC 600 V Input Current:less than 20 A Leakage Current:less than 10 ㎃ Temperature:(-40 ~ 200) ℃ Earth Continuity Voltage:less than 8 V Earth Continuity Current:less than 45 A Electric strength Voltage:less than 10 ㎸ Insulation Resistance:less than 4 ㏁ Humidity:less than 98 % R.H.	BS	N
IEC 60335-1:2010	Electrical machinery for households	Household and similar electrical appliances - Safety - Part 1:General requirements [exception] Clause 14 Transient overvoltages test Clause 22.32 Rubber aging test Annex F Capacitors Annex H Switches Annex J Coated printed circuit boards Annex R Software evaluation	Input Voltage:less than AC 600 V Input Current:less than 20 A Leakage Current:less than 10 ㎃ Earth Continuity Voltage:less than 8 V Earth Continuity Current:less than 45 A Electric strength Voltage:less than 10 ㎸ Temperature:(- 40 ~ 850) ℃ Humidity:less than 98 % R.H.	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
IEC 60335-1:2010/AMD1:2013	Electrical machinery for households	Household and similar electrical appliances - Safety - Part 1:General requirements [exception] Clause 14 Transient overvoltages test Clause 22.32 Rubber aging test Annex F Capacitors Annex H Switches Annex J Coated printed circuit boards Annex R Software evaluation	Input Voltage:less than AC 600 V Input Current:less than 20 A Leakage Current:less than 10 ㎃ Earth Continuity Voltage:less than 8 V Earth Continuity Current:less than 45 A Electric strength Voltage:less than 10 ㎸ Temperature:(- 40 ~ 850) ℃ Humidity:less than 98 % R.H.	BS	N
IEC 60335-1:2010/AMD2:2016	Electrical machinery for households	Household and similar electrical appliances - Safety - Part 1:General requirements [exception] Clause 14 Transient overvoltages test Clause 22.32 Rubber aging test Annex F Capacitors Annex H Switches Annex J Coated printed circuit boards Annex R Software evaluation Annex T UV-C radiation	Input Voltage:less than AC 600 V Input Current:less than 20 A Leakage Current:less than 10 ㎃ Earth Continuity Voltage:less than 8 V Earth Continuity Current:less than 45 A Electric strength Voltage:less than 10 ㎸ Temperature:(- 40 ~ 850) ℃ Humidity:less than 98 % R.H.	BS	N
IEC 60335-2-11:2008	Electrical machinery for households	Household and similar electrical appliances - Safety - Part 2-11:Particular requirements for tumble dryers	Input Voltage:less than AC 600 V Input Current:less than 20 A Leakage Current:less than 10 ㎃ Earth Continuity Voltage:less than 8 V Earth Continuity Current:less than 45 A Electric strength Voltage:less than 10 ㎸ Temperature:(- 40 ~ 850) ℃ Humidity:less than 98 % R.H.	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
IEC 60335-2-11:2008/AMD1:2012	Electrical machinery for households	Household and similar electrical appliances - Safety - Part 2-11:Particular requirements for tumble dryers	Input Voltage:less than AC 600 V Input Current:less than 20 A Leakage Current:less than 10 ㎃ Earth Continuity Voltage:less than 8 V Earth Continuity Current:less than 45 A Electric strength Voltage:less than 10 ㎸ Temperature:(- 40 ~ 850) ℃ Humidity:less than 98 % R.H.	BS	N
IEC 60335-2-11:2008/AMD2:2015	Electrical machinery for households	Household and similar electrical appliances - Safety - Part 2-11:Particular requirements for tumble dryers	Input Voltage:less than AC 600 V Input Current:less than 20 A Leakage Current:less than 10 ㎃ Earth Continuity Voltage:less than 8 V Earth Continuity Current:less than 45 A Electric strength Voltage:less than 10 ㎸ Temperature:(- 40 ~ 850) ℃ Humidity:less than 98 % R.H.	BS	N
IEC 60335-2-14:2006	Electrical machinery for households	Household and similar electrical appliances - Safety - Part 2-14:Particular requirements for kitchen machines [exception] 25.7 Addition test	Input Voltage:less than AC 600 V Input Current:less than 20 A Leakage Current:less than 10 ㎃ Earth Continuity Voltage:less than 8 V Earth Continuity Current:less than 45 A Electric strength Voltage:less than 10 ㎸ Temperature:(- 40 ~ 850) ℃ Humidity:less than 98 % R.H.	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
IEC 60335-2-14:2006/AMD1:2008	Electrical machinery for households	Household and similar electrical appliances - Safety - Part 2-14:Particular requirements for kitchen machines [exception] 25.7 Addition test	Input Voltage:less than AC 600 V Input Current:less than 20 A Leakage Current:less than 10 ㎃ Earth Continuity Voltage:less than 8 V Earth Continuity Current:less than 45 A Electric strength Voltage:less than 10 ㎸ Temperature:(- 40 ~ 850) ℃ Humidity:less than 98 % R.H.	BS	N
IEC 60335-2-14:2006/AMD2:2012	Electrical machinery for households	Household and similar electrical appliances - Safety - Part 2-14:Particular requirements for kitchen machines [exception] 25.7 Addition test	Input Voltage:less than AC 600 V Input Current:less than 20 A Leakage Current:less than 10 ㎃ Earth Continuity Voltage:less than 8 V Earth Continuity Current:less than 45 A Electric strength Voltage:less than 10 ㎸ Temperature:(- 40 ~ 850) ℃ Humidity:less than 98 % R.H.	BS	N
IEC 60335-2-14:2016	Electrical machinery for households	Household and similar electrical appliances - Safety - Part 2-14:Particular requirements for kitchen machines [exception] 25.7 Addition test	Input Voltage:less than AC 600 V Input Current:less than 20 A Leakage Current:less than 10 ㎃ Earth Continuity Voltage:less than 8 V Earth Continuity Current:less than 45 A Electric strength Voltage:less than 10 ㎸ Temperature:(- 40 ~ 850) ℃ Humidity:less than 98 % R.H.	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
IEC 60335-2-15:2012	Electrical machinery for households	Household and similar electrical appliances - Safety - Part 2-15:Particular requirements for appliances for heating liquids [exception] 22.103 Durability test of appliance coupler of cordless appliances	Input Voltage:less than AC 600 V Input Current:less than 20 A Leakage Current:less than 10 ㎃ Earth Continuity Voltage:less than 8 V Earth Continuity Current:less than 45 A Electric strength Voltage:less than 10 ㎸ Temperature:(- 40 ~ 850) ℃ Humidity:less than 98 % R.H.	BS	N
IEC 60335-2-15:2012/AMD1:2016	Electrical machinery for households	Household and similar electrical appliances - Safety - Part 2-15:Particular requirements for appliances for heating liquids [exception] 22.103 Durability test of appliance coupler of cordless appliances	Input Voltage:less than AC 600 V Input Current:less than 20 A Leakage Current:less than 10 ㎃ Earth Continuity Voltage:less than 8 V Earth Continuity Current:less than 45 A Electric strength Voltage:less than 10 ㎸ Temperature:(- 40 ~ 850) ℃ Humidity:less than 98 % R.H.	BS	N
IEC 60335-2-16:2002	Electrical machinery for households	Household and similar electrical appliances - Safety - Part 2-16:Particular requirements for food waste disposers	Input Voltage:less than AC 600 V Input Current:less than 20 A Leakage Current:less than 10 ㎃ Earth Continuity Voltage:less than 8 V Earth Continuity Current:less than 45 A Electric strength Voltage:less than 10 ㎸ Temperature:(- 40 ~ 850) ℃ Humidity:less than 98 % R.H.	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
IEC 60335-2-16:2002/AMD1:2008	Electrical machinery for households	Household and similar electrical appliances - Safety - Part 2-16:Particular requirements for food waste disposers	Input Voltage:less than AC 600 V Input Current:less than 20 A Leakage Current:less than 10 ㎃ Earth Continuity Voltage:less than 8 V Earth Continuity Current:less than 45 A Electric strength Voltage:less than 10 ㎸ Temperature:(- 40 ~ 850) ℃ Humidity:less than 98 % R.H.	BS	N
IEC 60335-2-16:2002/AMD2:2011	Electrical machinery for households	Household and similar electrical appliances - Safety - Part 2-16:Particular requirements for food waste disposers	Input Voltage:less than AC 600 V Input Current:less than 20 A Leakage Current:less than 10 ㎃ Earth Continuity Voltage:less than 8 V Earth Continuity Current:less than 45 A Electric strength Voltage:less than 10 ㎸ Temperature:(- 40 ~ 850) ℃ Humidity:less than 98 % R.H.	BS	N
IEC 60335-2-21:2012	Electrical machinery for households	Household and similar electrical appliances - Safety - Part 2-21:Particular requirements for storage water heaters	Input Voltage:less than AC 600 V Input Current:less than 20 A Leakage Current:less than 10 ㎃ Earth Continuity Voltage:less than 8 V Earth Continuity Current:less than 45 A Electric strength Voltage:less than 10 ㎸ Temperature:(- 40 ~ 850) ℃ Humidity:less than 98 % R.H.	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
IEC 60335-2-23:2003	Electrical machinery for households	Household and similar electrical appliances - Safety - Part 2-23:Particular requirements for appliances for skin or hair care	Input Voltage:less than AC 600 V Input Current:less than 20 A Leakage Current:less than 10 ㎃ Earth Continuity Voltage:less than 8 V Earth Continuity Current:less than 45 A Electric strength Voltage:less than 10 ㎸ Temperature:(- 40 ~ 850) ℃ Humidity:less than 98 % R.H.	BS	N
IEC 60335-2-23:2003/AMD1:2008	Electrical machinery for households	Household and similar electrical appliances - Safety - Part 2-23:Particular requirements for appliances for skin or hair care	Input Voltage:less than AC 600 V Input Current:less than 20 A Leakage Current:less than 10 ㎃ Earth Continuity Voltage:less than 8 V Earth Continuity Current:less than 45 A Electric strength Voltage:less than 10 ㎸ Temperature:(- 40 ~ 850) ℃ Humidity:less than 98 % R.H.	BS	N
IEC 60335-2-23:2003/AMD2:2012	Electrical machinery for households	Household and similar electrical appliances - Safety - Part 2-23:Particular requirements for appliances for skin or hair care	Input Voltage:less than AC 600 V Input Current:less than 20 A Leakage Current:less than 10 ㎃ Earth Continuity Voltage:less than 8 V Earth Continuity Current:less than 45 A Electric strength Voltage:less than 10 ㎸ Temperature:(- 40 ~ 850) ℃ Humidity:less than 98 % R.H.	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
IEC 60335-2-23:2016	Electrical machinery for households	Household and similar electrical appliances - Safety - Part 2-23:Particular requirements for appliances for skin or hair care	Input Voltage:less than AC 600 V Input Current:less than 20 A Leakage Current:less than 10 ㎃ Earth Continuity Voltage:less than 8 V Earth Continuity Current:less than 45 A Electric strength Voltage:less than 10 ㎸ Temperature:(- 40 ~ 850) ℃ Humidity:less than 98 % R.H.	BS	N
IEC 60335-2-24:2010	Electrical machinery for households	Household and similar electrical appliances - Safety - Part 2-24:Particular requirements for refrigerating appliances, ice-cream appliances and ice makers [exception] Clause 22.108 Explosion proof test Clause 24 Switch durability test Annex CC Non-sparking "n" electrical apparatus	Input Voltage:less than AC 600 V Input Current:less than 20 A Leakage Current:less than 10 ㎃ Earth Continuity Voltage:less than 8 V Earth Continuity Current:less than 45 A Electric strength Voltage:less than 10 ㎸ Temperature:(- 40 ~ 850) ℃ Humidity:less than 98 % R.H.	BS	N
IEC 60335-2-24:2010/AMD2:2017	Electrical machinery for households	Household and similar electrical appliances - Safety - Part 2-24:Particular requirements for refrigerating appliances, ice-cream appliances and ice makers [exception] Clause 22.108 Explosion proof test Clause 24 Switch durability test Annex CC Non-sparking "n" electrical apparatus	Input Voltage:less than AC 600 V Input Current:less than 20 A Leakage Current:less than 10 ㎃ Earth Continuity Voltage:less than 8 V Earth Continuity Current:less than 45 A Electric strength Voltage:less than 10 ㎸ Temperature:(- 40 ~ 850) ℃ Humidity:less than 98 % R.H.	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
IEC 60335-2-24:2010/AMD:2012	Electrical machinery for households	Household and similar electrical appliances - Safety - Part 2-24:Particular requirements for refrigerating appliances, ice-cream appliances and ice makers [exception] Clause 22.108 Explosion proof test Clause 24 Switch durability test Annex CC Non-sparking "n" electrical apparatus	Input Voltage:less than AC 600 V Input Current:less than 20 A Leakage Current:less than 10 ㎃ Earth Continuity Voltage:less than 8 V Earth Continuity Current:less than 45 A Electric strength Voltage:less than 10 ㎸ Temperature:(- 40 ~ 850) ℃ Humidity:less than 98 % R.H.	BS	N
IEC 60335-2-2:2009	Electrical machinery for households	Household and similar electrical appliances - Safety - Part 2-2:Particular requirements for vacuum cleaners and water-suction cleaning appliances	Input Voltage:less than AC 600 V Input Current:less than 20 A Leakage Current:less than 10 ㎃ Earth Continuity Voltage:less than 8 V Earth Continuity Current:less than 45 A Electric strength Voltage:less than 10 ㎸ Temperature:(- 40 ~ 850) ℃ Humidity:less than 98 % R.H.	BS	N
IEC 60335-2-2:2009/AMD1:2012	Electrical machinery for households	Household and similar electrical appliances - Safety - Part 2-2:Particular requirements for vacuum cleaners and water-suction cleaning appliances	Input Voltage:less than AC 600 V Input Current:less than 20 A Leakage Current:less than 10 ㎃ Earth Continuity Voltage:less than 8 V Earth Continuity Current:less than 45 A Electric strength Voltage:less than 10 ㎸ Temperature:(- 40 ~ 850) ℃ Humidity:less than 98 % R.H.	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
IEC 60335-2-2:2009/AMD2:2016	Electrical machinery for households	Household and similar electrical appliances - Safety - Part 2-2:Particular requirements for vacuum cleaners and water-suction cleaning appliances	Input Voltage:less than AC 600 V Input Current:less than 20 A Leakage Current:less than 10 ㎃ Earth Continuity Voltage:less than 8 V Earth Continuity Current:less than 45 A Electric strength Voltage:less than 10 ㎸ Temperature:(- 40 ~ 850) ℃ Humidity:less than 98 % R.H.	BS	N
IEC 60335-2-32:2002	Electrical machinery for households	Household and similar electrical appliances - Safety - Part 2-32:Particular requirements for massage appliances	Input Voltage:less than AC 600 V Input Current:less than 20 A Leakage Current:less than 10 ㎃ Earth Continuity Voltage:less than 8 V Earth Continuity Current:less than 45 A Electric strength Voltage:less than 10 ㎸ Temperature:(- 40 ~ 850) ℃ Humidity:less than 98 % R.H.	BS	N
IEC 60335-2-32:2002/AMD1:2008	Electrical machinery for households	Household and similar electrical appliances - Safety - Part 2-32:Particular requirements for massage appliances	Input Voltage:less than AC 600 V Input Current:less than 20 A Leakage Current:less than 10 ㎃ Earth Continuity Voltage:less than 8 V Earth Continuity Current:less than 45 A Electric strength Voltage:less than 10 ㎸ Temperature:(- 40 ~ 850) ℃ Humidity:less than 98 % R.H.	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
IEC 60335-2-32:2002/AMD2:2013	Electrical machinery for households	Household and similar electrical appliances - Safety - Part 2-32:Particular requirements for massage appliances	Input Voltage:less than AC 600 V Input Current:less than 20 A Leakage Current:less than 10 ㎃ Earth Continuity Voltage:less than 8 V Earth Continuity Current:less than 45 A Electric strength Voltage:less than 10 ㎸ Temperature:(- 40 ~ 850) ℃ Humidity:less than 98 % R.H.	BS	N
IEC 60335-2-40:2013	Electrical machinery for households	Household and similar electrical appliances - Safety - Part 2-40:Particular requirements for electrical heat pumps, air-conditioners and dehumidifiers [exception] Clause 22 Construction (Vacuum pressure apparatus) Annex FF Leak simulation tests	Input Voltage:less than AC 600 V Input Current:less than 20 A Leakage Current:less than 10 ㎃ Earth Continuity Voltage:less than 8 V Earth Continuity Current:less than 45 A Electric strength Voltage:less than 10 ㎸ Temperature:(- 40 ~ 850) ℃ Humidity:less than 98 % R.H.	BS	N
IEC 60335-2-40:2013/AMD1:2016	Electrical machinery for households	Household and similar electrical appliances - Safety - Part 2-40:Particular requirements for electrical heat pumps, air-conditioners and dehumidifiers [exception] Clause 22 Construction (Vacuum pressure apparatus) Annex FF Leak simulation tests	Input Voltage:less than AC 600 V Input Current:less than 20 A Leakage Current:less than 10 ㎃ Earth Continuity Voltage:less than 8 V Earth Continuity Current:less than 45 A Electric strength Voltage:less than 10 ㎸ Temperature:(- 40 ~ 850) ℃ Humidity:less than 98 % R.H.	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
IEC 60335-2-4:2008	Electrical machinery for households	Household and similar electrical appliances - Safety - Part 2-4:Particular requirements for spin extractors	Input Voltage:less than AC 600 V Input Current:less than 20 A Leakage Current:less than 10 ㎃ Earth Continuity Voltage:less than 8 V Earth Continuity Current:less than 45 A Electric strength Voltage:less than 10 ㎸ Temperature:(- 40 ~ 850) ℃ Humidity:less than 98 % R.H.	BS	N
IEC 60335-2-4:2008/AMD1:2012	Electrical machinery for households	Household and similar electrical appliances - Safety - Part 2-4:Particular requirements for spin extractors	Input Voltage:less than AC 600 V Input Current:less than 20 A Leakage Current:less than 10 ㎃ Earth Continuity Voltage:less than 8 V Earth Continuity Current:less than 45 A Electric strength Voltage:less than 10 ㎸ Temperature:(- 40 ~ 850) ℃ Humidity:less than 98 % R.H.	BS	N
IEC 60335-2-58:2002	Electrical machinery for households	Household and similar electrical appliances - Safety - Part 2-58: Particular requirements for commercial electric dishwashing machines	Input Voltage:less than AC 600 V Input Current:less than 20 A Leakage Current:less than 10 ㎃ Earth Continuity Voltage:less than 8 V Earth Continuity Current:less than 45 A Electric strength Voltage:less than 10 ㎸ Temperature:(- 40 ~ 850) ℃ Humidity:less than 98 % R.H.	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
IEC 60335-2-58:2002/AMD1:2008	Electrical machinery for households	Household and similar electrical appliances - Safety - Part 2-58: Particular requirements for commercial electric dishwashing machines	Input Voltage:less than AC 600 V Input Current:less than 20 A Leakage Current:less than 10 ㎃ Earth Continuity Voltage:less than 8 V Earth Continuity Current:less than 45 A Electric strength Voltage:less than 10 ㎸ Temperature:(- 40 ~ 850) ℃ Humidity:less than 98 % R.H.	BS	N
IEC 60335-2-58:2002/AMD2:2015	Electrical machinery for households	Household and similar electrical appliances - Safety - Part 2-58:Particular requirements for commercial electric dishwashing machines [exception] Annex BB - Ageing test for elastomeric parts Annex CC - Requirements to avoid backsiphonage	Input Voltage:less than AC 600 V Input Current:less than 20 A Leakage Current:less than 10 ㎃ Earth Continuity Voltage:less than 8 V Earth Continuity Current:less than 45 A Electric strength Voltage:less than 10 ㎸ Temperature:(- 40 ~ 850) ℃ Humidity:less than 98 % R.H.	BS	N
IEC 60335-2-65:2002	Electrical machinery for households	Household and similar electrical appliances - Safety - Part 2-65:Particular requirements for air-cleaning appliances [exception] Clause 32 - Radiation, toxicity and similar hazards	Input Voltage:less than AC 600 V Input Current:less than 20 A Leakage Current:less than 10 ㎃ Earth Continuity Voltage:less than 8 V Earth Continuity Current:less than 45 A Electric strength Voltage:less than 10 ㎸ Temperature:(- 40 ~ 850) ℃ Humidity:less than 98 % R.H.	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
IEC 60335-2-65:2002/AMD1:2008	Electrical machinery for households	Household and similar electrical appliances - Safety - Part 2-65:Particular requirements for air-cleaning appliances [exception] Clause 32 - Radiation, toxicity and similar hazards	Input Voltage:less than AC 600 V Input Current:less than 20 A Leakage Current:less than 10 ㎃ Earth Continuity Voltage:less than 8 V Earth Continuity Current:less than 45 A Electric strength Voltage:less than 10 ㎸ Temperature:(- 40 ~ 850) ℃ Humidity:less than 98 % R.H.	BS	N
IEC 60335-2-65:2002/AMD2:2015	Electrical machinery for households	Household and similar electrical appliances - Safety - Part 2-65:Particular requirements for air-cleaning appliances [exception] Clause 32 - Radiation, toxicity and similar hazards	Input Voltage:less than AC 600 V Input Current:less than 20 A Leakage Current:less than 10 ㎃ Earth Continuity Voltage:less than 8 V Earth Continuity Current:less than 45 A Electric strength Voltage:less than 10 ㎸ Temperature:(- 40 ~ 850) ℃ Humidity:less than 98 % R.H.	BS	N
IEC 60335-2-75:2012	Electrical machinery for households	Household and similar electrical appliances - Safety - Part 2-75:Particular requirements for commercial dispensing appliances and vending machines [exception] Annex AA - Aging test for elastomeric parts	Input Voltage:less than AC 600 V Input Current:less than 20 A Leakage Current:less than 10 ㎃ Earth Continuity Voltage:less than 8 V Earth Continuity Current:less than 45 A Electric strength Voltage:less than 10 ㎸ Temperature:(- 40 ~ 850) ℃ Humidity:less than 98 % R.H.	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
IEC 60335-2-75:2012/AMD1:2015	Electrical machinery for households	Household and similar electrical appliances - Safety - Part 2-75:Particular requirements for commercial dispensing appliances and vending machines [exception] Annex AA - Aging test for elastomeric parts	Input Voltage:less than AC 600 V Input Current:less than 20 A Leakage Current:less than 10 ㎃ Earth Continuity Voltage:less than 8 V Earth Continuity Current:less than 45 A Electric strength Voltage:less than 10 ㎸ Temperature:(- 40 ~ 850) ℃ Humidity:less than 98 % R.H.	BS	N
IEC 60335-2-80:2002	Electrical machinery for households	Household and similar electrical appliances - Safety - Part 2-80:Particular requirements for fans	Input Voltage:less than AC 600 V Input Current:less than 20 A Leakage Current:less than 10 ㎃ Earth Continuity Voltage:less than 8 V Earth Continuity Current:less than 45 A Electric strength Voltage:less than 10 ㎸ Temperature:(- 40 ~ 850) ℃ Humidity:less than 98 % R.H.	BS	N
IEC 60335-2-80:2002/AMD1:2004	Electrical machinery for households	Household and similar electrical appliances - Safety - Part 2-80:Particular requirements for fans	Input Voltage:less than AC 600 V Input Current:less than 20 A Leakage Current:less than 10 ㎃ Earth Continuity Voltage:less than 8 V Earth Continuity Current:less than 45 A Electric strength Voltage:less than 10 ㎸ Temperature:(- 40 ~ 850) ℃ Humidity:less than 98 % R.H.	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
IEC 60335-2-80:2002/AMD2:2008	Electrical machinery for households	Household and similar electrical appliances - Safety - Part 2-80:Particular requirements for fans	Input Voltage:less than AC 600 V Input Current:less than 20 A Leakage Current:less than 10 ㎃ Earth Continuity Voltage:less than 8 V Earth Continuity Current:less than 45 A Electric strength Voltage:less than 10 ㎸ Temperature:(- 40 ~ 850) ℃ Humidity:less than 98 % R.H.	BS	N
IEC 60335-2-80:2015	Electrical machinery for households	Household and similar electrical appliances - Safety - Part 2-80:Particular requirements for fans	Input Voltage:less than AC 600 V Input Current:less than 20 A Leakage Current:less than 10 ㎃ Earth Continuity Voltage:less than 8 V Earth Continuity Current:less than 45 A Electric strength Voltage:less than 10 ㎸ Temperature:(- 40 ~ 850) ℃ Humidity:less than 98 % R.H.	BS	N
IEC 60335-2-8:2012	Electrical machinery for households	Household and similar electrical appliances - Safety - Part 2-8:Particular requirements for shavers, hair clippers and similar appliances [exception] Annex BB Ageing test for elastomeric parts	Input Voltage:less than AC 600 V Input Current:less than 20 A Leakage Current:less than 10 ㎃ Earth Continuity Voltage:less than 8 V Earth Continuity Current:less than 45 A Electric strength Voltage:less than 10 ㎸ Temperature:(- 40 ~ 850) ℃ Humidity:less than 98 % R.H.	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
IEC 60335-2-8:2012/AMD1:2015	Electrical machinery for households	Household and similar electrical appliances - Safety - Part 2-8:Particular requirements for shavers, hair clippers and similar appliances [exception] Annex BB Ageing test for elastomeric parts	Input Voltage:less than AC 600 V Input Current:less than 20 A Leakage Current:less than 10 ㎃ Earth Continuity Voltage:less than 8 V Earth Continuity Current:less than 45 A Electric strength Voltage:less than 10 ㎸ Temperature:(- 40 ~ 850) ℃ Humidity:less than 98 % R.H.	BS	N
IEC 60950-1:2005+A1:2009+A2:2013	Electrical machinery for households	Information technology equipment - Safety Part 1:General requirements[exception] 2.10.8.4 Abrasion resistance test3.2.5.1 AC power supply cords4.2.8 Cathode ray tubes4.3.12 Flammable liquids4.3.13.2 Ionizing radiation4.3.13.3 UV4.3.13.4 Human exposure to ultraviolet (UV) radiation4.3.13.5 LaserANNEX A.3 Hot flaming oil testANNEX H Ionizing radiationANNEX AA Mandrel test	Single phase Input Voltage:less than AC 300 V Input Current:less than 20 A Frequency:(50 ~ 60) Hz Electric Strength:(0 ~ 5) kV Leakage:less than 10 mA Earth Continuity voltage:less than 12 V Earth Continuity current:less than 45 A Temperature:(0 ~ 200) ℃ Humidity:less than 98 % R.H.	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
IEC 62368-1:2014	Electrical machinery for households	Audio/video, information and communication technology equipment - Part 1:Safety requirements [exception] 5.4.1.10 Thermoplastic parts on which conductive metallic parts are directly mounted / Vicat test B 50 of ISO 306 5.4.1.4, 9.2.5 Maximum operating temperatures for materials, components and systems / Three phase voltage supply systems 5.4.2, 5.4.3, 5.4.4 Clearances, creepage distance, solid insulation / Test equipment for tracking index per IEC 60112 5.4.2, 5.4.3, 5.4.4 Clearances, creepage distance, solid insulation / Test equipment for tracking index per IEC 60112 / Mandrel (figure 25 to 28), metal foil, equipment suitable for electrical strength test loads Stop watch, weight 5.4.1.5.3 Thermal cycling test procedure 5.6.4.1 Determination of the overcurrent protective device and circuit (Annex R) / Source with at least 1500A short circuit 10 Radiations / Laser (including laser diodes) 10 Radiations / Light emitting diodes (LEDs) 10 Radiations / X-ray 10 Radiations / Effect of UV radiation on materials (Annex C) 10 Radiations / Human exposure to UV radiation (Annex C) Annex G.7 Mains supply cords / Test equipment	Single phase Input Voltage:less than AC 300 V Input Current:less than 20 A Frequency:(50 ~ 60) Hz Electric Strength:(0 ~ 5) kV Leakage:less than 10 mA Earth Continuity voltage:less than 12 V Earth Continuity current:less than 45 A Temperature:(0 ~ 200) ℃ Humidity:less than 98 % R.H.	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
		according IEC 60227 Annex G.9 IC current limiters Annex G.13.6.2 Test method and compliance criteria Annex G.13.6.2 Abrasion resistance test Annex G.15 Hydrostatic pressure Annex G.15 Tubing and fittings compatibility test Annex J Insulated winding wires for use without interleaved insulation Annex M.8.2 Protection against internal ignition from external spark sources - Spark Test Annex S Tests for resistance to heat and fire / Distillate fuel oil as described in Annex S.3.2 Annex U Mechanical strength of CRTs and protection against the effects of implosion			

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
IEC 62368-1:2018	Electrical machinery for households	Audio/video, information and communication technology equipment - Part 1:Safey requirements [exception] 5.4.1.10 Thermoplastic parts on which conductive metallic parts are directly mounted / Vicat test B 50 of ISO 306 5.4.1.4, 9.2.5 Maximum operating temperatures for materials, components and systems / Three phase voltage supply systems 5.4.2, 5.4.3, 5.4.4 Clearances, creepage distance, solid insulation / Test equipment for tracking index per IEC 60112 5.4.2, 5.4.3, 5.4.4, Annex X Clearances, creepage distance, solid insulation / Test equipment for tracking index per IEC 60112 / Mandrel (figure 25 to 28), metal foil, equipment suitable for electrical strength test loads Stop watch, weight 5.4.1.5.3 Thermal cycling test procedure 5.6.4.1 Determination of the overcurrent protective device and circuit (Annex R) / Source with at least 1500A short circuit 10 Radiation / Laser (including laser diodes) 10 Radiation / Light emitting diodes (LEDs) 10 Radiation / Image Projector 10 Radiation / X-ray 10 Radiation / Effect of UV radiation on materials (Annex C) 10 Radiation / Human exposure to UV radiation (Annex C) Annex C UV radiation /	Single phase Input Voltage:less than AC 300 V Input Current:less than 20 A Frequency:(50 ~ 60) Hz Electric Strength:(0 ~ 5) kV Leakage:less than 10 mA Earth Continuity voltage:less than 12 V Earth Continuity current:less than 45 A Temperature:(0 ~ 200) ℃ Humidity:less than 98 % R.H.	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
		Carbon-arc light-exposure test Annex C UV radiation / Xenon-arc light-exposure test Annex C UV radiation /Tensile strength, ISO 527 Annex C UV radiation / Flexural strength, ISO 178 Annex C UV radiation / Charpy impact, ISO 179 Annex C UV radiation / Izod impact, ISO 180 Annex C UV radiation / Tensile impact, ISO 8256 Annex G.5.3.4 / Test for FIW Annex G.7 Mains supply cords / Test equipment according IEC 60227 Annex G.9 / IC current limiters Annex G.13.6.2 / Test method and compliance criteria Annex G.13.6.2 / Abrasion resistance test Annex G.15 / Hydrostatic pressure Annex G.15 / Tubing and fittings compatibility test Annex J / Insulated winding wires for use without interleaved insulation Annex M.7 / Concentration of hydrogen gas Annex M.8.2 / Protection against internal ignition from external spark sources - Spark Test Annex R / Limited Short-circuit test Annex S Tests for resistance to heat and fire / Distillate fuel oil as described in annex S.3.2 Annex U / Mechanical strength of CRTs and protection against the effects of implosion Annex Y.2 (Annex C) / Ultraviolet light conditioning test Annex Y 3 / Resistance			

Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
		to corrosion, water borne contaminants Annex Y.3.3 / Water-sulphur dioxide test Annex Y.4.3 / Tensile strength and elongation tests Annex Y.4.4 / Compression test Annex Y.4.5 / Oil resistance Annex Y.5 / Protection from moisture Annex Y.5.3 / Water spray test Annex Y.5.5 / Protection from excessive dust Annex Y.6.2 / Impact test			
K 60065:2005	Electrical machinery for households	Audio, Video and similar electronic apparatus - Safety requirements[exception] 6.1 Ionizing radiation6.2 Laser radiation7.2 Softening Temperature12.3 REMOTE CONTROL devices held in hand14.2 Capacitor14.6 Switch16.1 Flexible cords, not complying with 16.1 etc.17.7 Cord Torque18. Mechanical strength of picture tubes and protection against splashing waterANNEX A Additional requirements for apparatus with protection against splashing waterANNEX H Insulation winding wires for use without interleaved insulation	Single phase Input Voltage:less than AC 300 V Input Current:less than 20 A Frequency:(50 ~ 60) ㎐ Electric Strength:(0 ~ 5) ㎸ Leakage:(0 ~ 10) ㎃ Earth Continuity voltage:less than 12 V Earth Continuity current:less than 45 A Temperature:(0 ~ 200) ℃ Insulation Resistance voltage:less than DC 1 000 V Insulation resistance:less than 4 000 ㏁ Vibration Frequency:(10 ~ 55) ㎐ Amplitude:less than 0.35 ㎜	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
K 60950-1:2011	Electrical machinery for households	Infortion technology equipment - Safety Part 1:General requirements[exception] 2.10.8.4 Abrasion resistance test3.2.5.1 AC power supply cords4.2.8 Cathode ray tubes4.3.12 Flamble liquids4.3.13.2 Ionizing radiation4.3.13.3 UV4.3.13.4 Hun exposure to ultraviolet (UV) radiation4.3.13.5 LaserANNEX A.3 Hot flaming oil testANNEX H Ionizing radiationANNEX AA ndrel test	Single phase Input Voltage:less than AC 300 V Input Current:less than 20 A Frequency:(50 ~ 60) ㎐ Electric Strength:(0 ~ 5) ㎸ Leakage:less than 10 ㎃ Earth Continuity voltage:less than 12 V Earth Continuity current:less than 45 A Temperature:(0 ~ 200) ℃ Humidity:less than 98 % R.H.	BS	N
KC 60065:2015-09	Electrical machinery for households	Audio, Video and similar electronic apparatus - Safety requirements[exception] 6.1 Ionizing radiation6.2 Laser radiation7.2 Softening Temperature12.3 Remote Control devices held in hand14.2 Capacitor14.6 Switch16.1 Flexible cords, not complying with 16.1 etc.17.7 Cord Torque18. Mechanical strength of picture tubes and protection against splashing waterANNEX A Additional requirements for apparatus with protection against splashing waterANNEX H Insulation winding wires for use without interleaved insulation	Single phase Input Voltage:less than AC 300 V Input Current:less than 20 A Frequency:(50 ~ 60) ㎐ Electric Strength:(0 ~ 5) ㎸ Leakage:(0 ~ 10) ㎃ Earth Continuity voltage:less than 12 V Earth Continuity current:less than 45 A Temperature:(0 ~ 200) ℃ Insulation Resistance voltage:less than DC 1 000 V Insulation resistance:less than 4 000 ㏁ Vibration Frequency:(10 ~ 55) ㎐ Amplitude:less than 0.35 ㎜	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
KC 60335-1:2016	Electrical machinery for households	Household and similar electrical appliances - Safety - Part 1:General requirements [exception] Clause 14 Transient overvoltages test Clause 22.32 Rubber aging test Annex F Capacitors Annex H Switches Annex J Coated printed circuit boards Annex R Software evaluation	Input Voltage:less than AC 600 V Input Current:less than 20 A Leakage Current:less than 10 ㎃ Earth Continuity Voltage:less than 8 V Earth Continuity Current:less than 45 A Electric strength Voltage:less than 10 ㎸ Temperature:(- 40 ~ 850) ℃ Humidity:less than 98 % R.H.	BS	N
KC 60335-2-11:2015	Electrical machinery for households	Household and similar electrical appliances - Safety - Part 2-11:Particular requirements for tumble dryers	Input Voltage:less than AC 600 V Input Current:less than 20 A Leakage Current:less than 10 ㎃ Earth Continuity Voltage:less than 8 V Earth Continuity Current:less than 45 A Electric strength Voltage:less than 10 ㎸ Temperature:(- 40 ~ 850) ℃ Humidity:less than 98 % R.H.	BS	N
KC 60335-2-14:2016	Electrical machinery for households	Household and similar electrical appliances - Safety - Part 2-14:Particular requirements for kitchen machines [exception] 25.7 Addition test	Input Voltage:less than AC 600 V Input Current:less than 20 A Leakage Current:less than 10 ㎃ Earth Continuity Voltage:less than 8 V Earth Continuity Current:less than 45 A Electric strength Voltage:less than 10 ㎸ Temperature:(- 40 ~ 850) ℃ Humidity:less than 98 % R.H.	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
KC 60335-2-15:2015	Electrical machinery for households	Household and similar electrical appliances - Safety - Part 2-15:Particular requirements for appliances for heating liquids [exception] 22.103 Durability test of appliance coupler of cordless appliances	Input Voltage:less than AC 600 V Input Current:less than 20 A Leakage Current:less than 10 ㎃ Earth Continuity Voltage:less than 8 V Earth Continuity Current:less than 45 A Electric strength Voltage:less than 10 ㎸ Temperature:(- 40 ~ 850) ℃ Humidity:less than 98 % R.H.	BS	N
KC 60335-2-16:2015	Electrical machinery for households	Household and similar electrical appliances - Safety - Part 2-16:Particular requirements for food waste disposers	Input Voltage:less than AC 600 V Input Current:less than 20 A Leakage Current:less than 10 ㎃ Earth Continuity Voltage:less than 8 V Earth Continuity Current:less than 45 A Electric strength Voltage:less than 10 ㎸ Temperature:(- 40 ~ 850) ℃ Humidity:less than 98 % R.H.	BS	N
KC 60335-2-21:2015	Electrical machinery for households	Household and similar electrical appliances - Safety - Part 2-21:Particular requirements for storage water heaters	Input Voltage:less than AC 600 V Input Current:less than 20 A Leakage Current:less than 10 ㎃ Earth Continuity Voltage:less than 8 V Earth Continuity Current:less than 45 A Electric strength Voltage:less than 10 ㎸ Temperature:(- 40 ~ 850) ℃ Humidity:less than 98 % R.H.	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
KC 60335-2-23:2015	Electrical machinery for households	Household and similar electrical appliances - Safety - Part 2-23:Particular requirements for appliances for skin or hair care	Input Voltage:less than AC 600 V Input Current:less than 20 A Leakage Current:less than 10 ㎃ Earth Continuity Voltage:less than 8 V Earth Continuity Current:less than 45 A Electric strength Voltage:less than 10 ㎸ Temperature:(- 40 ~ 850) ℃ Humidity:less than 98 % R.H.	BS	N
KC 60335-2-24:2015	Electrical machinery for households	Household and similar electrical appliances - Safety - Part 2-24:Particular requirements for refrigerating appliances, ice-cream appliances and ice makers [exception] Clause 22.108 Explosion proof test Clause 24 Switch durability testAnnex CC Non-sparking "n" electrical apparatus	Input Voltage:less than AC 600 V Input Current:less than 20 A Leakage Current:less than 10 ㎃ Earth Continuity Voltage:less than 8 V Earth Continuity Current:less than 45 A Electric strength Voltage:less than 10 ㎸ Temperature:(- 40 ~ 850) ℃ Humidity:less than 98 % R.H.	BS	N
KC 60335-2-2:2015	Electrical machinery for households	Household and similar electrical appliances - Safety - Part 2-2:Particular requirements for vacuum cleaners and water-suction cleaning appliances	Input Voltage:less than AC 600 V Input Current:less than 20 A Leakage Current:less than 10 ㎃ Earth Continuity Voltage:less than 8 V Earth Continuity Current:less than 45 A Electric strength Voltage:less than 10 ㎸ Temperature:(- 40 ~ 850) ℃ Humidity:less than 98 % R.H.	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
KC 60335-2-32:2015	Electrical machinery for households	Household and similar electrical appliances - Safety - Part 2-32:Particular requirements for massage appliances	Input Voltage:less than AC 600 V Input Current:less than 20 A Leakage Current:less than 10 ㎃ Earth Continuity Voltage:less than 8 V Earth Continuity Current:less than 45 A Electric strength Voltage:less than 10 ㎸ Temperature:(- 40 ~ 850) ℃ Humidity:less than 98 % R.H.	BS	N
KC 60335-2-40:2015	Electrical machinery for households	Household and similar electrical appliances - Safety - Part 2-40:Particular requirements for electrical heat pumps, air-conditioners and dehumidifiers [exception] Clause 22 Construction (Vacuum pressure apparatus) Annex FF Leak simulation tests	Input Voltage:less than AC 600 V Input Current:less than 20 A Leakage Current:less than 10 ㎃ Earth Continuity Voltage:less than 8 V Earth Continuity Current:less than 45 A Electric strength Voltage:less than 10 ㎸ Temperature:(- 40 ~ 850) ℃ Humidity:less than 98 % R.H.	BS	N
KC 60335-2-4:2016	Electrical machinery for households	Household and similar electrical appliances - Safety - Part 2-4:Particular requirements for spin extractors	Input Voltage:less than AC 600 V Input Current:less than 20 A Leakage Current:less than 10 ㎃ Earth Continuity Voltage:less than 8 V Earth Continuity Current:less than 45 A Electric strength Voltage:less than 10 ㎸ Temperature:(- 40 ~ 850) ℃ Humidity:less than 98 % R.H.	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
KC 60335-2-58:2015	Electrical machinery for households	Household and similar electrical appliances - Safety - Part 2-58:Particular requirements for commercial electric dishwashing machines [exception] Annex BB - Ageing test for elastomeric parts Annex CC - Requirements to avoid backsiphonage	Input Voltage:less than AC 600 V Input Current:less than 20 A Leakage Current:less than 10 ㎃ Earth Continuity Voltage:less than 8 V Earth Continuity Current:less than 45 A Electric strength Voltage:less than 10 ㎸ Temperature:(- 40 ~ 850) ℃ Humidity:less than 98 % R.H.	BS	N
KC 60335-2-5:2016	Electrical machinery for households	Household and similar electrical appliances - Safety - Part 2-5:Particular requirements for dishwashers [exception] Annex BB Ageing test for elastomeric parts	Input Voltage:less than AC 600 V Input Current:less than 20 A Leakage Current:less than 10 ㎃ Earth Continuity Voltage:less than 8 V Earth Continuity Current:less than 45 A Electric strength Voltage:less than 10 ㎸ Temperature:(- 40 ~ 850) ℃ Humidity:less than 98 % R.H.	BS	N
KC 60335-2-65:2015	Electrical machinery for households	Household and similar electrical appliances - Safety - Part 2-65:Particular requirements for air-cleaning appliances [exception] Clause 32 - Radiation, toxicity and similar hazards	Input Voltage:less than AC 600 V Input Current:less than 20 A Leakage Current:less than 10 ㎃ Earth Continuity Voltage:less than 8 V Earth Continuity Current:less than 45 A Electric strength Voltage:less than 10 ㎸ Temperature:(- 40 ~ 850) ℃ Humidity:less than 98 % R.H.	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
KC 60335-2-75:2015	Electrical machinery for households	Household and similar electrical appliances - Safety - Part 2-75:Particular requirements for commercial dispensing appliances and vending machines [exception] Annex AA - Aging test for elastomeric parts	Input Voltage:less than AC 600 V Input Current:less than 20 A Leakage Current:less than 10 ㎃ Earth Continuity Voltage:less than 8 V Earth Continuity Current:less than 45 A Electric strength Voltage:less than 10 ㎸ Temperature:(- 40 ~ 850) ℃ Humidity:less than 98 % R.H.	BS	N
KC 60335-2-80:2015	Electrical machinery for households	Household and similar electrical appliances - Safety - Part 2-80:Particular requirements for fans	Input Voltage:less than AC 600 V Input Current:less than 20 A Leakage Current:less than 10 ㎃ Earth Continuity Voltage:less than 8 V Earth Continuity Current:less than 45 A Electric strength Voltage:less than 10 ㎸ Temperature:(- 40 ~ 850) ℃ Humidity:less than 98 % R.H.	BS	N
KC 60335-2-8:2016	Electrical machinery for households	Household and similar electrical appliances - Safety - Part 2-8:Particular requirements for shavers, hair clippers and similar appliances [exception] Annex BB Ageing test for elastomeric parts	Input Voltage:less than AC 600 V Input Current:less than 20 A Leakage Current:less than 10 ㎃ Earth Continuity Voltage:less than 8 V Earth Continuity Current:less than 45 A Electric strength Voltage:less than 10 ㎸ Temperature:(- 40 ~ 850) ℃ Humidity:less than 98 % R.H.	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
KC 62368-1:2021	Electrical machinery for households	부속서 C 자외선 / 장력 강도, ISO 527 시리즈 부속서 C 자외선 / 굴곡 강도, ISO 178 부속서 C 자외선 / 샤르피(charpy) 충격, ISO 179 부속서 C 자외선 / 아이조드(izod) 충격, ISO 180 부속서 C 자외선 / 장력 충격, ISO 8256 부속서 G.5.3.4 / FIW 시험 부속서 G.7 주전원 코드/ IEC 60227에 규정된 시험 장비 부속서 G.9 집적회로(IC) 전류 제한기 부속서 G.13.6.2 시험방법 및 적합성 기준 부속서 G.13.6.2 내마모성 시험 부속서 G.15.2.1 수압시험 부속서 G.15.2.3 튜빙 및 피팅 호환성 시험 부속서 J 중간절연 없이 사용하기 위한 절연권선 전선 부속서 M.7 수소가스 농도 부속서 M.8.2 수성 전해액 배터리의 외부 스파크 원으로부터 내부 점화에 대한 보호- 스파크 시험 부속서 R 제한 단락 회로 시험 부속서 S 내열 및 내화성 시험 / 부속서 S.3.2 시험 부속서 U CRTs의 기계적 강도 및 내파 영향에 대한 보호 부속서 Y.2(Annex C) 자외선에 대한 내성 부속서 Y.3 부식에 대한 내성 부속서 Y.3.3 수포화 이산화황 부속서 Y.4.3 인장 강동 및 연신율 시험 부속서 Y.4.4 압축 시험 부속서 Y.4.5 내유성 부속서 Y.5.2 습기로부터의 보호 부속서 Y.5.3 물 분무 시험 부속서 Y.5.5 과도한 먼지로부터의 보호 부속서 Y.6.2 충격 시험	Input voltage: Less than 300 Va.c. Input current: Less than 20 A Frequency range: (50 ~ 60) Hz Electric strength: (0 ~ 5) ㎸ Leakage current : (0 ~ 10) ㎃ Earth continuity voltage: Less than 12 Va.c. or Less than 12 Vd.c. Earth continuity current: Less than 45 Aa.c or Less than 45 Ad.c. Temperature: (0 ~200) ℃ Humidity: Less than 98 % R.H.	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
KC 62368-1:2021	Electrical machinery for households	오디오/비디오 및 정보통신 기술기기 [제외항목] 5.4.1.10 전도성 금속부가 직접 장착되어 있는 열가소성 부위 / KS M ISO 306의 연화온도(Vicat) 시험 B50 5.4.1.4, 9.2.5 재질, 부품 및 시스템에 대한 최대 동작 온도 / 3상 전압 공급 시스템 5.4.2, 5.4.3, 5.4.4 공간거리, 연면거리, 고체절연/ KS C IEC 60112에 따르는 트래킹 지수 장비 5.4.2, 5.4.3, 5.4.4, 부속서 X 공간거리, 연면거리, 고체절연, 420 V 피크 (300 V RMS)를 초과하지 않는 AC 주전원에 연결된 회로 에서 절연의 공간거리 측정을 위한 대체 방안 / KS C IEC 60112에 따르는 트래킹 지수 장비 / 맨드릴 (mandrel) (그림 21 to 24), 금속 호일, 내전압 시험장비, 초시계, 중량 등 시험에 적합한 장비 5.4.1.5.3 열 사이클링 시험절차 5.6.4.1 과전류 보호 장치 및 회로의 결정(부속서 R) / 최소 1500 A 단락회로가 있는 공급원 10 방사(선) / 레이저(레이저 다이오드 포함) 10 방사(선) / 이미지 프로젝터에 사용되는 것을 제외한 램프 및 램프 시스템 (LED 포함) 10 방사(선) / 이미지 프로젝터(빔프로젝터) 10 방사(선) / X-ray 10 방사(선) / 재료에 대한 UV방사 영향(부속서 C) 10 방사(선) / UV방사서에 대한 인체 노출(부속서 C) 부속서 C 자외선 / 탄소 아크 노광 시험 부속서 C 자외선 / 제논 아크 노광 시험	Single phase Input Voltage:less than AC 300 V Input Current:less than 20 A Frequency:(50 ~ 60) Hz Electric Strength:(0 ~ 5) kV Leakage:less than 10 mA Earth Continuity voltage:less than 12 V Earth Continuity current:less than 45 A Temperature:(0 ~ 200) ℃ Humidity:less than 98 % R.H.	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
KS C IEC 60065:2013	Electrical machinery for households	Audio, Video and similar electronic apparatus - Safety requirements[exception] 6.1 Ionizing radiation6.2 Laser radiation7.2 Softening Temperature12.3 REMOTE CONTROL devices held in hand14.2 Capacitor14.6 Switch16.1 Flexible cords, not complying with 16.1 etc.17.7 Cord Torque18. Mechanical strength of picture tubes and protection against splashing waterANNEX A Additional requirements for apparatus with protection against splashing waterANNEX H Insulation winding wires for use without interleaved insulation	Single phase Input Voltage:less than AC 300 V Input Current:less than 20 A Frequency:(50 ~ 60) ㎐ Electric Strength:(0 ~ 5) ㎐ Leakage:(0 ~ 10) ㎃ Earth Continuity voltage:less than 12 V Earth Continuity current:less than 45 A Temperature:(0 ~ 200) ℃ Insulation Resistance voltage:less than DC 1 000 V Insulation resistance:less than 4 000 ㏁ Vibration Frequency:(10 ~ 55) ㎐ Amplitude:less than 0.35 ㎜	BS	N
KS C IEC 60950-1:2014	Electrical machinery for households	Information technology equipment - Safety Part 1:General requirements [exception] 2.10.8.4 Abrasion resistance test 3.2.5.1 AC power supply cords 4.2.8 Cathode ray tubes 4.3.12 Flammable liquids 4.3.13.2 Ionizing radiation 4.3.13.3 UV 4.3.13.4 Human exposure to ultraviolet (UV) radiation 4.3.13.5 Laser ANNEX A.3 Hot flaming oil test ANNEX H Ionizing radiation ANNEX AA Mandrel test	Single phase Input Voltage:less than AC 300 V Input Current:less than 20 A Frequency:(50 ~ 60) Hz Electric Strength:(0 ~ 5) kV Leakage:less than 10 mA Earth Continuity voltage:less than 12 V Earth Continuity current:less than 45 A Temperature:(0 ~ 200) ℃ Humidity:less than 98 % R.H.	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
UL 60065:2012	Electrical machinery for households	Audio, Video and similar electronic apparatus - Safety requirements[exception] 6.1 Ionizing radiation6.2 Laser radiation7.2 Softening Temperature12.3 REMOTE CONTROL devices held in hand14.2 Capacitor14.6 Switch16.1 Flexible cords, not complying with 16.1 etc.17.7 Cord Torque18. Mechanical strength of picture tubes and protection against splashing waterANNEX A Additional requirements for apparatus with protection against splashing waterANNEX H Insulation winding wires for use without interleaved insulation	Single phase Input Voltage:less than AC 300 V Input Current:less than 20 A Frequency:(50 ~ 60) ㎐ Electric Strength:(0 ~ 5) ㎸ Leakage:(0 ~ 10) ㎃ Earth Continuity voltage:less than 12 V Earth Continuity current:less than 45 A Temperature:(0 ~ 200) ℃ Insulation Resistance voltage:less than DC 1 000 V Insulation resistance:less than 4 000 ㏁ Vibration Frequency:(10 ~ 55) ㎐ Amplitude:less than 0.35 ㎜	BS	N
UL 60950-1:2011	Electrical machinery for households	Information technology equipment - SafetyPart 1:General requirements[exception] 2.10.8.4 Abrasion resistance test3.2.5.1 AC power supply cords4.2.8 Cathode ray tubes4.3.12 Flammable liquids4.3.13.2 Ionizing radiation4.3.13.3 UV4.3.13.4 Human exposure to ultraviolet (UV) radiation4.3.13.5 LaserANNEX A.3 Hot flaming oil testANNEX H Ionizing radiationANNEX AA Mandrel test	Single phase Input Voltage:less than AC 300 V Input Current:less than 20 A Frequency:(50 ~ 60) ㎐ Electric Strength:(0 ~ 5) ㎸ Leakage:less than 10 ㎃ Earth Continuity voltage:less than 12 V Earth Continuity current:less than 45 A Temperature:(0 ~ 200) ℃ Humidity:less than 98 % R.H.	BS	N

No. KT197

03. Electrical Testing

03.008 Wired/wireless communication devices

Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
1999/519/EC	Wired/wireless communication devices	Council recommendation of 12 july 1999 on the limitation of exposure of the general public to electromagnetic fields (0 Hz to 300 GHz)	0 Hz ~ 40 GHz	BS	N
3GPP TS 25.144 V11.2:2012	Wired/wireless communication devices	3rd Generation Partnership Project; Technical Specification Group Radio Access Network; User Equipment(UE) and Mobile Station(MS) over the air performance requirements	700 MHz ~ 6 GHz	SF-3	N
3GPP TS 25.144 V11.2:2012	Wired/wireless communication devices	3rd Generation Partnership Project; Technical Specification Group Radio Access Network; User Equipment(UE) and Mobile Station(MS) over the air performance requirements	700 MHz ~ 6 GHz	BS	N
3GPP TS 34.114 V12.2:2016	Wired/wireless communication devices	3rd Generation Partnership Project; Technical Specification Group Radio Access Network; User Equipment(UE)/Mobile Station(MS) Over The Air(OTA) antenna performance; Conformance testing	700 MHz ~ 6 GHz	SF-3	N
3GPP TS 34.114 V12.2:2016	Wired/wireless communication devices	3rd Generation Partnership Project; Technical Specification Group Radio Access Network; User Equipment(UE)/Mobile Station(MS) Over The Air(OTA) antenna performance; Conformance testing	700 MHz ~ 6 GHz	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
3GPP TS 37.544 V16.2:2021	Wired/wireless communication devices	3rd Generation Partnership Project; Technical Specification Group Radio Access Network; Universal Terrestrial Radio Access (UTRA) and Evolved Universal Terrestrial Radio Access (E-UTRA);User Equipment (UE) Over The Air (OTA) performance; Conformance testing	700 ㎒ ~ 6 ㎓	BS	N
3GPP TS 37.544 V16.2:2021	Wired/wireless communication devices	3rd Generation Partnership Project; Technical Specification Group Radio Access Network; Universal Terrestrial Radio Access (UTRA) and Evolved Universal Terrestrial Radio Access (E-UTRA);User Equipment (UE) Over The Air (OTA) performance; Conformance testing	700 ㎒ ~ 6 ㎓	SF-3	N
3GPP TS 51 010-1 V13.12.0 Section 12.2	Wired/wireless communication devices	3rd Generation Partnership Project; Technical Specification Group Radio Access Network; Digital cellular telecommunications system (Phase 2+); Mobile Station (MS) conformance specification; Part 1: Conformance specification (Release 13)	30 ㎒ ~ 4 ㎓	BS	N
3GPP TS 51 010-1 V13.13.0 Section 12.2	Wired/wireless communication devices	3rd Generation Partnership Project; Technical Specification Group Radio Access Network; Digital cellular telecommunications system (Phase 2+); Mobile Station (MS) conformance specification; Part 1: Conformance specification (Release 13)	30 ㎒ ~ 4 ㎓	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
ACMA Radio communications 2003	Wired/wireless communication devices	AUSTRALIA Radio communications(Electromagnetic Radiation - Human Exposure) Standard 2003	30 ㎒ ~ 6 ㎓	BS	N
ACMA Radio communications 2014	Wired/wireless communication devices	AUSTRALIA Radio communications(Electromagnetic Radiation - Human Exposure) Standard 2014	30 ㎒ ~ 6 ㎓	BS	N
ACMA Radiocommunications: 2021	Wired/wireless communication devices	AUSTRALIA Radiocommunications Equipment (General) Rules 2021	30 ㎒ ~ 6 ㎓	BS	N
ANSI C63.10:2009	Wired/wireless communication devices	American National Standard for Testing Unlicensed Wireless Devices	9 ㎑ ~ 243 ㎓	BS	N
ANSI C63.10:2013	Wired/wireless communication devices	American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices	9 ㎑ ~ 243 ㎓	BS	N
ANSI C63.19:2007	Wired/wireless communication devices	American National Standard Methods of Measurements of Compatability between wireless Communications devices and Hearing Aids	H Field:10 ㎃/m ~ 2 A/m E Field:2 V/m ~ 1 000 V/m	BS	N
ANSI C63.19:2011	Wired/wireless communication devices	American National Standard Methods of Measurement of Compatibility between Wireless Communications Devices and Hearing Aids	H Field:10 ㎃/m ~ 2 A/m E Field:2 V/m ~ 1 000 V/m	BS	N
ANSI C63.26:2015	Wired/wireless communication devices	American National Standard for Compliance Testing of Transmitters Use in Licensed Radio Services	9 kHz - 325 GHz	BS	N
ANSI C63.4:2009	Wired/wireless communication devices	American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 ㎑ to 40 ㎓	9 ㎑ ~ 40 ㎓	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
ANSI C63.4:2014	Wired/wireless communication devices	American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 ㎑ to 40 ㎓	9 ㎑ ~ 40 ㎓	BS	N
ANSI/TIA-5050:2018	Wired/wireless communication devices	Telecommunications Communications Products Receive Volume Control Requirements for Wireless (Mobile) Devices	100 Hz ~ 8 kHz	BS	N
ANSI/TIA-603-D:2010	Wired/wireless communication devices	Land Mobile FM or PM - Communications Equipment - Measurement and Performance Standards	9 ㎑ ~ 40 ㎓	BS	N
ANSI/TIA-603-E:2016	Wired/wireless communication devices	Land Mobile FM or PM - Communications Equipment - Measurement and Performance Standards	9 ㎑ ~ 40 ㎓	BS	N
ARIB STD-T56 3.3:2015	Wired/wireless communication devices	SPECIFIC ABSORPTION RATE (SAR) ESTIMATION FOR CELLULAR PHONE	30 ㎒ ~ 6 ㎓	BS	N
ARPANSA Radiation Protection Standard: 2021	Wired/wireless communication devices	Standard for Limiting Exposure to Radiofrequency Fields - 100 kHz to 300 GHz	3 ㎑ ~ 40 ㎓	BS	N
AS/ACIF S031:2015	Wired/wireless communication devices	Telecommunications Technical Standard (Requirements for ISDN Basic Access Interface)	Loop feed channel output Voltage:DC:below 110 V Current limit:below 200 ㎃ Voltage resolution:30 ㎷ Voltage accuracy:200 ㎷ Polarity switching time:under 0.2 ㎳ Series resistance:below 300 ㏀ Ring generator Output voltage:AC:(0 ~ 150) V Frequency:(15 ~ 100) ㎐	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
AS/ACIF S038:2015	Wired/wireless communication devices	Telecommunications Technical Standard (Requirements for ISDN Primary Rate Access Interface)	Loop feed channel output Voltage:DC:below 110 V Current limit:below 200 ㎃ Voltage resolution:30 ㎷ Voltage accuracy:200 ㎷ Polarity switching time:under 0.2 ㎳ Series resistance:below 300 ㏀ Ring generator Output voltage:AC:(0 ~ 150) V Frequency:(15 ~ 100) ㎐	BS	N
AS/ACIF S041:2015	Wired/wireless communication devices	Telecommunications Technical Standard (Requirements for DSL Customer Equipment for connection to the Public Switched Telephone Network)	Loop feed channel output Voltage:DC:below 110 V Current limit:below 200 ㎃ Voltage resolution:30 ㎷ Voltage accuracy:200 ㎷ Polarity switching time:under 0.2 ㎳ Series resistance:below 300 ㏀ Ring generator Output voltage:AC:(0 ~ 150) V Frequency:(15 ~ 100) ㎐	BS	N
AS/CA S002:2015	Wired/wireless communication devices	Telecommunications Technical Standard (Analogue Interworking and Non-interference Requirements for Customer Equipment for Connection to the Public Switched Telephone Network	Loop feed channel output Voltage:DC:below 110 V Current limit:below 200 ㎃ Voltage resolution:30 ㎷ Voltage accuracy:200 ㎷ Polarity switching time:under 0.2 ㎳ Series resistance:below 300 ㏀ Ring generator Output voltage:AC:(0 ~ 150) V Frequency:(15 ~ 100) ㎐	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
AS/CA S003:2015	Wired/wireless communication devices	Telecommunications Technical Standard (Requirements for Customer Access Equipment for Connection to a Telecommunications Network)	Loop feed channel output Voltage:DC:below 110 V Current limit:below 200 ㎃ Voltage resolution:30 ㎷ Voltage accuracy:200 ㎷ Polarity switching time:under 0.2 ㎳ Series resistance:below 300 ㏀ Ring generator Output voltage:AC:(0 ~ 150) V Frequency:(15 ~ 100) ㎐	BS	N
AS/CA S004:2015	Wired/wireless communication devices	Telecommunications Technical Standard (Voice performance requirements for Customer Equipment)	SPL:below 100 ㏈ Frequency Range:100 ㎐ ~ 8 ㎑ Output Impedance:4 Ω Output level:below 10 W Input Impedance:1 ㏀	BS	N
AS/CA S042.1:2022	Wired/wireless communication devices	Requirements for connection to an air interface of a Telecommunications Network — Part 1:General	SPL:below 162 ㏈ Frequency Range:100 ㎐ ~ 8 ㎑ Output Impedance:4 Ω Output level:below 10 W Input Impedance:1 ㏀	BS	N
AS/CA S043:2015	Wired/wireless communication devices	Telecommunications Technical Standard (Requirements for Customer Equipment for connection to a metallic local loop interface of a Telecommunications Network)	Loop feed channel output Voltage:DC:below 110 V Current limit:below 200 ㎃ Voltage resolution:30 ㎷ Voltage accuracy:200 ㎷ Polarity switching time:under 0.2 ㎳ Series resistance:below 300 ㏀ Ring generator Output voltage:AC:(0 ~ 150) V Frequency:(15 ~ 100) ㎐	BS	N
AS/NZS 2772.2:2016	Wired/wireless communication devices	SPECIFIC ABSORPTION RATE (SAR) ESTIMATION FOR CELLULAR PHONE	100 ㎒ ~ 6 ㎓	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
AS/NZS 2772.2:2016 Amd 1:2018	Wired/wireless communication devices	Principles and methods of measurement and computation - 3 kHz to 300 GHz	100 ㎒ ~ 6 ㎓	BS	N
CBRSA-TS-9001 V1.2.0	Wired/wireless communication devices	CBRS Alliance Certification Test Plan	3 550 ㎒ ~ 3 700 ㎒	BS	N
CS-03 Part II Issue 9 Amendment 1:2012	Wired/wireless communication devices	Part II:Requirements for Terminal Equipment Intended for Connection to 1.544 Mbps (DS-1) Digital Interfaces	Digital signal source:1.544 Mbps (DS-1) Termination impedance:100 Ω	BS	N
CS-03 Part V Issue 9 Amendment 3:2021	Wired/wireless communication devices	Requirements and Test Methods for Magnetic Output from Handset Telephones for Hearing Aid Coupling and for Receive Volume Control	Frequency range:(200 ~ 4 000) ㎐ DC resistance:900 Ω Inductance:150 mH Sensitivity:-60 ㏈ V/(A/m)	BS	N
CS-03 Part VI Issue 9 Amendment1:2012	Wired/wireless communication devices	Part VI:Requirements for Integrated Services Digital Network Terminal Equipment	Digital signal source:1.544 Mbps (DS-1) Termination impedance:100 Ω	BS	N
CS-03 Part VII Issue 9 Amendment 4:2012	Wired/wireless communication devices	Part VII:Requirements for Limited-Distance Modem and Digital Subrate Terminal Equipment	Input impedance:1 ㏁ Termination impedance:(141.75 ~ 128.25) Ω	BS	N
CS-03 Part I Issue 9, Amendment 5:2016	Wired/wireless communication devices	Part I:Requirements for Terminal Equipment(TE) and Related Access Arrangements Intended for Direct Connection to Analogue Wireline Facilities	Input impedance:600 Ω Frequency range:100 ㎐ ~ 30 ㎒	BS	N
CS-03, Part Ⅷ Issue 9, Amendment 6:2022	Wired/wireless communication devices	Part VIII:Requirements and Test Methods for Digital Subscriber Line (xDSL) Terminal Equipment	Frequency range:200 ㎐ ~ 30 ㎒ Balun Termination impedance:100 Ω, 600 Ω	BS	N
CTIA HAC Test Plan:2003	Wired/wireless communication devices	Test Plan for Hearing Aid Compatibility	H Field:10 ㎃/m ~ 2 A/m E Field:2 V/m ~ 1 000 V/m	BS	N
CTIA OTA Test Plan:2021	Wired/wireless communication devices	CTIA Test Plan for Wireless Device Over-the Air Performance	600 ㎒ ~ 6 ㎓	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
CTIA OTA Test Plan:2021	Wired/wireless communication devices	CTIA Test Plan for Wireless Device Over-the Air Performance	600 ㎒ ~ 6 ㎓	SF-3	N
CWG RF Test Plan 2.1:2019	Wired/wireless communication devices	Test Plan for RF Performance Evaluation of Wi-Fi Mobile Converged Devices	700 ㎒ ~ 6 ㎓	BS	N
CWG RF Test Plan v2.2.1:2021	Wired/wireless communication devices	Test Plan for RF Performance Evaluation of Wi-Fi Mobile Converged Devices	700 ㎒ ~ 6 ㎓	BS	N
CWG RF Test Plan v2.2.1:2021	Wired/wireless communication devices	Test Plan for RF Performance Evaluation of Wi-Fi Mobile Converged Devices:2021	Frequency Range: 600 MHz ~ 6 GHz	SF-3	N
EN 50332-1:2013	Wired/wireless communication devices	Sound system equipment:Headphones and earphones associated with personal music players - Maximum sound pressure level measurement methodology - Part 1:General method for “one package equipment”	Frequency range:100 ㎐ ~ 20 ㎑ Output voltage:(20 ~ 200) ㎷	BS	N
EN 50332-2:2013	Wired/wireless communication devices	Sound system equipment:Headphones and earphones associated with personal music players - Maximum sound pressure level measurement methodology - Part 2:Matching of sets with headphones if either or both are offered separately, or are offered as one package equipment but with standardised connectors between the two allowing to combine components of different manufacturers or different design	Frequency range:100 ㎐ ~ 20 ㎑ Output voltage:(20 ~ 200) ㎷	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
EN 50360:2001	Wired/wireless communication devices	Product standard to demonstrate the compliance of mobile phones with the basic restrictions related to human exposure to electromagnetic fields	100 ㎒ ~ 6 ㎓	BS	N
EN 50360:2001 +A1:2012	Wired/wireless communication devices	Product standard to demonstrate the compliance of mobile phones with the basic restrictions related to human exposure to electromagnetic fields	100 ㎒ ~ 6 ㎓	BS	N
EN 50360:2017	Wired/wireless communication devices	Product standard to demonstrate the compliance of wireless communication devices, with the basic restrictions and exposure limit values related to human exposure to electromagnetic fields in the frequency range from 300 MHz to 6 GHz:devices used next to the ear	100 ㎒ ~ 6 ㎓	BS	N
EN 50385:2002	Wired/wireless communication devices	Product standard to demonstrate the compliance of radio basestations and fixed terminal stations for wireless Telecommunication systems with the basic restrictions or the reference levels related to human exposure to radiofrequency electromagnetic fields(110 ㎒ - 40 ㎓)- General Public	110 ㎒ ~ 40 ㎓	BS	N
EN 50385:2017	Wired/wireless communication devices	Product standard to demonstrate the compliance of base station equipment with radiofrequency electromagnetic field exposure limits (110 MHz - 100 GHz), when placed on the market	110 MHz ~ 40 GHz	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
EN 50566:2013	Wired/wireless communication devices	Product standard to demonstrate compliance of radio frequency fields from handheld and body-mounted wireless communication devices used by the general public (30 ㎒ - 6 ㎓)	100 ㎒ ~ 6 ㎓	BS	N
EN 50566:2017	Wired/wireless communication devices	Product Standard to demonstrate the compliance of wireless communication devices with the basic restrictions and exposure limit values related to human exposure to electromagnetic fields in the frequency range from 30 MHz to 6 GHz:hand-held and body mounted devices in close proximity to the human body	100 ㎒ ~ 6 ㎓	BS	N
EN 50663:2017	Wired/wireless communication devices	Generic standard for assessment of low power electronic and electrical equipment related to human exposure restrictions for electromagnetic fields (10 MHz - 300 GHz)	10 ㎒ ~ 40 ㎓	BS	N
EN 62209-1:2006	Wired/wireless communication devices	Human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices - Human models, instrumentation, and procedures - Part 1:Procedure to determine the specific absorption rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300 ㎒ to 3 ㎓)	100 ㎒ ~ 6 ㎓	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
EN 62209-1:2016	Wired/wireless communication devices	Measurement procedure for the assessment of specific absorption rate of human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices - Part 1:Devices used next to the ear (Frequency range of 300 ㎒ to 6 ㎓)	100 ㎒ ~ 6 ㎓	BS	N
EN 62209-2:2010	Wired/wireless communication devices	Human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices - Human models, instrumentation, and procedures Part 2:Procedure to determine the specific absorption rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 ㎒ to 6 ㎓)	100 ㎒ ~ 6 ㎓	BS	N
EN 62232:2017	Wired/wireless communication devices	DETERMINATION OF RF FIELD STRENGTH, POWER DENSITY AND SAR IN THE VICINITY OF RADIOCOMMUNICATION BASE STATIONS FOR THE PURPOSE OF EVALUATING HUMAN EXPOSURE	100 MHz ~ 6 GHz	BS	N
EN 62311:2008	Wired/wireless communication devices	Assessment of electronic and electrical equipment related to human exposure restrictions for electromagnetic fields (0 ㎐ - 300 ㎓)	0㎐ ~ 40 ㎓	BS	N
EN 62311:2020	Wired/wireless communication devices	Assessment of electronic and electrical equipmentrelated to human exposure restrictions for electromagnetic fields (0 Hz to 300 GHz)	0 Hz ~ 40 GHz	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
EN 62479:2010	Wired/wireless communication devices	Assessment of the compliance of low power electronic and electrical equipment with the basic restrictions related to human exposure to electromagnetic fields (10 ㎒ to 300 ㎓)	10 ㎒ ~ 40 ㎓	BS	N
ETSI EN 300 220-1 V2.3.1:2010	Wired/wireless communication devices	Electromagnetic compatibility and Radio spectrum Matters (ERM); Short Range Devices (SRD); Radio equipment to be used in the 25 ㎒ to 1 000 ㎒ frequency range with power levels ranging up to 500 ㎽; Part 1:Technical characteristics and test methods	25 ㎒ ~ 6 ㎓	BS	N
ETSI EN 300 220-1 V2.4.1:2012	Wired/wireless communication devices	Electromagnetic compatibility and Radio spectrum Matters (ERM); Short Range Devices (SRD); Radio equipment to be used in the 25 ㎒ to 1 000 ㎒ frequency range with power levels ranging up to 500 ㎽; Part 1:Technical characteristics and test methods	25 ㎒ ~ 6 ㎓	BS	N
ETSI EN 300 220-1 V3.1.1:2017	Wired/wireless communication devices	Short Range Devices (SRD) operating in the frequency range 25 ㎒ to 1 000 ㎒; Part 1:Technical characteristics and methods of measurement	25 ㎒ ~ 6 ㎓	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
ETSI EN 300 220-2 V2.3.1:2010	Wired/wireless communication devices	Electromagnetic compatibility and Radio spectrum Matters (ERM); Short Range Devices (SRD);Radio equipment to be used in the 25 ㎒ to 1 000 ㎒ frequency range with power levels ranging up to 500 ㎽; Part 2:Harmonized EN covering essential requirements under article 3.2 of the R&TTE Directive	25 ㎒ ~ 6 ㎓	BS	N
ETSI EN 300 220-2 V2.4.1:2012	Wired/wireless communication devices	Electromagnetic compatibility and Radio spectrum Matters (ERM); Short Range Devices (SRD); Radio equipment to be used in the 25 ㎒ to 1 000 ㎒ frequency range with power levels ranging up to 500 ㎽; Part 2:Harmonized EN covering essential requirements under article 3.2 of the R&TTE Directive	25 ㎒ ~ 6 ㎓	BS	N
ETSI EN 300 220-2 V3.1.1:2017	Wired/wireless communication devices	Short Range Devices (SRD) operating in the frequency range 25 ㎒ to 1 000 ㎒; Part 2:Harmonised Standard covering the essential requirements of article 3.2 of Directive 2014/53/EU for non specific radio equipment	25 ㎒ ~ 6 ㎓	BS	N
ETSI EN 300 328 V1.7.1:2006	Wired/wireless communication devices	Electromagnetic compatibility and Radio spectrum Matters (ERM); Wideband transmission systems; Data transmission equipment operating in the 2.4 ㎓ ISM band and using wide band modulation techniques; Harmonized EN covering essential requirements under article 3.2 of the R&TTE Directive	30 ㎒ ~ 12.75 ㎓	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
ETSI EN 300 328 V1.8.1:2012	Wired/wireless communication devices	Electromagnetic compatibility and Radio spectrum Matters (ERM); Wideband transmission systems; Data transmission equipment operating in the 2.4 ㎓ ISM band and using wide band modulation techniques; Harmonized EN covering essential requirements of article 3.2 of the R&TTE Directive	30 ㎒ ~ 12.75 ㎓	BS	N
ETSI EN 300 328 V1.9.1:2015	Wired/wireless communication devices	Electromagnetic compatibility and Radio spectrum Matters (ERM); Wideband transmission systems; Data transmission equipment operating in the 2.4 ㎓ ISM band and using wide band modulation techniques; Harmonized EN covering essential requirements of article 3.2 of the R&TTE Directive	30 ㎒ ~ 12.75 ㎓	BS	N
ETSI EN 300 328 V2.1.1:2016	Wired/wireless communication devices	Wideband transmission systems; Data transmission equipment operating in the 2,4 ㎓ ISM band and using wide band modulation techniques; Harmonised Standard covering the essential requirements of article 3.2 of Directive 2014/53/EU	30 ㎒ ~ 12.75 ㎓	BS	N
ETSI EN 300 328 V2.2.2:2019	Wired/wireless communication devices	Wideband transmission systems; Data Transmission equipment operating in the 2,4 ㎓ band; Harmonised Standard for access to radio spectrum	30 ㎒ ~ 12.75 ㎓	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
ETSI EN 300 330 V2.1.1:2017	Wired/wireless communication devices	Short Range Devices (SRD); Radio equipment in the frequency range 9 ㎑ to 25 ㎒ and inductive loop systems in the frequency range 9 ㎑ to 30 ㎒; Harmonised Standard covering the essential requirements of article 3.2 of Directive 2014/53/EU	9 ㎑ ~ 1 000 ㎒	BS	N
ETSI EN 300 330-1 V1.7.1:2010	Wired/wireless communication devices	Electromagnetic compatibility and Radio spectrum Matters (ERM); Short Range Devices (SRD); Radio equipment in the frequency range 9 ㎑ to 25 ㎒ and inductive loop systems in the frequency range 9 ㎑ to 30 ㎒; Part 1:Technical characteristics and test methods	9 ㎑ ~ 1 000 ㎒	BS	N
ETSI EN 300 330-1 V1.8.1:2015	Wired/wireless communication devices	Electromagnetic compatibility and Radio spectrum Matters (ERM); Short Range Devices (SRD); Radio equipment in the frequency range 9 ㎑ to 25 ㎒ and inductive loop systems in the frequency range 9 ㎑ to 30 ㎒; Part 1:Technical characteristics and test methods	9 ㎑ ~ 1 000 ㎒	BS	N
ETSI EN 300 330-2 V1.5.1:2010	Wired/wireless communication devices	Electromagnetic compatibility and Radio spectrum Matters (ERM); Short Range Devices (SRD); Radio equipment in the frequency range 9 ㎑ to 25 ㎒ and inductive loop systems in the frequency range 9 ㎑ to 30 ㎒; Part 2:Harmonized EN covering the essential requirements of article 3.2 of the R&TTE Directive	9 ㎑ ~ 1 000 ㎒	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
ETSI EN 300 330-2 V1.6.1:2015	Wired/wireless communication devices	Electromagnetic compatibility and Radio spectrum Matters (ERM); Short Range Devices (SRD); Radio equipment in the frequency range 9 ㎑ to 25 ㎒ and inductive loop systems in the frequency range 9 ㎑ to 30 ㎒; Part 2:Harmonized EN covering the essential requirements of article 3.2 of the R&TTE Directive	9 ㎑ ~ 1 000 ㎒	BS	N
ETSI EN 300 440 V2.1.1:2017	Wired/wireless communication devices	Short Range Devices (SRD); Radio equipment to be used in the 1 ㎓ to 40 ㎓ frequency range; Harmonised Standard covering the essential requirements of article 3.2 of Directive 2014/53/EU	25 ㎒ ~ 40 ㎓	BS	N
ETSI EN 300 440-1 V1.6.1:2010	Wired/wireless communication devices	Electromagnetic compatibility and Radio spectrum Matters (ERM); Short range devices; Radio equipment to be used in the 1 ㎓ to 40 ㎓ frequency range; Part 1:Technical characteristics and test methods	25 ㎒ ~ 40 ㎓	BS	N
ETSI EN 300 440-2 V1.4.1:2010	Wired/wireless communication devices	Electromagnetic compatibility and Radio spectrum Matters (ERM); Short range devices; Radio equipment to be used in the 1 ㎓ to 40 ㎓ frequency range; Part 2:Harmonized EN covering the essential requirements of article 3.2 of the R&TTE Directive	25 ㎒ ~ 40 ㎓	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
ETSI EN 301 091-1 V2.1.1 2017	Wired/wireless communication devices	Short Range Devices; Transport and Traffic Telematics (TTT); Radar equipment operating in the 76 GHz to 77 GHz range; Harmonised Standard covering the essential requirements of article 3.2 of Directive 2014/53/EU; Part 1:Ground based vehicular radar	30 MHz ~ 154 GHz	BS	N
ETSI EN 301 406 V2.2.2:2016	Wired/wireless communication devices	Digital Enhanced Cordless Telecommunications (DECT); Harmonised Standard covering the essential requirements of article 3.2 of the Directive 2014/53/EU	30 MHz ~ 12.75 GHz	BS	N
ETSI EN 301 502 V10.2.1:2012	Wired/wireless communication devices	Global System for Mobile communications (GSM); Harmonized EN for Base Station Equipment covering the essential requirements of article 3.2 of the R&TTE Directive	100 kHz ~ 12.75 GHz	BS	N
ETSI EN 301 502 V12.5.2:2017	Wired/wireless communication devices	Global System for Mobile communications (GSM); Base Station (BS) equipment; Harmonised Standard covering the essential requirements of article 3.2 of Directive 2014/53/EU	100 kHz ~ 12.75 GHz	BS	N
ETSI EN 301 511 V12.5.1:2017	Wired/wireless communication devices	Global System for Mobile communications (GSM); Mobile Stations (MS) equipment; Harmonised Standard covering the essential requirements of article 3.2 of Directive 2014/53/EU	9 kHz ~ 12.75 GHz	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
ETSI EN 301 511 V9.0.2:2003	Wired/wireless communication devices	Global System for Mobile communications (GSM); Harmonized EN for mobile stations in the GSM 900 and GSM 1800 bands covering essential requirements under article 3.2 of the R&TTE directive (1999/5/EC)	9 ㎑ ~ 12.75 ㎓	BS	N
ETSI EN 301 893 V1.6.1:2011	Wired/wireless communication devices	Broadband Radio Access Networks (BRAN); 5 ㎓ high performance RLAN; Harmonized EN covering the essential requirements of article 3.2 of the R&TTE Directive	30 ㎒ ~ 26 ㎓	BS	N
ETSI EN 301 893 V1.7.1:2012	Wired/wireless communication devices	Broadband Radio Access Networks (BRAN); 5 ㎓ high performance RLAN; Harmonized EN covering the essential requirements of article 3.2 of the R&TTE Directive	30 ㎒ ~ 26 ㎓	BS	N
ETSI EN 301 893 V1.8.1:2015	Wired/wireless communication devices	Broadband Radio Access Networks (BRAN); 5 ㎓ high performance RLAN; Harmonized EN covering the essential requirements of article 3.2 of the R&TTE Directive	30 ㎒ ~ 26 ㎓	BS	N
ETSI EN 301 893 V2.1.1:2017	Wired/wireless communication devices	Broadband Radio Access Networks (BRAN); 5 ㎓ high performance RLAN; Harmonized EN covering the essential requirements of article 3.2 of the R&TTE Directive	30 ㎒ ~ 26 ㎓	BS	N
ETSI EN 301 908-1 V11.1.1:2016	Wired/wireless communication devices	IMT cellular networks; Harmonised Standard covering the essential requirements of article 3.2 of the Directive 2014/53/EU; Part 1:Introduction and common requirements	30 ㎒ ~ 12.75 ㎓	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
ETSI EN 301 908-1 V13.1.1:2019	Wired/wireless communication devices	IMT cellular networks; Harmonised Standard for access to radio spectrum; Part 1:Introduction and common requirements	30 ㎒ ~ 12.75 ㎓	BS	N
ETSI EN 301 908-1 V15.1.1:2021	Wired/wireless communication devices	IMT cellular networks; Harmonised Standard for access to radio spectrum; Part 1: Introduction and common requirements	30 ㎒ ~ 12.75 ㎓	BS	N
ETSI EN 301 908-1 V7.1.1:2015	Wired/wireless communication devices	IMT cellular networks; Harmonized EN covering the essential requirements of article 3.2 of the R&TTE Directive; Part 1:Introduction and common requirements	30 ㎒ ~ 12.75 ㎓	BS	N
ETSI EN 301 908-11 V11.1.2:2017	Wired/wireless communication devices	Harmonised Standard covering the essential requirements of article 3.2 of the Directive 2014/53/EU; Harmonised Standard covering the essential requirements of article 3.2 of the Directive 2014/53/EU; Part 11:CDMA Direct Spread (UTRA FDD) Repeaters	9 ㎑ ~ 12.75 ㎓	BS	N
ETSI EN 301 908-11 V5.2.1:2011	Wired/wireless communication devices	IMT cellular networks; Harmonized EN covering the essential requirements of article 3.2 of the R&TTE Directive; Part 11:CDMA Direct Spread (UTRA FDD) (Repeaters)	9 ㎑ ~ 12.75 ㎓	BS	N
ETSI EN 301 908-13 V13.2.1:2022	Wired/wireless communication devices	IMT cellular networks; Harmonised Standard for access to radio spectrum; Part 13: Evolved Universal Terrestrial Radio Access(E-UTRA) User Equipment(UE)	9 ㎑ ~ 26.5 ㎓	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
ETSI EN 301 908-14 V15.1.1:2021	Wired/wireless communication devices	IMT cellular networks; Harmonised Standard for access to radio spectrum; Part 14: Evolved Universal Terrestrial Radio Access (E-UTRA) Base Stations (BS) Release 15	9 ㎑ ~ 26.5 ㎓	BS	N
ETSI EN 301 908-15 V11.1.2:2017	Wired/wireless communication devices	IMT cellular networks; Harmonised Standard covering the essential requirements of article 3.2 of Directive 2014/53/EU; Part 15:Evolved Universal Terrestrial Radio Access (E-UTRA FDD) Repeaters	9 ㎑ ~ 12.75 ㎓	BS	N
ETSI EN 301 908-15 V15.1.1:2020	Wired/wireless communication devices	IMT cellular networks; Harmonised Standard for access to radio spectrum; Part 15:Evolved Universal Terrestrial Radio Access (E-UTRA FDD) Repeaters	9 ㎑ ~ 12.75 ㎓	BS	N
ETSI EN 301 908-15 V5.2.1:2011	Wired/wireless communication devices	IMT cellular networks;Harmonized EN covering the essential requirements of article 3.2 of the R&TTE Directive; Part 15:Evolved Universal Terrestrial Radio Access (E-UTRA FDD) (Repeaters)	9 ㎑ ~ 12.75 ㎓	BS	N
ETSI EN 301 908-18 V11.1.2:2017	Wired/wireless communication devices	IMT cellular networks; Harmonised Standard covering the essential requirements of article 3.2 of Directive 2014/53/EU; Part 18:E-UTRA, UTRA and GSM/EDGE Multi-Standard Radio (MSR) Base Station (BS)	9 ㎑ ~ 26.5 ㎓	BS	N
ETSI EN 301 908-18 V7.1.2:2013	Wired/wireless communication devices	IMT cellular networks; Harmonized EN covering the essential requirements of article 3.2 of the R&TTE Directive; Part 18:E-UTRA, UTRA and GSM/EDGE Multi-Standard Radio (MSR) Base Station (BS)	9 ㎑ ~ 26.5 ㎓	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
ETSI EN 301 908-2 V13.1.1:2020	Wired/wireless communication devices	IMT cellular networks; Harmonised Standard for access to radio spectrum; Part 2: CDMA Direct Spread (UTRA FDD) User Equipment (UE)	9 ㎑ ~ 26.5 ㎓	BS	N
ETSI EN 301 908-20 V6.2.1:2013	Wired/wireless communication devices	IMT cellular networks;Harmonized EN covering the essential requirements of article 3.2 of the R&TTE Directive; Part 20:OFDMA TDD WMAN (Mobile WiMAX) TDD Base Stations (BS)	9 ㎑ ~ 26.5 ㎓	BS	N
ETSI EN 301 908-20 V6.3.1:2016	Wired/wireless communication devices	IMT cellular networks; Harmonised Standard covering the essential requirements of article 3.2 of the Directive 2014/53/EU; Part 20:OFDMA TDD WMAN (Mobile WiMAXTM) TDD Base Stations (BS)	9 ㎑ ~ 26.5 ㎓	BS	N
ETSI EN 301 908-22 V5.2.1:2011	Wired/wireless communication devices	IMT cellular networks;Harmonized EN covering the essential requirements of article 3.2 of the R&TTE Directive; Part 22:OFDMA TDD WMAN (Mobile WiMAX) FDD Base Stations (BS)	9 ㎑ ~ 12.75 ㎓	BS	N
ETSI EN 301 908-22 V6.1.1:2016	Wired/wireless communication devices	IMT cellular networks; Harmonised Standard covering the essential requirements of article 3.2 of the Directive 2014/53/EU; Part 22:OFDMA TDD WMAN (Mobile WiMAXTM) FDD Base Stations (BS)	9 ㎑ ~ 12.75 ㎓	BS	N
ETSI EN 301 908-3 V11.1.3:2017	Wired/wireless communication devices	IMT cellular networks; Harmonised Standard covering the essential requirements of article 3.2 of Directive 2014/53/EU; Part 3:CDMA Direct Spread (UTRA FDD) Base Stations (BS)	9 ㎑ ~ 26.5 ㎓	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
ETSI EN 301 908-3 V13.1.1:2019	Wired/wireless communication devices	IMT cellular networks; Harmonised Standard for access to radio spectrum; Part 3:CDMA Direct Spread (UTRA FDD) Base Stations (BS)	9 ㎑ ~ 26.5 ㎓	BS	N
ETSI EN 301 908-3 V6.2.1:2013	Wired/wireless communication devices	IMT cellular networks; Harmonized EN covering the essential requirements of article 3.2 of the R&TTE Directive; Part 3:CDMA Direct Spread (UTRA FDD) Base Stations (BS)	9 ㎑ ~ 26.5 ㎓	BS	N
ETSI EN 302 065-1 V2.1.1:2016	Wired/wireless communication devices	Short Range Devices (SRD) using Ultra Wide Band technology (UWB); Harmonised Standard covering the essential requirements of article 3.2 of the Directive 2014/53/EU; Part 1:Requirements for Generic UWB applications	30 ㎒ ~ 40 ㎓	BS	N
ETSI EN 302 065-2 V2.1.1:2016	Wired/wireless communication devices	Short Range Devices (SRD) using Ultra Wide Band technology (UWB); Harmonised Standard covering the essential requirements of article 3.2 of the Directive 2014/53/EU; Part 2:Requirements for UWB location tracking	30 ㎒ ~ 40 ㎓	BS	N
ETSI EN 302 065-3 V2.1.1:2016	Wired/wireless communication devices	Short Range Devices (SRD) using Ultra Wide Band technology (UWB); Harmonised Standard covering the essential requirements of article 3.2 of the Directive 2014/53/EU; Part 3:Requirements for UWB devices for ground based vehicular applications	30 ㎒ ~ 40 ㎓	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
ETSI EN 302 065-4 V1.1.1:2016	Wired/wireless communication devices	Short Range Devices (SRD) using Ultra Wide Band technology (UWB); Harmonised Standard covering the essential requirements of article 3.2 of the Directive 2014/53/EU; Part 4:Material Sensing devices using UWB technology below 10,6 GHz	30 ㎒ ~ 40 ㎓	BS	N
ETSI EN 302 065-5 V1.1.1:2017	Wired/wireless communication devices	Short Range Devices (SRD) using Ultra Wide Band technology (UWB); Harmonised Standard covering the essential requirements of article 3.2 of Directive 2014/53/EU; Part 5:Devices using UWB technology onboard aircraft	30 ㎒ ~ 40 ㎓	BS	N
ETSI EN 302 208 V3.1.1:2016	Wired/wireless communication devices	Radio Frequency Identification Equipment operating in the band 865 ㎒ to 868 ㎒ with power levels up to 2 W and in the band 915 ㎒ to 921 ㎒ with power levels up to 4 W; Harmonised Standard covering the essential requirements of article 3.2 of the Directive 2014/53/EU	25 ㎒ ~ 12.75 ㎓	BS	N
ETSI EN 302 208 V3.3.1 : 2020	Wired/wireless communication devices	Radio Frequency Identification Equipment operating in the band 865 MHz to 868 MHz with power levels up to 2 W and in the band 915 MHz to 921 MHz with power levels up to 4 W; Harmonised Standard for access to radio spectrum	865 ㎒ ~ 868 ㎒, 915 ㎒ ~ 921 ㎒	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
ETSI EN 302 208-1 V1.4.1:2011	Wired/wireless communication devices	Electromagnetic compatibility and Radio spectrum Matters (ERM); Radio Frequency Identification Equipment operating in the band 865 ㎒ to 868 ㎒ with power levels up to 2 W; Part 1:Technical requirements and methods of measurement	25 ㎒ ~ 12.75 ㎓	BS	N
ETSI EN 302 208-2 V1.4.1:2011	Wired/wireless communication devices	Electromagnetic compatibility and Radio spectrum Matters (ERM);Radio Frequency Identification Equipment operating in the band 865 ㎒ to 868 ㎒ with power levels up to 2 W; Part 2:Harmonized EN covering the essential requirements of article 3.2 of the R&TTE Directive	25 ㎒ ~ 12.75 ㎓	BS	N
ETSI EN 302 264 V2.1.1 2017	Wired/wireless communication devices	Short Range Devices; Transport and Traffic Telematics (TTT); Short Range Radar equipment operating in the 77 ㎓ to 81 ㎓ band; Harmonised Standard covering the essential requirements of article 3.2 of Directive 2014/53/EU	30 ㎒ ~ 162 ㎓	BS	N
ETSI EN 302 291-1 V1.1.1:2005	Wired/wireless communication devices	Electromagnetic compatibility and Radio spectrum Matters (ERM); Short Range Devices (SRD); Close Range Inductive Data Communication equipment operating at 13.56 ㎒; Part 1:Technical characteristics and test methods	9 ㎑ ~ 1 ㎓	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
ETSI EN 302 291-2 V1.1.1:2005	Wired/wireless communication devices	Electromagnetic compatibility and Radio spectrum Matters (ERM); Short Range Devices (SRD); Close Range Inductive Data Communication equipment operating at 13.56 ㎒; Part 2:Harmonized EN under article 3.2 of the R&TTE Directive	9 ㎑ ~ 1 ㎓	BS	N
ETSI EN 302 502 V1.2.1:2008	Wired/wireless communication devices	Broadband Radio Access Networks (BRAN); 5.8 ㎓ fixed Broadband data transmitting systems; Harmonized EN covering the essential requirements of article 3.2 of the R&TTE Directive	9 ㎑ ~ 26.5 ㎓	BS	N
ETSI EN 302 502 V2.1.1:2017	Wired/wireless communication devices	Wireless Access Systems (WAS); 5,8 ㎓ fixed broadband data transmitting systems; Harmonised Standard covering the essential requirements of article 3.2 of Directive 2014/53/EU	9 ㎑ ~ 26.5 ㎓	BS	N
ETSI EN 302 567 V2.2.1:2021	Wired/wireless communication devices	Multiple-Gigabit/s radio equipment operating in the 60 GHz band	30 ㎒ ~ 142 ㎓	BS	N
ETSI EN 303 340 V1.2.1:2020	Wired/wireless communication devices	Digital Terrestrial TV Broadcast Receivers; Harmonised Standard for access to radio spectrum	(174 ~ 240) MHz, (470 ~ 854) MHz	BS	N
ETSI EN 303 345-1 V1.1.1:2019	Wired/wireless communication devices	Broadcast Sound Receivers; Part 1:Generic requirements and measuring methods	148.5 kHz ~ 240 MHz	BS	N
ETSI EN 303 345-2 V1.2.1:2021	Wired/wireless communication devices	Broadcast Sound Receivers; Part 2:AM broadcast sound service; Harmonised Standard for access to radio spectrum	148.5 kHz ~26.1 MHz	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
ETSI EN 303 345-3 V1.1.1:2021	Wired/wireless communication devices	Broadcast Sound Receivers; Part 3:FM broadcast sound service; Harmonised Standard for access to radio spectrum	87.5 ~ 108 MHz	BS	N
ETSI EN 303 345-4 V1.1.1:2021	Wired/wireless communication devices	Broadcast Sound Receivers; Part 4:DAB broadcast sound service; Harmonised Standard for access to radio spectrum	174 ~ 240 MHz	BS	N
ETSI EN 303 345-5 V1.2.1:2021	Wired/wireless communication devices	Broadcast Sound Receivers; Part 5:DRM broadcast sound service; Harmonised Standard for access to radio spectrum	148.5 kHz ~ 240 MHz	BS	N
ETSI EN 303 372-2 V1.2.1:2021	Wired/wireless communication devices	Satellite Earth Stations and Systems (SES); Satellite broadcast reception equipment; Part 2: Indoor unit; Harmonised Standard for access to radio spectrum	(950 ~2,150) MHz	BS	N
ETSI EN 303 413 V1.1.1:2017	Wired/wireless communication devices	Satellite Earth Stations and Systems (SES); Global Navigation Satellite System (GNSS) receivers; Radio equipment operating in the 1 164 MHz to 1 300 MHz and 1 559 MHz to 1 610 MHz frequency bands; Harmonised Standard covering the essential requirements of article 3.2 of Directive 2014/53/EU	30 ㎒ ~ 8.3 ㎓	BS	N
ETSI EN 303 413 V1.2.1:2021	Wired/wireless communication devices	Satellite Earth Stations and Systems (SES); Global Navigation Satellite System (GNSS) receivers; Radio equipment operating in the 1 164 MHz to 1 300 MHz and 1 559 MHz to 1 610 MHz frequency bands; Harmonised Standard for access to radio spectrum	30 ㎒ ~ 8.3 ㎓	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
ETSI EN 303 417 V1.1.1:2017	Wired/wireless communication devices	Wireless power transmission systems, using technologies other than radio frequency beam in the 19 - 21 ㎑, 59 - 61 ㎑, 79 - 90 ㎑, 100 - 300 ㎑, 6 765 - 6 795 ㎑ ranges	9 kHz - 1 GHz	BS	N
ETSI EN 303 609 V12.5.1:2016	Wired/wireless communication devices	Global System for Mobile communications (GSM); GSM Repeaters; Harmonised Standard covering the essential requirements of article 3.2 of the Directive 2014/53/EU	9 ㎑ ~ 12.75 ㎓	BS	N
ETSI ES 203 021-1 V2.1.1:2005	Wired/wireless communication devices	Access and Terminals (AT); Harmonized basic attachment requirements for Terminals for connection to analogue interfaces of the Telephone Networks; Update of the technical contents of TBR 021, EN 301 437, TBR 015, TBR 017; Part 1: General aspects	Loop feed channel output Voltage:DC:below 110 V Current limit:below 200 ㎃ Voltage resolution:30 ㎷ Voltage accuracy:200 ㎷ Polarity switching time:under 0.2 ㎳ Series resistance:below 300 ㏀ Ring generator Output voltage:AC:(0 ~ 150) V Frequency:(15 ~ 100) ㎐	BS	N
ETSI ES 203 021-2 V2.1.2:2006	Wired/wireless communication devices	Access and Terminals (AT); Harmonized basic attachment requirements for Terminals for connection to analogue interfaces of the Telephone Networks; Update of the technical contents of TBR 021, EN 301 437, TBR 015, TBR 017; Part 2: Basic transmission and protection of The network from harm	Loop feed channel output Voltage:DC:below 110 V Current limit:below 200 ㎃ Voltage resolution:30 ㎷ Voltage accuracy:200 ㎷ Polarity switching time:under 0.2 ㎳ Series resistance:below 300 ㏀ Ring generator Output voltage:AC:(0 ~ 150) V Frequency:(15 ~ 100) ㎐	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
ETSI ES 203 021-3 V2.1.2:2006	Wired/wireless communication devices	Part 3:Basic Interworking with the Public Telephone Networks	Loop feed channel output Voltage:DC:below 110 V Current limit:below 200 ㎃ Voltage resolution:30 ㎷ Voltage accuracy:200 ㎷ Polarity switching time:under 0.2 ㎳ Series resistance:below 300 ㏀ Ring generator Output voltage:AC:(0 ~ 150) V Frequency:(15 ~ 100) ㎐	BS	N
ETSI ES 203 038 V1.2.1:2013	Wired/wireless communication devices	Speech and multimedia Transmission Quality (STQ); Requirements and tests methods for terminal equipment incorporating a handset when connected to the analogue interface of the PSTN	SPL:below 100 ㏈ Frequency Range:100 ㎐ ~ 8 ㎑ Output Impedance:4 Ω Output level:below 10 W Input Impedance:1 ㏀	BS	N
ETSI TBR3 A1:1997	Wired/wireless communication devices	Integrated Services Digital Network (ISDN); Attachment requirements for terminal equipment to connect to an ISDN using ISDN basic access	Load impedance:50 Ω, 400 Ω Frequency range:100 ㎐ ~ 10 ㎒	BS	N
ETSI TBR4 A1:1997	Wired/wireless communication devices	Integrated Services Digital Network (ISDN); Attachment requirements for terminal equipment to connect to an ISDN using ISDN primary rate access	Input impedance:120 Ω Load impedance:120 Ω Frequency range:(51 ~ 3072) ㎐	BS	N
ETSI TS 136 141 V15.16.0 (2022-04)	Wired/wireless communication devices	LTE; Evolved Universal Terrestrial Radio Access (E-UTRA); Base Station (BS) conformance testing (3GPP TS 36.141 version 15.16.0 Release 15) [Exception] (Clauses 6.3, 6.3.2, 6.4, 6.5, 7.3, 7.4, 8)	9 ㎑ ~ 26.5 ㎓	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
ETSI TS 137 145-1 V16.10.0 (2022-04)	Wired/wireless communication devices	Universal Mobile Telecommunications System (UMTS);LTE;5G; Active Antenna System (AAS) Base Station (BS) conformance testing; Part 1: conducted conformance testing (3GPP TS 37.145-1 version 16.10.0 Release 16) [Exception] (Clauses 6.3, 6.4, 6.5, 7.3, 7.8, 8)	9 ㎑ ~ 26.5 ㎓	BS	N
ETSI TS 138 141-1 V16.11.0 (2022-04)	Wired/wireless communication devices	5G; NR; Base Station (BS) conformance testing Part 1: Conducted conformance testing (3GPP TS 38.141-1 version 16.11.0 Release 16) [Exception] (BS Type 1-H & 1-C Clauses 6.3, 6.4, 6.5, 7.3, 7.8, 8) (BS Type 1-O All Clauses)	9 ㎑ ~ 26.5 ㎓	BS	N
FCC Part 15:2018 subpart C	Wired/wireless communication devices	Intentional Radiators	9 ㎑ ~ 243 ㎓	BS	N
FCC Part 15:2018 subpart E	Wired/wireless communication devices	Unlicensed National Information Infrastructure Devices	9 ㎑ ~ 40 ㎓	BS	N
FCC Part 2.1046:2018	Wired/wireless communication devices	Measurements required:RF power output	9 ㎑ ~ 40 ㎓	BS	N
FCC Part 2.1049:2018	Wired/wireless communication devices	Measurements required:Occupied bandwidth	9 ㎑ ~ 40 ㎓	BS	N
FCC Part 2.1051:2018	Wired/wireless communication devices	Measurements required:Spurious emissions at antenna terminals	9 ㎑ ~ 40 ㎓	BS	N
FCC Part 2.1053:2018	Wired/wireless communication devices	Measurements required:Field strength of spurious radiation	9 ㎑ ~ 40 ㎓	BS	N
FCC Part 2.1055:2018	Wired/wireless communication devices	Measurements required:Frequency stability	9 ㎑ ~ 40 ㎓	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
FCC Part 2.1091:2018	Wired/wireless communication devices	Radio frequency radiation exposure evaluation; mobile devices	10 ㎒ ~ 40 ㎓	BS	N
FCC Part 2.1093:2018	Wired/wireless communication devices	Radio frequency radiation exposure evaluation; portable devices	3 ㎑ ~ 40 ㎓	BS	N
FCC Part 20.19:2006	Wired/wireless communication devices	Hearing aid - compatible mobile handsets [exception] (g) Enforcement	H Field:10 ㎃/m ~ 2 A/m E Field:2 V/m ~ 1 000 V/m	BS	N
FCC Part 22:2018	Wired/wireless communication devices	Public mobile services	9 ㎑ ~ 26.5 ㎓	BS	N
FCC Part 24:2018	Wired/wireless communication devices	Personal communications services	9 ㎑ ~ 26.5 ㎓	BS	N
FCC Part 27:2018	Wired/wireless communication devices	Miscellaneous Wireless Communications Services	9 ㎑ ~ 26.5 ㎓	BS	N
FCC Part 68 (TIA-968-B-3):2016	Wired/wireless communication devices	Telecommunications Telephone Terminal Equipment Technical Requirements for Connection of Terminal Equipment to the Telephone Network	Input impedance:600 Ω Frequency range:100 ㎐ ~ 10 ㎒	BS	N
FCC Part 90:2018	Wired/wireless communication devices	Private Land Mobile Radio Services	9 ㎑ ~ 26.5 ㎓	BS	N
ICASA TE - 001:2006	Wired/wireless communication devices	Standard Specification for TLTE for Connection to the Public Switched Telephone Network	Loop feed channel output Voltage:DC:below 110 V Current limit:below 200 ㎃ Voltage resolution:30 ㎷ Voltage accuracy:200 ㎷ Polarity switching time:under 0.2 ㎳ Series resistance:below 300 ㏀ Ring generator Output voltage:AC:(0 ~ 150) V Frequency:(15 ~ 100) ㎐	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
IEC 62209-2 Ed.1.0b:2010	Wired/wireless communication devices	Human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices - Human models, instrumentation, and procedures Part 2:Procedure to determine the specific absorption rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 ㎒ to 6 ㎓)	100 ㎒ ~ 6 ㎓	BS	N
IEC PAS 63083:2017	Wired/wireless communication devices	Specific absorption rate (SAR) measurement procedure for long term evolution (LTE) devices	100 ㎒ ~ 6 ㎓	BS	N
IEEE Std1528:2003	Wired/wireless communication devices	IEEE Recommended Practice for Determining the Peak Special Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices	100 ㎒ ~ 6 ㎓	BS	N
IEEE Std1528:2013	Wired/wireless communication devices	IEEE Recommended Practice for Determining the Peak Special Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices:Measurement Techniques	100 ㎒ ~ 6 ㎓	BS	N
ISO 11904-2:2004	Wired/wireless communication devices	Acoustics - Determination of sound immission from sound sources placed close to ear - Part 2:Technique using a manikin	Frequency range:100 ㎐ ~ 20 ㎑ Output voltage:(20 ~ 200) ㎷	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
PTC 200:2019	Wired/wireless communication devices	Requirements for Connection of Customer Equipment to Analogue Lines	Loop feed channel output Voltage:DC:below 110 V Current limit:below 200 ㎃ Voltage resolution:30 ㎷ Voltage accuracy:200 ㎷ Polarity switching time:under 0.2 ㎳ Series resistance:below 300 ㏀ Ring generator Output voltage:AC:(0 ~ 150) V Frequency:(15 ~ 100) ㎐	BS	N
PTC 220:2019	Wired/wireless communication devices	Requirements for Private Voice Networks connected to the PSTN/ISDN	SPL:below 100 ㏈ Frequency Range:100 ㎐ ~ 8 ㎑ Output Impedance:4 Ω Output level:below 10 W Input Impedance:1 ㏀	BS	N
Part101:2019	Wired/wireless communication devices	FIXED MICROWAVE SERVICES	9 kHz - 325 GHz	BS	N
Part15F:2019	Wired/wireless communication devices	ULTRA-WIDEBAND OPERATION	9 kHz - 200 GHz	BS	N
Part15H:2019	Wired/wireless communication devices	WHITE SPACE DEVICES	9 kHz - 7 GHz	BS	N
Part20.21:2019	Wired/wireless communication devices	Signal Boosters	9 kHz - 40 GHz	BS	N
Part25:2019	Wired/wireless communication devices	SATELLITE COMMUNICATIONS	9 kHz - 100 GHz	BS	N
Part30:2019	Wired/wireless communication devices	UPPER MICROWAVE FLEXIBLE USE SERVICE	9 kHz - 325 GHz	BS	N
Part74:2019	Wired/wireless communication devices	EXPERIMENTAL RADIO, AUXILIARY, SPECIAL BROADCAST AND OTHER PROGRAM DISTRIBUTIONAL SERVICES	9 kHz - 100 GHz	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
Part95:2019	Wired/wireless communication devices	PERSONAL RADIO SERVICES	9 kHz - 325 GHz	BS	N
Part96:2019	Wired/wireless communication devices	CITIZENS BROADBAND RADIO SERVICE	9 kHz - 40 GHz	BS	N
RSS-102 Issue 5:2015	Wired/wireless communication devices	Radio Frequency Exposure Compliance of Radio communications Apparatus (All Frequency Bands)	100 ㎒ ~ 40 ㎓	BS	N
RSS-130:2019	Wired/wireless communication devices	Equipment Operating in the Frequency Bands 617-652 MHz, 663-698 MHz, 698-756 MHz and 777-787 MHz	9 kHz - 8 GHz	BS	N
RSS-131 Issue 2:2003	Wired/wireless communication devices	Zone Enhancers for the Land Mobile Service	9 ㎑ ~ 26.5 ㎓	BS	N
RSS-131 Issue 3:2017	Wired/wireless communication devices	Zone Enhancers	9 ㎑ ~ 40 ㎓	BS	N
RSS-132 Issue 3:2013	Wired/wireless communication devices	Cellular Telephone Systems Operating in the Bands 824-849 ㎒ and 869-894 ㎒	9 ㎑ ~ 26.5 ㎓	BS	N
RSS-133 Issue6:2018	Wired/wireless communication devices	2 ㎓ Personal Communications Services	9 ㎑ ~ 26.5 ㎓	BS	N
RSS-139 Issue3:2015	Wired/wireless communication devices	Advanced Wireless Services Equipment Operating in the Bands 1710 - 1755 ㎒ and 2110 - 2155 ㎒	9 ㎑ ~ 26.5 ㎓	BS	N
RSS-199 Issue3:2016	Wired/wireless communication devices	Broadband Radio Service(BRS) Equipment Operating in the Band 2500 - 2690 ㎒	9 ㎑ ~ 26.5 ㎓	BS	N
RSS-210 Issue 10:2019	Wired/wireless communication devices	Licence-exempt Radio Apparatus (All Frequency Bands):Category I Equipment	9 ㎑ ~ 325 ㎓	BS	N
RSS-210 Issue 8 Amendment 1:2015	Wired/wireless communication devices	Licence-Exempt, Low-Power Radio Apparatus Operating in the Television Bands	9 ㎑ ~ 40 ㎓	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
RSS-210 Issue 9:2016	Wired/wireless communication devices	Licence-exempt Radio Apparatus (All Frequency Bands):Category I Equipment	9 ㎑ ~ 40 ㎓	BS	N
RSS-216:2016	Wired/wireless communication devices	Wireless Power Transfer Devices	9 kHz - 1 GHz	BS	N
RSS-220:2018	Wired/wireless communication devices	Devices Using Ultra-Wideband (UWB) Technology	9 kHz - 200 GHz	BS	N
RSS-222 Issue 2:2020	Wired/wireless communication devices	White Space Devices (WSDs)	9 kHz - 7 GHz	BS	N
RSS-222:2015	Wired/wireless communication devices	White Space Devices (WSDs)	9 kHz - 7 GHz	BS	N
RSS-247 Issue 2:2017	Wired/wireless communication devices	Digital Transmission Systems (DTSs), Frequency Hopping Systems (FHSs) and Licence-Exempt Local Area Network (LE-LAN) Devices	9 ㎑ ~ 40 ㎓	BS	N
RSS-251:2018	Wired/wireless communication devices	Vehicular Radar and Airport Fixed or Mobile Radar in the 76-81 GHz Frequency Band	9 kHz - 325 GHz	BS	N
RSS-GEN Issue 5:2018	Wired/wireless communication devices	General Requirements for Compliance of Radio Apparatus	F	BS	N
RSS-GEN Issue 5:2019 Amendment 1	Wired/wireless communication devices	General Requirements for Compliance of Radio Apparatus	9 ㎑ ~ 40 ㎓	BS	N
SKMM MTSFB TC T001:2013	Wired/wireless communication devices	SPECIFICATION FOR TERMINAL EQUIPMENT CONNECTING TO THE PUBLIC SWITCHED TELEPHONE NETWORK (PSTN)	Loop feed channel output Voltage:DC:below 110 V Current limit:below 200 ㎃ Voltage resolution:30 ㎷ Voltage accuracy:200 ㎷ Polarity switching time:under 0.2 ㎳ Series resistance:below 300 ㏀	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
WINNF-TS-0122 V1.0.2	Wired/wireless communication devices	Test and Certification for Citizens Broadband Radio Service (CBRS); Conformance and Performance Test Technical Specification; CBSD/DP as Unit Under Test (UUT)	3 550 ㎒ ~ 3 700 ㎒	BS	N
MSIT Notification No.2018-1(01.19.2018.)	Wired/wireless communication devices	Notification for Installation requirements of Intergrated Reception System	Frequency range:(5.75 ~ 2 150) ㎒ Input Impedance:75 Ω	BS	N
MSIT Notification No.2018-90(12.27.2018.)	Wired/wireless communication devices	Technical requirements for unlicensed radio equipment	9 ㎑ ~ 40 ㎓	BS	N
MSIT Notification No.2022-63 (11.09.2022.)	Wired/wireless communication devices	Technical Requirements for CATV Equipment	Frequency range:(5.75 ~ 1 002) ㎒ Input Impedance:75 Ω	BS	N
MSIT Act No.1(07.26.2017.)	Wired/wireless communication devices	Rules on Radio equipment	9 ㎑ ~ 40 ㎓	BS	N
RRA Notification No.2015-23(11.18.2015.)	Wired/wireless communication devices	Technical Requirements for Measurements of Specific Absorption Rate (SAR)	100 ㎒ ~ 6 ㎓	BS	N
RRA Notification No.2018-20(10.22.2018.)	Wired/wireless communication devices	Technical Requirements for the Radio Equipment of Telecommunications Service	9 ㎑ ~ 26.5 ㎓	BS	N
RRA Notification No.2018-26(11.13.2018.)	Wired/wireless communication devices	Technical Requirements for the Radio equipment for Simplified Service, Space station, Earth station, Sensors for Detecting and other equipments	9 ㎑ ~ 26.5 ㎓	BS	N
RRA Notice No.2022-16(09.05.2022.)	Wired/wireless communication devices	Technical Requirements for Telecommunications Terminal Equipment	Input impedance:600 Ω Frequency range:100 Hz ~ 10 ㎒	BS	N
RRA Notification No.2022-19 (10.17.2022.)	Wired/wireless communication devices	Technical Requirements for Broadcasting and Communication Equipment of Internet multimedia broadcasting business	Input impedance:above 1 ㏁ Termination resistance:(95 ~ 105) Ω	BS	N
MSIP Notification No.2015-18(03.25.2015.)	Wired/wireless communication devices	Technical Requirements for the Human Protection against Electromagnetic Waves	30 ㎒ ~ 6 ㎓	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
MSIP Notification No.2016-66(06.23.2016.)	Wired/wireless communication devices	Conformity Assessment Procedure for Electromagnetic Field Strength and Specific Absorption Rate (SAR)	30 ㎒ ~ 6 ㎓	BS	N

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03. Electrical Testing

03.010 Medical devices

Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
EN 60601-1-10:2008+A1:2015	Medical devices	Medical electrical equipment - Part 1-10:General requirements for basic safety and essential performance - Collateral Standard:Requirements for the development of physiologic closed-loop controllers	-	BS	N
EN 60601-1-10:2008+A2:2021	Medical devices	Medical electrical equipment - Part 1-10: General requirements for basic safety and essential performance - Collateral Standard: Requirements for the development of physiologic closed-loop controllers	-	BS	Y
EN 60601-2-5:2015	Medical devices	Medical electrical equipment - Part 2-5: Particular requirements for the basic safety and essential performance of ultrasonic physiotherapy equipment	AC: less than 300 V AC: less than 30 A Frequency: (50 ~ 60) Hz Applied AC: less than 10 Kv Applied DC: less than 10 Kv Applied temperature: (-40 ~ 150) °C Measuring temperature: less than 200 °C Humidity: less than 98 % R.H.	BS	N
EN 60601-2-62:2015	Medical devices	Medical electrical equipment - Part 2-62: Particular requirements for the basic safety and essential performance of high intensity therapeutic ultrasound (HITU) equipment	AC: less than 300 V AC: less than 30 A Frequency: (50 ~ 60) Hz Applied AC: less than 10 Kv Applied DC: less than 10 Kv Applied temperature: (-40 ~ 150) °C Measuring temperature: less than 200 °C Humidity: less than 98 % R.H.	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
EN IEC60601-2-22:2020	Medical devices	Medical electrical equipment - Part 2-22:Particular requirements for basic safety and essential performance of surgical, cosmetic, therapeutic and diagnostic laser equipment	Voltage:Max. 300 Va.c. Current:Max. 30 A Frequency:(50 ~ 60) Hz Applied voltage:Max. 10 kV a.c. / 10 kV d.c. Applied temperature:(-40 ~ 150) °C Measuring temperature:Max. 200 °C Humidity:Max. 98 % R.H.	BS	N
EN IEC60601-2-66:2020	Medical devices	Medical electrical equipment - Part 2-66: Particular requirements for the basic safety and essential performance of hearing aids and hearing aid systems	Voltage:Max. 300 Va.c. Current:Max. 30 A Frequency:(50 ~ 60) Hz Applied voltage:Max. 10 kV a.c. / 10 kV d.c. Applied temperature:(-40 ~ 150) °C Measuring temperature:Max. 200 °C Humidity:Max. 98 % R.H.	BS	N
EN IEC80601-2-60:2020	Medical devices	Medical electrical equipment - Part 2-60:Particular requirements for the basic safety and essential performance of dental equipment	Voltage:Max. 300 Va.c. Current:Max. 30 A Frequency:(50 ~ 60) Hz Applied voltage:Max. 10 kV a.c. / 10 kV d.c. Applied temperature:(-40 ~ 150) °C Measuring temperature:Max. 200 °C Humidity:Max. 98 % R.H.	BS	N
EN60601-1-11:2015	Medical devices	Medical electrical equipment - Part 1-11:General requirements for basic safety and essential performance - Collateral Standard:Requirements for medical electrical equipment and medical electrical systems used in the home healthcare environment	Voltage:Max. 300 Va.c. Current:Max. 30 A Frequency:(50 ~ 60) Hz Applied voltage:Max. 10 kV a.c. / 10 kV d.c. Applied temperature:(-40 ~ 150) °C Measuring temperature:Max. 200 °C Humidity:Max. 98 % R.H.	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
EN60601-1-11:2015+A2:2021	Medical devices	Medical electrical equipment - Part 1-11: General requirements for basic safety and essential performance - Collateral Standard: Requirements for medical electrical equipment and medical electrical systems used in the home healthcare environment	Voltage:Max. 300 Va.c. Current:Max. 30 A Frequency:(50 ~ 60) Hz Applied voltage: Max. 10 kV a.c./ 10 kV d.c. Applied temperature: (-40 ~ 150) °C Measuring temperature: Max. 200 °C Humidity:Max. 98 % R.H.	BS	Y
EN60601-1-6:2010+A1:2015	Medical devices	Medical electrical equipment - Part 1-6:General requirements for basic safety and essential performance - Collateral standard:Usability	-	BS	N
EN60601-1-6:2010+A2:2021	Medical devices	Medical electrical equipment - Part 1-6: General requirements for basic safety and essential performance - Collateral standard:Usability	-	BS	Y
EN60601-1-8:2007+A1:2013	Medical devices	Medical electrical equipment - Part 1-8:General requirements for basic safety and essential performance - Collateral Standard:General requirements, tests and guidance for alarm systems in medical electrical equipment and medical electrical systems	Sound level:Max. 140 dB	BS	N
EN60601-1-8:2007+A2:2021	Medical devices	Medical electrical equipment - Part 1-8: General requirements for basic safety and essential performance - Collateral Standard:General requirements, tests and guidance for alarm systems in medical electrical equipment and medical electrical systems	Sound level:Max. 140 dB	BS	Y

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
EN60601-1:2006+A1:2013	Medical devices	Medical electrical equipment - Part 1:General requirements for basic safety and essential performance [exception] 8.8.4.2 Resistance to environmental stress - Requirements of insulating material for rubber 8.9.1.7 Material groups classification 9.5.2 Cathode ray tubes 10.3 Microwave radiation 11.2.2 ME EQUIPMENT and ME SYSTEMS used in conjunction with OXYGEN RICH ENVIRONMENTS 11.2.3 SINGLE FAULT CONDITIONS related to OXYGEN RICH ENVIRONMENTS in conjunction with ME EQUIPMENT and ME SYSTEMS 11.6.7 Sterilization of ME EQUIPMENT and ME SYSTEMS 15.4.2.1 f) Application 15.4.3.4 Lithium batteries Annex G Protection against HAZARDS of ignition of flammable anaesthetic mixtures Annex L Insulated winding wires for use without interleaved insulation	Voltage:Max. 300 Va.c. Current:Max. 30 A Frequency:(50 ~ 60) Hz Applied voltage:Max. 10 kV a.c. / 10 kV d.c. Applied temperature:(-40 ~ 150) ℃ Measuring temperature:Max. 200 ℃ Humidity:Max. 98 % R.H.	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
EN60601-1:2006+A2:2021	Medical devices	Medical electrical equipment - Part 1:General requirements for basic safety and essential performance [exception] 8.8.4.2 Resistance to environmental stress - Requirements of insulating material for rubber 8.9.1.7 Material groups classification 9.5.2 Cathode ray tubes 10.3 Microwave radiation ME EQUIPMENT and ME SYSTEMS used in conjunction with OXYGEN RICH ENVIRONMENTS SINGLE FAULT CONDITIONS related to OXYGEN RICH ENVIRONMENTS in conjunction with ME EQUIPMENT and ME SYSTEMS 11.6.7 Sterilization of ME EQUIPMENT and ME SYSTEMS 15.4.2.1 f) Application 15.4.3.4 Lithium batteries Annex G Protection against HAZARDS of ignition of flammable anaesthetic mixtures Annex L Insulated winding wires for use without interleaved insulation	Voltage:Max. 300 Va.c. Current:Max. 30 A Frequency:(50 ~ 60) Hz Applied voltage: Max. 10 kV a.c./ 10 kV d.c. Applied temperature: (-40 ~ 150) °C Measuring temperature: Max. 200 °C Humidity:Max. 98 % R.H.	BS	Y
EN60601-2-10:2015+A1:2016	Medical devices	Medical electrical equipment - Part 2-10:Particular requirements for the basic safety and essential performance of nerve and muscle stimulators	Voltage:Max. 300 Va.c. Current:Max. 30 A Frequency:(50 ~ 60) Hz Applied voltage:Max. 10 kV a.c. / 10 kV d.c. Applied temperature:(-40 ~ 150) °C Measuring temperature:Max. 200 °C Humidity:Max. 98 % R.H.	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
EN60601-2-18:2015	Medical devices	Medical electrical equipment - Part 2-18:Particular requirements for the basic safety and essential performance of endoscopic equipment	Voltage:Max. 300 Va.c. Current:Max. 30 A Frequency:(50 ~ 60) Hz Applied voltage:Max. 10 kV a.c. / 10 kV d.c. Applied temperature:(-40 ~ 150) °C Measuring temperature:Max. 200 °C Humidity:Max. 98 % R.H.	BS	N
EN60601-2-22:2013	Medical devices	Medical electrical equipment - Part 2-22:Particular requirements for basic safety and essential performance of surgical, cosmetic, therapeutic and diagnostic laser equipment	Voltage:Max. 300 Va.c. Current:Max. 30 A Frequency:(50 ~ 60) Hz Applied voltage:Max. 10 kV a.c. / 10 kV d.c. Applied temperature:(-40 ~ 150) °C Measuring temperature:Max. 200 °C Humidity:Max. 98 % R.H.	BS	N
EN60601-2-25:2015	Medical devices	Medical electrical equipment - Part 2-25:Particular requirements for the basic safety and essential performance of electrocardiographs	Voltage:Max. 300 Va.c. Current:Max. 30 A Frequency:(50 ~ 60) Hz Applied voltage:Max. 10 kV a.c. / 10 kV d.c. Applied temperature:(-40 ~ 150) °C Measuring temperature:Max. 200 °C Humidity:Max. 98 % R.H.	BS	N
EN60601-2-27:2014	Medical devices	Medical electrical equipment - Part 2-27:Particular requirements for the basic safety and essential performance of electrocardiographic monitoring equipment	Voltage:Max. 300 Va.c. Current:Max. 30 A Frequency:(50 ~ 60) Hz Applied voltage:Max. 10 kV a.c. / 10 kV d.c. Applied temperature:(-40 ~ 150) °C Measuring temperature:Max. 200 °C Humidity:Max. 98 % R.H.	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
EN60601-2-2:2018	Medical devices	Medical electrical equipment - Part 2-2:Particular requirements for the basic safety and essential performance of high frequency surgical equipment and high frequency surgical accessories [exception] 201.15.101.5 NE thermal performance	Voltage:Max. 300 Va.c. Current:Max. 30 A Frequency:(50 ~ 60) Hz Applied voltage:Max. 10 kV a.c. / 10 kV d.c. Applied temperature:(-40 ~ 150) °C Measuring temperature:Max. 200 °C Humidity:Max. 98 % R.H.	BS	N
EN60601-2-47:2015	Medical devices	Medical electrical equipment - Part 2-47:Particular requirements for the basic safety and essential performance of ambulatory electrocardiographic systems	Voltage:Max. 300 Va.c. Current:Max. 30 A Frequency:(50 ~ 60) Hz Applied voltage:Max. 10 kV a.c. / 10 kV d.c. Applied temperature:(-40 ~ 150) °C Measuring temperature:Max. 200 °C Humidity:Max. 98 % R.H.	BS	N
EN60601-2-49:2015	Medical devices	Medical electrical equipment - Part 2-49:Particular requirements for the basic safety and essential performance of multifunction patient monitoring equipment	Voltage:Max. 300 Va.c. Current:Max. 30 A Frequency:(50 ~ 60) Hz Applied voltage:Max. 10 kV a.c. / 10 kV d.c. Applied temperature:(-40 ~ 150) °C Measuring temperature:Max. 200 °C Humidity:Max. 98 % R.H.	BS	N
EN60601-2-57:2011	Medical devices	Medical electrical equipment - Part 2-57:Particular requirements for the basic safety and essential performance of non-laser light source equipment intended for therapeutic, diagnostic, monitoring and cosmetic/aesthetic use	Voltage:Max. 300 Va.c. Current:Max. 30 A Frequency:(50 ~ 60) Hz Applied voltage:Max. 10 kV a.c. / 10 kV d.c. Applied temperature:(-40 ~ 150) °C Measuring temperature:Max. 200 °C Humidity:Max. 98 % R.H.	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
EN60601-2-66:2015	Medical devices	Medical electrical equipment - Part 2-66:Particular requirements for the basic safety and essential performance of hearing instruments and hearing instrument systems	Voltage:Max. 300 Va.c. Current:Max. 30 A Frequency:(50 ~ 60) Hz Applied voltage:Max. 10 kV a.c. / 10 kV d.c. Applied temperature:(-40 ~ 150) °C Measuring temperature:Max. 200 °C Humidity:Max. 98 % R.H.	BS	N
EN80601-2-60:2015	Medical devices	Medical electrical equipment - Part 2-60:Particular requirements for the basic safety and essential performance of dental equipment	Voltage:Max. 300 Va.c. Current:Max. 30 A Frequency:(50 ~ 60) Hz Applied voltage:Max. 10 kV a.c. / 10 kV d.c. Applied temperature:(-40 ~ 150) °C Measuring temperature:Max. 200 °C Humidity:Max. 98 % R.H.	BS	N
IEC 60601-2-5:2009	Medical devices	Medical electrical equipment - Part 2-5: Particular requirements for the basic safety and essential performance of ultrasonic physiotherapy equipment	AC: less than 300 V AC: less than 30 A Frequency: (50 ~ 60) Hz Applied AC: less than 10 Kv Applied DC: less than 10 Kv Applied temperature: (-40 ~ 150) °C Measuring temperature: less than 200 °C Humidity: less than 98 % R.H.	BS	N
IEC 60601-2-62:2013	Medical devices	Medical electrical equipment - Part 2-62: Particular requirements for the basic safety and essential performance of high intensity therapeutic ultrasound (HITU) equipment	AC: less than 300 V AC: less than 30 A Frequency: (50 ~ 60) Hz Applied AC: less than 10 Kv Applied DC: less than 10 Kv Applied temperature: (-40 ~ 150) °C Measuring temperature: less than 200 °C Humidity: less than 98 % R.H.	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
IEC60601-1-10:2007+A1:2013	Medical devices	Medical electrical equipment - Part 1-10:General requirements for basic safety and essential performance - Collateral Standard:Requirements for the development of physiologic closed-loop controllers	-	BS	N
IEC60601-1-10:2007+A2:2020	Medical devices	Medical electrical equipment - Part 1-10: General requirements for basic safety and essential performance - Collateral Standard: Requirements for the development of physiologic closed-loop controllers	-	BS	Y
IEC60601-1-11:2015	Medical devices	Medical electrical equipment - Part 1-11:General requirements for basic safety and essential performance - Collateral Standard:Requirements for medical electrical equipment and medical electrical systems used in the home healthcare environment	Voltage:Max. 300 Va.c. Current:Max. 30 A Frequency:(50 ~ 60) Hz Applied voltage:Max. 10 kV a.c. / 10 kV d.c. Applied temperature:(-40 ~ 150) °C Measuring temperature:Max. 200 °C Humidity:Max. 98 % R.H.	BS	N
IEC60601-1-11:2015+A1:2020	Medical devices	Medical electrical equipment - Part 1-11: General requirements for basic safety and essential performance - Collateral Standard: Requirements for medical electrical equipment and medical electrical systems used in the home healthcare environment	Voltage:Max. 300 Va.c. Current:Max. 30 A Frequency:(50 ~ 60) Hz Applied voltage: Max. 10 kV a.c./ 10 kV d.c. Applied temperature: (-40 ~ 150) °C Measuring temperature: Max. 200 °C Humidity:Max. 98 % R.H.	BS	Y
IEC60601-1-6:2010+A1:2013	Medical devices	Medical electrical equipment - Part 1-6:General requirements for basic safety and essential performance - Collateral standard:Usability	-	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
IEC60601-1-6:2010+A2:2020	Medical devices	Medical electrical equipment - Part 1-6: General requirements for basic safety and essential performance - Collateral standard:Usability	-	BS	Y
IEC60601-1-8:2006+A1:2012	Medical devices	Medical electrical equipment - Part 1-8:General requirements for basic safety and essential performance - Collateral Standard:General requirements, tests and guidance for alarm systems in medical electrical equipment and medical electrical systems	Sound level:Max. 140 dB	BS	N
IEC60601-1-8:2006+A2:2020	Medical devices	Medical electrical equipment - Part 1-8: General requirements for basic safety and essential performance - Collateral Standard:General requirements, tests and guidance for alarm systems in medical electrical equipment and medical electrical systems	Sound level:Max. 140 dB	BS	Y

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
IEC60601-1:2005+A1:2012	Medical devices	Medical electrical equipment - Part 1:General requirements for basic safety and essential performance [exception] 8.8.4.2 Resistance to environmental stress - Requirements of insulating material for rubber 8.9.1.7 Material groups classification 9.5.2 Cathode ray tubes 10.3 Microwave radiation 11.2.2 ME EQUIPMENT and ME SYSTEMS used in conjunction with OXYGEN RICH ENVIRONMENTS 11.2.3 SINGLE FAULT CONDITIONS related to OXYGEN RICH ENVIRONMENTS in conjunction with ME EQUIPMENT and ME SYSTEMS 11.6.7 Sterilization of ME EQUIPMENT and ME SYSTEMS 15.4.2.1 f) Application 15.4.3.4 Lithium batteries Annex G Protection against HAZARDS of ignition of flammable anaesthetic mixtures Annex L Insulated winding wires for use without interleaved insulation	Voltage:Max. 300 Va.c. Current:Max. 30 A Frequency:(50 ~ 60) Hz Applied voltage:Max. 10 kV a.c. / 10 kV d.c. Applied temperature:(-40 ~ 150) ℃ Measuring temperature:Max. 200 ℃ Humidity:Max. 98 % R.H.	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
IEC60601-1:2005+A2:2020	Medical devices	Medical electrical equipment - Part 1:General requirements for basic safety and essential performance [exception] 8.8.4.2 Resistance to environmental stress - Requirements of insulating material for rubber 8.9.1.7 Material groups classification 9.5.2 Cathode ray tubes 10.3 Microwave radiation ME EQUIPMENT and ME SYSTEMS used in conjunction with OXYGEN RICH ENVIRONMENTS SINGLE FAULT CONDITIONS related to OXYGEN RICH ENVIRONMENTS in conjunction with ME EQUIPMENT and ME SYSTEMS 11.6.7 Sterilization of ME EQUIPMENT and ME SYSTEMS 15.4.2.1 f) Application 15.4.3.4 Lithium batteries Annex G Protection against HAZARDS of ignition of flammable anaesthetic mixtures Annex L Insulated winding wires for use without interleaved insulation	Voltage:Max. 300 Va.c. Current:Max. 30 A Frequency:(50 ~ 60) Hz Applied voltage: Max. 10 kV a.c./ 10 kV d.c. Applied temperature: (-40 ~ 150) °C Measuring temperature: Max. 200 °C Humidity:Max. 98 % R.H.	BS	N
IEC60601-2-10:2012+A1:2016	Medical devices	Medical electrical equipment - Part 2-10:Particular requirements for the basic safety and essential performance of nerve and muscle stimulators	Voltage:Max. 300 Va.c. Current:Max. 30 A Frequency:(50 ~ 60) Hz Applied voltage:Max. 10 kV a.c. / 10 kV d.c. Applied temperature:(-40 ~ 150) °C Measuring temperature:Max. 200 °C Humidity:Max. 98 % R.H.	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
IEC60601-2-18:2009	Medical devices	Medical electrical equipment - Part 2-18:Particular requirements for the basic safety and essential performance of endoscopic equipment	Voltage:Max. 300 Va.c. Current:Max. 30 A Frequency:(50 ~ 60) Hz Applied voltage:Max. 10 kV a.c. / 10 kV d.c. Applied temperature:(-40 ~ 150) °C Measuring temperature:Max. 200 °C Humidity:Max. 98 % R.H.	BS	N
IEC60601-2-22:2007 +A1:2012	Medical devices	Medical electrical equipment - Part 2-22:Particular requirements for basic safety and essential performance of surgical, cosmetic, therapeutic and diagnostic laser equipment	Voltage:Max. 300 Va.c. Current:Max. 30 A Frequency:(50 ~ 60) Hz Applied voltage:Max. 10 kV a.c. / 10 kV d.c. Applied temperature:(-40 ~ 150) °C Measuring temperature:Max. 200 °C Humidity:Max. 98 % R.H.	BS	N
IEC60601-2-22:2019	Medical devices	Medical electrical equipment - Part 2-22:Particular requirements for basic safety and essential performance of surgical, cosmetic, therapeutic and diagnostic laser equipment	Voltage:Max. 300 Va.c. Current:Max. 30 A Frequency:(50 ~ 60) Hz Applied voltage:Max. 10 kV a.c. / 10 kV d.c. Applied temperature:(-40 ~ 150) °C Measuring temperature:Max. 200 °C Humidity:Max. 98 % R.H.	BS	N
IEC60601-2-25:2011	Medical devices	Medical electrical equipment - Part 2-25:Particular requirements for the basic safety and essential performance of electrocardiographs	Voltage:Max. 300 Va.c. Current:Max. 30 A Frequency:(50 ~ 60) Hz Applied voltage:Max. 10 kV a.c. / 10 kV d.c. Applied temperature:(-40 ~ 150) °C Measuring temperature:Max. 200 °C Humidity:Max. 98 % R.H.	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
IEC60601-2-27:2011	Medical devices	Medical electrical equipment - Part 2-27:Particular requirements for the basic safety and essential performance of electrocardiographic monitoring equipment	Voltage:Max. 300 Va.c. Current:Max. 30 A Frequency:(50 ~ 60) Hz Applied voltage:Max. 10 kV a.c. / 10 kV d.c. Applied temperature:(-40 ~ 150) ˚C Measuring temperature:Max. 200 ˚C Humidity:Max. 98 % R.H.	BS	N
IEC60601-2-2:2017	Medical devices	Medical electrical equipment - Part 2-2:Particular requirements for the basic safety and essential performance of high frequency surgical equipment and high frequency surgical accessories [exception] 201.15.101.5 NE thermal performance	Voltage:Max. 300 Va.c. Current:Max. 30 A Frequency:(50 ~ 60) Hz Applied voltage:Max. 10 kV a.c. / 10 kV d.c. Applied temperature:(-40 ~ 150) ˚C Measuring temperature:Max. 200 ˚C Humidity:Max. 98 % R.H.	BS	N
IEC60601-2-47:2012	Medical devices	Medical electrical equipment - Part 2-47:Particular requirements for the basic safety and essential performance of ambulatory electrocardiographic systems	Voltage:Max. 300 Va.c. Current:Max. 30 A Frequency:(50 ~ 60) Hz Applied voltage:Max. 10 kV a.c. / 10 kV d.c. Applied temperature:(-40 ~ 150) ˚C Measuring temperature:Max. 200 ˚C Humidity:Max. 98 % R.H.	BS	N
IEC60601-2-49:2011	Medical devices	Medical electrical equipment - Part 2-49:Particular requirements for the basic safety and essential performance of multifunction patient monitoring equipment	Voltage:Max. 300 Va.c. Current:Max. 30 A Frequency:(50 ~ 60) Hz Applied voltage:Max. 10 kV a.c. / 10 kV d.c. Applied temperature:(-40 ~ 150) ˚C Measuring temperature:Max. 200 ˚C Humidity:Max. 98 % R.H.	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
IEC60601-2-57:2011	Medical devices	Medical electrical equipment - Part 2-57:Particular requirements for the basic safety and essential performance of non-laser light source equipment intended for therapeutic, diagnostic, monitoring and cosmetic/aesthetic use	Voltage:Max. 300 Va.c. Current:Max. 30 A Frequency:(50 ~ 60) Hz Applied voltage:Max. 10 kV a.c. / 10 kV d.c. Applied temperature:(-40 ~ 150) °C Measuring temperature:Max. 200 °C Humidity:Max. 98 % R.H.	BS	N
IEC60601-2-66:2015	Medical devices	Medical electrical equipment - Part 2-66:Particular requirements for the basic safety and essential performance of hearing instruments and hearing instrument systems	Voltage:Max. 300 Va.c. Current:Max. 30 A Frequency:(50 ~ 60) Hz Applied voltage:Max. 10 kV a.c. / 10 kV d.c. Applied temperature:(-40 ~ 150) °C Measuring temperature:Max. 200 °C Humidity:Max. 98 % R.H.	BS	N
IEC60601-2-66:2019	Medical devices	Medical electrical equipment - Part 2-66: Particular requirements for the basic safety and essential performance of hearing aids and hearing aid systems	Voltage:Max. 300 Va.c. Current:Max. 30 A Frequency:(50 ~ 60) Hz Applied voltage:Max. 10 kV a.c. / 10 kV d.c. Applied temperature:(-40 ~ 150) °C Measuring temperature:Max. 200 °C Humidity:Max. 98 % R.H.	BS	N
IEC80601-2-49:2018	Medical devices	Medical electrical equipment - Part 2-49:Particular requirements for the basic safety and essential performance of multifunction patient monitors	Voltage:Max. 300 Va.c. Current:Max. 30 A Frequency:(50 ~ 60) Hz Applied voltage:Max. 10 kV a.c. / 10 kV d.c. Applied temperature:(-40 ~ 150) °C Measuring temperature:Max. 200 °C Humidity:Max. 98 % R.H.	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
IEC80601-2-60:2012	Medical devices	Medical electrical equipment - Part 2-60:Particular requirements for the basic safety and essential performance of dental equipment	Voltage:Max. 300 Va.c. Current:Max. 30 A Frequency:(50 ~ 60) Hz Applied voltage:Max. 10 kV a.c. / 10 kV d.c. Applied temperature:(-40 ~ 150) °C Measuring temperature:Max. 200 °C Humidity:Max. 98 % R.H.	BS	N

03. Electrical Testing

03.011 EMC (Electromagnetic Compatibility)

Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
ANSI C63.4:2014	Electrical/electronics appliances	American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in Range of 9 ㎑ ~ 40 ㎓	9 ㎑ ~ 40 ㎓	BS	Y
ANSI C63.4a:2017	Electrical/electronics appliances	American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in Range of 9 ㎑ ~ 40 ㎓	9 ㎑ ~ 40 ㎓	BS	Y
AS/NZS CISPR 32:2015	Electrical/electronics appliances	Electromagnetic compatibility of multimedia equipment - Emission Requirements	RE:30 ㎒ ~ 6 ㎓, CE:150 ㎑ ~ 30 ㎒ Differential voltage:30 ㎒ ~ 2 150 ㎒	BS	N
AS/NZS CISPR 32:2015 Amd 1:2020	Electrical/electronics appliances	Electromagnetic compatibility of multimedia equipment - Emission Requirements	RE:30 ㎒ ~ 6 ㎓, CE:150 ㎑ ~ 30 ㎒ Differential voltage:30 ㎒ ~ 2 150 ㎒	BS	N
CAN/CSA-CISPR 32:17	Electrical/electronics appliances	Electromagnetic compatibility of multimedia equipment - Emission Requirements	RE:30 ㎒ ~ 6 ㎓, CE:150 ㎑ ~ 30 ㎒ Differential voltage:30 ㎒ ~ 2 150 ㎒	BS	N
CISPR 11:2015+AMD1:2016+AMD2:2019	Electrical/electronics appliances	Industrial, scientific and medical equipment - Radio-frequency disturbance characteristics - Limits and methods of measurement [exception] 8 Special provisions for test site measurements	RE:9 ㎑ ~ 18 ㎓, CE:9 ㎑ ~ 30 ㎒	BS	N
CISPR 13:2009+AMD1:2015 CSV	Electrical/electronics appliances	Sound and television broadcast receivers and associated equipment - Radio disturbance characteristics - Limits and methods of measurement	RE:30 ㎒ ~ 6 ㎓, CE:150 ㎑ ~ 30 ㎒ Differential voltage:30 ㎒ ~ 2 150 ㎒	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
CISPR 14-1:2016	Electrical/electronics appliances	Electromagnetic compatibility - Requirements for household appliances, electric tools and similar apparatus Part 1:Emission	RE:9 ㎑ ~ 1 ㎓, CE:9 ㎑ ~ 30 ㎒	BS	N
CISPR 14-1:2020	Electrical/electronics appliances	Electromagnetic compatibility - Requirements for household appliances, electric tools and similar apparatus Part 1:Emission	RE:9 ㎑ ~ 6 ㎓, CE:9 ㎑ ~ 30 ㎒	BS	N
CISPR 14-2:2015	Electrical/electronics appliances	Electromagnetic compatibility — Requirements for household appliances, electric tools and similar apparatus — Part 2:Immunity - Product family standard	ESD:± 8㎸, RS:80 ㎒ ~ 1 ㎓, EFT:±1 ㎸, SURGE:±2 ㎸, CS:150 ㎑ ~ 230 ㎒, V-DIP:(0 ~ 100) %	BS	N
CISPR 14-2:2020	Electrical/electronics appliances	Electromagnetic compatibility — Requirements for household appliances, electric tools and similar apparatus — Part 2:Immunity - Product family standard	ESD:± 8㎸, RS:80 ㎒ ~ 6 ㎓, EFT:±1 ㎸, SURGE:±2 ㎸, CS:150 ㎑ ~ 230 ㎒, V-DIP:(0 ~ 100) %	BS	N
CISPR 15:2013+AMD1:2015	Electrical/electronics appliances	Limits and methods of measurement of radio disturbance characteristics of electrical lighting and similar equipment [exception] 4.2 Insertion loss	RE:9 ㎑ ~ 1 ㎓ CE:9 ㎑ ~ 30 ㎒	BS	N
CISPR 15:2018	Electrical/electronics appliances	Limits and methods of measurement of radio disturbance characteristics of electrical lighting and similar equipment [exception] 4.2 Insertion loss	RE:9 ㎑ ~ 1 ㎓ CE:9 ㎑ ~ 30 ㎒	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
CISPR 16-1-4:2019	Electrical/electronics appliances	Specification for radio disturbance and immunity measuring apparatus and methods - Part 1-4:Radio disturbance and immunity measuring apparatus - Antennas and test sites for radiated disturbance measurements	RE:9 ㎑ ~ 18 ㎓	BS	Y
CISPR 16-1-4:2019+AMD1:2020	Electrical/electronics appliances	Specification for radio disturbance and immunity measuring apparatus and methods - Part 1-4: Radio disturbance and immunity measuring apparatus - Antennas and test sites for radiated disturbance measurements	RE : 9 ㎑ ~ 18 ㎓	BS	Y
CISPR 25:2021	Electrical/electronics appliances	Vehicles, boats and internal combustion engines - Radio distrubance characteristics - Limits and methods of measurement for the protection of on-board receivers.	RE:150 ㎑ ~ 2.5 ㎓ CE(VOLTAGE METHOD):150 ㎑ ~ 108 ㎒ CE(CURRENT METHOD):150 ㎑ ~ 245 ㎒	BS	Y
CISPR 32:2015	Electrical/electronics appliances	Electromagnetic compatibility of multimedia equipment - Emission Requirements	RE:30 ㎒ ~ 6 ㎓, CE:150 ㎑ ~ 30 ㎒ Differential voltage:30 ㎒ ~ 2 150 ㎒	BS	N
CISPR 32:2015+AMD1:2019	Electrical/electronics appliances	Electromagnetic compatibility of multimedia equipment - Emission Requirements	RE:30 ㎒ ~ 6 ㎓, CE:150 ㎑ ~ 30 ㎒ Differential voltage:30 ㎒ ~ 2 150 ㎒	BS	N
CISPR 35:2016	Electrical/electronics appliances	Electromagnetic compatibility of multimedia equipment - Immunity requirements Table 2 - Immunity requirements for analogue/digital data ports: 2.2 Broadband impulse noise disturbances repetitive 2.3 Broadband impulse noise disturbances, isolated	ESD:±8 ㎸, RS:80 ㎒ ~ 6.0 ㎓, EFT:±1 ㎸, SURGE:±2 ㎸, CS:150 ㎑ ~ 80 ㎒, M/F:1 A/m, V-DIP:(0 ~ 100) %	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
CSA CISPR 11 : 19	Electrical/electronics appliances	Industrial, scientific and medical equipment - Radio-frequency disturbance characteristics - Limits and methods of measurement	RE:9 ㎑ ~ 18 ㎓, CE:9 ㎑ ~ 30 ㎒	BS	N
ECE Regulation No.10 Revision 6:2019	Electrical/electronics appliances	Uniform provisions concerning the approval of vehicles with regard to electromagnetic compatibility. Annex 7 - Method of measurement of radiated broadband electromagnetic emissions from electrical/electronic sub-assemblies (ESAs) Annex 8 - Method of measurement of radiated narrowband electromagnetic emissions from electrical/electronic sub-assemblies Annex 9 - Method(s) of testing for immunity of electrical/electronic sub-assemblies to electromagnetic radiation [exception] 1.2.1(b) TEM cell 1.2.1(d) Stripline 1.2.1(e) 800 mm stripline	RE:30 ㎒ ~ 1 ㎓ ALSE:80 ㎒ ~ 2 ㎓ BCI:20 ㎒ ~ 400 ㎒ TI: - 600 V ~ 200 V TE:12 V, 24 V System	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
EN 50121-3-2:2016+A1:2019	Electrical/electronics appliances	Railway applications - Electromagnetic compatibility Part3-2:Rolling stock - Apparatus 7. Emission tests and limits [Table 1] Emission - Auxiliary AC or DC power ports (input and output) 1.1 Auxiliary supply sinusoidal AC or DC [Table 2] Emission - Battery power supply (input and output) 2.1 Battery power supply [Table 3] Immunity - Battery referenced ports (except at the output of energy sources), auxiliary AC power input ports(rated voltage ≤ 400 Vrms) 3.1 Radio-frequency common mode 3.2 Fast transients 3.3 Surges [Table 4] Immunity - Signal and communication, process measurement and control ports 4.1 Radio-frequency common mode 4.2 Fast transients [Table 5] Immunity - Enclosure ports 5.1 Radio-frequency eletromagnetic field 5.2 Radio-frequency eletromagnetic field 5.3 Eletrostatic discharge [exception] [Table 1] Emission 1.2 AC Power outlet port for public use	Frequency range:30 MHz ~ 6 GHz Frequency range:150 kHz ~ 30 MHz Frequency range:150 kHz ~ 30 MHz Frequency range:150kHz ~ 80 MHz Voltage:±2 kV Voltage:±1 kV, ±2 kV Frequency range:150 kHz ~ 80 MHz Voltage:±2 kV Frequency range:(80 ~ 6 GHz) Voltage:±6 kV(Contact discharge), ±8 kV(Air discharge)	BS	N
EN 50121-4:2016+A1:2019	Electrical/electronics appliances	Railway applications - Electromagnetic compatibility Part4:Emission and immunity of the signalling and telecommunications apparatus	RE :30 MHz ~ 6 GHz CE :150 kHz ~ 30 MHz ESD:±8 ㎸, RS:80 ㎒ ~ 6 ㎓, EFT:±2 ㎸, SURGE:±2 ㎸ , CS:150 ㎑ ~ 80 ㎒, M/F:≤ 300 A/m	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
EN 50130-4:2011	Electrical/electronics appliances	Alarm systems - Part 4 : electromagnetic compatibility - Product family standard : immunity requirements for components of fire, intruder, hold up, CCTV, acess control and social alarm systems	ESD:±8 ㎸, RS:80 ㎒ ~ 2.7 ㎓, EFT:±2 ㎸, SURGE:±2 ㎸, CS:150 ㎑ ~ 100 ㎒, V-DIP:(0 ~ 100) %	BS	N
EN 50155:2017	Electrical/electronics appliances	Railway applications - Rolling stock - Electronic equipment 13.4.8 Electromagnetic compatibility test	EN 50121-3-2 (Application test range)	BS	N
EN 55011:2009	Electrical/electronics appliances	Industrial, scientific and medical equipment — Radio-frequency disturbance characteristics —Limits and methods of measurement	RE:9 ㎑ ~ 18 ㎓, CE:9 ㎑ ~ 30 ㎒	BS	N
EN 55011:2009 +A1:2010	Electrical/electronics appliances	Industrial, scientific and medical equipment — Radio-frequency disturbance characteristics — Limits and methods of measurement	RE:9 ㎑ ~ 18 ㎓, CE:9 ㎑ ~ 30 ㎒	BS	N
EN 55011:2016 +A11:2020	Electrical/electronics appliances	Industrial, scientific and medical equipment — Radio-frequency disturbance characteristics — Limits and methods of measurement	RE:9 ㎑ ~ 18 ㎓, CE:9 ㎑ ~ 30 ㎒	BS	N
EN 55011:2016 +A2:2021	Electrical/electronics appliances	Industrial, scientific and medical equipment — Radio-frequency disturbance characteristics — Limits and methods of measurement	RE:9 ㎑ ~ 18 ㎓, CE:9 ㎑ ~ 30 ㎒	BS	N
EN 55013 : 2013+A1:2016	Electrical/electronics appliances	Sound and television broadcast receivers and associated equipment - Radio disturbance characteristics - Limits and methods of measurement	RE:30 ㎒ ~ 6 ㎓, CE:150 ㎑ ~ 30 ㎒ Differential voltage:30 ㎒ ~ 2 150 ㎒	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
EN 55014-1:2006 +A1:2009	Electrical/electronics appliances	Electromagnetic compatibility - Requirements for household appliances, electric tools and similar apparatus - Part 1:Emission	RE:9 ㎑ ~ 1 ㎓, CE:9 ㎑ ~ 30 ㎒	BS	N
EN 55014-1:2006 +A2:2011	Electrical/electronics appliances	Electromagnetic compatibility - Requirements for household appliances, electric tools and similar apparatus - Part 1:Emission	RE:9 ㎑ ~ 1 ㎓, CE:9 ㎑ ~ 30 ㎒	BS	N
EN 55014-1:2017	Electrical/electronics appliances	Electromagnetic compatibility - Requirements for household appliances, electric tools and similar apparatus Part 1:Emission	RE:9 ㎑ ~ 1 ㎓, CE:9 ㎑ ~ 30 ㎒	BS	N
EN 55014-1:2017+A11:2020	Electrical/electronics appliances	Electromagnetic compatibility - Requirements for household appliances, electric tools and similar apparatus Part 1:Emission	RE:9 ㎑ ~ 1 ㎓, CE:9 ㎑ ~ 30 ㎒	BS	N
EN 55014-2:1997 +A1:2001 +A2:2008	Electrical/electronics appliances	Electromagnetic compatibility — Requirements for household appliances, electric tools and similar apparatus — Part 2:Immunity — Product family standard	ESD:±8 ㎸, RS:80 ㎒ ~ 1 ㎓, EFT:±1 ㎸, SURGE:±2 ㎸, CS:150 ㎑ ~ 230 ㎒, V-DIP:(0 ~ 100) %	BS	N
EN 55014-2:2015	Electrical/electronics appliances	Electromagnetic compatibility — Requirements for household appliances, electric tools and similar apparatus — Part 2:Immunity	ESD:±8 ㎸, RS:80 ㎒ ~ 1 ㎓, EFT:±1 ㎸, SURGE:±2 ㎸, CS:150 ㎑ ~ 230 ㎒, V-DIP:(0 ~ 100) %	BS	N
EN 55015:2013 +A1:2015	Electrical/electronics appliances	Limits and methods of measurement of radio disturbance characteristics of electrical lighting and similar equipment [exception] 4.2 Insertion loss	RE:9 ㎑ ~ 1 ㎓, CE:9 ㎑ ~ 30 ㎒	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
EN 55015:2019	Electrical/electronics appliances	Limits and methods of measurement of radio disturbance characteristics of electrical lighting and similar equipment [exception] 4.2 Insertion loss	RE:9 ㎑ ~ 1 ㎓, CE:9 ㎑ ~ 30 ㎒	BS	N
EN 55024:2010	Electrical/electronics appliances	Information technology equipment - Immunity characteristics - Limits and methods of measurement	ESD:±8 ㎸, RS:80 ㎒ ~ 1 ㎓, EFT:±1 ㎸, SURGE:±2 ㎸, CS:150 ㎑ ~ 80 ㎒, M/F:1 A/m, V-DIP:(0 ~ 100) %	BS	N
EN 55032:2012	Electrical/electronics appliances	Electromagnetic compatibility of multimedia equipment - Emission Requirements	RE:30 ㎒ ~ 6 ㎓, CE:150 ㎑ ~ 30 ㎒ Differential voltage:30 ㎒ ~ 2 150 ㎒	BS	N
EN 55032:2015	Electrical/electronics appliances	Electromagnetic compatibility of multimedia equipment - Emission Requirements	RE:30 ㎒ ~ 6 ㎓, CE:150 ㎑ ~ 30 ㎒ Differential voltage:30 ㎒ ~ 2 150 ㎒	BS	N
EN 55032:2015+A11:2020	Electrical/electronics appliances	Electromagnetic compatibility of multimedia equipment - Emission Requirements	RE:30 ㎒ ~ 6 ㎓, CE:150 ㎑ ~ 30 ㎒ Differential voltage:30 ㎒ ~ 2 150 ㎒	BS	N
EN 55035:2017	Electrical/electronics appliances	Electromagnetic compatibility of multimedia equipment - Immunity Requirements Table 2 - Immunity requirements for analogue/digital data ports: 2.2 Broadband impulse noise disturbances repetitive 2.3 Broadband impulse noise disturbances, isolated	ESD:±8 ㎸, RS:80 ㎒ ~ 6.0 ㎓, EFT:±1 ㎸, SURGE:±2 ㎸, CS:150 ㎑ ~ 80 ㎒, M/F:1 A/m, V-DIP:(0 ~ 100) %	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
EN 55035:2017+A11:2020	Electrical/electronics appliances	Electromagnetic compatibility of multimedia equipment - Immunity Requirements Table 2 - Immunity requirements for analogue/digital data ports: 2.2 Broadband impulse noise disturbances repetitive 2.3 Broadband impulse noise disturbances, isolated	ESD:±8 ㎸, RS:80 ㎒ ~ 6.0 ㎓, EFT:±1 ㎸, SURGE:±2 ㎸, CS:150 ㎑ ~ 80 ㎒, M/F:1 A/m, V-DIP:(0 ~ 100) %	BS	N
EN 60601-1-2:2015	Electrical/electronics appliances	Medical electrical equipment -Part 1-2:General requirementsfor basic safety and essential performance - Collateral Standard:Electromagnetic disturbances - Requirements and tests	RE:30 ㎒ ~ 18 ㎓ CE:9 ㎑ ~ 30 ㎒ Harmonics:≤16 A Flicker:≤16 A ESD:±15 ㎸ RS:80 ㎒ ~ 6 ㎓ EFT:±2 ㎸ SURGE:±2 ㎸ CS:150 ㎑ ~ 80 ㎒ MF:30 A/m V-DIP:(0 ~ 100) % TI:-600 V ~ 200 V	BS	N
EN 60601-1-2:2007	Electrical/electronics appliances	Medical electrical equipment - Part 1-2:General requirements for basic safety and essential performance - Collateral Standard:Electromagnetic compatibility - Requirements and tests	RE:30 ㎒ ~ 18 ㎓ CE:9 ㎑ ~ 30 ㎒ Harmonics:≤ 16 A Flicker:≤ 16 A ESD:±8 ㎸ RS:80 ㎒ ~ 2.5 ㎓ EFT:±2 ㎸ SURGE:±2 ㎸ CS:150 ㎑ ~ 80 ㎒ MF:3 A/m V-DIP:(0 ~ 100) %	BS	N
EN 60601-1-2:2015+A1:2021	Electrical/electronics appliances	Medical electrical equipment -Part 1-2:General requirementsfor basic safety and essential performance - Collateral Standard:Electromagnetic disturbances - Requirements and tests	RE:30 ㎒ ~ 18 ㎓ CE:9 ㎑ ~ 30 ㎒ Harmonics:≤16 A Flicker:≤16 A ESD:±15 ㎸ RS:80 ㎒ ~ 6 ㎓ EFT:±2 ㎸ SURGE:±2 ㎸ CS:150 ㎑ ~ 80 ㎒ MF:30 A/m V-DIP:(0 ~ 100) % TI:-600 V ~ 200 V PMF: 10 ㎑ ~ 13.56 ㎒	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
EN 60601-2-24:2015	Electrical/electronics appliances	Medical electrical equipment - Part 2-24:Particular requirements for the basic safety and essential performance of infusion pumps and controllers 〈Accept Only〉 201.17 Electromagnetic compatibility of ME EQUIPMENT and ME SYSTEMS 202 Electromagnetic compatibility - Requirements and tests	RE:30 ㎒ ~ 18 ㎓ CE:9 ㎑ ~ 30 ㎒ Harmonics:≤ 16 A Flicker:≤ 16 A ESD:±15 ㎸ RS:80 ㎒ ~ 6 ㎓ EFT:±2 ㎸ SURGE:±2 ㎸ CS:150 ㎑ ~ 80 ㎒ MF:≤ 30 A/m V-DIP:(0 ~ 100) % TI : -600 ~ 200V	BS	N
EN 61000-3-2:2006 +A2:2009	Electrical/electronics appliances	Electromagnetic compatibility (EMC) — Part 3-2:Limits — Limits for harmonic current emissions (equipment input current ≤ 16 A per phase)	≤ 16 A	BS	N
EN 61000-3-2:2014	Electrical/electronics appliances	Electromagnetic compatibility (EMC) — Part3-2:Limits — Limits for harmonic current emissions (equipment input current ≤ 16 A per phase)	16 A	BS	N
EN 61000-3-3:2013	Electrical/electronics appliances	Electromagnetic compatibility (EMC) - Part 3-3: Limits - Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current ≤16 A per phase and not subject to conditional connection	16 A	BS	N
EN 61000-3-3:2013+A1:2019	Electrical/electronics appliances	Electromagnetic compatibility (EMC) - Part 3-3: Limits - Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current ≤16 A per phase and not subject to conditional connection	16 A	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
EN 61000-3-3:2013+AMD2:2021	Electrical/electronics appliances	Electromagnetic compatibility (EMC) - Part 3-3: Limits - Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current ≤16 A per phase and not subject to conditional connection	16 A	BS	N
EN 61000-4-11:2004 +A1:2017	Electrical/electronics appliances	Electromagnetic compatibility (EMC) — Part 4-11:Testing and measurement techniques — Voltage dips, short interruptions and voltage variations immunity tests	V-DIP:(0 ~ 100) %	BS	N
EN 61000-4-2:2009	Electrical/electronics appliances	Part 4-2:Testing and measurement techniques - Electrostatic discharge immunity test	±30 ㎸	BS	N
EN 61000-4-39 : 2017	Electrical/electronics appliances	Electromagnetic compatibility (EMC) - Part 4-39: Testing and measurement techniques - Radiated fields in close proximity - Immunity test	PMF: 10 ㎑ ~ 13.56 ㎒	BS	N
EN 61000-4-3:2006 +A1:2008 +A2:2010	Electrical/electronics appliances	Electromagnetic compatibility (EMC) - Part 4-3:Testing and measurement techniques - Radiated, radio-frequency, electromagnetic field immunity test	RS:80 ㎒ ~6 ㎓	BS	Y
EN 61000-4-4:2012	Electrical/electronics appliances	Electromagnetic compatibility (EMC) — Part 4-4:Testing and measurement techniques — Electrical fast transient/burst immunity test	EFT:±4 ㎸	BS	N
EN 61000-4-5:2014	Electrical/electronics appliances	Part 4-5:Testing and measurement techniques —Surge immunity test	SURGE:±6 ㎸	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
EN 61000-4-5:2014+A1:2017	Electrical/electronics appliances	Part 4-5:Testing and measurement techniques —Surge immunity test	SURGE:±6 ㎸	BS	N
EN 61000-4-6:2014	Electrical/electronics appliances	Electromagnetic compatibility(EMC) - Part 4-6:Testing and measurement techniques - Immunity to conducted disturbances, induced by radio-frequency fields	CS:150 ㎑ ~ 230 ㎒	BS	N
EN 61000-4-8:2010	Electrical/electronics appliances	Electromagnetic compatibility (EMC) Part 4-8:Testing and measurement techniques — Power frequency magnetic field immunity test	M/F:≤ 100 A/m	BS	N
EN 61000-6-1:2007	Electrical/electronics appliances	Electromagnetic compatibility (EMC) — Part 6-1:Generic standards — Immunity for residential, commercial and light-industrial environments	ESD:±8 ㎸, RS:80 ㎒ ~ 2.7 ㎓, EF T:±1 ㎸, SURGE:±2 ㎸, CS:150 ㎑ ~ 80 ㎒, M/F:3 A/m, V-DIP:(0 ~ 100) %	BS	N
EN 61000-6-2:2005	Electrical/electronics appliances	Electromagnetic compatibility (EMC) — Part 6-2:Generic standards — Immunity for industrial environments	ESD:±8 ㎸, RS:80 ㎒ ~ 2.7 ㎓, EFT:±2 ㎸, SURGE:±2 ㎸, CS:150 ㎑ ~ 80 ㎒, M/F:30 A/m, V-DIP:(0 ~ 100) %	BS	N
EN 61000-6-3:2007	Electrical/electronics appliances	Electromagnetic compatibility (EMC) — Part 6-3:Generic standards — Emission standard for residential, commercial and light-industrial environments	RE:30 ㎒ ~ 1 ㎓, CE:150 ㎑ ~ 30 ㎒	BS	N
EN 61000-6-3:2007 +A1:2011	Electrical/electronics appliances	Electromagnetic compatibility (EMC) — Part 6-3:Generic standards — Emission standard for residential, commercial and light-industrial environments	RE:30 ㎒ ~ 6 ㎓, CE:150 ㎑ ~ 30 ㎒	BS	N
EN 61000-6-4:2007	Electrical/electronics appliances	Electromagnetic compatibility (EMC) — Part 6-4:Generic standards — Emission standard for industrial environments	RE:30 ㎒ ~ 1 ㎓, CE:150 ㎑ ~ 30 ㎒	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
EN 61000-6-4:2007 +A1:2011	Electrical/electronics appliances	Electromagnetic compatibility (EMC) — Part 6-4:Generic standards — Emission standard for industrial environments	RE:30 ㎒ ~ 6 ㎓, CE:150 ㎑ ~ 30 ㎒	BS	N
EN 61204-3:2000	Electrical/electronics appliances	Low voltage power supplies, d.c. output - Part 3:Electromagnetic compatibility (EMC)	RE:30 ㎒ ~ 1 ㎓, CE:150 ㎑ ~ 30 ㎒, ESD:±8 ㎸, RS:80 ㎒ ~ 1 ㎓, EFT:±1 ㎸, SURGE:±2 ㎸, CS:150 ㎑ ~ 80 ㎒, M/F:1 A/m, V-DIP:(0 ~ 100) %	BS	N
EN 61326-1:2021	Electrical/electronics appliances	Electrical equipment for measurement, control and laboratory use - EMC requirements Part 1:General requirements [exception] IEC 61000-3-11:2017 IEC 61000-3-12:2011	ESD:±8 ㎸, RS:80 ㎒ ~ 6.0 ㎓, EFT:±2 ㎸, SURGE:±2 ㎸, CS:150 ㎑ ~ 80 ㎒, M/F:≤ 30 A/m, V-DIP:(0 ~ 100) %	BS	N
EN 61326-2-1:2021	Electrical/electronics appliances	Electrical equipment for measurement, control and laboratory use — EMC requirements Part 2-1:Particular requirements — Test configurations, operational conditions and performance criteria for sensitive test and measurement equipment for EMC unprotected applications (IEC 61326-2-1:2012)	ESD:±8 ㎸, RS:80 ㎒ ~ 6.0 ㎓, EFT:±2 ㎸, SURGE:±2 ㎸, CS:150 ㎑ ~ 80 ㎒, M/F:≤ 30 A/m, V-DIP:(0 ~ 100) %	BS	N
EN 61326-2-2:2021	Electrical/electronics appliances	Electrical equipment for measurement, control and laboratory use — EMC requirements Part 2-2:Particular requirements — Test configurations, operational conditions and performance criteria for portable test, measuring and monitoring equipment used in low - voltage distribution systems	ESD:±8 ㎸, RS:80 ㎒ ~ 6.0 ㎓, EFT:±2 ㎸, SURGE:±2 ㎸, CS:150 ㎑ ~ 80 ㎒, M/F:≤ 30 A/m, V-DIP:(0 ~ 100) %	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
EN 61326-2-3:2021	Electrical/electronics appliances	Electrical equipment for measurement, control and laboratory use — EMC requirements Part 2-3:Particular requirements — Test configuration, operational conditions and performance criteria for transducers with integrated or remote signal conditioning	ESD:±8 ㎸, RS:80 ㎒ ~ 6.0 ㎓, EFT:±2 ㎸, SURGE:±2 ㎸, CS:150 ㎑ ~ 80 ㎒, M/F:≤ 30 A/m, V-DIP:(0 ~ 100) %	BS	N
EN 61326-2-4:2021	Electrical/electronics appliances	Electrical equipment for measurement, control and laboratory use — EMC requirements Part 2-4:Particular requirements — Test configurations, operational conditions and performance criteria for insulation monitoring devices according to IEC 61557-8 and for equipment for insulation fault location according to IEC 61557-9	ESD:±8 ㎸, RS:80 ㎒ ~ 6.0 ㎓, EFT:±2 ㎸, SURGE:±2 ㎸, CS:150 ㎑ ~ 80 ㎒, M/F:≤ 30 A/m, V-DIP:(0 ~ 100) %	BS	N
EN 61326-2-5:2021	Electrical/electronics appliances	Electrical equipment for measurement, control and laboratory use — EMC requirements Part 2-5:Particular requirements — Test configurations, operational conditions and performance criteria for devices with field bus interfaces according to IEC 61784-1	ESD:±8 ㎸, RS:80 ㎒ ~ 6.0 ㎓, EFT:±2 ㎸, SURGE:±2 ㎸, CS:150 ㎑ ~ 80 ㎒, M/F:≤ 30 A/m, V-DIP:(0 ~ 100) %	BS	N
EN 61547:2009	Electrical/electronics appliances	Equipment for general lighting purposes - EMC immunity requirements	ESD:±8 ㎸, RS:80 ㎒ ~ 1 ㎓, EFT:±1 ㎸, SURGE:±2 ㎸, CS:150 ㎑ ~ 80 ㎒, M/F:3 A/m, V-DIP:(0 ~ 100) %	BS	N
EN 62040-2:2018	Electrical/electronics appliances	Uninterruptible power systems (UPS) - Part 2:Electromagnetic compatibility (EMC) requirements	RE:30 ㎒ ~ 1 ㎓, CE:150 ㎑ ~ 30 ㎒, ESD:±8 ㎸, RS:80 ㎒ ~ 1 ㎓, EFT:±2 ㎸, SURGE:±2 ㎸, CS:150 ㎑ ~ 80 ㎒, M/F:≤ 30 A/m	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
EN IEC 55014-1:2021	Electrical/electronics appliances	Electromagnetic compatibility -Requirements for household appliances, electric tools and similar apparatus Part 1: Emission	RE: 9 ㎑ ~ 6 ㎓, CE:9 ㎑ ~ 30 ㎒	BS	N
EN IEC 55014-2:2021	Electrical/electronics appliances	Electromagnetic compatibility — Requirements for household appliances, electric tools and similar apparatus — Part 2:Immunity - Product family standard	ESD:± 8㎸, RS:80 ㎒ ~ 6 ㎓, EFT:±1 ㎸, SURGE:±2 ㎸, CS:150 ㎑ ~ 230 ㎒, V-DIP:(0 ~ 100) %	BS	N
EN IEC 55015:2019+A11:2020	Electrical/electronics appliances	Limits and methods of measurement of radio disturbance characteristics of electrical lighting and similar equipment [제외항목] 4.2 Insertion loss	RE:9 ㎑ ~ 1 ㎓, CE:9 ㎑ ~ 30 ㎒	BS	N
EN IEC 61000-3-2:2019	Electrical/electronics appliances	Electromagnetic compatibility (EMC) — Part3-2:Limits — Limits for harmonic current emissions (equipment input current ≤ 16 A per phase)	16 A	BS	N
EN IEC 61000-3-2:2019+A1:2021	Electrical/electronics appliances	Electromagnetic compatibility (EMC) - Part 3-2: Limits - Limits for harmonic current emissions (equipment input current ≤16 A per phase)	≤16 A	BS	N
EN IEC 61000-4-11:2020	Electrical/electronics appliances	Testing and measurement techniques — Voltage dips, short interruptions and voltage variations immunity tests for equipment with input current up to 16 A per phase	V-DIP:(0 ~ 100) %	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
EN IEC 61000-4-3:2020	Electrical/electronics appliances	Electromagnetic compatibility (EMC) - Part 4-3:Testing and measurement techniques - Radiated, radio-frequency, electromagnetic field immunity test	RS:80 ㎒ ~ 6 ㎓	BS	Y
EN IEC 61000-6-1:2019	Electrical/electronics appliances	Electromagnetic compatibility (EMC) - Part 6-1:Generic standards - Immunity for residential, commercial and light-industrial environments	ESD:±8 ㎸, RS:80 ㎒ ~ 6 ㎓, EFT:±1 ㎸, SURGE:±2 ㎸, CS:150 ㎑ ~ 80 ㎒, M/F:3 A/m, V-DIP:(0 ~ 100) %	BS	N
EN IEC 61000-6-2:2019	Electrical/electronics appliances	Electromagnetic compatibility (EMC) - Part 6-2:Generic standards - Immunity for industrial environments	ESD:±8 ㎸, RS:80 ㎒ ~ 6 ㎓, EFT:±2 ㎸, SURGE:±2 ㎸, CS:150 ㎑ ~ 80 ㎒, M/F:30 A/m, V-DIP:(0 ~ 100) %	BS	N
EN IEC 61000-6-4:2019	Electrical/electronics appliances	Electromagnetic compatibility (EMC) — Part 6-4:Generic standards — Emission standard for industrial environments	RE:30 ㎒ ~ 6 ㎓, CE:150 ㎑ ~ 30 ㎒	BS	N
EN IEC 61326-1:2021	Electrical/electronics appliances	Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 1: General requirements [exception] IEC 61000-3-11:2017 IEC 61000-3-12:2011	ESD:±8 ㎸, RS:80 ㎒ ~ 6 ㎓, EFT:±2 ㎸, SURGE:±2 ㎸, CS:150 ㎑ ~ 80 ㎒, M/F:≤30 A/m, V-DIP:(0 ~ 100) %	BS	N
EN IEC 61326-2-1:2021	Electrical/electronics appliances	Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 2-1: Particular requirements - Test configurations, operational conditions and performance criteria for sensitive test and measurement equipment for EMC unprotected applications	ESD:±8 ㎸, RS:80 ㎒ ~ 6 ㎓, EFT:±2 ㎸, SURGE:±2 ㎸, CS:150 ㎑ ~ 80 ㎒, M/F:≤30 A/m, V-DIP:(0 ~ 100) %	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
EN IEC 61326-2-2:2021	Electrical/electronics appliances	Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 2-2:Particular requirements - Test configurations, operational conditions and performance criteria for portable testing, measuring and monitoring equipment used in low-voltage distribution systems	ESD:±8 ㎸, RS:80 ㎒ ~ 6 ㎓, EFT:±2 ㎸, SURGE:±2 ㎸, CS:150 ㎑ ~ 80 ㎒, M/F:≤30 A/m, V-DIP:(0 ~ 100) %	BS	N
EN IEC 61326-2-3:2021	Electrical/electronics appliances	Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 2-3: Particular requirements - Test configuration, operational conditions and performance criteria for transducers with integrated or remote signal conditioning	ESD:±8 ㎸, RS:80 ㎒ ~ 6 ㎓, EFT:±2 ㎸, SURGE:±2 ㎸, CS:150 ㎑ ~ 80 ㎒, M/F:≤30 A/m, V-DIP:(0 ~ 100) %	BS	N
EN IEC 61326-2-4:2021	Electrical/electronics appliances	Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 2-4: Particular requirements - Test configurations, operational conditions and performance criteria for insulation monitoring devices according to IEC 61557-8 and for equipment for insulation fault location according to IEC 61557-9	ESD:±8 ㎸, RS:80 ㎒ ~ 6 ㎓, EFT:±2 ㎸, SURGE:±2 ㎸, CS:150 ㎑ ~ 80 ㎒, M/F:≤30 A/m, V-DIP:(0 ~ 100) %	BS	N
EN IEC 61326-2-5:2021	Electrical/electronics appliances	Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 2-5: Particular requirements - Test configurations, operational conditions and performance criteria for field devices with field bus interfaces according to IEC 61784-1	ESD:±8 ㎸, RS:80 ㎒ ~ 6 ㎓, EFT:±2 ㎸, SURGE:±2 ㎸, CS:150 ㎑ ~ 80 ㎒, M/F:≤30 A/m, V-DIP:(0 ~ 100) %	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
ETSI EN 301 489-1 V2.1.1 (2017)	Electrical/electronics appliances	Electro Magnetic Compatibility (EMC) standard for radio equipment and services Part1:Common technical requirements	RE:30 ㎒ ~ 6 ㎓ CE:150 ㎑ ~ 30 ㎒ ESD:±8 ㎸ RS:80 ㎒ ~ 6 ㎓ EFT:±1 ㎸ SURGE:±2 ㎸ CS:150 ㎑ ~ 80 ㎒ V-DIP:(0 ~ 100) % TI: -600 V ~ 200 V	BS	N
ETSI EN 301 489-1 V2.2.3 (2019)	Electrical/electronics appliances	Electro Magnetic Compatibility (EMC) standard for radio equipment and services Part1:Common technical requirements	RE:30 ㎒ ~ 6 ㎓ CE:150 ㎑ ~ 30 ㎒ ESD:±8 ㎸ RS:80 ㎒ ~ 6 ㎓ EFT:±1 ㎸ SURGE:±2 ㎸ CS:150 ㎑ ~ 80 ㎒ V-DIP:(0 ~ 100) % TI: -600 V ~ 200 V	BS	N
ETSI EN 301 489-17 V3.1.1 (2017)	Electrical/electronics appliances	ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 17:Specific conditions for Broadband Data Transmission Systems; Harmonised Standard covering the essential requirements of article 3.1(b) of Directive 2014/53/EU	RE:30 ㎒ ~ 6 ㎓ CE:150 ㎑ ~ 30 ㎒ ESD:±8 ㎸ RS:80 ㎒ ~ 6 ㎓ EFT:±1 ㎸ SURGE:±2 ㎸ CS:150 ㎑ ~ 80 ㎒ V-DIP:(0 ~ 100) % TI: -600 V ~ 200 V	BS	N
ETSI EN 301 489-17 V3.2.4 (2020)	Electrical/electronics appliances	ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 17:Specific conditions for Broadband Data Transmission Systems; Harmonised Standard for ElectroMagnetic Compatibility	RE:30 ㎒ ~ 6 ㎓ CE:150 ㎑ ~ 30 ㎒ ESD:±8 ㎸ RS:80 ㎒ ~ 6 ㎓ EFT:±1 ㎸ SURGE:±2 ㎸ CS:150 ㎑ ~ 80 ㎒ V-DIP:(0 ~ 100) % 12V,24V SYSTEM(ISO 7637-2)	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
ETSI EN 301 489-19 V2.1.1:2019	Electrical/electronics appliances	Electromagnetic compatibility (EMC) standard for radio equipment and services; Part 19:Specific conditions for Receive Only Mobile Earth Stations(ROMES) operating in the 1,5 ㎓ band providing data communications and GNSS receivers operating in the RNSS band(ROGNSS) providing positioning, navigation, and timing data	RE:30 ㎒ ~ 6 ㎓, CE:150 ㎑ ~ 30 ㎒, ESD:±8 ㎸, RS:80 ㎒ ~ 6 ㎓, EFT:±1 ㎸, SURGE:±2 ㎸, CS:150 ㎑ ~ 80 ㎒, V-DIP:(0 ~ 100) % TI: -600 V ~ 200 V	BS	N
ETSI EN 301 489-19 V2.2.1 (2022-09)	Electrical/electronics appliances	ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 19: Specific conditions for Receive Only Mobile Earth Stations (ROMES) operating in the 1,5 GHz band providing data communications and GNSS receivers operating in the RNSS band (ROGNSS) providing positioning, navigation, and timing data; Harmonised Standard for ElectroMagnetic Compatibility	RE:30 ㎒ ~ 6 ㎓ CE:150 ㎑ ~ 30 ㎒ ESD:±8 ㎸ RS:80 ㎒ ~ 6 ㎓ EFT:±1 ㎸ SURGE:±2 ㎸ CS:150 ㎑ ~ 80 ㎒ V-DIP:(0 ~ 100) % TI: -600 V ~ 200 V	BS	N
ETSI EN 301 489-2 V2.1.1:2019	Electrical/electronics appliances	Electromagnetic compatibility (EMC) standard for radio equipment and services; Part 2:Specific conditions for radio paging equipment	RE:30 ㎒ ~ 6 ㎓ CE:150 ㎑ ~ 30 ㎒ ESD:±8 ㎸ RS:80 ㎒ ~ 6 ㎓ EFT:±1 ㎸ SURGE:±2 ㎸ CS:150 ㎑ ~ 80 ㎒ V-DIP:(0 ~ 100) % TI: -600 V ~ 200 V	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
ETSI EN 301 489-20 V2.2.1 (2021-11)	Electrical/electronics appliances	ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 20: Specific conditions for Mobile Earth Stations (MES) used in the Mobile Satellite Services (MSS); Harmonised Standard for ElectroMagnetic Compatibility	RE:30 ㎒ ~ 6 ㎓ CE:150 ㎑ ~ 30 ㎒ ESD:±8 ㎸ RS:80 ㎒ ~ 6 ㎓ EFT:±1 ㎸ SURGE:±2 ㎸ CS:150 ㎑ ~ 80 ㎒ V-DIP:(0 ~ 100) % TI: -600 V ~ 200 V	BS	N
ETSI EN 301 489-23 V1.5.1:2011	Electrical/electronics appliances	Electromagnetic compatibility and Radio spectrum matters(ERM); Electromagnetic Compatibility(EMC) standard for radio equipment and services; Part 23:Specific conditions for IMT-2000 CDMA Direct Spread (UTRA and E-UTRA) Base Station (BS) radio, repeater and ancillary equipment	RE:30 ㎒ ~ 6 ㎓, CE:150 ㎑ ~ 30 ㎒, ESD:±8 ㎸, RS:80 ㎒ ~ 2.7 ㎓, EFT:±1 ㎸, SURGE:±2 ㎸, CS:150 ㎑ ~ 80 ㎒, V-DIP:(0 ~ 100) % TI: -600 V ~ 200 V	BS	N
ETSI EN 301 489-24 V1.5.1:2010	Electrical/electronics appliances	Electromagnetic compatibility and Radio spectrum Matters (ERM); Electro Magnetic Compatibility (EMC) standard for radio equipment and services; Part 24:Specific conditions for IMT-2000 CDMA Direct Spread (UTRA and E-UTRA) for Mobile and portable (UE) radio and ancillary equipment	RE:30 ㎒ ~ 6 ㎓, CE:150 ㎑ ~ 30 ㎒, ESD:±8 ㎸, RS:80 ㎒ ~ 2.7 ㎓, EFT:±1 ㎸, SURGE:±2 ㎸, CS:150 ㎑ ~ 80 ㎒, V-DIP:(0 ~ 100) % TI: -600 V ~ 200 V	BS	N
ETSI EN 301 489-25 V2.3.2:2005	Electrical/electronics appliances	Electromagnetic compatibility and Radio spectrum Matters (ERM); Electro Magnetic Compatibility (EMC) standard for radio equipment and services; Part 25:Specific conditions for CDMA 1x spread spectrum Mobile Stations and ancillary equipment	RE:30 ㎒ ~ 6 ㎓, CE:150 ㎑ ~ 30 ㎒, ESD:±8 ㎸, RS:80 ㎒ ~ 2.7 ㎓, EFT:±1 ㎸, SURGE:±2 ㎸, CS:150 ㎑ ~ 80 ㎒, V-DIP:(0 ~ 100) % TI: -600 V ~ 200 V	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
ETSI EN 301 489-27 V2.2.1:2019	Electrical/electronics appliances	ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 27:Specific conditions for Ultra Low Power Active Medical Implants (ULP-AMI) and related peripheral devices (ULP-AMI-P) operating in the 402 MHz to 405 MHz bands	RE:30 ㎒ ~ 6 ㎓ CE:150 ㎑ ~ 30 ㎒ ESD:±8 ㎸ RS:80 ㎒ ~ 6 ㎓ EFT:±2 ㎸ SURGE:±2 ㎸ CS:150 ㎑ ~ 80 ㎒ V-DIP:(0 ~ 100) % TI: -600 V ~ 200 V	BS	N
ETSI EN 301 489-3 V2.3.2 (2023-01)	Electrical/electronics appliances	ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 3: Specific conditions for Short Range Devices (SRD) operating on frequencies between 9 kHz and 246 GHz; Harmonised Standard for ElectroMagnetic Compatibility	RE:30 ㎒ ~ 6 ㎓ CE:150 ㎑ ~ 30 ㎒ ESD:±8 ㎸ RS:80 ㎒ ~ 6 ㎓ EFT:±1 ㎸ SURGE:±2 ㎸ CS:150 ㎑ ~ 80 ㎒ V-DIP:(0 ~ 100) % TI: -600 V ~ 200 V	BS	N
ETSI EN 301 489-33 V2.2.1:2019	Electrical/electronics appliances	Electromagnetic compatibility (EMC) standard for radio equipment and services; Part 33:Specific conditions for Ultra-Wide Band (UWB) communications devices	RE:30 ㎒ ~ 6 ㎓ CE:150 ㎑ ~ 30 ㎒ ESD:±8 ㎸ RS:80 ㎒ ~ 6 ㎓ EFT:±1 ㎸ SURGE:±2 ㎸ CS:150 ㎑ ~ 80 ㎒ V-DIP:(0 ~ 100) % TI: -600 V ~ 200 V	BS	N
ETSI EN 301 489-34 V2.1.1:2019	Electrical/electronics appliances	Electromagnetic compatibility (EMC) standard for radio equipment and services; Part 34:Specific conditions for External Power Supply (EPS) for mobile phones	RE:30 ㎒ ~ 6 ㎓, CE:150 ㎑ ~ 30 ㎒, ESD:±8 ㎸, RS:80 ㎒ ~ 6 ㎓, EFT:±1 ㎸, SURGE:±2 ㎸, CS:150 ㎑ ~ 80 ㎒, V-DIP:(0 ~ 100) % TI: -600 V ~ 200 V	BS	N
ETSI EN 301 489-4 V3.2.1:2019	Electrical/electronics appliances	Electromagnetic compatibility (EMC) standard for radio equipment and services; Part 4:Specific conditions for fixed radio links and ancillary equipment	RE:30 ㎒ ~ 6 ㎓, CE:150 ㎑ ~ 30 ㎒, ESD:±8 ㎸, RS:80 ㎒ ~ 6 ㎓, EFT:±1 ㎸, SURGE:±2 ㎸, CS:150 ㎑ ~ 80 ㎒, V-DIP:(0 ~ 100) % TI: -600 V ~ 200 V	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
ETSI EN 301 489-4 V3.3.1:2021	Electrical/electronics appliances	ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 4:Specific conditions for fixed radio links and ancillary equipment; Harmonised Standard for ElectroMagnetic Compatibility	RE:30 ㎒ ~ 6 ㎓, CE:150 ㎑ ~ 30 ㎒, ESD:±8 ㎸, RS:80 ㎒ ~ 6 ㎓, EFT:±1 ㎸, SURGE:±2 ㎸, CS:150 ㎑ ~ 80 ㎒, V-DIP:(0 ~ 100) % TI: -600 V ~ 200 V	BS	N
ETSI EN 301 489-5 V2.2.1:2019	Electrical/electronics appliances	Electromagnetic compatibility (EMC) standard for radio equipment and services; Part 5:Specific conditions for Private land Mobile Radio(PMR) and ancillary equipment(speech and non-speech) and Terrestrial Trunked Radio(TETRA)	RE:30 ㎒ ~ 6 ㎓, CE:150 ㎑ ~ 30 ㎒, ESD:±8 ㎸, RS:80 ㎒ ~ 6 ㎓, EFT:±1 ㎸, SURGE:±2 ㎸, CS:150 ㎑ ~ 80 ㎒, V-DIP:(0 ~ 100) % TI: -600 V ~ 200 V	BS	N
ETSI EN 301 489-50 V2.2.1:2019	Electrical/electronics appliances	ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 50:Specific conditions for Cellular Communication Base Station (BS), repeater and ancillary equipment	RE:30 ㎒ ~ 6 ㎓ CE:150 ㎑ ~ 30 ㎒ ESD:±8 ㎸ RS:80 ㎒ ~ 6 ㎓ EFT:±1 ㎸ SURGE:±2 ㎸ CS:150 ㎑ ~ 80 ㎒ V-DIP:(0 ~ 100) % TI: -600 V ~ 200 V	BS	N
ETSI EN 301 489-50 V2.3.1:2021	Electrical/electronics appliances	ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 50:Specific conditions for Cellular Communication Base Station (BS), repeater and ancillary equipment	RE:30 ㎒ ~ 6 ㎓, CE:150 ㎑ ~ 30 ㎒, ESD:±8 ㎸, RS:80 ㎒ ~ 6 ㎓, EFT:±1 ㎸, SURGE:±2 ㎸, CS:150 ㎑ ~ 80 ㎒, V-DIP:(0 ~ 100) % TI: -600 V ~ 200 V	BS	N
ETSI EN 301 489-51 V2.1.1:2019	Electrical/electronics appliances	Electromagnetic compatibility (EMC) standard for radio equipment and services; Part 51:Specific conditions for Automotive, Ground based Vehices and Surveillance Radar Devices using 24,05 GHz to 24,25 GHz, 24,05GHz to 24,5 GHz, 76 GHz to 77 GHz and77 GHz to 81 GHz ;	RE:30 ㎒ ~ 6 ㎓ CE:150 ㎑ ~ 30 ㎒ ESD:±8 ㎸ RS:80 ㎒ ~ 6 ㎓ EFT:±1 ㎸ SURGE:±2 ㎸ CS:150 ㎑ ~ 80 ㎒ V-DIP:(0 ~ 100) % TI: -600 V ~ 200 V	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
ETSI EN 301 489-52 V1.2.1:2021	Electrical/electronics appliances	ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 52: Specific conditions for Cellular Communication User Equipment (UE) radio and ancillary equipment; Harmonised Standard for ElectroMagnetic Compatibility	RE:30 ㎒ ~ 6 ㎓ CE:150 ㎑ ~ 30 ㎒ ESD:±8 ㎸ RS:80 ㎒ ~ 6 ㎓ EFT:±1 ㎸ SURGE:±2 ㎸ CS:150 ㎑ ~ 80 ㎒ V-DIP:(0 ~ 100) % TI: -600 V ~ 200 V	BS	N
ETSI EN 301 489-6 V2.2.1:2019	Electrical/electronics appliances	Electromagnetic compatibility (EMC) standard for radio equipment and services; Part6:Specific conditions for Digital Enhanced Cordless Telecommunications (DECT) equipment	RE:30 ㎒ ~ 6 ㎓ CE:150 ㎑ ~ 30 ㎒ ESD:±8 ㎸ RS:80 ㎒ ~ 6 ㎓ EFT:±1 ㎸ SURGE:±2 ㎸ CS:150 ㎑ ~ 80 ㎒ V-DIP:(0 ~ 100) % TI: -600 V ~ 200 V	BS	N
ETSI EN 301 489-7 V1.3.1:2005	Electrical/electronics appliances	Electromagnetic compatibility and Radio spectrum Matters (ERM); Electro Magnetic Compatibility (EMC) standard for radio equipment and services; Part 7:Specific conditions for mobile and portable radio and ancillary equipment of digital cellular radio telecommunications systems (GSM and DCS)	RE:30 ㎒ ~ 6 ㎓, CE:150 ㎑ ~ 30 ㎒, ESD:±8 ㎸, RS:80 ㎒ ~ 2.7 ㎓, EFT:±1 ㎸, SURGE:±2 ㎸, CS:150 ㎑ ~ 80 ㎒, V-DIP:(0 ~ 100) % TI: -600 V ~ 200 V	BS	N
ETSI EN 301 489-9 V2.1.1:2019	Electrical/electronics appliances	Electromagnetic compatibility (EMC) standard for radio equipment and services; Part 9:Specific conditions for wireless microphones, similar Radio Frequency (RF) audio link equipment, cordless audio and in-ear monitoring devices	RE:30 ㎒ ~ 6 ㎓, CE:150 ㎑ ~ 30 ㎒, ESD:±8 ㎸, RS:80 ㎒ ~ 6 ㎓, EFT:±1 ㎸, SURGE:±2 ㎸, CS:150 ㎑ ~ 80 ㎒, V-DIP:(0 ~ 100) % TI: -600 V ~ 200 V	BS	N
FCC PART 15 Subpart B PART 18:2009	Electrical/electronics appliances	Radio Frequency Devices	RE:9 ㎑ ~ 40 ㎓, CE:9 ㎑ ~ 30 ㎒	BS	N
ICES-003 Issue 7:2020	Electrical/electronics appliances	Information Technology Equipment (including Digital Apparatus)	RE:30 ㎒ ~ 6 ㎓, CE:150 ㎑ ~ 30 ㎒ Disturbance Voltage:9 ㎑ ~ 2.15 ㎓	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
IEC 60601-1-2:2007	Electrical/electronics appliances	Medical electrical equipment - Part 1-2:General requirements for basic safety and essential performance - Collateral standard:Electromagnetic compatibility - Requirements and tests	RE:30 ㎒ ~ 18 ㎓ CE:9 ㎑ ~ 30 ㎒ Harmonics:≤16 A Flicker:≤16 A ESD:±8 ㎸ RS:80 ㎒ ~ 2.5 ㎓ EFT:±2 ㎸ SURGE:±2 ㎸ CS:150 ㎑ ~ 80 ㎒ MF:3 A/m V-DIP:(0 ~ 100) %	BS	N
IEC 60601-1-2:2014	Electrical/electronics appliances	Medical electrical equipment - Part 1-2:General requirements for basic safety and essential performance - Collateral Standard:Electromagnetic disturbances - Requirements and tests	RE:30 ㎒ ~ 18 ㎓ CE:9 ㎑ ~ 30 ㎒ Harmonics:≤16 A Flicker:≤16 A ESD:±15 ㎸ RS:80 ㎒ ~ 6 ㎓ EFT:±2 ㎸ SURGE:±2 ㎸ CS:150 ㎑ ~ 80 ㎒ MF:30 A/m V-DIP:(0 ~ 100) % TI:-600 V ~ 200 V	BS	N
IEC 60601-1-2:2014+AMD1:2020 CSV	Electrical/electronics appliances	Medical electrical equipment -Part 1-2:General requirementsfor basic safety and essential performance - Collateral Standard:Electromagnetic disturbances - Requirements and tests	RE:30 ㎒ ~ 18 ㎓ CE:9 ㎑ ~ 30 ㎒ Harmonics:≤16 A Flicker:≤16 A ESD:±15 ㎸ RS:80 ㎒ ~ 6 ㎓ EFT:±2 ㎸ SURGE:±2 ㎸ CS:150 ㎑ ~ 80 ㎒ MF:30 A/m V-DIP:(0 ~ 100) % TI:-600 V ~ 200 V PMF: 10 ㎑ ~ 13.56 ㎒	BS	N
IEC 60601-2-24:2012	Electrical/electronics appliances	Medical electrical equipment - Part 2-24:Particular requirements for the basic safety and essential performance of infusion pumps and controllers 〈Accept Only〉 201.17 Electromagnetic compatibility of ME EQUIPMENT and ME SYSTEMS 202 Electromagnetic compatibility - Requirements and tests	RE:30 ㎒ ~ 18 ㎓ CE:9 ㎑ ~ 30 ㎒ Harmonics:≤16 A Flicker:≤16 A ESD:±15 ㎸ RS:80 ㎒ ~ 6 ㎓ EFT:±2 ㎸ SURGE:±2 ㎸ CS:150 ㎑ ~ 80 ㎒ MF:30 A/m V-DIP:(0 ~ 100) % TI:-600 V ~ 200 V	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
IEC 61000-3-2:2018/AMD1:2020	Electrical/electronics appliances	Electromagnetic compatibility (EMC) -Part 3-2:Limits - Limits for harmonic current emissions (equipment input current ≤16 A per phase)	≤16 A	BS	N
IEC 61000-3-3:2013+AMD1:2017+AMD2:2021	Electrical/electronics appliances	Electromagnetic compatibility (EMC) - Part 3-3: Limits - Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current ≤16 A per phase and not subject to conditional connection	≤16 A	BS	N
IEC 61000-4-11:2020	Electrical/electronics appliances	Electromagnetic compatibility (EMC) - Part 4-11: Testing and measurement techniques - Voltage dips, short interruptions and voltage variations immunity tests for equipment with input current up to 16 A per phase	V-DIP:(0 ~ 100) %	BS	N
IEC 61000-4-2:2008	Electrical/electronics appliances	Electromagnetic compatibility (EMC) - Part 4-2:Testing and measurement techniques - Electrostatic discharge immunity test	±30 ㎸	BS	N
IEC 61000-4-39 : 2017	Electrical/electronics appliances	Electromagnetic compatibility (EMC) - Part 4-39: Testing and measurement techniques - Radiated fields in close proximity - Immunity test	PMF: 10 ㎑ ~ 13.56 ㎒	BS	N
IEC 61000-4-3:2020	Electrical/electronics appliances	Electromagnetic compatibility (EMC) - Part 4-3:Testing and measurement techniques - Radiated, radio-frequency, electromagnetic field immunity test	RS:80 ㎒ ~ 6 ㎓	BS	Y

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
IEC 61000-4-4:2012	Electrical/electronics appliances	Electromagnetic compatibility (EMC) - Part 4-4:Testing and measurement techniques - Electrical fast transient/burst immunity test	EFT:±4 ㎸	BS	N
IEC 61000-4-5:2014+AMD1:2017	Electrical/electronics appliances	Electromagnetic compatibility (EMC) - Part 4-5: Testing and measurement techniques - Surge immunity test	SURGE:±6 ㎸	BS	N
IEC 61000-4-6:2013	Electrical/electronics appliances	Electromagnetic compatibility(EMC) - Part 4-6:Testing and measurement techniques - Immunity to conducted disturbances, induced by radio-frequency fields	CS:150 ㎑ ~ 230 ㎒	BS	N
IEC 61000-4-8:2009	Electrical/electronics appliances	Electromagnetic compatibility(EMC) - Part 4-8:Testing and measurement techniques-Power frequency magnetic field immunity test	M/F:≤100 A/m	BS	N
IEC 61000-6-1:2016	Electrical/electronics appliances	Electromagnetic compatibility (EMC) - Part 6-1: Generic standards - Immunity standard for residential, commercial and light-industrial environments	ESD:±8 ㎸, RS:80 ㎒ ~ 6 ㎓, EFT:±1 ㎸, SURGE:±2 ㎸, CS:150 ㎑ ~ 80 ㎒, M/F:3 A/m, V-DIP:(0 ~ 100) %	BS	N
IEC 61000-6-2:2016	Electrical/electronics appliances	Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Immunity standard for industrial environments	ESD:±8 ㎸, RS:80 ㎒ ~ 6 ㎓, EFT:±2 ㎸, SURGE:±2 ㎸, CS:150 ㎑ ~ 80 ㎒, M/F:≤30 A/m, V-DIP:(0 ~ 100) %	BS	N
IEC 61000-6-3:2020	Electrical/electronics appliances	Electromagnetic compatibility (EMC)-Part 6-3:Generic standards - Emission standard for equipment in residential environments	RE:30 ㎒ ~ 6 ㎓, CE:150 ㎑ ~ 30 ㎒	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
IEC 61000-6-4:2018	Electrical/electronics appliances	Electromagnetic compatibility (EMC) - Part 6-4:Generic standards - Emission standard for industrial environments	RE:30 ㎒ ~ 6 ㎓, CE:150 ㎑ ~ 30 ㎒	BS	N
IEC 61326-1:2020	Electrical/electronics appliances	Electrical equipment for measurement, control and laboratory use - EMC requirements Part 1:General requirements [Exception] IEC 61000-3-11:2017 IEC 61000-3-12:2011	ESD:±8 ㎸, RS:80 ㎒ ~ 6 ㎓, EFT:±2 ㎸, SURGE:±2 ㎸, CS:150 ㎑ ~ 80 ㎒, M/F:≤30 A/m, V-DIP:(0 ~ 100) %	BS	N
IEC 61326-2-1:2020	Electrical/electronics appliances	Electrical equipment for measurement, control and laboratory use — EMC requirements Part 2-1:Particular requirements —Test configurations, operational conditions and performance criteria for sensitive test and measurement equipment for EMC unprotected applications (IEC 61326-2-1:2012)	ESD:±8 ㎸, RS:80 ㎒ ~ 6 ㎓, EFT:±2 ㎸, SURGE:±2 ㎸, CS:150 ㎑ ~ 80 ㎒, M/F:≤30 A/m, V-DIP:(0 ~ 100) %	BS	N
IEC 61326-2-2:2020	Electrical/electronics appliances	Electrical equipment for measurement, control and laboratory use — EMC requirements Part 2-2:Particular requirements — Test configurations, operational conditions and performance criteria for portable test, measuring and monitoring equipment used in low - voltage distribution systems	ESD:±8 ㎸, RS:80 ㎒ ~ 6 ㎓, EFT:±2 ㎸, SURGE:±2 ㎸, CS:150 ㎑ ~ 80 ㎒, M/F:≤30 A/m, V-DIP:(0 ~ 100) %	BS	N
IEC 61326-2-3:2020	Electrical/electronics appliances	Electrical equipment for measurement, control and laboratory use — EMC requirements Part 2-3:Particular requirements —Test configuration, operational conditions and performance criteria for transducers with integrated or remote signal conditioning	ESD:±8 ㎸, RS:80 ㎒ ~ 6 ㎓, EFT:±2 ㎸, SURGE:±2 ㎸, CS:150 ㎑ ~ 80 ㎒, M/F:≤30 A/m, V-DIP:(0 ~ 100) %	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
IEC 61326-2-4:2020	Electrical/electronics appliances	Electrical equipment for measurement, control and laboratory use — EMC requirements Part 2-4:Particular requirements — Test configurations, operational conditions and performance criteria for insulation monitoring devices according to IEC61557-8 and for equipment for insulation fault location according to IEC 61557-9	ESD:±8 ㎸, RS:80 ㎒ ~ 6 ㎓, EFT:±2 ㎸, SURGE:±2 ㎸, CS:150 ㎑ ~ 80 ㎒, M/F:≤30 A/m, V-DIP:(0 ~ 100) %	BS	N
IEC 61326-2-5:2020	Electrical/electronics appliances	Electrical equipment for measurement, control and laboratory use — EMC requirements Part 2-5:Particular requirements —Test configurations, operational conditions and performance criteria for devices with field bus interfaces according to IEC61784-1	ESD:±8 ㎸, RS:80 ㎒ ~ 6 ㎓, EFT:±2 ㎸, SURGE:±2 ㎸, CS:150 ㎑ ~ 80 ㎒, M/F:≤30 A/m,, V-DIP:(0 ~ 100) %	BS	N
IEC 61547:2020	Electrical/electronics appliances	Equipment for general lighting purposes - EMC immunity requirements	ESD:±8 ㎸, RS:80 ㎒~ 1 ㎓, EFT:±1 ㎸, SURGE:±2 ㎸, CS:150 ㎑ ~ 80 ㎒, M/F:3 A/m, V-DIP:(0 ~100) %	BS	N
IEC 62040-2:2016	Electrical/electronics appliances	Uninterruptible power systems (UPS) - Part 2:Electromagnetic compatibility (EMC) requirements	RE:30 ㎒ ~ 1 ㎓, CE:150 ㎑ ~ 30 ㎒, ESD:±8 ㎸, RS:80 ㎒ ~ 1 ㎓, EFT:±2 ㎸, SURGE:±2 ㎸, CS:150 ㎑ ~ 80 ㎒, M/F:≤30 A/m	BS	N
IEC 62236-3-2:2018	Electrical/electronics appliances	- Electromagnetic compatibility - Part3-2: Rolling stock - Apparatus [Exception] [Table 1] Emission	RE: 30 MHz ~ 6 GHz CE: 150 kHz ~ 30 MHz CS: 150 kHz ~ 80 MHz EFT: ±2 kV Surge: ±1 kV, ±2 kV RS: 80 MHz ~ 6 GHz ESD: ±6 kV(Contact discharge), ±8 kV(Air discharge)	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
IEC 62236-4:2018	Electrical/electronics appliances	Railway applications - Electromagnetic compatibility - Part 4: Emission and immunity of the signalling and telecommunications apparatus	RE: 30 MHz ~ 6 GHz CE: 150 kHz ~ 30 MHz ESD: ±6 kV(Contact discharge), ±8 kV(Air discharge) RS: 80 MHz ~ 6 GHz Magnetic field: ≤300 A/m CS: 150 kHz ~ 80 MHz EFT: ±2 kV SURGE: ±2 kV	BS	N
IEEE Std 299:2006	Electrical/electronics appliances	IEEE Standard Method for Measuring the Effectiveness of Electromagnetic Shielding Enclosures	measurement frequency:9 kHz ~ 18 GHz	BS	Y
ISO 10605:2008	Electrical/electronics appliances	Road vehicles — Test methods for electrical disturbances from electrostatic discharge	ESD:(±2 ~ ±25) ㎸	BS	N
ISO 11452-2:2019	Electrical/electronics appliances	Road vehicles — Component test methods for electrical disturbances from narrowband radiated electromagnetic energy — Part 2:Absorber-lined shielded enclosure	80 ㎒ ~ 18 ㎓, ≤ 200 V/m	BS	N
ISO 11452-4:2020	Electrical/electronics appliances	Road Vehicles - Component test methods for electrical disturbances from narrowband radiated electromagnetic energy - Part 4:Harness excitation methods [exception] 6.2 TWC Test Method	100 ㎑ ~ 400 ㎒	BS	N
ISO 11452-8:2015	Electrical/electronics appliances	Road vehicles - Component test methods for electrical disturbances from narrowband radiated electromagnetic energy — Part 8:Immunity to magnetic fields	DC, 15 ㎐ ~ 150 ㎑	BS	N
ISO 11452-9:2021	Electrical/electronics appliances	Road vehicles - Component test methods for electrical disturbances from narrowband radiated electromagnetic energy Part 9:Portable transmitters	26 ㎒ ~ 5 850 ㎒	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
ISO 16750-2:2012	Electrical/electronics appliances	Road vehicles — Environmental conditions and testing for electrical and electronic equipment — Part2:Electrical loads	Power voltage: 0 V ~ 230 V	BS	N
ISO 7637-2:2011	Electrical/electronics appliances	Road vehicles — Electrical disturbances from conduction and coupling — Part 2:Electrical transient conduction along supply lines only	TI : - 600 V ~ 200 V	BS	N
ISO 7637-3:2016	Electrical/electronics appliances	Road vehicles—Electrical disturbances from conduction and coupling —Part 3:Electrical transient transmission by capacitive and inductive coupling via lines other than supply lines.	TI signal lines:- 150 V ~ 150 V,	BS	N
KS C 9040-2:2017	Electrical/electronics appliances	Uninterruptible power systems (UPS) - Part 2:Electromagnetic compatibility (EMC) requirements	RE:30 ㎒ ~ 1 ㎓, CE:150 ㎑ ~ 30 ㎒, ESD:±8 ㎸, RS:80 ㎒ ~ 1 ㎓, EFT:±2 ㎸, SURGE:±2 ㎸, CS:150 ㎑ ~ 80 ㎒, M/F:30 A/m	BS	N
KS C 9547:2020	Electrical/electronics appliances	Equipment for general lighting purposes - EMC immunity requirements	ESD:±8 ㎸, RS:80 ㎒ ~ 1 ㎓, EFT:±1 ㎸, SURGE:±2 ㎸, CS:150 ㎑ ~ 80 ㎒, M/F:3 A/m, V-DIP:(0 ~ 100) %	BS	N
KS C 9610-3-2:2020	Electrical/electronics appliances	Electromagnetic compatibility (EMC) - Part 3-2:Limit for harmonics current emissions (equipment input current up to and including 16 A per phase)	≤16 A	BS	N
KS C 9610-3-3:2020	Electrical/electronics appliances	Electromagnetic compatibility (EMC) - Part 3-3:Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current ≤16 A per phase	≤16 A	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
KS C 9610-4-11:2020	Electrical/electronics appliances	Electromagnetic compatibility (EMC) - Part 4-11:Testing and measurement techniques - Voltage dips, short interruptions and voltage variations immunity tests [exception] above 16 A equipment	V-DIP:(0 ~ 100) %	BS	N
KS C 9610-4-2:2017	Electrical/electronics appliances	Electromagnetic compatibility (EMC) - Part 4-2:Testing and measurement techniques - Electrostatic discharge immunity test	ESD:±30 ㎸	BS	N
KS C 9610-4-3:2017	Electrical/electronics appliances	Electromagnetic compatibility (EMC) - Part 4-3:Testing and measurement techniques - Radiated, radio - frequency, electromagnetic field	RS:80 ㎒ ~ 6 ㎓	BS	Y
KS C 9610-4-4:2020	Electrical/electronics appliances	Electromagnetic compatibility (EMC) - Part 4-4:Testing and measurement techniques - Electrical fast transient/burst immunity test	EFT:±4 ㎸	BS	N
KS C 9610-4-5:2020	Electrical/electronics appliances	Electromagnetic compatibility (EMC) - Part 4-5:Testing and measurement techniques - Surge immunity test	SURGE:±6 ㎸	BS	N
KS C 9610-4-6:2020	Electrical/electronics appliances	Test method of Immunity to conducted disturbances, induced by radiofrequency fields	CS:150 ㎑ ~ 230 ㎒,	BS	N
KS C 9610-4-8:2017	Electrical/electronics appliances	Electromagnetic compatibility(EMC) - Part 4-8:Testing and measurement techniques- Power frequency magnetic field immunity test	MF:≤100 A/m	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
KS C 9610-6-1:2019	Electrical/electronics appliances	Electromagnetic compatibility(EMC) - Part 6-1:Generic standards - Immunity for residential, commercial and light-industrial environments	ESD:±8 ㎸, RS:80 ㎒ ~ 6 ㎓, EFT:±1 ㎸, SURGE:±2 ㎸, CS:150 ㎑ ~ 80 ㎒, M/F:3 A/m, V-DIP:(0 ~ 100) %	BS	N
KS C 9610-6-2:2019	Electrical/electronics appliances	Electromagnetic compatibility (EMC) - Part 6-2:Generic standards - Immunity for industrial environments	ESD:±8 ㎸, RS:80 ㎒ ~ 6 ㎓, EFT:±2 ㎸, SURGE:±2 ㎸, CS:150 ㎑ ~ 80 ㎒, M/F:30 A/m, V-DIP:(0 ~ 100) %	BS	N
KS C 9610-6-3:2023	Electrical/electronics appliances	Electromagnetic compatibility (EMC)-Part 6-3:Generic standards - Emission standard for residential,commercial and light-industrial environments	RE:30 ㎒ ~ 1 ㎓, 1 ㎓ ~ 6 ㎓, CE:150 ㎑ ~ 30 ㎒	BS	N
KS C 9610-6-4:2022	Electrical/electronics appliances	Electromagnetic compatibility (EMC) — Part 6-4:Generic standards — Emission standard for industrial environments	RE:30 ㎒ ~ 1 ㎓, 1 ㎓ ~ 6 ㎓, CE:150 ㎑ ~ 30 ㎒	BS	N
KS C 9811:2019	Electrical/electronics appliances	Industrial, scientific and medical equipment - Radio-frequency disturbance characteristics - Limits and methods of measurement [exception] 7.6.10 Power converter for solar power generation (Above16A equipment and 3 phase connection equipment)	RE:9 ㎑ ~ 18 ㎓ CE:9 ㎑ ~ 30 ㎒	BS	N
KS C 9814-1:2022	Electrical/electronics appliances	Electromagnetic compatibility - Requirements for household appliances, electric tools and similar apparatus Part 1:Emission	RE:9 ㎑ ~ 6 ㎓, CE:9 ㎑ ~30 ㎒, Disturbance Power:30 ㎒ ~ 300 ㎒	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
KS C 9814-2:2022	Electrical/electronics appliances	Electromagnetic compatibility — Requirements for household appliances, electric tools and similar apparatus — Part 2:Immunity - Product family standard	ESD:±30 ㎸, RS:80 ㎒ ~ 6 ㎓, EFT:±1 ㎸, SURGE:±2 ㎸, CS:150 ㎑ ~ 230 ㎒, V-DIP:(0 ~ 100) %	BS	N
KS C 9815:2023	Electrical/electronics appliances	Limits and methods of measurement of radio disturbance characteristics of electrical lighting and similar equipment [exception] 4.2 Insertion loss	RE:9 ㎑ ~ 1000 ㎒ CE:9 ㎑ ~ 30 ㎒	BS	N
KS C 9816-1-4:2020	Electrical/electronics appliances	Specification for radio disturbance and immunity measuring apparatus and methods - Part 1-4:Radio disturbance and immunity measuring apparatus - Antennas and test sites for radiated disturbance measurements	RE:30 ㎒ ~ 18 ㎓	BS	Y
KS C 9832:2023	Electrical/electronics appliances	Electromagnetic compatibility of multimedia equipment - Emission Requirements	RE:30 ㎒ ~ 6 ㎓, CE:150 ㎑ ~ 30 ㎒ Disturbance Voltage:30㎒ ~ 2 150 ㎒	BS	N
KS C 9835:2019	Electrical/electronics appliances	Electromagnetic compatibility of multimedia equipment - Immunity Requirements	ESD:±8 ㎸, RS:80 ㎒ ~ 6 ㎓, EFT:±1 ㎸, SURGE:±4 ㎸, CS:150 ㎑ ~ 80 ㎒, MF:60 ㎐, 1 A/m, V-DIP:(0 ~ 100) %	BS	N
KS C 9990:2017	Electrical/electronics appliances	Electromagnetic compatibility of automobiles and internal combustion engines [exception] 6.5 Radiated emissions from components/modules. TEM cell method 6.6 Radiated emissions from components/module. Strip line method	Electrical transient conduction: - 600 V ~ 200 V, RE:30 ㎒ ~ 1 ㎓, CE:0.15 ㎒ ~ 30 ㎒, Harmonic Current Emission: ≤16 A, Voltage Fluctuation and Flicker:≤16 A, EFT:±2 ㎸, RS:20 ㎒ ~ 2 000 ㎒, SURGE:±2 ㎸	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
KS C 9995:2021	Electrical/electronics appliances	ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 51:Specific conditions for Automotive, Ground based Vehicles and Surveillance Radar Devices using 24,05 GHz to 24,25 GHz, 24,05 GHz to 24,5 GHz, 76 GHz to 77 GHz and 77 GHz to 81 GHz;	RE:30 ㎒ ~ 6 ㎓ CE:150 ㎑ ~ 30 ㎒ ESD:±8 ㎸ RS:80 ㎒ ~ 6 ㎓ EFT:±1 ㎸ SURGE:±2 ㎸ CS:150 ㎑ ~ 80 ㎒ V-DIP:(0 ~ 100) % TI : - 600 V ~ 200 V	BS	N
KS C CISPR 13	Electrical/electronics appliances	Sound and television broadcast receivers and associated equipment - Radio disturbance characteristics - Limits and methods of measurement	RE:30 ㎒ ~ 6 ㎓, CE:150 ㎑ ~ 30 ㎒ Differential voltage:30 ㎒ ~ 2 150 ㎒	BS	N
KS C IEC 60601-1-2:2014	Electrical/electronics appliances	Medical electrical equipment - Part 1-2: General requirements for basic safety and essential performance - Collateral standard:Electromagnetic compatibility - Requirements and tests	ESD:±8 ㎸, RS:80 ㎒ ~ 2.5 ㎓, EFT:±2 ㎸, SURGE:±2 ㎸, CS:150 ㎑ ~ 80 ㎒, V-DIP:(0 ~ 100) %, MF:3 A/m	BS	N
KS C IEC 60601-1-2:2020	Electrical/electronics appliances	Medical electrical equipment -Part 1-2:General requirementsfor basic safety and essential performance - Collateral Standard:Electromagnetic disturbances - Requirements and tests	RE:30 ㎒ ~ 18 ㎓ CE:9 ㎑ ~ 30 ㎒ Harmonics:≤16 A Flicker:≤16 A ESD:±15 ㎸ RS:80 ㎒ ~ 6 ㎓ EFT:±2 ㎸ SURGE:±2 ㎸ CS:150 ㎑ ~ 80 ㎒ MF:30 A/m V-DIP:(0 ~ 100) % TI:-600 V ~ 200 V PMF: 10 ㎑ ~ 13.56 ㎒	BS	N
KS C IEC 60947-1:2014	Electrical/electronics appliances	Low-voltage switchgear and control gear -Part 1:General rules	RE:30 ㎒ ~ 1 ㎓, CE:150 ㎑ ~ 30 ㎒, ESD:±8 ㎸, RS:80 ㎒ ~ 2.7 ㎓, EFT:±2 ㎸, SURGE:±2 ㎸, CS:150 ㎑ ~ 80 ㎒, V-DIP:(0 ~ 100) %, MF:30 A/m	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
KS C IEC 60947-2:2016	Electrical/electronics appliances	Low-voltage switchgear and control gear -Part 2:Circuit-breakers	RE:30 ㎒ ~ 1 ㎓, CE:150 ㎑ ~ 30 ㎒, ESD:±8 ㎸, RS:80 ㎒ ~ 2.7 ㎓, EFT:±4 ㎸, SURGE:±4 ㎸, CS:150 ㎑ ~ 80 ㎒, V-DIP:(0 ~ 100) %, MF:30 A/m	BS	N
KS C IEC 60947-2:2019	Electrical/electronics appliances	Low-voltage switchgear and controlgear - Part 2: Circuit-breakers	RE:30 ㎒ ~ 1 ㎓ CE:150 ㎑ ~ 30 ㎒ ESD:±8Kv RS:80 ㎒ ~ 6㎓ EFT:±4kV SURGE:±4kV CS:150 ㎑ ~ 80 ㎒ V-DIP:(0~100) % MF:30 A/m	BS	N
KS C IEC 60947-4-1:2009	Electrical/electronics appliances	Low-voltage switchgear and control gear Part 4-1:Contactors and motor-starters - Electromechanical contactors and motor-starters	RE:30 ㎒ ~ 1 ㎓, CE:150 ㎑ ~ 30 ㎒, ESD:±8 ㎸, RS:80 ㎒ ~ 2.7 ㎓, EFT:±4 ㎸, SURGE:±4 ㎸, CS:150 ㎑ ~ 80 ㎒, V-DIP:(0 ~ 100) %, MF:30 A/m	BS	N
KS C IEC 60947-4-1:2018	Electrical/electronics appliances	Low-voltage switchgear and controlgear - Part 4-1: Contactors and motor-starters - Electromechanical contactors and motor-starters	RE:30 ㎒ ~ 1 ㎓, CE:150 ㎑ ~ 30 ㎒, ESD:±8 ㎸, RS:80 ㎒ ~2.7 ㎓, EFT:±4 ㎸, SURGE:±4 ㎸, CS:150㎑ ~ 80 ㎒, V-DIP:(0 ~ 100) %,MF:30 A/m	BS	N
KS C IEC 62236-3-2:2006	Electrical/electronics appliances	Railway applications - Electromagnetic compatibility - Part 3-2: Rolling stock - Apparatus [Exception] [Table1]Emission - Auxiliary AC or DC power ports [Table7]Immunity-7.2Surge	CE:150 ㎑ ~ 30 ㎒ ESD:±8 ㎸ RS:80 ㎒ ~ 1 ㎓, 800 ㎒ ~ 960 ㎒, 1 400 ㎒ ~ 2 000 ㎒ EFT:±2 ㎸ CS:150 ㎑ ~ 80 ㎒	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
KS C IEC 62236-3-2:2018	Electrical/electronics appliances	Railway applications - Electromagnetic compatibility - Part 3-2: Rolling stock - Apparatus	CE:150 ㎑ ~ 30 ㎒ RE:30 ㎒ ~ 6 ㎓ ESD:±8 ㎸ RS:80 ㎒ ~ 6 ㎓, EFT:±2 ㎸ CS:150 ㎑ ~ 80 ㎒ SURGE:±4 ㎸	BS	N
KS C IEC 62236-4:2006	Electrical/electronics appliances	Railway applications - Electromagnetic compatibility - Part 4: Emission and immunity of the signalling and telecommunications apparatus [Exception] [Annex A Traction frequency test] - [Table A.1] Immunity-I/O port, d.c. power port, a.c. power port	RE:30 ㎒ ~ 1 ㎓, 1 ㎓ ~ 6 ㎓ CE:150 ㎑ ~ 30 ㎒ ESD:±8 ㎸ RS:80 ㎒ ~ 1 ㎓, 800 ㎒ ~ 960 ㎒, 1 400 ㎒ ~ 2 000 ㎒ EFT:±2 ㎸ SURGE:±2 ㎸ CS:150 ㎑ ~ 80 ㎒ MF:100 A/m Impulse MF:300 A/m	BS	N
KS C IEC 62236-4:2018	Electrical/electronics appliances	Railway applications - Electromagnetic compatibility - Part 4: Emission and immunity of the signalling and telecommunications apparatus	RE:30 ㎒ ~ 1 ㎓,1 ㎓ ~ 6 ㎓ CE:150 ㎑ ~ 30 ㎒ ESD:±8kV RS:80 ㎒ ~ 6㎓ , EFT:±2kV SURGE:±2kV CS:150 ㎑ ~ 80 ㎒ MF:100 A/m Impulse MF:300 A/m	BS	N
KS X 3124:2020	Electrical/electronics appliances	Electromagnetic compatibility and Radio spectrum matters(ERM): Electromagnetic compatibility(EMC) standard for radio equipment and services:Part 1:Common technical requirements	RE:30 ㎒ ~ 6 ㎓, CE:150 ㎑ ~ 30 ㎒, ESD:±8 ㎸, RS:80 ㎒ ~ 6 ㎓, EFT:±1 ㎸, SURGE:±2 ㎸, CS:150 ㎑ ~ 80 ㎒, V-DIP:(0 ~ 100) % TI: -600 V ~ 200 V	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
KS X 3125:2020	Electrical/electronics appliances	Electromagnetic compatibility and Radio spectrum matters(ERM):Electromagnetic compatibility(EMC) standard for radio equipment and services:Part 3:Specific conditions for Short-Range Devices (SRD) operating on frequencies between 9 ㎑ and 40 ㎓	RE:30 ㎒ ~ 6 ㎓, CE:150 ㎑ ~ 30 ㎒, ESD:±8 ㎸, RS:80 ㎒ ~ 6 ㎓, EFT:±1 ㎸, SURGE:±2 ㎸, CS:150 ㎑ ~ 80 ㎒, V-DIP:(0 ~ 100) % TI: -600 V ~ 200 V	BS	N
KS X 3126:2020	Electrical/electronics appliances	Electromagnetic compatibility and Radio spectrum Matters(ERM); Electro Magnetic Compatibility(EMC) standard for radio equipment; Part 17:Specific conditions for Broadband Data Transmission Systems	RE:30 ㎒ ~ 6 ㎓, CE:150 ㎑ ~ 30 ㎒, ESD:±8 ㎸, RS:80 ㎒ ~ 6 ㎓, EFT:±1 ㎸, SURGE:±2 ㎸, CS:150 ㎑ ~ 80 ㎒, V-DIP:(0 ~ 100) % TI: -600 V ~ 200 V	BS	N
KS X 3127:2014	Electrical/electronics appliances	Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 5:Specific conditions for Private land Mobile Radio (PMR) and ancillary equipment (speech and non-speech)	RE:30 ㎒ ~ 6 ㎓, CE:150 ㎑ ~ 30 ㎒, ESD:±8 ㎸, RS:80 ㎒ ~ 6 ㎓, EFT:±1 ㎸, SURGE:±2 ㎸, CS:150 ㎑ ~ 80 ㎒, V-DIP:(0 ~ 100) % TI: -600 V ~ 200 V	BS	N
KS X 3128:2014	Electrical/electronics appliances	Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 6:Specific conditions for Digital Enhanced Cordless Telecommunications (DECT) equipment	RE:30 ㎒ ~ 6 ㎓, CE:150 ㎑ ~ 30 ㎒, ESD:±8 ㎸, RS:80 ㎒ ~ 6 ㎓, EFT:±1 ㎸, SURGE:±2 ㎸, CS:150 ㎑ ~ 80 ㎒, V-DIP:(0 ~ 100) % TI: -600 V ~ 200 V	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
KS X 3129:2020	Electrical/electronics appliances	Electromagnetic Compatibility (EMC) standard for radio equipment and services; Part 52:Specific conditions for Cellular Communication Mobile and portable (UE) radio and ancillary equipment	RE:30 ㎒ ~ 6 ㎓ CE:150 ㎑ ~ 30 ㎒ ESD:±8 ㎸ RS:80 ㎒ ~ 6 ㎓ EFT:±1 ㎸ SURGE:±2 ㎸ CS:150 ㎑ ~ 80 ㎒ V-DIP:(0 ~ 100) % TI: -600 V ~ 200 V	BS	N
KS X 3130:2014	Electrical/electronics appliances	Electromagnetic compatibility and Radio spectrum Matters(ERM); Electro Magnetic Compatibility (EMC) standard for radio equipment and services; Part 9:Specific conditions for wireless microphones, similar Radio Frequency (RF) audio link equipment, cordless audio and in-ear monitoring devices	RE:30 ㎒ ~ 6 ㎓, CE:150 ㎑ ~ 30 ㎒, ESD:±8 ㎸, RS:80 ㎒ ~ 6 ㎓, EFT:±1 ㎸, SURGE:±2 ㎸, CS:150 ㎑ ~ 80 ㎒, V-DIP:(0 ~ 100) %	BS	N
KS X 3131:2014	Electrical/electronics appliances	Electromagnetic compatibility and radio spectrum matters (erm); electromagnetic compatibility (emc) standard for radio equipment and services; part 13:specific conditions for citizens' band (cb) radio and ancillary equipment (speech and non-speech)	RE:30 ㎒ ~ 6 ㎓, CE:150 ㎑ ~ 30 ㎒, ESD:±8 ㎸, RS:80 ㎒ ~ 6 ㎓, EFT:±1 ㎸, SURGE:±2 ㎸, CS:150 ㎑ ~ 80 ㎒, V-DIP:(0 ~ 100) % TI: -600 V ~ 200 V	BS	N
KS X 3132:2014	Electrical/electronics appliances	Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 18:Specific conditions for Terrestrial Trunked Radio (TETRA) equipment	RE:30 ㎒ ~ 6 ㎓, CE:150 ㎑ ~ 30 ㎒, ESD:±8 ㎸, RS:80 ㎒ ~ 6 ㎓, EFT:±1 ㎸, SURGE:±2 ㎸, CS:150 ㎑ ~ 80 ㎒, V-DIP:(0 ~ 100) % TI: -600 V ~ 200 V	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
KS X 3134:2014	Electrical/electronics appliances	Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 27:Specific conditions for Ultra Low Power Active Medical Implants (ULPAMI) and related peripheral devices (ULPAMI-P)	RE:30 ㎒ ~ 6 ㎓ CE:150 ㎑ ~ 30 ㎒ ESD:±8 ㎸ RS:80 ㎒ ~ 2.5 ㎓ EFT:±2 ㎸ SURGE:±2 ㎸ CS:150 ㎑ ~ 80 ㎒ V-DIP:(0 ~ 100) % TI: -600 V ~ 200 V	BS	N
KS X 3135:2020	Electrical/electronics appliances	Electromagnetic compatibility (EMC) and Radio spectrum Matters(ERM); Electro Magnetic Compatibility(EMC) standard for radio equipment and services; Part 50:Specific conditions for Cellular Communication Base Station(BS), repeater and ancillary equipment.	RE:30 ㎒ ~ 6 ㎓, CE:150 ㎑ ~ 30 ㎒, ESD:±8 ㎸, RS:80 ㎒ ~ 6 ㎓, EFT:±1 ㎸, SURGE:±2 ㎸, CS:150 ㎑ ~ 80 ㎒, V-DIP:(0 ~ 100) % TI: -600 V ~ 200 V	BS	N
KS X 3136:2014	Electrical/electronics appliances	Electromagnetic compatibility and radio spectrum matters (erm); electromagnetic compatibility (emc) standard for radio equipment and services; part 15:specific conditions for commercially available amateur radio equipment	RE:30 ㎒ ~ 6 ㎓, CE:150 ㎑ ~ 30 ㎒, ESD:±8 ㎸, RS:80 ㎒ ~ 6 ㎓, EFT:±1 ㎸, SURGE:±2 ㎸, CS:150 ㎑ ~ 80 ㎒, V-DIP:(0 ~ 100) % TI: -600 V ~ 200 V	BS	N
KS X 3137:2014	Electrical/electronics appliances	Electromagnetic compatibility (EMC) standard for radio equipment and services; Part 2:Specific conditions for radio paging equipment	RE:30 ㎒ ~ 6 ㎓ CE:150 ㎑ ~ 30 ㎒ ESD:±8 ㎸ RS:80 ㎒ ~ 6 ㎓ EFT:±1 ㎸ SURGE:±2 ㎸ CS:150 ㎑ ~ 80 ㎒ V-DIP:(0 ~ 100) % TI: -600 V ~ 200 V	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
KS X 3139:2014	Electrical/electronics appliances	EMC Test Methods for Mobile Satellite Service Equipment Wall Probing Radar Equipment	RE:30 ㎒ ~ 6 ㎓ CE:150 ㎑ ~ 30 ㎒ ESD:±8 ㎸ RS:80 ㎒ ~ 6 ㎓ EFT:±1 ㎸ SURGE:±2 ㎸ CS:150 ㎑ ~ 80 ㎒ V-DIP:(0 ~ 100) % TI: -600 V ~ 200 V	BS	N
KS X 3143:2020	Electrical/electronics appliances	EMI test methods for residential wireless power transfer equipment	RE:9 ㎑ ~ 1 ㎓ CE:150 ㎑ ~ 30 ㎒	BS	N
MIL-STD-461D:1993	Electrical/electronics appliances	Requirements for the Control of Electromagnetic Interference emissions and susceptibility [exception] 5.3.8 CS109, 5.3.14 RE103, 5.3.16 RS103(10 ㎑ to 85 ㎒, 200 V/m), 5.3.17 RS105	RE:30 Hz ~ 40 ㎓, CE:30 Hz ~ 40 ㎓, RS:30 Hz ~ 40 ㎓, CS:30 Hz ~ 20 ㎓	BS	N
MIL-STD-461E:1999	Electrical/electronics appliances	Requirements for the Control of Electromagnetic Interference Characteristics of Subsystems and Equipment [exception] 5.11 CS109 5.17 RE103 5.19 RS103 (2 ㎒ to 85 ㎒, 200 V/m) 5.20 RS105	RE:30 Hz ~ 40 ㎓, CE:30 Hz ~ 40 ㎓, RS:30 Hz ~ 40 ㎓, CS:30 Hz ~ 20 ㎓	BS	N
MIL-STD-461F:2007	Electrical/electronics appliances	Requirements for the Control of Electromagnetic Interference Characteristics of Subsystems and Equipment [exception] 5.12 CS109 5.18 RE103 5.20 RS103 (2 ㎒ to 85 ㎒, 200 V/m) 5.21 RS105	RE:30 Hz ~ 40 ㎓, CE:30 Hz ~ 40 ㎓, RS:30 Hz ~ 40 ㎓, CS:30 Hz ~ 20 ㎓	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
MIL-STD-461G:2015	Electrical/electronics appliances	REQUIREMENTS FOR THE CONTROL OF ELECTROMAGNETIC INTERFERENCE CHARACTERISTICS OF SUBSYSTEMS AND EQUIPMENT [exception] 5.11 CS109, 5.15 CS117, 5.19 RE103, 5.21 RS103(2 ㎒ to 85 ㎒, 200 V/m), 5.22 RS105	RE:30 ㎐ ~ 40 ㎓, CE:30 ㎐ ~ 40 ㎓, RS:30 ㎐ ~ 40 ㎓, CS:30 ㎐ ~ 20 ㎓, CS118: ±15 kV	BS	N
MIL-STD-462D:1993	Electrical/electronics appliances	Measurement of electromagnetic interference characteristics [exception] CS109, RE103 RS105	RE:30 ㎐ ~ 40 ㎓, CE:30 ㎐ ~ 40 ㎓, RS:30 ㎐ ~ 40 ㎓, CS:30 ㎐ ~ 20 ㎓	BS	N
MIL-STD-704F:2016	Electrical machinery for industries	DEPARTMENT OF DEFENSE INTERFACE STANDARD AIRCRAFT ELECTRIC POWER CHARACTERISTICS	SAC:400 Hz, 115 V TAC:400 Hz, 115 V SVF, TVF:Variable Frequency, 115 V SXF:60 Hz, 115 V LDC:DC 28 V HDC:DC 270 V	BS	N
SANS 211:2010	Electrical/electronics appliances	Industrial, scientific and medical equipment — Radio-frequency disturbance characteristics — Limits and methods of measurement	RE:9 ㎑ ~ 18 ㎓, CE:9 ㎑ ~ 30 ㎒	BS	N
SANS 213:2011	Electrical/electronics appliances	Sound and television broadcast receivers and associated equipment - Radio disturbance characteristics - Limits and methods of measurement	RE:30 ㎒ ~ 1 ㎓, Differential voltage: 30 ㎒ ~ 2 150 ㎒ Radiated Power: 0.9 ㎓ ~ 18 ㎓	BS	N
SANS 214-1:2009	Electrical/electronics appliances	Electromagnetic compatibility - Requirements for household appliances, electric tools and similar apparatus Part 1:Emission	RE:9 ㎑ ~ 1 ㎓, CE:9 ㎑ ~ 30 ㎒	BS	N
SANS 214-1:2020	Electrical/electronics appliances	Electromagnetic compatibility - Requirements for household appliances, electric tools and similar apparatus Part 1:Emission	RE:9 ㎑ ~ 1 ㎓, CE:9 ㎑ ~ 30 ㎒	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
SANS 214-2:2009	Electrical/electronics appliances	Electromagnetic compatibility - Requirements for household appliances, electric tools and similar apparatus Part 2:Immunity - Product family standard	ESD:±8 ㎸, RS:80 ㎒ ~ 1 ㎓, EFT:±1 ㎸, SURGE:±2 ㎸, CS:150 ㎑ ~ 230 ㎒, V-DIP:(0~100) %	BS	N
SANS 215:2009	Electrical/electronics appliances	Limits and methods of measurement of radio disturbance characteristics of electrical lighting and similar equipment [exception] 4.2 Insertion loss	RE:9 ㎑ ~ 300 ㎒, CE:9 ㎑ ~ 30 ㎒	BS	N
SANS 215:2019	Electrical/electronics appliances	Limits and methods of measurement of radio disturbance characteristics of electrical lighting and similar equipment [exception] 4.2 Insertion loss	RE:9 ㎑ ~ 1 ㎓, CE:9 ㎑ ~ 30 ㎒	BS	N
SANS 222:2009	Electrical/electronics appliances	Information technology equipment - Radio disturbance characteristics - Limits and methods of measurement	RE:30 ㎒ ~ 6 ㎓, CE:150 ㎑ ~30 ㎒	BS	N
SANS 224:2010	Electrical/electronics appliances	Information technology equipment - Immunity characteristics - Limits and methods of measurement [exception] 3 phase connection equipment	ESD:±8 ㎸, RS:80 ㎒ ~1.0 ㎓, EFT:±1 ㎸, SURGE:±2 ㎸, CS:150 ㎑ ~80 ㎒, M/F:1 A/m, V-DIP:(0 ~ 100) %	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
SANS 225:2008	Electrical/electronics appliances	Vehicles, boats and internal combustion engines -Radio disturbance characteristics - Limits and methods of measurement for the protection of on-board receivers. [exception] 5 Measurement of emissions received by an antenna on the same vehicle 6.5 Radiated emissions from components/modules. TEM cell method 6.6 Radiated emissions from components/module. Strip line method	RE:150 ㎑ ~ 2.5 ㎓ CE(Voltage Method):150 ㎑ ~ 108 ㎒ CE(Current Method):150 ㎑ ~ 108 ㎒	BS	N
SANS 225:2019	Electrical/electronics appliances	Vehicles, boats and internal combustion engines - Radio disturbance characteristics - Limits and methods of measurement for the protection of on-board receivers. [exception] 5 Measurement of emissions received by an antenna on the same vehicle 6.6 Radiated emissions from components/modules. TEM cell method 6.7 Radiated emissions from components/module. Strip line method	RE:150 ㎑ ~ 2.5 ㎓ CE(Voltage Method):150 ㎑ ~ 108 ㎒ CE(Current Method):150 ㎑ ~ 245 ㎒	BS	Y
SANS 2332:2017	Electrical/electronics appliances	Electromagnetic compatibility of multimedia equipment - Emission Requirements	RE:30 ㎒ ~ 6 ㎓, CE:150 ㎑ ~ 30 ㎒, Differential voltage:30 ㎒ ~ 2 150 ㎒	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
SANS 2335:2018	Electrical/electronics appliances	Electromagnetic compatibility of multimedia equipment — Immunity requirements [exception] 3 phase connection equipment Table 2 - Immunity requirements for analogue/digital data ports: 2.2 Broadband impulse noise disturbances repetitive 2.3 Broadband impulse noise disturbances, isolated	ESD:±8 ㎸, RS:80 ㎒ ~ 6.0 ㎓, EFT:±1 ㎸, SURGE:±2 ㎸,CS:150 ㎑ ~ 80 ㎒, M/F:1 A/m, V-DIP:(0 ~ 100) %	BS	N
SANS 61000-3-2:2009	Electrical/electronics appliances	Limit for harmonics current emissions (equipment input current ≤ 16 A per phase)	≤ 16 A	BS	N
SANS 61000-3-3:2009	Electrical/electronics appliances	Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current ≤16 A per phase and not subject to conditional connection	≤ 16 A	BS	N
SANS 61000-4-11:2005	Electrical/electronics appliances	Electromagnetic compatibility(EMC) - Part 4-11:Testing and measurement techniques-Voltage dips, short interruptions and voltage variations immunity tests	V-DIP:(0 ~ 100) %	BS	N
SANS 61000-4-2:2009	Electrical/electronics appliances	Part 4-2:Testing and measurement techniques - Electrostatic discharge immunity test	±30 ㎸	BS	N
SANS 61000-4-3:2008	Electrical/electronics appliances	Electromagnetic compatibility (EMC) - Part 4-3:Testing and measurement techniques - Radiated, radio-frequency, electromagnetic field immunity test	RS:80 ㎒ ~ 6 ㎓	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
SANS 61000-4-4:2011	Electrical/electronics appliances	Electromagnetic compatibility (EMC) - Part 4-4:Testing and measurement techniques - Electrical fast transient/burst immunity test	EFT:±4 ㎸	BS	N
SANS 61000-4-5:2006	Electrical/electronics appliances	Testing and measurement techniques - Surge immunity test	SURGE:±6 ㎸	BS	N
SANS 61000-4-6:2009	Electrical/electronics appliances	Electromagnetic compatibility(EMC) - Part 4-6:Testing and measurement techniques-Immunity to conducted disturbances, induced by radio-frequency fields	CS:150 ㎑ ~ 230 ㎒	BS	N
SANS 61000-4-6:2017	Electrical/electronics appliances	Electromagnetic compatibility(EMC) - Part 4-6:Testing and measurement techniques - Immunity to conducted disturbances, induced by radio-frequency fields	CS:150 ㎑ ~ 230 ㎒	BS	N
SANS 61000-4-8:2009	Electrical/electronics appliances	Electromagnetic compatibility(EMC) - Part 4-8:Testing and measurement techniques-Power frequency magnetic field immunity test	M/F:≤ 100 A/m	BS	N
SANS 61000-6-1:2005	Electrical/electronics appliances	Generic standards - Immunity for residential, commercial and light-industrial environments [exception] 3 phase connection equipment	ESD:±8 ㎸, RS:80 ㎒ ~ 2.7 ㎓, EFT:±1 ㎸, SURGE:±2 ㎸, CS:150 ㎑ ~ 80 ㎒, M/F:3 A/m, V-DIP:(0 ~ 100) %	BS	N
SANS 61000-6-2:2005	Electrical/electronics appliances	Generic standards - Immunity for industrial environments [exception] 3 phase connection equipment	ESD:±8 ㎸, RS:80 ㎒ ~ 2.7 ㎓, EFT:±2 ㎸, SURGE:±2 ㎸, CS:150 ㎑ ~ 80 ㎒, M/F:30 A/m, V-DIP:(0 ~ 100) %	BS	N
SANS 61000-6-3:2011	Electrical/electronics appliances	Generic standards - Emission standard for residential, commercial and light - industrial environments	RE: 30 ㎒ ~ 6 ㎓, CE:150 ㎑ ~ 30 ㎒	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
SANS 61000-6-4:2011	Electrical/electronics appliances	Generic standards - Emission standard for industrial environments	RE: 30 ㎒ ~ 6 ㎓, CE:150 ㎑ ~ 30 ㎒	BS	N
SANS 61547:2012	Electrical/electronics appliances	Equipment for general lighting purposes - EMC immunity requirements	ESD:±8 ㎸, RS:80 ㎒ ~ 1 ㎓, EFT:±2 ㎸, SURGE:±2 ㎸, CS:150 ㎑ ~ 80 ㎒, M/F:3 A/m, V-DIP:(0 ~ 100) %	BS	N
VCCI 32-1-2:2016	Electrical/electronics appliances	VALIDATION OF TEST SITES FOR RADIATED EMISSION MEASUREMENTS	RE:30 ㎒ ~ 18 ㎓	BS	Y
VCCI-CISPR 32:2016	Electrical/electronics appliances	Electromagnetic compatibility of multimedia equipment - Emission Requirements	RE:30 ㎒ ~ 6 ㎓, CE:150 ㎑ ~ 30 ㎒ Differential voltage: 30 ㎒ ~ 2 150 ㎒	BS	N

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03. Electrical Testing

03.012 Software

Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
IEC 60335-1:2010+AMD1:2013+AMD2:2016	Software	Household and similar electrical appliances - Safety - Part 1:General requirements, Annex R Software evaluation	-	BS	Y
IEC 60730-1:2013	Software	Automatic electrical controls - Part 1:General requirements, Annex H Requirements for electronic controls	-	BS	Y
IEC 60730-1:2013/AMD1:2015	Software	Automatic electrical controls - Part 1:General requirements, Annex H Requirements for electronic controls	-	BS	Y
IEC 60730-1:2013/AMD2:2020	Software	Automatic electrical controls - Part 1:General requirements, Annex H Requirements for electronic controls	-	BS	Y
IEC 61508-3:2010	Software Test	Functional safety of electrical/electronic/programmable electronic safety-related systems-Part3:Software requirements Table B.1	-	BS	Y
IEC 62279:2015	Software Test	Railway applications - Communication, signalling and processing systems - Software for railway control and protection systems Table A.12	-	BS	Y
IEC 62304:2006/AMD1:2015	Software Test	Medical device software - Software life cycle processes	-	BS	Y
ISO 26262-6:2018	Software Test	Road vehicles - Functional safety - Part 6:Product development at the software level 8.4.5, 9.4.2 Table 6	-	BS	Y

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
ISO/IEC 25023:2016	Software	Systems and software engineering — Systems and software Quality Requirements and Evaluation (SQuaRE) — Measurement of system and software product quality	-	BS	Y
ISO/IEC 25051:2014	Software	Software engineering — Systems and software Quality Requirements and Evaluation (SQuaRE) — Requirements for quality of Ready to Use Software Product (RUSP) and instructions for testing	-	BS	Y
KC 60335-1:2016	Software	Household and similar electrical appliances - Safety - Part 1:General requirements, Annex R Software evaluation	-	BS	Y
KC 62619:2019	Software	Safety requirements for secondary lithium cells and batteries, Annex D Consideration of functional safety for battery management system	-	BS	Y
KS C IEC 60730-1:2015	Software	Automatic electrical controls - Part 1:General requirements, Annex H Requirements for electronic controls	-	BS	Y
KS P IEC 62304:2015	Software Test	Medical device software - Software life cycle processes	-	BS	Y
KS X ISO/IEC 25023:2016	Software	Systems and software engineering — Systems and software Quality Requirements and Evaluation (SQuaRE) — Measurement of system and software product quality	-	BS	Y

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
KS X ISO/IEC 25051:2014	Software	Software engineering — Systems and software Quality Requirements and Evaluation (SQuaRE) — Requirements for quality of Ready to Use Software Product (RUSP) and instructions for testing	-	BS	Y

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03. Electrical Testing

03.013 Energy Efficiency

Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
MOTIE Notice No. 2022-33 (2022.02.15.)	Electrical/electronics appliances	Regulation of standby program [Accept only> 3. Printer 4. Facsimile 5. Copy machine 6. Scanner 7. Official replicator 10. Audio 11. DVD Player 12. Radiocassette 13. Microwave(oven) 15. Door phone 16. Wired or wireless telephones 17. Bdet 20. Hand dryers 21. Server 22. Digital converter	Input Voltage:Max. 300 V a.c., Input Current:Max. 20 A, Rated Input Frequency:(50 ~ 60) ㎐, Temperature:(0 ~ 200) ℃	BS	N
MOTIE Notification No.2020-211(2020.12.04)	Electrical/electronics appliances	Regulation of standby program [Accept only> 1. Computer 2. Monitor 3. Printer 4. Facsimile 5. Copy machine 6. Scanner 7. Official replicator 10. Audio 11. DVD Player 12. Radiocassette 13. Microwave(oven) 15. Door phone 16. Wired or wireless telephones 17. Bdet 20. Hand dryers 21. Server 22. Digital converter	Input Voltage:Max. 300 V a.c., Input Current:Max. 20 A, Rated Input Frequency:(50 ~ 60) ㎐, Temperature:(0 ~ 200) ℃	BS	N
MOTIE Notification No.2021-69(2021.04.20)	Electrical/electronics appliances	Regulation of efficiency product [Accept only] 20.Adapter · Charge	Input Voltage:Max. 300 V a.c., Input Current:Max. 20 A, Rated Input Frequency:(50 ~ 60) ㎐, Temperature:(0 ~ 200) ℃	BS	N
MOTIE Notification No.2022-64(2022.04.27.)	Electrical/electronics appliances	Regulation of efficiency product [Accept only] 20. Adapter charger 26.TV monitor 42.Signage display 44.Monitor	Adapter charger: 150 W or less, TV set: screen 47 cm ~ 216 k:m or less, Signage display: screen 30.48 cm to 154.94 cm or less, monitor: screen 153 cm or less	BS	N

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03. Electrical Testing

03.014 Environmental and Reliability

Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
BS ISO 16750-3:2012	Electrical/electronics appliances	Road vehicles - Environmental conditions and testing for electrical and electronic equipment - Part 3:Mechanical loads	Frequency:(5 ~ 2 000) Hz, Vibration Acceleration:below 147 m/s², Shock Acceleration:below 1 500 m/s², Drop Height:below 1 m	BS	N
ES 95400-10:2013	Electrical/electronics appliances	Environment Reliability test for Electronic Equipment for Vehicle [exception] 3.5.14 Ozone resistance test	Temperature:(-70 ~ 200) ℃, Humidity:(10 ~ 98) % R.H. NaCl concentration:5 % Frequency:(5 ~ 2 000) Hz Vibration Acceleration: below 147 m/s² Shock Acceleration: below 1 500 m/s² Temprature:35 ℃, NaCl concentration:5 %	BS	N
ES 96100-02:2007	Electrical/electronics appliances	CAR AUDIO (RADIO/CDC/CDP/AV) Reliability test standard	Temperature:(-70 ~ 200) ℃ Humidity:(10 ~ 98) % R.H. Frequency:(5 ~ 2 000) Hz Vibration Acceleration: below 147 m/s² Shock Acceleration: below 1 500 m/s²	BS	N
IEC 60068-2-11:2021	Electrical/electronics appliances	Environmental testing - Part 2-11: Tests - Test Ka: Salt mist	Temprature:35 ℃, NaCl concentration:5 %	BS	N
IEC 60068-2-13:2021	Electrical/electronics appliances	기압:(7.1 ~ 101.33) kPa	기압:(7.1 ~ 101.33) kPa	BS	N
IEC 60068-2-14:2009	Electrical/electronics appliances	Environmental testing - Part2-14:Tests - Test N:Change of temperature [exception] 9. Test Nc:Rapid change of temperature, two-fluid- bath method	Temperature:(-70 ~ 150) ℃	BS	N
IEC 60068-2-1:2007	Electrical/electronics appliances	Environmental testing - Part 2-1:Tests - Tests A:Cold	Temperature:above -70 ℃	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
IEC 60068-2-27:2008	Electrical/electronics appliances	Environmental testing - Part2-27:Tests - Test Ea and guidance:Shock	Shock Acceleration:below 1 500 m/s²	BS	N
IEC 60068-2-2:2007	Electrical/electronics appliances	Environmental testing - Part 2-2:Tests - Test B:Dry heat	Temperature:below 200 ℃	BS	N
IEC 60068-2-30:2005	Electrical/electronics appliances	Environmental testing - Part 2-30:Tests - Test Db:Damp heat, cyclic (12 h + 12 h cycle)	Temperature:(10 ~ 90) ℃ Humidity:(10 ~ 98) % R.H.	BS	N
IEC 60068-2-31:2008	Electrical/electronics appliances	Environmental testing - Part 2-31:Tests - Test Ec:Rough handling shock, primarily for equipment- type specimens	Drop Height:(25 ~ 1 500) ㎜	BS	N
IEC 60068-2-52:2017	Electrical/electronics appliances	Environmental testing - Part 2-52:Tests - Test Kb:Salt mist, cyclic (sodium chloride solution)	Temprature:(15 ~ 35) °C, 40 °C NaCl concentration:5 % Humidity:(45 ~ 55) % R.H., 93 % R.H.	BS	N
IEC 60068-2-53:2010	Electrical/electronics appliances	Environmental testing - Part 2-53:Tests and guidance - Combined climatic (temperature/humidity) and dynamic (vibration/shock) tests	Temperature:(-40 ~ 150) ℃ Humidity:(20 ~ 98) % R.H Vibration Frequency:(5 ~ 2 000) ㎐ Vibration Acceleration:Below 147 m/s² Shock Acceleration:Below 909 m/s²	BS	N
IEC 60068-2-57:2013	Electrical/electronics appliances	Environmental testing - Part 2-57:Tests - Test Ff:Vibration - Time-history and sine-beat method	Frequency:(5 ~ 2 000) ㎐ Vibration Acceleration:below 147 m/s²	BS	N
IEC 60068-2-64:2008+AMD1:2019	Electrical/electronics appliances	Environmental Testing - Part 2-64:Tests methods - Test Fh:Vibration, broad- band random and guidance	Frequency:(5 ~ 2 000) ㎐ Vibration Acceleration:below 147 m/s²	BS	N
IEC 60068-2-66:1994	Electrical/electronics appliances	Environmental testing - Part 2:Test methods - Test Cx:Damp heat, steady state (unsaturated pressurized vapour)	Temperature:110 ℃, 120 ℃, 130 ℃ Humidity:85 % R.H.	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
IEC 60068-2-67:1995+AMD1:2019	Electrical/electronics appliances	Environmental testing - Part 2-67:Tests - Test Cy:Damp heat, steady state, accelerated test primarily intended for components	Temperature:(10 ~ 90) ℃, Humidity:(10 ~ 98) % R.H.	BS	N
IEC 60068-2-6:2007	Electrical/electronics appliances	Environmental testing - Part 2-6:Tests - Test Fc:Vibration (sinusoidal)	Frequency:(5 ~ 2 000) ㎐ Vibration Acceleration:below 147 m/s²	BS	N
IEC 60068-2-78:2012	Electrical/electronics appliances	Environmental testing - Part 2-78:Tests - Test Cab:Damp heat, steady state	Temperature:30 ℃, 40 ℃, Humidity:below 98 % R.H.	BS	N
IEC 60529:1989+A1:1999+A2:2013	Electrical/electronics appliances	Degrees of protection provided by enclosures (IP Code)	IPX1, IPX2, IPX3, IPX4, IPX5, IPX6, IPX7, IPX8, IPX9, IP1X, IP2X, IP3X ,IP4X ,IP5X ,IP6X	BS	N
IEC 60571:2012	Electrical/electronics appliances	Railway applications - Electronic equipment used on rolling stock [exception] 12.2.7 Supply overvoltages 12.2.8 Surges, electrostatic discharge and transient burst susceptibility tests 12.2.9 Radio frequency test	Frequency:(5 ~ 2 000) ㎐, Vibration Acceleration:below 147 m/s², Shock Acceleration:below 1 500 m/s² , Temperature:(-70 ~ 150) ℃, Humidity:(10 ~ 98) % R.H. Temperature:35 ℃ NaCl concentration:5 %	BS	N
IEC 61373:2010	Electrical/electronics appliances	Railway applications - Rolling stock equipment - Shock and vibration tests	Frequency:(5 ~ 2 000) ㎐, Vibration Acceleration:below 147 m/s², Shock Acceleration:below 1 500 m/s² ,	BS	N
ISO 16750-4:2010	Electrical/electronics appliances	Road vehicles - Environmental conditions and testing for electrical and electronic equipment -Part4:Climatic loads [exception] 5.4 Ice water shock test, 5.8 Corrosion test with flow of mixed gas, 5.9 Solar radiation,	Temperature:(-70 ~ 200) ℃, Humidity:(10 ~ 98) % R.H. Temprature:35 °C, NaCl concentration:5 %	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
ISO 20653:2013	Electrical/electronics appliances	Road vehicles — Degrees of protection (IP code) — Protection of electrical equipment against foreign objects, water and access	IPX1, IPX2, IPX3, IPX4, IPX4K, IPX5, IPX6, IPX6K, IPX7, IPX8, IPX9K, IP1X, IP2X, IP3X ,IP4X ,IP5KX ,IP6KX	BS	N
KS C 7620:2003	Electrical/electronics appliances	Railway car luminaries for fluorescent lamps [exception] 7.2 Characteristic test 7.8 Life cycle test 7.11 Luminous flux rate test 7.13 Noise strength test	Voltage:DC 24 V, DC 100 V, Current:below DC 200 A Temperature:(0 ~ 200) ℃	BS	N
KS C IEC 60068-2-11:2021	Electrical/electronics appliances	Basic environmental testing procedures - Part 2-11:Tests - Test Ka:Salt mist	Temprature:35 °C, NaCl concentration:5 %	BS	N
KS C IEC 60068-2-13:2021	Electrical/electronics appliances	Basic environmental testing procedures - Part 2-13:Tests - Test M: Low air pressure	기압:(7.1 ~ 101.33) kPa	BS	N
KS C IEC 60068-2-14:2009	Electrical/electronics appliances	Environmental testing - Part2-14:Tests - Test N:Change of temperature [exception] 9. Test Nc:Rapid changeof temperature, two-fluid-bath method	Temperature:(-70 ~ 150) ℃	BS	N
KS C IEC 60068-2-1:2007	Electrical/electronics appliances	Environmental testing - Part 2-1:Tests - Tests A:Cold	Temperature:above -70 ℃	BS	N
KS C IEC 60068-2-27:2008	Electrical/electronics appliances	Environmental testing - Part2-27:Tests - Test Ea and guidance:Shock	Shock Acceleration:below 1 500 m/s^2	BS	N
KS C IEC 60068-2-2:2007	Electrical/electronics appliances	Environmental testing - Part 2-2:Tests - Test B:Dry heat	Temperature:below 200 ℃	BS	N
KS C IEC 60068-2-30:2005	Electrical/electronics appliances	Environmental testing - Part 2-30:Tests - Test Db:Damp heat, cyclic (12 h + 12 h cycle)	Temperature:(10 ~ 90) ℃, Humidity:(10 ~ 98) % R.H.	BS	N
KS C IEC 60068-2-31:2008	Electrical/electronics appliances	Environmental testing - Part 2-31:Tests - Test Ec:Rough handling shock, primarily for equipment - type specimens	Drop hight:(25 ~ 1 500) ㎜	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
KS C IEC 60068-2-38:2021	Electrical/electronics appliances	Environmental testing - Part 2-38: Tests - Test Z/AD: Composite temperature/humidity cyclic test	Temperature:(-10 ~ 90) ℃ Humidity:(10 ~ 98) % R.H.	BS	N
KS C IEC 60068-2-52:2017	Electrical/electronics appliances	Environmental testing - Part 2-52:Tests - Test Kb:Salt mist, cyclic (sodium chloride solution)	Temprature:(15 ~ 35) ˚C, 40 ˚C NaCl concentration:5 % Humidity:(45 ~ 55) % R.H., 93 % R.H.	BS	N
KS C IEC 60068-2-53:2010	Electrical/electronics appliances	Environmental testing - Part 2-53:Tests and guidance - Combined climatic (temperature/humidity) and dynamic (vibration/shock) tests	Temperature:(-40 ~ 150) ℃ Humidity:(20 ~ 98) % R.H Vibration Frequency:(5 ~ 2 000) ㎐ Vibration Acceleration:Below 147 m/s² Shock Acceleration:Below 909 m/s²	BS	N
KS C IEC 60068-2-57:2013	Electrical/electronics appliances	Environmental testing - Part 2-57:Tests - Test Ff:Vibration - Time-history and sine-beat method	Frequency:(5 ~ 2 000) ㎐, Vibration Acceleration:below 147 m/s²	BS	N
KS C IEC 60068-2-64:2008	Electrical/electronics appliances	Environmental Testing - Part 2-64:Tests methods - Test Fh:Vibration, broad-band random and guidance	Frequency:(5 ~ 2 000) ㎐, Vibration Acceleration:below 147 m/s²	BS	N
KS C IEC 60068-2-66:1994	Electrical/electronics appliances	Environmental testing - Part 2:Test methods - Test Cx:Damp heat, steady state (unsaturated pressurized vapour)	Temperature:110 ℃, 120 ℃, 130 ℃, Humidity:85 % R.H.	BS	N
KS C IEC 60068-2-67:1995	Electrical/electronics appliances	Environmental testing - Part 2-67:Tests - Test Cy:Damp heat, steady state, accelerated test primarily intended for components	Temperature:(10 ~ 90) ℃, Humidity:(10 ~ 98) % R.H.	BS	N
KS C IEC 60068-2-6:2015	Electrical/electronics appliances	Environmental testing - Part 2-6:Tests - Test Fc:Vibration (sinusoidal)	Frequency:(5 ~ 2 000) ㎐, Vibration Acceleration:below 147 m/s²	BS	N
KS C IEC 60068-2-78:2012	Electrical/electronics appliances	Environmental testing - Part 2-78:Tests - Test Cab:Damp heat, steady state	Temperature:30 ℃, 40 ℃, Humidity:below 98 % R.H.	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
KS C IEC 60068-3-4:2001	Electrical/electronics appliances	Environmental testing - Part 3-4:Supporting documentation and guidance - Damp heat tests	Temperature:(10 ~ 90) ℃, Humidity:(10 ~ 98) % R.H.	BS	N
KS C IEC 60255-21-1:1988	Electrical/electronics appliances	Electrical relays - Part 21:Vibration, shock, bump and seismic tests on measuring relays and protection equipment - section one:Vibration test (sinusoidal)	Frequency:(5 ~ 2 000) ㎐, Vibration Acceleration:below 147 m/s²	BS	N
KS C IEC 60255-21-2:1988	Electrical/electronics appliances	Electrical relays - Part 21:Vibration, shock, bump and seismic tests on measuring relays and protection equipment - section two:Shock and bump tests [exception] Bump test	Frequency:(5 ~ 2 000) ㎐, Shock Acceleration:below 1 500 m/s²	BS	N
KS C IEC 60529:2013	Electrical/electronics appliances	Degrees of protection provided by enclosures (IP Code)	IPX1, IPX2, IPX3, IPX4, IPX5, IPX6, IPX7, IPX8, IPX9, IP1X, IP2X, IP3X ,IP4X ,IP5X ,IP6X	BS	N
KS C IEC 60571:2012	Electrical/electronics appliances	Railway applications - Electronic equipment used on rolling stock [exception] 12.2.7 Supply overvoltages 12.2.8 Surges, electrostatic discharge and transient burst susceptibility tests 12.2.9 Radio frequency test	Frequency:(5 ~ 2 000) ㎐, Vibration Acceleration:below 147 m/s², Shock Acceleration:below 1 500 m/s² , Temperature:(-70 ~ 150) ℃, Humidity:(10 ~ 98) % R.H. Temperature:35 ℃ NaCl concentration:5 %	BS	N
KS C IEC 61373:2010	Electrical/electronics appliances	Railway applications - Rolling stock equipment - Shock and vibration tests	Frequency:(5 ~ 2 000) ㎐, Vibration Acceleration:below 147 m/s², Shock Acceleration:below 1 500 m/s² ,	BS	N
KS R 1034:2006	Electrical/electronics appliances	Vibration testing methods for automobile parts	Frequency:(5 ~ 2 000) ㎐, Vibration Acceleration:below 147 m/s²	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
KS R 9144:2021	Electrical/electronics appliances	Test methods for vibration of parts of railway rolling stock	Frequency:(5 ~ 2 000) Hz, Vibration Acceleration:below 147 m/s^2	BS	N
KS R 9186:2021	Electrical/electronics appliances	Parts for railway signal - Vibration test methods	Frequency:(5 ~ 2 000) Hz, Vibration Acceleration:below 147 m/s^2	BS	N
MIL-STD-167-1:1974	Electrical/electronics appliances	MECHANICAL VIBRATIONS OF SHIPBOARD EQUIPMENT (TYPE I - ENVIRONMENTAL VIBRATION)	Frequency:(4 ~ 50) Hz	BS	N
MIL-STD-167-1A:2005	Electrical/electronics appliances	MECHANICAL VIBRATIONS OF SHIPBOARD EQUIPMENT (TYPE I - ENVIRONMENTAL VIBRATION)	Frequency:(4 ~ 33) Hz	BS	N
MIL-STD-810C:1975	Electrical/electronics appliances	Environmental Test Methods 501.1 High Temperature 502.1 Low Temperature 503.1 Temperature Shock 507.1 Humidity 514.2 Vibration 516.2 Shock 519.2 Gunfire Vibration, AIRCRAFT	Temperature:below 150 ℃ Temperature:above -70 ℃ Temperature:(60 ~ 200) ℃, Temperature:(-65 ~ 0) ℃ Temperature:(10 ~ 90) ℃, Humidity:(10 ~ 98) % R.H. Frequency:(5 ~ 2 000) Hz, Vibration Acceleration:below 147 m/s^2 Shock Acceleration:below 400 m/s^2	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
MIL-STD-810E:1989	Electrical/electronics appliances	ENVIRONMENTAL TEST METHODS AND ENGINEERING GUIDELINES 500.3 Low Pressure (Altitude) Procedure I - Storage Procedure II - Operation 501.3 High temperature 502.3 Low temperature 503.3 Temperature shock 507.3 Humidity 509.3 Salt Fog 514.4 Vibration [제외항목] Category 2 - Large Assembly Transport Category 3 - Loose Cargo Transport 516.4 Shock [제외항목] Procedure VI - Bench handling Procedure Ⅶ - Pyrotechnic shock Procedure Ⅷ - Rail impact Procedure IX - Catapult launch/arrested landing 519.4 GUNFIRE VIBRATION, AIRCRAFT	Air Pressure:(7.1 ~ 101.33) kPa Temperature:below 150 ℃ Temperature:above -70℃ Temperature:(60 ~ 200) ℃ Temperature:(-65 ~ 0) ℃ Temperature:(10 ~ 90) ℃, Humidity:(10 ~ 98) % R.H. Temprature:35 °C, NaCl concentration:5 %, Frequency:(5 ~ 2 000) Hz, Vibration Acceleration: below 147 m/s² Shock Acceleration: below 400 m/s²	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
MIL-STD-810F:2000	Electrical/electronics appliances	TEST METHOD STANDARD FOR ENVIRONMENTAL ENGINEERING CONSIDERATIONS AND LABORATORY TESTS 500.4 Low Pressure (Altitude) Procedure I - Storage/Air Transport. Procedure II - Operation/Air Carriage. 501.4 High temperature 502.4 Low temperature 503.4 Temperature shock 507.4 Humidity 509.4 Salt Fog 512.4 Immersion Procedure I - Immersion 514.5 Vibration [제외항목] Category 5 - Truck/trailer/tracked - loose cargo 516.5 Shock [제외항목] Procedure Ⅵ - Bench handling Procedure Ⅶ - Rail impact Procedure Ⅷ - Catapult Launch/Arrested Landing 519.5 Gunfire Vibration 520.2 Temperature, Humidity, Vibration, and Altitude	Air Pressure:(7.1 ~ 101.33) kPa Temperature:below 150 ℃ Temperature:above -70℃ Temperature:(60 ~ 200) ℃ Temperature:(-65 ~ 0) ℃ Temperature:(10 ~ 90) ℃, Humidity:(10 ~ 98) % R.H. Temprature:35 °C, NaCl concentration:5 %, Frequency:(5 ~ 2 000) Hz, Vibration Acceleration: below 147 m/s² Shock Acceleration: below 400 m/s² Depth of Immersion:1 000 ㎜	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
MIL-STD-810F:2003	Electrical/electronics appliances	TEST METHOD STANDARD FOR ENVIRONMENTAL ENGINEERING CONSIDERATIONS AND LABORATORY TESTS 500.4 Low Pressure (Altitude) Procedure I - Storage/Air Transport. Procedure II - Operation/Air Carriage. 501.4 High temperature 502.4 Low temperature 503.4 Temperature shock 507.4 Humidity 509.4 Salt Fog 512.4 Immersion Procedure I - Immersion 514.5 Vibration [제외항목] Category 5 - Truck/trailer/tracked - loose cargo 516.5 Shock [제외항목] Procedure Ⅵ - Bench handling Procedure Ⅶ - Rail impact Procedure Ⅷ - Catapult Launch/Arrested Landing 519.5 Gunfire Vibration 520.2 Temperature, Humidity, Vibration, and Altitude	Air Pressure:(7.1 ~ 101.33) kPa Temperature:below 150 ℃ Temperature:above -70℃ Temperature:(60 ~ 200) ℃ Temperature:(-65 ~ 0) ℃ Temperature:(10 ~ 90) ℃, Humidity:(10 ~ 98) % R.H. Temprature:35 °C, NaCl concentration:5 %, Frequency:(5 ~ 2 000) Hz, Vibration Acceleration: below 147 m/s² Shock Acceleration: below 400 m/s² Depth of Immersion:1 000 ㎜	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
MIL-STD-810G CHG1:2014	Electrical/electronics appliances	TEST METHOD STANDARD ENVIRONMENTAL ENGINEERING CONSIDERATIONS AND LABORATORY TESTS 500.6 Low Pressure (Altitude) Procedure I - Storage/Air Transport. Procedure II - Operation/Air Carriage. 501.6 High temperature 502.6 Low temperature 503.6 Temperature shock 507.6 Humidity 509.6 Salt Fog 512.6 Immersion Procedure I - Immersion 514.7 Vibration [제외항목] Category 5 - Truck/trailer - Loose Cargo 516.7 Shock [제외항목] Procedure VI - Bench Handling Procedure VII - Pendulum Impact Procedure VIII - Catapult Lanch/Arrested Landing 519.7 Gunfire Shock 520.4 Temperature, Humidity, Vibration, and Altitude 528.1 Mechanical Vibrations Of Shipboard Materiel (Type I - ENVIRONMENTAL VIBRATION)	Air Pressure:(7.1 ~ 101.33) kPa Temperature:below 150 ℃ Temperature:above -70℃ Temperature:(60 ~ 200) ℃ Temperature:(-65 ~ 0) ℃ Temperature:(10 ~ 90) ℃, Humidity:(10 ~ 98) % R.H. Temprature:35 °C, NaCl concentration:5 %, Frequency:(4 ~ 2 000) Hz, Vibration Acceleration: below 147 m/s² Shock Acceleration: below 400 m/s² Depth of Immersion:1 000 ㎜	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
MIL-STD-810G:2008	Electrical/electronics appliances	TEST METHOD STANDARD ENVIRONMENTAL ENGINEERING CONSIDERATIONS AND LABORATORY TESTS 500.5 Low Pressure (Altitude) Procedure I - Storage/Air Transport. Procedure II - Operation/Air Carriage. 501.5 High temperature 502.5 Low temperature 503.5 Temperature shock 507.5 Humidity 509.5 Salt Fog 512.5 Immersion Procedure I - Immersion 514.6 Vibration [제외항목] Category 5 - Truck/Trailer/Tracked - Loose Cargo 516.6 Shock [제외항목] Procedure Ⅵ - Bench Handling Procedure Ⅶ - Pendulum Impact Procedure Ⅷ - Catapult Launch/Arrested Landing 519.6 Gunfire Shock 520.3 Temperature, Humidity, Vibration, and Altitude 528 MECHANICAL VIBRATIONS OF SHIPBOARD EQUIPMENT (TYPE I - ENVIRONMENTAL VIBRATION)	Air Pressure:(7.1 ~ 101.33) kPa Temperature:below 150 ℃ Temperature:above -70℃ Temperature:(60 ~ 200) ℃ Temperature:(-65 ~ 0) ℃ Temperature:(10 ~ 90) ℃, Humidity:(10 ~ 98) % R.H. Temprature:35 °C, NaCl concentration:5 %, Frequency:(4 ~ 2 000) Hz, Vibration Acceleration: below 147 m/s² Shock Acceleration: below 400 m/s² Depth of Immersion:1 000 ㎜	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
MIL-STD-810H:2019	Electrical/electronics appliances	TEST METHOD STANDARD ENVIRONMENTAL ENGINEERING CONSIDERATIONS AND LABORATORY TESTS 500.6 Low Pressure (Altitude) Procedure I - Storage/Air Transport. Procedure II - Operation/Air Carriage. 501.7 High temperature 502.7 Low temperature 503.7 Temperature shock 507.6 Humidity 509.7 Salt Fog 512.6 Immersion Procedure I - Immersion 514.8 Vibration [제외항목] Category 5 - Truck/trailer - Loose Cargo 516.8 Shock [제외항목] Procedure VI - Bench Handling Procedure VII - Pendulum Impact Procedure VIII - Catapult Lanch/Arrested Landing 519.8 Gunfire Shock (Procedure Ⅲ) 520.5 Combined Environments 528.1 MECHANICAL VIBRATIONS OF SHIPBOARD EQUIPMENT (TYPE I - ENVIRONMENTAL VIBRATION)	Air Pressure:(7.1 ~ 101.33) kPa Temperature:below 150 ℃ Temperature:above -70℃ Temperature:(60 ~ 200) ℃ Temperature:(-65 ~ 0) ℃ Temperature:(10 ~ 90) ℃, Humidity:(10 ~ 98) % R.H. Temprature:35 °C, NaCl concentration:5 %, Frequency:(4 ~ 2 000) ㎐, Vibration Acceleration: below 147 m/s² Shock Acceleration: below 400 m/s² Depth of Immersion:1 000 ㎜	BS	N

End.