

Laboratory Tarang-Product Qualification and Compliance Planet, Wipro Technologies, Survey No. 70, 77, 78/8A, Dodda Kannelli, Sarjapur Road, Bengaluru, Karnataka

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-5992 (In lieu of T-1533 & T-1534)

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ELECTRONICS TESTING

| I. EMC/EMI TESTING FACILITY | | | | |
|------------------------------------|--|-------------------------|--|---|
| 1. | IT Products/ Domestic/ Industrial Automation / Scientific/ Medical/ Aerospace/ Automotive/ Defense/ Telecom/ Consumer/ Household/ Machinery /Test and Measurement / Laboratory/ Locomotive / RF Products/ Wireless Products/ Arc Welding Equipment/ Measuring relays/ Railway application/ Sound and TV broadcast receivers/ Multimedia equipment/ Lifts Elevators and Moving walks | Radiated Emissions Test | IEC 60601-1-2 (Edition 3.0) (2007-03) IEC 60601-1-2 (Edition 4.0) (2014-02) IEC 61000-6-3 (Edition 2.1) Consol. with Amd. 1 (2011-02) IEC 61000-6-4 (Edition 2.1) Consol. with Amd. 1 (2011-02) IEC 61326-1 (Edition 2.0) (2012-07) IEC 62040-2 (Edition 3.0) (2016-11) IEC 62052-11:2003+AMD1:2016 (Edition 1.1) IEC 62053-21:2003/AMD1:2016 (Edition 1.1) (2016-11) CISPR 11 (Edition 5.1) Consol. with Amd. 1 (2010-05) CISPR 11 (Edition 6.0) 2015/AMD1:2016 CISPR 11 (Edition 6.1) 2015+AMD1:2016-06 CSV @CISPR 14-1 (Edition 6.0) (2016-08) | Magnetic Field 9 kHz to 30 MHz at 1 m distance 3 m distance Electric Field 9 kHz to 30 MHz at 1 m distance 3 m distance 30 MHz to 1 GHz at 1 m distance, 3 m distance & 10 m distance @ - Using absorbing clamp 30 MHz to 300 MHz *30MHz to 300MHz 1 GHz to 18 GHz at 1 m distance & 3 m distance |

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| | | | *CISPR 15:2013/AMD1 (2015-03) (Edition 8.1) CISPR 22 (Edition 6.0) (2008-09) CISPR 25 (Edition 4.0) (2016-10) CISPR 32 (Edition 2.0) (2015-03) EN 12015:2014 EN 55011: 2016 @EN 55014-1: 2006/Amd. 2: 2011 EN 55015: 2013 EN 55015:2013+A1:2015 EN 55022: 2010/AC: 2011 EN 50561-1:2013 EN 55032:2015 EN 55025: 2008 EN 55103-1: 2009/Amd. 1: 2012 EN 50370-1: 2005 EN 60601-1-2: 2007/AC: 2010 EN 60601-1-2:2015 EN 61000-6-3: 2007/Amd. 1: 2011 EN 61000-6-4: 2007/Amd. 1: 2011 EN 61326-1: 2013 EN 62040-2: 2006 EN 62052-11: 2003 ETSI EN 300 330-2 V1.6.1 (2015-03) ETSI EN 300 339 V1.1.1 (1998-06) ETSI EN 300 386 V2.1.1 | 18 GHz to 26.5 GHz at 3 m distance 26.5 GHz to 40 GHz At 3 m distance |

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| | | | (2016-07) ETSI EN 301 090 V1.1.1 (1998-09) ETSI EN 301 489-1 V2.2.0 (2017-03) ETSI EN 301 489-3 V1.6.1 (2013-08) ETSI EN 301 489-17 V3.2.0 (2017-03) ETSI EN 301 908-1 V11.1.1 (2016-07) ETSI EN 300 328 V2.1.1 (2016-11) 47 CFR Ch. 1 (Part 15) 47 CFR Ch. 1 (Part 18) RSS-Gen, Issue 4, Nov 2014 RSS-247 Issue 2 Feb 2017 GR-1089-CORE, Issue 5, August 2009 GR-1089-CORE, Issue 6, May 2011 ITU-T K.48 (09/2006) ITU-T K.60 (2015-12) ITU-T K.63 (02/2004) SAE J1113/1: 2013-10-01 AIS-004 (Part 1): 1999 AIS-004 (Part 2): 1999 Amd.1 (2003-09) AIS-004 (Part 3): 1999 Amd.2 (2008-05) AIS-049 (Rev.1): 2016 ICES-001 Issue 4, June 2006 (UPDATED - NOVEMBER 2014) ICES-003 Issue 5, Aug | |

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| | | | 2012 ICES-003 Issue 6, January 2016 (Updated -June 2016) ICES-005 Issue 3, May 2009 ICES-005 Issue 4, December 2015 TEC/EMI/TEL-001/01/FEB-09 TEC/SD/DD/EMC-221/05/OCT-16IEC 60974-10 (Edition 3.1) (2015-06) IEC 60255-26 (Edition 3.0) (2013-05) IEC 60571 (Edition 3.0)(2012-09) IEC 62236-3-2(Edition 2.0)(2008-12) EN 50121-3-2:2015 CISPR 13:2009+AMD1:2015 CSV (Edition 5.1) (2015-01) IEC 60870-2-1(Edition 2.0)(1995-12) ETSI EN 302 502 V2.1.1 (2017-03) | |
| 2. | IT Products/ Domestic/ Industrial Automation/ Scientific/ Medical/ Aerospace/ Automotive/ Defense/ Telecom/ Consumer/ | Conducted Emissions Test | IEC 60601-1-2 (Edition 3.0)(2007-03) IEC 60601-1-2 (Edition 4.0)(2014-02) IEC 61000-6-3 (Edition 2.1) Consol. with Amd. 1 (2011-02) IEC 61000-6-4 (Edition 2.1 Consol. with Amd. 1 (2011- | Civilian: 9 kHz to 30 MHz |

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|-----|---|-------------------------|--|---|
| | Household / Machinery / Test and Measurement/ Laboratory/ Locomotive/ RF Products / Wireless Products/ Arc welding equipment/ Measuring relays/ Railway application/ Sound and TV broadcast receivers/ Multimedia equipment/ Lifts Elevators and Moving walks | | 02) IEC 61326-1 (Edition 2.0) (2012-07) IEC 62040-2 (Edition 3.0) (2016-11) IEC 62052-11:2003+AMD1:2016 (Edition 1.1) IEC 62053-21:2003/AMD1:2016 (Edition 1.1) (2016-11) CISPR 11 (Edition 5.1) Consol. with Amd. 1 (2010-05) CISPR 11 (Edition 6.1) 2015+AMD1:2016-06 CISPR 14-1 (Edition 6.0) (2016-08) CISPR 15:2013/AMD1 (2015-03) (Edition 8.1) CISPR 22 (Edition 6.0) (2008-09) @CISPR 25 (Edition 4.0) (2016-10) CISPR 32 (Edition 2.0) (2015-03) EN 12015:2014 EN 55011: 2016 EN 55014-1: 2006/Amd. 2: 2011 EN 55015: 2013 EN 55015:2013+A1:2015 EN 55022: 2010/AC: 2011 EN 50561-1:2013 EN 55032:2015 EN 55025: 2008 | @Automotive :Voltage method: 150 kHz to 108 MHz Current method: 150kHz to 108MHz Upto class 4 |

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|-----|----------------------------|-------------------------|--|--|
| | | | EN 55103-1: 2009/Amd. 1: 2012 EN 60601-1-2: 2007/AC: 2010 EN 60601-1-2:2015 EN 61000-6-3: 2007/Amd. 1: 2011 EN 61000-6-4: 2007/Amd. 1: 2011 EN 61326-1: 2013 EN 62040-2: 2006 EN 62052-11: 2003 EN 62053-21: 2003 EN 50370-1: 2005 ETSI EN 300 339 V1.1.1 (1998-06) ETSI EN 300 386 V2.1.1 (2016-07) ETSI EN 301 090 V1.1.1 (1998-09) ETSI EN 301 489-1 V2.2.0 (2017-03) ETSI EN 301 489-3 V1.6.1 (2013-08) ETSI EN 301 489-17 V3.2.0 (2017-03) 47 CFR Ch. I (12-1-16 Edition) (Part 15) 47 CFR Ch. I (12-1- 16 Edition) Part 18 RSS-Gen, Issue 4, Nov 2014 RSS-247 Issue 2 Feb 2017 GR-1089-CORE, Issue 5, August 2009 GR-1089-CORE, Issue 6, | |

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| | | | May 2011 ITU-T K.48 (09/2006) AIS-049 (Rev.1):2016 ICES-001 Issue 4, June 2006 (UPDATED - NOVEMBER 2014) ICES-003 Issue 5, Aug 2012 ICES-003 Issue 6, January 2016 (Updated -June 2016) ICES-005 Issue 3, May 2009 ICES-005 Issue 4, December 2015 TEC/EMI/TEL-001/01/FEB-09 TEC/SD/DD/EMC-221/05/OCT-16 IEC 60974-10 (Edition 3.1) (2015-06) IEC 60255-26 (Edition 3.0) (2013-05) IEC 60571 (Edition 3.0)(2012-09) IEC 62236-3-2(Edition 2.0)(2008-12) EN 50121-3-2:2015 CISPR 13:2009+AMD1:2015 CSV (Edition 5.1) (2015-01) IEC 60870-2-1(Edition 2.0)(1995-12) | |
| 3. | IT Products/ Domestic/ Industrial | Harmonic Current Emissions Test ($\leq 16A$ & $\leq 32A$) | IEC 60601-1-2 (Edition 3.0) (2007-03) IEC 60601-1-2 (Edition 4.0) | 220 V to 250 V |

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| | Automation/ Scientific/ Medical/ Aerospace / Automotive/ Defense/ Telecom/ Consumer / Household / Machinery /Test and Measurement/ Laboratory / Locomotive / RF Products / Wireless Products/ Arc Welding Equipment/ Lifts Elevators and Moving walks | | (2014-02) IEC 61000-3-2 (Edition 4.0) (2014-05) IEC 61000-3-12 (Edition 2.0) (2011-05) IEC 61000-6-3 (Edition 2.1 Consol. with Amd. 1 (2011- 02) IEC 61326-1 (Edition 2.0) (2012-07) IEC 61496-1 (Edition 3.0) (2012-04) IEC 62040-2 (Edition 3.0) (2016-11) EN 12015:2014 EN 60601-1-2: 2007/AC: 2010, EN 60601-1-2:2015 EN 61000-3-2: 2006 A2: 2009 EN 61000-3-2: 2014 EN 61000-3-12: 2011 EN 61000-6-3: 2007 A1: 2011, EN 61326-1: 2013 EN 61496-1: 2013 EN 62040-2: 2006 ETSI EN 300 386 V2.1.1 (2016-07) ETSI EN 301 489-1 V2.2.0 (2017-03) ETSI EN 301 489-3 V1.6.1 (2013-08) ETSI EN 301 489-17 V3.2.0 (2017-03) IEC 60974-10(Edition 3.1) (2015-06) IEC 60870-2-1(Edition 2.0)(1995-12) | Upto 40 th Harmonic Single phase:16 A Three Phase: 32 A Frequency 50 Hz / 60 Hz |

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|-----|--|--|---|--|
| 4. | IT Products / Domestic / Industrial Automation / Scientific/Medical/ Aerospace / Automotive/ Defense/ Telecom/ Consumer / Household / Machinery /Test and Measurement/ Laboratory / Locomotive /RF Products / Wireless Products/ Arc Welding Equipment/ Lifts Elevators and Moving walks | Voltage Fluctuations and Flicker ($\leq 16A$ & $\leq 32A$) | IEC 60601-1-2 (Edition 3.0) (2007-03) IEC 60601-1-2 (Edition 4.0) (2014-02) IEC 61000-3-3 (Edition 3.0) (2013-05) IEC 61000-3-11 (Edition 1.0) (2000-08) IEC 61000-6-3 (Edition 2.1 Consol. with Amd. 1 (2011-02) IEC 61326-1 (Edition 2.0) (2012-07) EN 12015:2014 EN 60601-1-2: 2007/AC: 2010 EN 60601-1-2:2015 EN 61000-3-3: 2013 EN 61000-3-11:2001 EN 61000-6-3: 2007 A1: 2011 EN 61326-1: 2013 ETSI EN 300 386 V2.1.1 (2016-07) ETSI EN 301 489-1 V2.2.0 (2017-03) ETSI EN 301 489-3 V1.6.1 (2013-08) ETSI EN 301 489-17 V3.2.0 (2017-03) IEC 60974-10 (Edition 3.1) (2015-06) IEC 60870-2-1(Edition 2.0) (1995-12) | 220 V to 250 V Single phase:16 A Three Phase: 32 A Frequency 50 Hz |

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|-----|---|---------------------------------------|---|---|
| 5. | IT Products / Domestic / Industrial Automation / Scientific / Medical/ Aerospace / Automotive / Defense/Telecom/ Consumer / Household / Machinery /Test and Measurement/ Laboratory / Locomotive / RF Products / Wireless Products/ Lighting products/ Arc Welding Equipment/ Measuring relays/ Power station/ Railway application/ Sound and TV broadcast receivers/ Multimedia equipment/ Relay systems/ Lifts Elevators and Moving walks | Electrostatic Discharge Immunity Test | IEC 61000-4-2 (Edition 2.0)(2008-12) IEC 60601-1-2 (Edition 3.0) (2007-03) IEC 60601-1-2 (Edition 4.0) (2014-02) IEC 61000-6-1 (Edition 3.0) (2016-08) IEC 61000-6-2 (Edition 2.0) (2005-01) IEC 61000-6-2 (Edition 3.0) (2016-08) IEC 61326-1 (Edition 2.0) (2012-07) IEC 61340-3-1 (Edition 2.0) (2006-12) IEC 61496-1 (Edition 3.0) (2012-04) IEC 62040-2 (Edition 3.0) (2016-11) IEC 62052-11:2003+AMD1:2016 (Edition 1.1) IEC 62053-21:2003/AMD1:2016 (Edition 1.1) (2016-11) CISPR 14-2 (Edition 1.2) Consol. with Amd. 1 & 2 (2008-07) CISPR 14-2 (Edition 2.0) (2015-02) CISPR 24 (Edition 2.0) (2010-08) CISPR 24 (Edition 2.1) (2015-04) CISPR 20: 2006 | Pulse Amplitude :2 kV to 30 kV(max) RC Networks: 150pF/330Ω 150pF/2000Ω 330pF/2000Ω 330pF/330Ω |

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| | | | CISPR 20 :2006+AMD1 :2013 (Edition 6.1) (2013-10) EN 12016:2013 EN 61000-4-2 : 2009 EN 50121-3-2:2015 EN 50121-4: 2015 EN 50130-4: 2011 EN 50130-4:2011+A1:2014 EN 50370-2: 2003 EN 55014-2: 1997:Amd. 2: 2008 EN 55014-2: 2015 EN 55024: 2010 EN 55024:2010+A1:2015 EN 55103-2: 2009 EN 60601-1-2: 2007/AC: 2010 EN 60601-1-2:2015 EN 61000-6-1 : 2007 EN 61000-6-2 : 2005 EN 61326-1: 2013 EN 61340-3-1: 2007 EN 61496-1: 2013 EN 61547: 2009 EN 62040-2: 2006 EN 62052-11: 2003 ETSI EN 300 339 V1.1.1 (1998-06) ETSI EN 300 386 V2.1.1 (2016-07) ETSI EN 301 090 V1.1.1 (1998-09) ETSI EN 301 489-1 V2.2.0 (2017-03) ETSI EN 301 489-3 V1.6.1 | |

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| | | | (2013-08) ETSI EN 301 489-17 V3.2.0 (2017-03) GR-1089-CORE, Issue 5, August 2009 GR-1089-CORE: Issue 6, May 2011 ITU-T K.20 (2016-06) ITU-T K.21 (2016-06) ITU-T K.43 (07/2009) ITU-T K.48 (09/2006) ITU-T K.63 (02/2004) ISO 10605 (Edition 2.0)(2008-07) ISO 10605: 2008:Amd. 1 (2014-04) SAE J551/15:2015-09 SAE J1113/13:2015-02 TEC/EMI/TEL-001/01/FEB- 09, TEC/SD/DD/EMC- 221/05/OCT-16 IEC 60974-10 (Edition 3.1) (2015-06) IEC 60255-26 (Edition 3.0) (2013-05) IEC 61000-6-5 (Edition 1.0) (2015-08) IEC 60571 (Edition 3.0)(2012-09) IEC 61547: 2009 IEC 62236-3-2(Edition 2.0)(2008-12) CISPR 35 (Edition 1.0) (2016-08) IEC 60870-2-1(Edition 2.0) (1995-12) IEEE C37.90.3-2001 | |

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| 6. | IT Products / Domestic / Industrial Automation / Scientific / Medical/ Aerospace / Automotive / Defense / Telecom/ Consumer / Household / Machinery /Test and Measurement/ Laboratory / Locomotive / RF Products / Wireless Products/ Lighting products/ Arc Welding Equipment/ Measuring relays/ Power station/ Railway application/ Sound and TV broadcast receivers/ Multimedia equipment/Relay Systems/ Lifts Elevators and Moving walks | Radiated radio frequency electromagnetic field Immunity Test | IEC 61000-4-3 (Edition 3.2) Consol. with Amd. 1 &2 (2010-04) IEC 60601-1-2 (Edition 3.0) (2007-03) IEC 60601-1-2 (Edition 4.0) (2014-02) IEC 61000-6-1 (Edition 3.0) (2016-08) IEC 61000-6-2 (Edition 3.0) (2016-08) IEC 61326-1 (Edition 2.0) (2012-07) IEC 61496-1 (Edition 3.0) (2012-04) IEC 61547: 2009 IEC 62040-2 (Edition 3.0) (2016-11) IEC 62052-11:2003+AMD1:2016 (Edition 1.1) IEC 62053-21:2003/AMD1:2016 (Edition 1.1) (2016-11) CISPR 14-2 (Edition 1.2) Consol. with Amd. 1 &2 (2008-07) CISPR 14-2 (Edition 2.0) (2015-02) CISPR 24 (Edition 2.0) (2010-08) CISPR 24 (Edition 2.1) (2015-04) CISPR 20: 2006 CISPR 20 :2006+AMD1 :2013 | From 10kHz to 250kHz, Level: 30V/m at 1m distance From 250kHz to 100MHz, Level: 50V/m at 1m distance From 80 MHz to 18 GHz, Level: 10 V/m at 3 m From 120 MHz to 18 GHz, Level: 100 V/m at 1m |

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| | | | (Edition 6.1) (2013-10) EN 61000-4-3 : 2006Amd. 2 : 2010 EN 12016:2013 EN 50121-4: 2015 EN 50370-2: 2003 EN 55014-2: 1997:Amd. 2: 2008 EN 55014-2: 2015 EN 55024: 2010 EN 55024:2010+A1:2015 EN 55103-2: 2009 EN 60601-1-2: 2007/AC: 2010 EN 60601-1-2:2015 EN 50130-4: 2011 EN 50130-4:2011+A1:2014 EN 61000-6-1 : 2007 EN 61000-6-2 : 2005 EN 61326-1: 2013 EN 61496-1: 2013 EN 61547: 2009 EN 62040-2: 2006 EN 62052-11: 2003 EN 62053-21: 2003 ETSI EN 300 339 V1.1.1 (1998-06) ETSI EN 300 386 V2.1.1 (2016-07) ETSI EN 301 090 V1.1.1 (1998-09) ETSI EN 301 489-1 V2.2.0 (2017-03) ETSI EN 301 489-3 V1.6.1 (2013-08) ETSI EN 301 489-17 V3.2.0 | |

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|-----|--|---|---|---|
| | | | (2017-03) GR-1089-CORE, Issue 5, August 2009 GR 1089-CORE, Issue 5, August 2009 GR-1089-CORE: Issue 6, May 2011 ITU-T K.43 (07/2009) ITU-T K.48 (09/2006) ISO 11452-2: (2004-11) AIS-004 (Part 3): 1999 Amd.2 (2008-05) TEC/EMI/TEL-001/01/FEB-09 TEC/SD/DD/EMC-221/05/OCT-16 IEC 60974-10 (Edition 3.1) (2015-06) IEC 60255-26 (Edition 3.0) (2013-05) IEC 61000-6-5 (Edition 1.0) (2015-08) CISPR 35 (Edition 1.0) (2016-08) SAE J1113/21 (2013-05) IEC 60870-2-1(Edition 2.0) (1995-12) IEEE C37.90.2-2004 | |
| 7. | IT Products / Domestic / Industrial Automation / Scientific/ Medical/ Aerospace / Automotive / | Electrical fast transient (EFT) / Burst Immunity Test (EFT) | IEC 61000-4-4 (Edition 3.0) (2012-04) IEC 60601-1-2 (Edition 3.0) (2007-03) IEC 60601-1-2 (Edition 4.0) (2014-02) IEC 61000-6-1 (Edition 3.0) | Pulse Amplitude :0.25 kV to 4.8 kV Single phase:16 A Three phase: 32 A DC: Up to 270V is 32A |

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|-----|---|-------------------------|--|--|
| | Defense / Telecom / Consumer / Household / Machinery /Test and Measurement/ Laboratory/ Locomotive/ RF Products / Wireless Products/ Lighting products/ Arc Welding Equipment/ Measuring relays/ Power station/ Railway application/ Sound and TV broadcast receivers/ Multimedia equipment/Relay Systems/ Lifts Elevators and Moving walks | | (2016-08) IEC 61000-6-2 (Edition 2.0) (2005-01) IEC 61000-6-2 (Edition 3.0) (2016-08) IEC 61326-1 (Edition 2.0) (2012-07) IEC 61496-1 (Edition 3.0) (2012-04) IEC 61547: 2009 IEC 62040-2 (Edition 3.0) (2016-11) IEC 62052-11:2003+AMD1:2016 (Edition 1.1) IEC 62053-21:2003/AMD1:2016 (Edition 1.1) (2016-11) CISPR 14-2 (Edition 1.2) Consol. with Amd. 1 & 2 (2008-07) CISPR 14-2 (Edition 2.0) (2015-02) CISPR 24 (Edition 2.0) (2010-08) CISPR 24 (Edition 2.1) (2015-04) CISPR 20: 2006 CISPR 20 :2006+AMD1 :2013 (Edition 6.1) (2013-10) EN 61000-4-4 : (2004) +A1 :2010 EN 12016:2013 EN 50121-4: 2015 EN 50370-2 : 2003 | |

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| Sl. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|-----|----------------------------|-------------------------|--|--|
| | | | EN 55014-2 : 1997: Amd. 2 : 2008 EN 55014-2: 2015 EN 55024 : 2010 EN 55024:2010+A1:2015 EN 55103-2 : 2009 EN 50130-4: 2011 EN 50130-4:2011+A1:2014 EN 60601-1-2: 2007/AC: 2010 EN 60601-1-2:2015 EN 61000-6-1 : 2007 EN 61000-6-2 : 2005 EN 61326-1 : 2013 EN 61496-1: 2013 EN 61547: 2009 EN 62040-2 : 2006 EN 62052-11: 2003 ETSI EN 300 339 V1.1.1 (1998-06) ETSI EN 300 386 V2.1.1 (2016-07) ETSI EN 301 090 V1.1.1 (1998-09) ETSI EN 301 489-1 V2.2.0 (2017-03) ETSI EN 301 489-3 V1.6.1 (2013-08) ETSI EN 301 489-17 V3.2.0 (2017-03) GR-1089-CORE, Issue 5, August 2009 GR-1089-CORE, Issue 5, August 2009 GR-1089-CORE: Issue 6, May 2011 | |

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|-----|---|---|---|---|
| | | | ITU-T K.43 (07/2009) ITU-T K.48 (09/2006) ITU-T K.63 (02/2004) TEC/EMI/TEL-001/01/FEB-09 TEC/SD/DD/EMC-221/05/OCT-16 IEC 60974-10 (Edition 3.1) (2015-06) IEC 60255-26 (Edition 3.0) (2013-05) IEC 61000-6-5 (Edition 1.0) (2015-08) IEC 60571 (Edition 3.0) (2012-09) IEC 62236-3-2(Edition 2.0) (2008-12) EN 50121-3-2:2015 CISPR 35 (Edition 1.0) (2016-08) IEC 60870-2-1(Edition 2.0) (1995-12) IEEE C37.90.1-2012 | |
| 8. | IT Products / Domestic / Industrial Automation / Scientific / Medical / Aerospace / Automotive / Defense / Telecom / Consumer / Household / Machinery /Test and Measurement | High Energy / Telecom Surge Immunity Test | IEC 61000-4-5 (Edition 3.0) (2014-05) IEC 60601-1-2 (Edition 3.0) (2007-03) IEC 60601-1-2 (Edition 4.0) (2014-02) IEC 61000-6-1 (Edition 3.0) (2016-08) IEC 61000-6-2 (Edition 2.0) (2005-01) IEC 61000-6-2 (Edition 3.0) (2016-08) | 0.25 kV to 6.0 kV Single phase:16 A Three phase: 32 A DC: Up to 125V is 32A 125V to 225 V |

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|-----|--|-------------------------|---|---|
| | / Laboratory / Locomotive / RF Products / Wireless Products/ Lighting products/ Arc Welding Equipment/ Measuring relays/ Power station/ Railway application/ Multimedia equipment/ Relay systems/ Lifts Elevators and Moving walks | | IEC 61326-1 (Edition 2.0) (2012-07) IEC 61496-1 (Edition 3.0) (2012-04) IEC 61547: 2009 IEC 62040-2 (Edition 3.0) (2016-11) IEC 62052-11:2003+AMD1:2016 (Edition 1.1) IEC 62053-21:2003/AMD1:2016 (Edition 1.1) (2016-11) CISPR 14-2 (Edition 1.2) Consol. with Amd. 1 & 2 (2008-07) CISPR 14-2 (Edition 2.0) (2015-02) CISPR 24 (Edition 2.0) (2010-08) CISPR 24 (Edition 2.1) (2015-04) EN 61000-4-5: 2014 EN 12016:2013 EN 50121-4: 2015 EN 50370-2: 2003 EN 55014-2: 1997:Amd. 2: 2008 EN 55014-2: 2015 EN 55024: 2010 EN 55024:2010+A1:2015 EN 55103-2: 2009 EN 60601-1-2: 2007/AC: 2010 EN 60601-1-2:2015 EN 61000-6-1: 2007 | *Possible for 1.2us/50us and 10us/700us with 25 ohms,40Ohm and 2 ohms |

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| Sl. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|-----|----------------------------|-------------------------|---|--|
| | | | EN 61000-6-2: 2005 EN 50130-4: 2011 EN 50130-4:2011+A1:2014 EN 61326-1: 2013 EN 61496-1: 2013 EN 61547: 2009 EN 62040-2: 2006 EN 62052-11: 2003 ETSI EN 300 339 V1.1.1 (1998-06) ETSI EN 300 386 V2.1.1 (2016-07) ETSI EN 301 090 V1.1.1 (1998-09) ETSI EN 301 489-1 V2.2.0 (2017-03) ETSI EN 301 489-3 V1.6.1 (2013-08) ETSI EN 301 489-17 V3.2.0 (2017-03) GR-1089-CORE, Issue 5, August 2009 GR-1089-CORE: Issue 6, May 2011 *ITU-T K.20 (2016-06) *ITU-T K.21 (2016-06) ITU-T K.43 (07/2009) *ITU-T K.44 (06/2016) *ITU-T K.45 (06/2016) ITU-T K.48 (09/2006) TEC/EMI/TEL-001/01/FEB-09 TEC/SD/DD/EMC-221/05/OCT-16 IEC 60974-10 (Edition 3.1) (2015-06) | @DC/ AC Input current of equipment up to 1 A |

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|-----|---|---|--|--|
| | | | IEC 60255-26 (Edition 3.0) (2013-05) IEC 61000-6-5 (Edition 1.0) (2015-08) IEC 60571 (Edition 3.0)(2012-09) @IEC 62236-3-2(Edition 2.0)(2008-12) @EN 50121-3-2:2015 CISPR 35 (Edition 1.0) (2016-08) IEC 60870-2-1(Edition 2.0) (1995-12) IEEE Std C62.41-2002 & IEEE Std C62.41.2-2002 | |
| 9. | IT Products / Domestic/ Industrial Automation / Scientific/ Medical/ Aerospace / Automotive/ Defense/ Telecom/ Consumer/ Household / Machinery / Test and Measurement/ Laboratory / Locomotive / RF Products / Wireless Products/ Lighting products/ Arc Welding Equipment/ | Conducted disturbances, induced by radio-frequency fields Immunity Test | IEC 61000-4-6 (Edition 4.0) (2013-10) IEC 60601-1-2 (Edition 3.0) (2007-03) IEC 60601-1-2 (Edition 4.0) (2014-02) IEC 61000-6-1 (Edition 3.0) (2016-08) IEC 61000-6-2 (Edition 2.0) (2005-01) IEC 61000-6-2 (Edition 3.0) (2005-01) IEC 61326-1 (Edition 2.0) (2012-07) IEC 61496-1 (Edition 3.0) (2012-04) IEC 61547: 2009 IEC 62040-2 (Edition 3.0) (2016-11) IEC 62052- | CDN: From 150 kHz to 230 MHz Level: 10 Vrms BCI: From 10 kHz to 400 MHz, Level: 10 Vrms BCI: From 10kHz to 400MHz: 89dBuA EMCLAMP : From 150kHz to 80MHz Level: 10V rms. Single phase:32 A Three phase: 32 A DC: Up to 250V is 32A |

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|-----|---|-------------------------|--|--|
| | Measuring relays/ Power station/ Railway application/ Sound and TV broadcast receivers/ Multimedia equipment / Lifts Elevators and Moving walks | | 11:2003+AMD1:2016 (Edition 1.1) IEC 62053-21 (Edition 1.0) (2003-01) IEC 62053-21 :2003/AMD1:2016 (Edition 1.1) (2016-11) CISPR 14-2 (Edition 1.2) Consol. with Amd. 1 & 2 (2008-07) CISPR 14-2 (Edition 2.0) (2015-02) CISPR 24 (Edition 2.0) (2010-08) CISPR 24 (Edition 2.1) (2015-04) CISPR 20: 2006 CISPR 20 :2006+AMD1 :2013 (Edition 6.1) (2013-10) EN 61000-4-6 : 2014 EN 12016:2013 EN 50121-4: 2015 EN 50370-2 : 2003 EN 55014-2 : 1997 :Amd. 2 : 2008 EN 55014-2: 2015 EN 55024 : 2010 EN 55024:2010+A1:2015 EN 55103-2 : 2009 EN 50130-4: 2011 EN 50130-4:2011+A1:2014 EN 60601-1-2: 2007/AC: 2010 EN 60601-1-2:2015 EN 61000-6-1 : 2007 | @1MHz to 200MHz:300mA |

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|-----|----------------------------|-------------------------|---|--|
| | | | EN 61000-6-2: 2005 EN 61326-1 : 2013 EN 61496-1: 2013 EN 61547: 2009 EN 62040-2 : 2006 EN 62052-11: 2003 EN 62053-21: 2003 ETSI EN 300 339 V1.1.1 (1998-06) ETSI EN 300 386 V2.1.1 (2016-07) ETSI EN 301 090 V1.1.1 (1998-09) ETSI EN 301 489-1 V2.2.0 (2017-03) ETSI EN 301 489-3 V1.6.1 (2013-08) ETSI EN 301 489-17 V3.2.0 (2017-03) GR-1089-CORE, Issue 5, August 2009 GR-1089-CORE: Issue 6, May 2011 GR-1089-CORE, Issue 5, August 2009 GR-1089-CORE :Issue 6, May 2011 @ISO 11452-4: 2011 ITU-T K.43 (07/2009) ITU-T K.48 (09/2006) SAE J1113/4: (2014-04) AIS-004 (Part 2): 1999 Amd.1 (2003-09) AIS-004 (Part 3): 1999 Amd.2 (2008-05) TEC/EMI/TEL-001/01/FEB- | |

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|-----|---|--|---|--|
| | | | 09, TEC/SD/DD/EMC-221/05/OCT-16 IEC 60974-10 (Edition 3.1) (2015-06) IEC 60255-26 (Edition 3.0) (2013-05) IEC 61000-6-5 (Edition 1.0) (2015-08) IEC 62236-3-2(Edition 2.0)(2008-12) EN 50121-3-2:2015 CISPR 35 (Edition 1.0) (2016-08) | |
| 10. | IT Products / Domestic / Industrial Automation / Scientific / Medical / Aerospace / Automotive / Defense / Telecom / Consumer / Household / Machinery / Test and Measurement/ Laboratory / Locomotive / RF Products / Wireless Products/ Lighting products/ Measuring relays/ Power station/ Multimedia equipment | Power Frequency Magnetic field Immunity test | IEC 61000-4-8 (Edition 2.0) (2009-09) IEC 60601-1-2 (Edition 3.0) (2007-03) IEC 60601-1-2 (Edition 4.0) (2014-02) IEC 61000-6-1 (Edition 3.0) (2016-08) IEC 61000-6-2 (Edition 2.0) (2005-01) IEC 61000-6-2 (Edition 3.0) (2005-01) IEC 61326-1 (Edition 2.0) (2012-07) IEC 61547: 2009 IEC 62040-2 (Edition 3.0) (2016-11) CISPR 24 (Edition 2.0) (2010-08) CISPR 24 (Edition 2.1) (2015-04) EN 50121-4: 2015 | 1 A/m to 100 A/m 50 Hz /60 Hz Continuous field |

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|-----|---|--|---|--|
| | | | EN 61000-4-8: 2010 EN 50370-2: 2003 EN 55024: 2010 EN 55024:2010+A1:2015 EN 60601-1-2: 2007/AC: 2010, EN 60601-1-2:2015 EN 61000-6-1: 2007 EN 61000-6-2: 2005 EN 61326-1: 2013 EN 61547: 2009 EN 62040-2: 2006 IEC 60255-26 (Edition 3.0) (2013-05) IEC 61000-6-5 (Edition 1.0) (2015-08) CISPR 35 (Edition 1.0) (2016-08) @IEC 870-2-1(Edition 2.0) (1995-12) | @Up to 100 A/m |
| 11. | Power Station/ Railway Products | Pulse Magnetic field Immunity test | IEC 61000-4-9 (Edition 1.1 Consol. with Amd. 1 (2001-03) IEC 61000-4-9:2016 (Edition 2.0) (2016-07) EN 61000-4-9: 1994 EN 61000-4-9:2016 | 100 A/m to 1000 A/m |
| 12. | IT Products / Domestic / Industrial Automation / Scientific/ Medical/ Aerospace / Automotive / Defense/ Telecom/ Consumer / | Voltage dips, short interruptions and voltage variations Immunity test | IEC 61000-4-11 (Edition 2.0) (2004-03) IEC 60601-1-2 (Edition 3.0) (2007-03) IEC 60601-1-2 (Edition 4.0) (2014-02) IEC 61000-6-1 (Edition 3.0) (2016-08) IEC 61000-6-2 (Edition 2.0) | Single phase: 16 A per phase |

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|-----|--|-------------------------|--|---|
| | Household / Machinery / Test and Measurement / Laboratory / Locomotive / RF Products / Wireless Products/ Lighting products/ Arc Welding Equipment/ Measuring relays/ Power station/ Multimedia equipments/ Lifts Elevators and Moving walks | | (2005-01) IEC 61000-6-2 (Edition 3.0) (2016-08) IEC 61326-1 (Edition 2.0) (2012-07) IEC 61496-1 (Edition 3.0) (2012-04) IEC 61547: 2009 IEC 62052-11:2003+AMD1:2016 (Edition 1.1) IEC 62053-21:2003/AMD1:2016 (Edition 1.1) (2016-11) @IEC 61000-4-34:2005 @IEC 61000-4-34:2005/AMD1:2009/ COR1:2009 CISPR 14-2 (Edition 1.2) Consol. with Amd. 1 & 2 (2008-07) CISPR 14-2 (Edition 2.0) (2015-02) CISPR 24 (Edition 2.0) (2010-08) CISPR 24 (Edition 2.1) (2015-04) EN 61000-4-11: 2004 EN 12016:2013 EN 50370-2: 2003 EN 55014-2: 1997: Amd. 2: 2008 EN 55014-2: 2015 EN 55024: 2010 EN 55024:2010+A1:2015 EN 55103-2: 2009 | @Three phase: 32 A per phase max Frequency: 50/60 Hz |

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|-----|----------------------------|-------------------------|--|--|
| | | | EN 50130-4: 2011 EN 50130-4:2011+A1:2014 EN 60601-1-2: 2007/AC: 2010, EN 60601-1-2:2015 EN 61000-6-1: 2007 EN 61000-6-2: 2005 EN 61326-1: 2013 EN 61496-1: 2013 EN 61547: 2009 @EN 61000-4-34:2007+A1:2009 EN 62052-11: 2003 ETSI EN 300 339 V1.1.1 (1998-06) ETSI EN 300 386 V2.1.1 (2016-07) ETSI EN 301 090 V1.1.1 (1998-09) ETSI EN 301 489-1 V2.2.0 (2017-03) ETSI EN 301 489-3 V1.6.1 (2013-08) ETSI EN 301 489-17 V3.2.0 (2017-03) ITU-T K.43 (07/2009) ITU-T K.48 (09/2006) TEC/EMI/TEL-001/01/FEB-09, TEC/SD/DD/EMC-221/05/OCT-16 IEC 60974-10 (Edition 3.1) (2015-06) IEC 60255-26 (Edition 3.0) (2013-05) IEC 61000-6-5 (Edition 1.0) (2015-08) CISPR 35 (Edition 1.0) (2016-08) IEC 870-2-1 (Edition 2.0) (1995-12) | |

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|-----|--|---|--|---|
| 13. | Measuring Relays/ Power stations and Sub stations / Relay systems | Ring Wave Immunity | IEC 61000-4-12:2006 (Edition 2.0) (2006-09) IEC 62052-11:2003+AMD1:2016 (Edition 1.1) IEC 870-2-1(Edition 2.0) (1995-12) IEEE Std C62.41.2-2002 | 0.25 kV to 6.0 kV. Single phase:16 A. Three phase: 32 A. DC: Up to 125V is 32A. 125V to 225 is Max.7A. |
| 14. | Test and Measurement / Laboratory / Lighting products/ Measuring relays/ Relay Systems | Impulse Voltage withstand Immunity Test | IEC 60060-1 (Edition 3.0) (2010-09) IEC 62052-11 (Edition 1.0) (2003-02) IEC 62052-11:2003+AMD1:2016 (Edition 1.1) IEC 60255-27 (Edition 2.0) (2013-10) IEC 60255-26 (Edition 3.0) (2013-05) IEEE C37.90-2005 | Up to (±)15 kV, With 0.5 J |
| 15. | Aerospace Products | Power Input | DO-160D, DO-160E, DO-160F, DO-160G (Section 16) | Up to 32A per phase |
| | | Voltage Spike | DO-160D, DO-160E, DO-160F, DO-160G (Section 17) | 600 V pk-pk |
| | | Audio Frequency Conducted Susceptibility – Power inputs | DO-160D, DO-160E, DO-160F, DO-160G (Section 18) | For 28 V DC (category R, Z) 10 Hz: 0.6 Vpp 200 Hz: 0.6 Vpp 200 Hz: 1.6 Vpp 1 kHz: 1.6 Vpp 1 kHz: 4 Vpp 15 kHz: 4 Vpp 15 kHz: 0.6 Vpp |

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|-----|----------------------------|---|---|---|
| | | | | 150 kHz: 0.004 Vpp For 14 V DC All above mention Edition voltages become half For 28 V DC (category B) 200Hz: 1.6 Vpp 1 kHz: 1.6 Vpp 1 kHz: 4 Vpp/ 15 kHz: 4 Vpp/ For 14 V DC All above mention Edition voltages become half |
| | | Induced Signal Susceptibility-Spikes induced into interconnecting cables | DO-160D, DO-160E, DO- 160F, DO-160G (Section 19) | Voltage Upto 1000V, spikes repetition frequency up to 250 kHz, burst duration 250 us Category CC, CN, CW, ZC, ZN, ZW, AC, AN, AW, BC, BN & BW |
| | | Radio Frequency Susceptibility (Radiated) | DO-160D, DO-160E, DO- 160F, DO-160G (Section 20) | Radiated Susceptibility From 100 MHz to 18 GHz Category S, T, W (100V/m is possible from 120MHz for category W) |
| | | Radio Frequency Susceptibility (Conducted) | DO-160D, DO-160E, DO- 160F, DO-160G (Section 20) | BCI: 10 kHz to 400 MHz Category M, O, R, S, T, W, Y |
| | | Emission of Radio Frequency Energy (Radiated) | DO-160D, DO-160E, DO- 160F, DO-160G (Section 21) | 2 MHz to 6000 MHz Category B, L, M, H, P & Q |

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|-----|----------------------------|--|---|--|
| | | Emission of Radio Frequency Energy (Conducted) | DO-160D, DO-160E, DO-160F, DO-160G (Section 21) | 150 kHz to 152 MHz Category B, L, M, H, P & Q |
| | | Lightning induced transient susceptibility | DO-160D, DO-160E, DO-160F, DO-160G (Section 22) | Voc/Isc (3/3) – 3200 V/128 A Voc/Isc (4/1) – 1600 V/320 A Voc/Isc (5 A/5 A) – 1600 V/1600 A Cable bundle single & multiple stroke test V _L /I _T (2/1) – 1600 V/3200 A V _T /I _L (2/1) – 1600 V/3200 A V _T /I _L (3/3) – 3200 V/640 A V _T /I _L (4/1) – 1600 V/3200 A V _L /I _T (4/5A) – 1600 V/5000 A Cable bundle multiple burst test V _T /I _L (3) – 1920 V/32 A V _L /I _T (6) – 3200 V/160 A WF1:6.4/69 us WF2:100 ns/6.4 us WF3:1 MHz & 10 MHz WF4:6.4/69 us WF5A:40/120 us WF5B:50/500 us WF6:0.25/4 us |
| | | Electrostatic Discharge | DO-160D, DO-160E, DO-160F, DO-160G (Section 25) | Category A 30 kV Air Discharge Category A |

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|-----|----------------------------|---|--|--|
| 16. | Military Products | Radiated Emission RE01 RE101 | MIL-STD-461C :1986 MIL-STD-461E:1999 MIL-STD-461F :2007 MIL-STD-461G:2015 | 30 Hz to 50 kHz at 7 cm distance 30Hz to 100kHz at 7cm distance |
| | | Radiated Emission RE02 RE102 | MIL-STD-461C :1986 MIL-STD-461E MIL-STD-461F MIL-STD-461G | 14 kHz to 30 MHz 30 MHz to 200 MHz 200 MHz to 1 GHz 1 GHz to 10 GHz 10 kHz to 30 MHz 30 MHz to 200 MHz 200 MHz to 1 GHz 1 GHz to 18 GHz |
| | | Conducted Emission CE01 CE101 | MIL-STD-461C MIL-STD-461E, MIL-STD-461F MIL-STD-461G | 30 Hz to 15 kHz 30 Hz to 10 kHz |
| | | CE03 CE102 | MIL-STD-461C MIL-STD-461E, MIL-STD-461F MIL-STD-461G | 15 kHz to 50 MHz 10 kHz to 10MHz |
| | | Conducted Susceptibility CS01 CS101 | MIL-STD-461C MIL-STD-461E MIL-STD-461F MIL-STD-461G | 30 Hz to 50 kHz 30 Hz to 150 kHz |
| | | Conducted Susceptibility CS09 CS 109 | MIL-STD-461C MIL-STD-461E, MIL-STD-461F MIL-STD-461G | 60 Hz to 100 kHz |

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|-----|----------------------------|---|--|---|
| | | Conducted Susceptibility CS114 | MIL-STD-461E, MIL-STD-461F @MIL-STD-461G | 10 kHz to 200 MHz @ From 10 kHz |
| | | Conducted Susceptibility CS115 | MIL-STD-461E, MIL-STD-461F MIL-STD-461G | Bulk cable injection, impulse excitation 5 A limit |
| | | Conducted Susceptibility CS116 | MIL-STD-461E, MIL-STD-461F MIL-STD-461G | 10 kHz, 100 kHz, 1 MHz, 10 MHz, 30 MHz, 100 MHz |
| | | Conducted Susceptibility CS117 | MIL-STD-461G | Lightning Induced Transients WF1:6.4/69 us WF2:100 ns/6.4 us WF3:1 MHz & 10 MHz WF4:6.4/69 us WF5A:40/120 us WF5B:50/500 us WF6:0.25/4 us |
| | | Radiated Susceptibility RS01 RS101 | MIL-STD-461C MIL-STD-461E, MIL-STD-461F MIL-STD-461G | 30 Hz to 50 kHz 30 Hz to 100 kHz |
| | | Radiated Susceptibility RS03 RS103 | MIL-STD-461C MIL-STD-461E, MIL-STD-461E, MIL-STD-461F MIL-STD-461G | 2 MHz to 10 GHz, Upto 50 V/m Class A1, A2, A3, A5, B Class A4 – Below Decks only 2 MHz to 18 GHz for Ships (Metallic)(Below Decks), Ships (Nonmetallic)(Below |

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|-----|---|---|--|---|
| | | | | Decks), Submarines (Internal) & Ground Space, Air force (Aircraft internal) |
| | | Aircraft Electrical Power Characteristics | MIL-STD-704D (1-09-1980) MIL-STD-704E (1-05-1991) MIL-STD-704F (12-03-2004) | AC 115/200 volts @ 400 Hz AC 115/200 volts @ 360 to 800 Hz AC 230/400 volts @ 400 Hz AC 115 volts @ 60 Hz 28 Volt DC system 270 Volt DC system |
| 17. | Conducted Radio Frequency Test for Wireless Products | Frequency error | ETSI EN 302 502 V2.1.1 (2017-03) ETSI EN 301 893 V2.0.7 (2016-11) 47 CFR Ch. 1 (Part 15) 47 CFR Ch. 1 (Part 18) RSS-Gen, Issue 4, Nov 2014 RSS-247 Issue 2 Feb 2017 | |
| | | Transmitter RF Output Power | ETSI EN 302 502 V2.1.1 (2017-03) ETSI EN 301 893 V2.0.7 (2016-11) ETSI EN 300 328V2.1.1 (2016-11) ETSI EN 300 220-2 V3.1.1 (2017-02) ETSI EN 300 330-2V1.6.1 (2015-03) 47 CFR Ch. 1 (Part 15) 47 CFR Ch. 1 (Part 18) RSS-Gen, Issue 4, Nov 2014 RSS-247 Issue 2 Feb 2017 | |

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|-----|----------------------------|--|--|--|
| | | EIRP (Equivalent isotropically radiated power) | ETSI EN 302 502 V2.1.1 (2017-03) 47 CFR Ch. 1 (Part 15) 47 CFR Ch. 1 (Part 18) RSS-Gen, Issue 4, Nov 2014 RSS-247 Issue 2 Feb 2017 | |
| | | Power Spectral density | ETSI EN 302 502 V2.1.1 (2017-03) ETSI EN 301 893 V2.0.7 (2016-11) ETSI EN 300 328 V2.1.1 (2016-11) ETSI EN 300 220-2 V3.1.1 (2017-02) 47 CFR Ch. 1 (Part 15) 47 CFR Ch. 1 (Part 18) RSS-Gen, Issue 4, Nov 2014 RSS-247 Issue 2 Feb 2017 | |
| | | Transmitter Unwanted emission outside band | ETSI EN 302 502 V2.1.1 (2017-03) ETSI EN 301 893 V2.0.7 (2016-11) ETSI EN 300 328 V2.1.1 (2016-11) ETSI EN 300 220-2 V3.1.1 (2017-02) ETSI EN 300 330-2 V1.6.1 (2015-03) 47 CFR Ch. 1 (Part 15) 47 CFR Ch. 1 (Part 18) RSS-Gen, Issue 4, Nov 2014 RSS-247 Issue 2 Feb 2017 | |

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|-----|----------------------------|---|--|--|
| | | Transmitter Unwanted emission within the band | ETSI EN 302 502 V2.1.1 (2017-03) ETSI EN 301 893 V2.0.7 (2016-11) ETSI EN 300 328 V2.1.1 (2016-11) ETSI EN 300 220-2 V3.1.1 (2017-02) ETSI EN 300 330-2 V1.6.1 (2015-03) 47 CFR Ch. 1 (Part 15) 47 CFR Ch. 1 (Part 18) RSS-Gen, Issue 4, Nov 2014 RSS-247 Issue 2 Feb 2017 | |
| | | Transmitter Spurious Emission | ETSI EN 300 328 V2.1.1 (2016-11) ETSI EN 300 220-2 V3.1.1 (2017-02) ETSI EN 300 330-2 V1.6.1 (2015-03) 47 CFR Ch. 1 (Part 15) 47 CFR Ch. 1 (Part 18) RSS-Gen, Issue 4, Nov 2014 RSS-247 Issue 2 Feb 2017 | |
| | | Occupied Channel Bandwidth/Channel Bandwidth | ETSI EN 301 893 V2.0.7 (2016-11) ETSI EN 300 328 V2.1.1 (2016-11) ETSI EN 300 220-2 V3.1.1 (2017-02) ETSI EN 300 330-2 V1.6.1 (2015-03) 47 CFR Ch. 1 (Part 15) | |

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|-----|----------------------------|-----------------------------|--|--|
| | | | 47 CFR Ch. 1 (Part 18) RSS-Gen, Issue 4, Nov 2014 RSS-247 Issue 2 Feb 2017 | |
| | | Duty Cycle | ETSI EN 300 220-2 V3.1.1 (2017-02) ETSI EN 300 328 V2.1.1 (2016-11) 47 CFR Ch. 1 (Part 15) 47 CFR Ch. 1 (Part 18) RSS-Gen, Issue 4, Nov 2014 RSS-247 Issue 2 Feb 2017 | |
| | | Adjacent Channel Power | ETSI EN 300 220-2 V3.1.1 (2017-02) ETSI EN 300 330-2 V1.6.1 (2015-03) 47 CFR Ch. 1 (Part 15) 47 CFR Ch. 1 (Part 18) RSS-Gen, Issue 4, Nov 2014 RSS-247 Issue 2 Feb 2017 | |
| | | Adaptivity | ETSI EN 300 220-2 V3.1.1 (2017-02) ETSI EN 300 328 V2.1.1 (2016-11) 47 CFR Ch. 1 (Part 15) 47 CFR Ch. 1 (Part 18) RSS-Gen, Issue 4, Nov 2014 RSS-247 Issue 2 Feb 2017 | |
| | | Dynamic Frequency Selection | ETSI EN 300 220-2 V3.1.1 (2017-02) ETSI EN 302 502 V2.1.1 (2017-03) | |

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|------------|---|-------------------------------|---|--|
| | | | 47 CFR Ch. 1 (Part 15) 47 CFR Ch. 1 (Part 18) RSS-Gen, Issue 4, Nov 2014 RSS-247 Issue 2 Feb 2017 | |
| | | Band Edge Measurements | 47 CFR Ch. 1 (Part 15) 47 CFR Ch. 1 (Part 18) RSS-Gen, Issue 4, Nov 2014 RSS-247 Issue 2 Feb 2017 | |
| 18. | Automotive Products | Radiated Magnetic Field | ISO 11452-8:2015 @SAE J1113/22: Nov 2003 @SAE J1113/22 (2010-08) | 15Hz to 150kHz |
| | | Electrical Transient Emission | ISO 7637-2: Third edition (2011-03-01): | Amplitude: >400V |
| | | Electrical Transient Immunity | ISO 7637-2: Third edition (2011-03-01) ISO 7637-3: Second edition (2007-07-01) ISO 16750-2 Third edition 2010-03-15 | Pulse 1, Pulse 2a, Pulse 2b, Pulse 3a, Pulse 3b, Pulse 4, Pulse 5a, Pulse 5b |
| II. | SAFTEY TESTING FACILITY | | | |
| 1. | IT / Telecom Equipment | Leakage Current | IEC/EN 60950-1 2005+A1:2009+A2:2013 (Cl. No. - 5.1) IS 13252-1: 2010 (Cl. No. -5.1) | Upto 10 mA |
| | Medical | | IEC/EN 60601-1 2005+A1:2012 (Cl. No. - 8.7) | |
| | Particular requirements for infant radiant warmers | | IEC/EN 60601-2-21:2009+A1:2016 (Cl. No. - 8.7) | |

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|-----|--|-------------------------|---|--|
| | Particular requirements for infant phototherapy equipment | | IEC/EN 60601-2-50:2009+A1:2016 (Cl. No. - 8.7) | |
| | Particular requirements for ultrasonic medical diagnostic and monitoring equipment | | IEC/EN 60601-2-37:2007+A1 2015 (Cl. No. - 8.7) | |
| | Particular requirements for multifunction patient monitoring equipment | | IEC/EN 60601-2-49(2011) (Cl. No. - 8.7) | |
| | House hold and similar Electrical Appliances | | IEC/EN 60335-1:2010 +A1 :2013+A2(2016) (Cl. No. - 13.0) IS 302-1 :2008+A1: 2009 A2:2013 A3:2014 (Cl. No. - 13.0) | |
| | Appliances for skin and health care | | IEC/EN 60335-2-23 (2016) (Cl. No. - 13.0) | |
| | Appliances for refrigerating appliances& ice cream appliances, ice makers | | IEC/EN 60335-2-24 (2012) (Cl. No. - 13.0) | |
| | Microwave Ovens | | IEC/EN 60335-2-25(2014) +A2 :2015 (Cl. No. - 13.0) IS 302-2-25 :2012+A2 :2016(Cl. No. - 13.0) | |

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|-----|--|----------------------------------|---|--|
| | Electric Clocks | | IEC/EN 60335-2-26 (2008) (Cl. No. - 13.0) IS 302-2-26 :2014 (Cl. No. - 13.0) | |
| | Appliances for commercial refrigerating appliances with an incorporated or remote refrigerant unit or compressor | | IEC 60335-2-89 2010 +A1:2012, +A2:2015 (Cl. No. - 13.0) | |
| | UPS | | IEC/EN 62040-1 2008+A1:2013 (Cl. No.4.7.13 &8.1) | |
| | Audio / Video and IT | | IEC/EN 62368-1(2014) (Cl. No. - 5.7) | |
| | Measuring relays and protection equipment- Safety requirements | | IEC/EN 60225-27(2013) (Cl. No. 5.1.8) | |
| | Luminaire | | IEC/EN 60598-1 (2014) (Cl. No. - 10) | |
| | Transformers | | IEC/EN 61558-1 (2009) (Cl. No. - 18.0) IEC/EN 61558-2-4 (2009) (Cl. No. - 18.0) IEC/EN 61558-2-16 (2009) (Cl. No. - 18.0) | 1 & 3 Phase Voltage: 0 to 500 V Frequency: 0 to 100 Hz Output: 0 to 10 KVA |
| 2. | IT / Telecom | Electric/ Dielectric Strength | IEC/EN 60950-1 2005+A1:2009+A2:2013 (Cl. No. - 5.2) IS 13252-1 :2010+A1:2013 +A2 :2015 (Cl. No. -5.2) | Upto 10 KV (AC & DC) |

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| | Medical | | IEC/EN 60601-1 2005+A1:2012 (Cl. No. - 8.8.3) | |
| | Particular requirements for infant radiant warmers | | IEC/EN 60601-2-21:2009+A1:2016(Cl. No. - 8.8.3) | |
| | Particular requirements for infant phototherapy equipment | | IEC/EN 60601-2-50:2009+A1:2016 (Cl. No. - 8.8.3) | |
| | Particular requirements for ultrasonic medical diagnostic and monitoring equipment | | IEC/EN 60601-2-37:2007+A1 2015 (Cl. No. - 8.8.3) | |
| | Particular requirements for multifunction patient monitoring equipment | | IEC/EN 60601-2-49(2011) (Cl. No. - 8.8.3) | |
| | Audio Video Similar Electronics Apparatus | | IEC/EN 60065(2014) (Cl. No. - 10.4) IS 616 :2010+A2 : 2014(Cl. No. - 10.4) | |
| | Electrical Equipment for measurement control and laboratory usage | | IEC/EN 61010-1(2010) (Cl. No. - 6.8) | |
| | House hold and similar Electrical Appliances | | IEC/EN 60335-1:2010 +A1 :2013+A2(2016) (Cl. No. 13.0) IS 302-1 :2008+A1: 2009 A2:2013 A3:2014 (Cl. No. - 13.0) | |

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|-----|---|-------------------------|---|--|
| | Appliances for skin and health care | | IEC/EN 60335-2-23 (2016) ;(Cl. No. - 13.0 &16.0) | |
| | Appliances for refrigerating appliances& ice cream appliances, ice makers | | IEC/EN 60335-2-24 (2012) ;(Cl. No. - 13.0 &16.0) | |
| | Microwave Ovens | | IEC/EN 60335-2-25 (2014) +A2 :2015 ; (Cl. No. - 13.0) IS 302-2-25 :2012+A2 :2016 (Cl. No. - 13.0) | |
| | Electric Clocks | | IEC/EN 60335-2-26 (2008) (Cl. No. - 13.0 &16.0) IS 302-2-26 :2014 (Cl. No. - 13.0) | |
| | Particular requirements for commercial refrigerating appliances | | IEC 60335-2-89 2010, +A1:2012, +A2:2015 (Cl. No. - 13.0) | |
| | UPS | | IEC/EN 62040-1 2008+A1:2013 (Cl. No.8.2) | |
| | Measuring relays and protection equipment-Common requirements | | IEC/EN 60255-1(2009) (Cl. No. 6.12) | |
| | Measuring relays and protection equipment-Safety requirements | | IEC/EN 60225-27(2013) (Cl. No. 5.1.4, 10.6) | |

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| | Audio/ Video and IT | | IEC/EN 62368-1(2014) (Cl. No. - 5.4) | |
| | Luminaires | | IEC/EN 60598-1 (2014) (Cl. No. - 10) | |
| | Transformers | | IEC/EN 61558-1 (2009) ; (Cl. No. - 18.0) IEC/EN 61558-2-4 (2009) ; (Cl. No. - 18.0) IEC/EN 61558-2-16(2009) ; (Cl. No. - 18.0) | |
| | Lamp Control Gear | | IEC/EN 61347-1 (2015) (Cl. No. - 12.0) IEC/EN 61347-2-9(2012) (Cl. No. - 12.0) | |
| 3. | Audio Video Similar Electronics Apparatus | Insulation Resistance | IEC/EN 60065(2014) (Cl. No. - 10.4) IS 616 :2010+A2 : 2014 (Cl. No. - 10.4) | Upto 500 V dc Upto 500 M Ω |
| | Electrical equipment of machines | | IEC/EN 60204-1 (2009) (Cl. No.18.3) | |
| | Measuring relays and protection equipment- Common requirements | | IEC/EN 60255-1(2009) (Cl. No. 6.1) | |
| | Measuring relays and protection equipment Safety requirements | | IEC/EN 60225-27(2013) (Cl. No. 10.6) | |
| | Luminaires | | IEC/EN 60598-1 (2015) (Cl. No. - 10) | |

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| | Transformers | | IEC/EN 61558-1 (2009) (Cl. No. - 18.0) IEC/EN 61558-2-4 (2009) (Cl. No. - 18.0) IEC/EN 61558-2-16 (2009) (Cl. No. - 18.0) | |
| | Lamp Control Gear | | IEC/EN 61347-1 (2015) (Cl. No. - 11.0) IEC/EN 61347-2-9(2012) (Cl. No. - 11.0) | |
| 4. | IT / Telecom | Earth Bond Test | IEC/EN 60950-1 2005+A1:2009+A2:2013 (Cl. No. - 2.6.3.4.) IS 13252-1 :2010+A1:2013 +A2 :2015 (Cl. No. -2.6.3.4) | 6 A to 60A |
| | Medical | | IEC/EN 60601-1 2005+A1:2012 (Cl. No. - 8.6.4) | |
| | Particular requirements for infant radiant warmers | | IEC/EN 60601-2-21:2009+A1:2016 (Cl. No. - 8.6.4) | |
| | Particular requirements for infant phototherapy equipment | | IEC/EN 60601-2-50:2009+A1:2016 (Cl. No. - 8.6.4) | |
| | Particular requirements for ultrasonic medical diagnostic and monitoring equipment | | IEC/EN 60601-2-37 :2007+A1 2015 (Cl. No. - 8.6.4) | |

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|-----|---|-------------------------|--|--|
| | Particular requirements for multifunction patient monitoring equipment | | IEC/EN 60601-2-49(2011) (Cl. No. - 8.6.4) | |
| | Electrical Equipment for measurement control and laboratory usage | | IEC/EN 61010-1(2010) (Cl. No. -6.5.2.4) | |
| | Audio Video Similar Electronics Apparatus | | IEC/EN 60065(2014) (Cl. No. -15.2) IS 616 :2010 +A2 : 2014 (Cl. No. -15.2) | |
| | House hold and similar Electrical Appliances | | IEC/EN 60335-1:2010 +A1 :2013+A2(2016) (Cl. No. -27.0) IS 302-1 :2008+A1: 2009 A2:2013 A3:2014 (Cl. No. -27.0) | |
| | Appliances for skin and health care | | IEC/EN 60335-2-23 (2016) (Cl. No. -27.0) | |
| | Appliances for refrigerating appliances & ice-cream appliances, icemakers | | IEC/EN 60335-2-24 (2012) (Cl. No. -27.0) | |
| | Microwave Ovens | | IEC/EN 60335-2-25(2014) +A2 :2015 (Cl. No. -27.0) IS 302-2-25:2012+A2 :2016 (Cl. No. -27) | |
| | Measuring relays and protection equipment- Common requirements | | IEC/EN 60255-1(2009) (Cl. No. 6.1) | |

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|-----|---|-------------------------|--|--|
| | Measuring relays and protection equipment- Safety requirements | | IEC/EN 60225-27(2013) (Cl. No. 10.6) | |
| | Audio/Video and IT | | IEC/EN 62368-1(2014) (Cl. No. - 5.6) | |
| | Luminaires | | IEC/EN 60598-1 (2014) (Cl. No. - 7) | |
| | Particular requirements for commercial refrigerating appliances with an incorporated or remote refrigerant unit or compressor | | IEC 60335-2-89 (2010, +A1:2012, +A2:2015) (Cl. No. -27.0) | |
| | Electric Clocks | | IEC/EN 60335-2-26 (2008) (Cl. No. -27.0) IS 302-2-26:2014 Cl. No. 27.0 | |
| | UPS | | IEC/EN 62040-1 2008+A1:2013 (Cl. No.5.3) | |
| | Electrical equipment of machines | | IEC/EN 60204-1 (2009) (Cl. No.8.2) | |
| | Transformers | | IEC/EN 61558-1 (2009) (Cl. No. -24.0) IEC/EN 61558-2-4 (2009) (Cl. No. -24.0) IEC/EN 61558-2-16 (2009) (Cl. No. -24.0) | |
| | Lamp Control Gear | | IEC/EN 61347-1 (2015) (Cl. No. -10.0) IEC/EN 61347-2-9(2012) (Cl. No. -10.0) | |

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|-----|--|---------------------------|--|---|
| 5. | IT / Telecom | Input Current/ Power Test | IEC/EN 60950-1 2005+A1:2009+A2:2013 (Cl. No. - 1.6.2) IS 13252-1 :2010+A1:2013 +A2 :2015 (Cl.No.1.6.2) | Upto 20A Upto 300V AC 50Hz-1kHz Upto 10kW@PF-1 |
| | Medical | | IEC/EN 60601-1 2005+A1:2012 (Cl. No. -4.11) | Upto 32 A Upto 440V |
| | Particular requirements for infant radiant warmers | | IEC/EN 60601-2-21:2009+A1:2016 (Cl. No. -4.11) | |
| | Particular requirements for infant phototherapy equipment | | IEC/EN 60601-2-50:2009+A1:2016 (Cl. No. -4.11) | Upto 200 A |
| | Particular requirements for ultrasonic medical diagnostic and monitoring equipment | | IEC/EN 60601-2-37:2007+A1 2015 (Cl. No. - 4.11) | |
| | Particular requirements for multifunction patient monitoring equipment | | IEC/EN 60601-2-49 (2011) (Cl. No. -4.11) | |
| | Electrical Equipment for measurement control and laboratory usage | | IEC/EN 61010-1(2010) (Cl. No. -5.1.3) | |
| | Audio Video Similar electronics Apparatus | | IEC/EN 60065(2014) (Cl. No. -4.2.1) IS 616 :2010 A2 : 2014 (Cl. No. -4.2.1) | |

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|-----|---|-------------------------|---|--|
| | House hold and similar Electrical Appliances | | IEC/EN 60335-1:2010 +A1 :2013+A2(2016) (Cl. No. -10.0) IS 302-1 :2008+A1: 2009 A2:2013 A3:2014 (Cl. No. -10.0) | |
| | Appliances for skin and health care | | IEC/EN 60335-2-23 (2016) (Cl. No. -10.0) | |
| | Appliances for refrigerating appliances& ice cream appliances, icemakers | | IEC/EN 60335-2-24 (2012) (Cl. No. -10.0) | |
| | Microwave Ovens | | IEC/EN 60335-2-25 (2014) +A2:2015 (Cl. No. -10.0) IS 302-2-25 :2012+A2 :2016 (Cl. No. -10) | |
| | Particular requirements for commercial refrigerating appliances with an incorporated or remote refrigerant unit or compressor | | IEC 60335-2-89 (2010, +A1:2012, +A2:2015) (Cl. No. -10.0) | |
| | Electric Clocks | | IEC/EN 60335-2-26 (2008) (Cl. No. -10.0) IS 302-2-26:1994(Cl. No. -10.0) | |
| | Audio/Video and IT | | IEC/EN 62368-1(2014) (Ann. B.2) | |

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|-----|--|-------------------------|--|--|
| | UPS | | IEC/EN 62040-1 2008+A1:2013(Cl. No.4.6) | |
| | Transformers | | IEC/EN 61558-1 (2009) (Cl. No. -11.0) IEC/EN 61558-2-4 (2009) (Cl. No. -11.0) IEC/EN 61558-2-16 (2009) (Cl. No. -11.0) | |
| 6. | IT / Telecom | Heating/ Temperature | IEC/EN 60950-1 2005+A1:2009+A2:2013 (Cl. No. - 4.5) IS 13252-1 :2010+A1:2013 +A2 :2015 (Cl. No.4.5) | Upto + 270 °C Upto 2 kΩ |
| | Medical | | IEC/EN 60601-1 2005+A1:2012 (Cl. No. -11.0) | |
| | Particular requirements for infant radiant warmers | | IEC/EN 60601-2-21:2009+A1:2016 (Cl. No. - 11.0) | |
| | Particular requirements for infant phototherapy equipment | | IEC/EN 60601-2-50 :2009+A1:2016 (Cl. No. - 11.0) | |
| | Particular requirements for ultrasonic medical diagnostic and monitoring equipment | | IEC/EN 60601-2-37 :2007+A1 2015 (Cl. No. - 11.0) | |
| | Particular requirements for multifunction patient monitoring equipment | | IEC/EN 60601-2-49(2011) (Cl. No. - 11) | |

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|-----|---|-------------------------|--|--|
| | Electrical Equipment for measurement control and laboratory usage | | IEC/EN 61010-1(2010) (Cl. No. -10.4) | |
| | Audio Video Similar Electronics Apparatus | | IEC/EN 60065(2014) (Cl. No. -7.1) IS 616 :2010+A2 : 2014 (Cl. No. -7.1) | |
| | House hold and similar Electrical Appliances | | IEC/EN 60335-1:2010 +A1:2013+A2 :2016 (Cl. No.11.0) IS 302-1 :2008+A1: 2009 A2:2013 A3:2014 (Cl. No.11.0) | |
| | Appliances for skin and health care | | IEC/EN 60335-2-23 (2016) (Cl. No.11.0) | |
| | Appliances for refrigerating appliances& ice cream appliances, icemakers | | IEC/EN 60335-2-24 (2012) (Cl. No.11.0) | |
| | Particular requirements for commercial refrigerating appliances with an incorporated or remote refrigerant unit or compressor | | IEC 60335-2-89 (2010, +A1:2012, +A2:2015) (Cl. No.11.0) | |
| | Microwave Ovens | | IEC/EN 60335-2-25 (2014) +A2 :2015 (Cl. No.11.0) IS 302-2- 5 :2012+A2 :2016 (Cl. No. -11) | |

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|-----|---|-------------------------|--|--|
| | Electric Clocks | | IEC/EN 60335-2-26 (2008) (Cl. No.11.0) IS 302-2-26:2014 (Cl. No.11.0) | |
| | Audio / Video and IT | | IEC/EN 62368-1(2014) (Cl. No.9.2.5 & Ann B.1.6) | |
| | Luminaires | | IEC /EN 60598-1 (2014) (Cl. No. - 12.4) | |
| | Measuring relays and protection equipment-Safety requirements | | IEC/EN 60225-27(2013) (Cl. No. 7.3) | |
| | UPS | | IEC/EN 62040-1 2008 A1:2013 (Cl. No.7.7 &7.4.1) | |
| | Electrical equipment of machines | | IEC/EN 60204-1 (2009) (Cl. No.7.3.3) | |
| | Transformers | | IEC/EN 61558-1 (2009) (Cl. No.14.0) IEC/EN 61558-2-4 (2009) (Cl. No.11.0) IEC/EN 61558-2-16 (2009) (Cl. No.11.0) | |
| | Lamp Control Gear | | IEC/EN 61347-1 ((2015) (Cl. No.13.0) IEC/EN 61347-2-9(2012) (Cl. No.13.0) | |
| 7. | Audio Video Similar Electronics Apparatus | Impact | IEC/EN 60065(2014) (Cl. No.12.1.4) IS 616 :2010+A2 : 2014 (Cl. No.12.1.4) | Qualitative (Upto 0.5Nm) |
| | House hold and similar Electrical Appliances | | IEC/EN 60335-1:2010 +A1 :2013+A2(2016) (Cl. No.21.4) IS 302-1:2008 A1: 2009 A2:2013 A3:2014 (Cl. No.21.4) | |

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|-----|---|-------------------------|--|--|
| | Appliances for skin and health care | | IEC/EN 60335-2-23 (2016) (Cl. No.21.4) IS 302-2-23(2009) (Cl. No. - 21.4) | |
| | Appliances for refrigerating appliances& ice cream appliances, icemakers | | IEC/EN 60335-2-24 (2012) (Cl. No.21.4) IS 302-2-24(1994) (Cl. No. - 21.4) | |
| | Microwave Ovens | | IEC/EN 60335-2-25 (2014) +A2 :2015 (Cl. No.21.4) IS 302-2-25 :2012 +A2 :2016 (Cl. No. -21.4) | |
| | Luminaires | | IEC/EN 60598-1 (2014) (Cl. No.4.13) | |
| | Particular requirements for commercial refrigerating appliances with an incorporated or remote refrigerant unit or compressor | | IEC/EN 60335-2-89 (2010, +A1:2012, +A2:2015) (Cl. No.21.4) | |
| | Electric Clocks | | IEC/EN 60335-2-26 (2008) (Cl. No.21.4) IS 302-2-26 :2014 (Cl. No.21.4) | |
| | Transformers | | IEC/EN 61558-1 (2009) (Cl. No.16.0) IEC/EN 61558-2-4 (2009) (Cl. No.16.0) IEC/EN 61558-2-16 (2009) (Cl. No.16.0) | |

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|-----|--|-------------------------|---|--|
| 8. | IT / Telecom | Ball Pressure | IEC/EN 60950-1 2005+A1:2009+A2:2013 (Cl. No. - 4.5.5) IS 13252-1 :2010 (Cl. No.4.5.5) | Upto 2 mm |
| | Medical | | IEC/EN 60601-1 2005+A1:2012 (Cl. No.8.8.4.1) | |
| | Particular requirements for infant radiant Warmers | | IEC/EN 60601-2-21 :2009+A1:2016 (Cl. No.8.8.4.1) | |
| | Particular requirements for infant phototherapy equipment | | IEC/EN 60601-2-50 :2009+A1:2016 (Cl. No.8.8.4.1) | |
| | Particular requirements for ultrasonic medical diagnostic and monitoring equipment | | IEC/EN 60601-2-37 :2007+A1 2015 (Cl. No.8.8.4.1) | |
| | Particular requirements for multifunction patient monitoring equipment | | IEC/EN 60601-2-49(2011) (Cl. No.8.8.4.1) | |
| | Electrical Equipment for measurement control and laboratory usage | | IEC/EN 61010-1(2010) (Cl. No.10.5.3) | |

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| | House hold and similar Electrical Appliances | | IEC/EN 60335-1:2010 A1 :2013+A2(2016) (Cl. No.30.0) IS 302-1:2008 A1: 2009 A2:2013 A3:2014 (Cl. No.30.0) | |
| | Appliances for skin and health care | | IEC/EN 60335-2-23 (2016) (Cl. No.30.0) | |
| | Appliances for refrigerating appliances & ice cream appliances, icemakers | | IEC/EN 60335-2-24 (2012) (Cl. No.30.0) | |
| | Microwave Ovens | | IEC/EN 60335-2-25(2014) +A2 :2015(Cl. No.30.0) IS 302-2-25 :2012 +A2 :2016 (Cl. No.30.0) | |
| | Particular requirements for commercial refrigerating appliances with an incorporated or remote refrigerant unit or compressor | | IEC 60335-2-89 (2010, +A1:2012, +A2:2015) (Cl. No.30.0) | |
| | Electric Clocks | | IEC/EN 60335-2-26 (2008) (Cl. No.30.0) IS 302-2-26 :2014 (Cl. No.30.0) | |
| | Luminaires | | IEC/EN 60598-1 (2014) (Cl. No. - 13.2) | |
| | UPS | | IEC/EN 62040-1 2008+A1:2013 (Cl. No.7.4.1) | |

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|-----|--|-------------------------|---|--|
| | Audio/Video and IT Transformers | | IEC/EN 62368-1 (2014) (Cl. No. – 5.4) IEC/EN 61558-1 (2009) (Cl. No.27.0) IEC/EN 61558-2-4 (2009) (Cl. No.27.0) IEC/EN 61558-2-16 (2009) (Cl. No.27.0) | |
| 9. | IT / Telecom | Steady Force | IEC/EN 60950-1 2005+A1:2009+A2:2013 (Cl. No. - 4.2.2 to 4.2.4) IS 13252-1 :2010+A1:2013 +A2 :2015 (Cl. No. - 4.2.2 to 4.2.4) | Qualitative (10 N to 250 N Upto 60 s) |
| | Medical | | IEC/EN 60601-1 2005 A1:2012 Cl. No. 15.3.2 | |
| | Particular requirements for infant radiant warmers | | IEC/EN 60601-2-21 :2009+A1:2016 (Cl. No.15.3.2) | |
| | Particular requirements for infant phototherapy equipment | | IEC/EN 60601-2-50 :2009+A1:2016(Cl. No.15.3.2) | |
| | Particular requirements for ultrasonic medical diagnostic and monitoring equipment | | IEC/EN 60601-2-37 :2007+A1 2015 (Cl. No.15.3.2) | |
| | Particular requirements for multifunction patient monitoring equipment | | IEC/EN 60601-2-49(2011) (Cl. No.15.3.2) | |

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|-----|--|-------------------------|--|--|
| | Electrical Equipment for measurement control and laboratory usage | | IEC/EN 61010-1(2010) (Cl. No.7.4 b) | |
| | Audio Video Similar Electronics Apparatus | | IEC/EN 60065(2014) (Cl. No.19.2) IS 616 :2010+A2 : 2014 (Cl. No.9.1.7, 19.2) | |
| | House hold and similar Electrical Appliances | | IEC/EN 60335-1:2010 +A1 :2013+A2 :2016 (Cl. No.20.11 to 20.012) IS 302-1 :2008+A1: 2009 A2:2013 A3:2014 (Cl. No. 20.11 to 20.12) | |
| | Appliances for skin and health care | | IEC/EN 60335-2-23 (2016) (Cl. No. 20.11 to 20.12) | |
| | Appliances for refrigerating appliances& ice cream appliances, icemakers | | IEC/EN 60335-2-24 (2012) (Cl. No. 20.11 to 20.12) | |
| | Microwave Ovens | | IEC/EN 60335-2-25 (2014) +A2 :2015 (Cl. No. 20.11 to 20.12) IS 302-2-25 :2012+A2 :2016 (Cl. No. - 20.11 to 20.12) | |
| | Particular requirements for commercial refrigerating appliances | | IEC 60335-2-89 (2010, +A1:2012, +A2:2015) (Cl. No. 20.11 to 20.12) | |

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| | Electric Clocks | | IEC/EN 60335-2-26 (2008) (Cl. No.20.11 to 20.12) IS 302-2-26 :1994 (Cl. No. 20.11 to 20.12) | |
| | UPS | | IEC/EN 62040-1 2008+A1:2013 (Cl. No.7.3) | |
| | Audio/Video and IT | | IEC/EN 62368-1 (2014) (Ann. T.5 and Cl No.8.6.2.2) | |
| 10. | IT / Telecom | Drop Test | IEC/EN 60950-1 2005+A1:2009+A2:2013 (Cl. No. - 4.2.6) IS 13252-1 :2010+A1:2013 +A2 :2015 (Cl. No. -4.2.6) | Qualitative (10 cm to 1.3 m) |
| | Medical | | IEC/EN 60601-1 2005+A1:2012 (Cl. No.15.3.4) | |
| | Particular requirements for infant radiant warmers | | IEC/EN 60601-2-21 :2009+A1:2016 (Cl. No.15.3.4) | |
| | Particular requirements for infant phototherapy equipment | | IEC/EN 60601-2-50 :2009+A1:2016 (Cl. No.15.3.4) | |
| | Particular requirements for multifunction patient monitoring equipment | | IEC/EN 60601-2-49(2011) (Cl. No.15.3.4) | |
| | Electrical Equipment for measurement control and laboratory usage | | IEC/EN 61010-1(2010) (Cl. No.8.3) | |

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|-----|--|---|---|--|
| | Audio Video Similar Electronics Apparatus | | IEC/EN 60065(2014) (Cl. No.12.1.4) IS 616 :2010+A2 : 2014 (Cl. No.12.1.5) | |
| | Audio/Video and IT | | IEC/EN 62368-1 (2014)(Ann T.7) | |
| | Luminaires | | IEC/EN 60598-1 (2014) (Cl. No. - 4.13.3) | |
| 11. | IT / Telecom | Stability, Inclined Plane Test, Handling Load | IEC/EN 60950-1 2005+A1:2009+A2:2013 (Cl. No. - 4.1) IS 13252-1 :2010+A1:2013 +A2 :2015 (Cl. No. - 4.1) | Qualitative (0 deg to 30 deg 100 N to 800 N) |
| | Medical | | IEC/EN 60601-1 2005+A1:2012 (Cl. No.11.6.2) | |
| | Particular requirements for infant radiant warmers | | IEC/EN 60601-2-21 :2009+A1:2016 (Cl. No.11.6.2) | |
| | Particular requirements for infant phototherapy equipment | | IEC/EN 60601-2-50 :2009+A1:2016 (Cl. No.11.6.2) | |
| | Particular requirements for ultrasonic medical diagnostic and monitoring equipment | | IEC/EN 60601-2-37 :2007+A1 2015 (Cl. No.11.6.2) | |
| | Particular requirements for multifunction patient monitoring equipment | | IEC/EN 60601-2-49(2011) (Cl. No.11.6.2) | |

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|-----|---|-------------------------|---|--|
| | Electrical Equipment for measurement control and laboratory usage | | IEC/EN 61010-1(2010) (Cl. No.7.4a) | |
| | Audio Video Similar Electronics Apparatus | | IEC/EN 60065(2014) (Cl. No.19) IS 616 :2010+A2 : 2014 (Cl. No.19) | |
| | Audio/Video and IT | | IEC/EN 62368-1 (2014) (Cl.No.8.6.3) | |
| | Particular requirements for commercial refrigerating appliances with an incorporated or remote refrigerant unit or compressor | | IEC 60335-2-89 (2010, +A1:2012, +A2:2015) (Cl. No.20.0) | |
| | House hold and similar Electrical Appliances | | IEC/EN 60335-1:2010 +A1 :2013+A2 :2016 (Cl. No.20.0) IS 302-1 :2008+A1: 2009 A2:2013 A3:2014 (Cl. No.20.0) | |
| | Appliances for refrigerating appliances& ice cream appliances, icemakers | | IEC/EN 60335-2-24 (2012) (Cl. No.20.0) | |
| | Microwave Ovens | | IEC/EN 60335-2-25(2014) (Cl. No.20.0) IS 302-2-25 :2012+A2 :2016 (Cl. No.20.0) | |

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|-----|--|---|---|--|
| | Electric Clocks | | IEC/EN 60335-2-26 (2008) (Cl. No.20.0) IS 302-2-26 :2014 (Cl. No.20.0) | |
| | UPS | | IEC/EN 62040-1 2008+A1:2013 (Cl. No.7.2) | |
| 12. | IT / Telecom | Abnormal operation/Fault condition test | IEC/EN 60950-1 2005+A1:2009+A2:2013 (Cl. No. - 5.3) IS 13252-1 :2010+A1:2013 +A2 :2015 (Cl. No. -5.3) | Upto + 270°C Up to 2 kΩ |
| | Medical | | IEC/EN 60601-1 2005+A1:2012 (Cl. No.13.0) | |
| | Particular requirements for infant radiant warmers | | IEC/EN 60601-2- 21:2009+A1:2016 (Cl. No. - 13.0) | |
| | Particular requirements for infant phototherapy equipment | | IEC/EN 60601-2- 50:2009+A1:2016 (Cl. No. - 13.0) | |
| | Particular requirements for ultrasonic medical diagnostic and monitoring equipment | | IEC/EN 60601-2 37:2007+A1 2015 (Cl. No. - 13.0) | |
| | Particular requirements for multifunction patient monitoring equipment | | IEC/EN 60601-2-49(2011) (Cl. No. - 13.0) | |

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|-----|---|-------------------------|---|--|
| | Electrical Equipment for measurement control and laboratory usage | | IEC/EN 61010-1(2010) (Cl. No.4.4) | |
| | Audio Video Similar Electronics Apparatus | | IEC/EN 60065(2014) (Cl. No.11.0) IS 616 :2010+A2 : 2014 (Cl. No.11.0) | |
| | House hold and similar Electrical Appliances | | IEC/EN 60335-1:2010 +A1 :2013+A2 :2016 (Cl. No.19.0) IS 302-1 :2008+A1: 2009 A2:2013 A3:2014 (Cl. No.19.0) | |
| | Appliances for skin and health care | | IEC/EN 60335-2-23 (2016) (Cl. No.19.0) | |
| | Appliances for refrigerating appliances& ice cream appliances, icemakers | | IEC/EN 60335-2-24 (2012) (Cl. No.19.0) | |
| | Microwave Ovens | | IEC/EN 60335-2-25(2014) (Cl. No.19.0) IS 302-2-25 :2012,A2 :2016 (Cl. No.19.0) | |
| | Particular requirements for commercial refrigerating appliances with an incorporated or remote refrigerant unit or compressor | | IEC 60335-2-89 (2010, +A1:2012, +A2:2015) (Cl. No.19.0) | |

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|-----|--|-------------------------|--|--|
| | Electric Clocks | | IEC/EN 60335-2-26 (2008) (Cl. No.19.0) IS 302-2-26 :2014 (Cl. No.19.0) | |
| | UPS | | IEC/EN 62040-1 2008+A1:2013 (Cl. No.8.3) | |
| | Transformers | | IEC/EN 61558-1 (2009) (Ann.H) IEC/EN 61558-2-4 (2009) (Ann.H) IEC/EN 61558-2-16 (2009) (Ann.H) | |
| | Lamp Control Gear | | IEC/EN 61347-1 (2015) (Cl. No.14.0) IEC/EN 61347-2-9(2012) (Cl. No.14.0) | |
| | Audio/Video and IT | | IEC/EN 62368-1 (2014) (Cl. No. 6.4) | |
| | Luminaires | | IEC 60598-1 (2014)/EN 60598-1 (2015) (Cl. No. 12.5 & Ann C FigC.3) | |
| 13. | IT / Telecom | Accessibility Test | IEC/EN 60950-1 2005+A1:2009+A2:2013 (Cl. No. 2.1) IS 13252-1 :2010+A1:2013 +A2 :2015 (Cl. No. - 2.1) | Qualitative (Jointed Test fingers 80x12mm) |
| | Medical | | IEC/EN 60601-1 2005+A1:2012 (Cl. No.5.9.2 & 8.4.2) | Qualitative (Rigid Test Finger 80x12mm) |
| | Particular requirements for infant radiant warmers | | IEC/EN 60601-2-21 :2009+A1:2016 (Cl. No.5.9.2 & 8.4.2) | Qualitative (Test pins 15 x3 mm 100 x 4 mm 100 x 3 mm) |

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|-----|---|-------------------------|---|--|
| | Particular requirements for infant phototherapy equipment | | IEC/EN 60601-2-50 :2009+A1:2016 (Cl. No.5.9.2 & 8.4.2) | Qualitative |
| | Particular requirements for ultrasonic medical diagnostic and monitoring equipment | | IEC/EN 60601-2-37 :2007+A1 2015 (Cl. No.5.9.2 & 8.4.2) | Qualitative |
| | Particular requirements for multifunction patient monitoring equipment | | IEC/EN 60601-2-49(2011) (Cl. No.5.9.2 & 8.4.2) | Qualitative |
| | Audio Video Similar Electronics Apparatus | | IEC/EN 60065(2014) (Cl. No.9.0) IS 616 :2010+A2 : 2014 (Cl. No. -9.0) | Qualitative |
| | Audio / Video and IT | | IEC/EN 62368-1(2014) (Cl. No. 5.3.2) | Qualitative |
| | House hold and similar Electrical Appliances | | IEC/EN 60335-1:2010 +A1 :2013+A2 :2016 (Cl. No.8.0) IS 302-1 :2008+A1: 2009 A2:2013 A3:2014 (Cl. No.8.0) | Qualitative |
| | Particular requirements for commercial refrigerating appliances with an incorporated or remote refrigerant unit or compressor | | IEC 60335-2-89 (2010, +A1:2012, +A2:2015) (Cl. No.8.0) | |

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|-----|--|-------------------------|--|--|
| | Appliances for skin and health care | | IEC/EN 60335-2-23 (2016) (Cl. No.8.0) | |
| | Appliances for refrigerating appliances& ice cream appliances, icemakers | | IEC/EN 60335-2-24 (2012) (Cl. No.8.0) | |
| | Microwave Ovens | | IEC/EN 60335-2-25(2014) (Cl. No.8.0) IS 302-2-25 :2012+A2 :2016 (Cl. No.8.0) | |
| | Electric Clocks | | IEC/EN 60335-2-26 (2008) (Cl. No.8.0) IS 302-2-26 :2014 (Cl. No.8.0) | |
| | UPS | | IEC/EN 62040-1 2008+A1:2013 (Cl. No.5.1&7.1) | |
| | Luminaires | | IEC 60598-1 (2014)/EN 60598-1 (2015) (Cl. No.8) | |
| | Measuring relays and protection equipment- Safety requirements | | IEC/EN 60255-27(2013) (Cl. No. 5.1) | |
| | Lamp Control Gear | | IEC/EN 61347-1 :2015 (Cl. No.10.0) IEC/EN 61347-2-9(2012) (Cl. No.10.0) | |
| | Transformers | | IEC/EN 61558-1 (2009) (Cl. No.9.0) IEC/EN 61558-2-4 (2009) (Cl. No.9.0) IEC/EN 61558-2-16 (2009) (Cl. No.9.0) | 1 & 3 Phase Voltage:upto 500 V Upto 100 Hz Upto 10 KVA |

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|-----|--|-------------------------|---|--|
| 14. | IT / Telecom | Creepage and Clearance | IEC/EN 60950-1 2005+A1:2009+A2:2013 (Cl. No. - 2.10) IS 13252-1 :2010+A1:2013 +A2 :2015 (Cl. No. - 2.10) | Upto 300 mm |
| | Medical | | IEC/EN 60601-1 2005+A1:2012 (Cl. No.8.9) | |
| | Particular requirements for infant radiant warmers | | IEC/EN 60601-2-21 :2009+A1:2016 (Cl. No.8.9) | |
| | Particular requirements for infant phototherapy equipment | | IEC/EN 60601-2-50 :2009+A1:2016 (Cl. No.8.9) | |
| | Particular requirements for ultrasonic medical diagnostic and monitoring equipment | | IEC/EN 60601-2-37 :2007+A1 2015 (Cl. No.8.9) | |
| | Particular requirements for multifunction patient monitoring equipment | | IEC/EN 60601-2-49(2011) (Cl. No.8.9) | |
| | Electrical Equipment for measurement control and laboratory usage | | IEC/EN 61010-1(2010) (Cl. No.6.7) | |
| | Audio Video Similar Electronics Apparatus | | IEC/EN 60065(2014) (Cl. No.13.0) IS 616 :2010 A2 : 2014 (Cl. No.13.0) | |

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| | Audio/Video and IT Luminaires | | IEC/EN 62368-1(2014) (Cl. No. - 5.4) | |
| | Particular requirements for commercial refrigerating appliances with an incorporated or remote refrigerant unit or compressor | | IEC 60598-1 (2014)/EN 60598-1 (2015) (Cl. No. - 11) | |
| | House hold and similar Electrical Appliances | | IEC 60335-2-89 (2010, +A1:2012, +A2:2015) (Cl. No.29.0) | |
| | Appliances for skin and health care | | IEC/EN 60335-1:2010 +A1 :2013+A2 :2016 (Cl. No.29.0) IS 302-1 :2008+A1: 2009 A2:2013 A3:2014 (Cl. No.29.0) | |
| | Appliances for refrigerating appliances& ice cream appliances, icemakers | | IEC/EN 60335-2-23 (2016) (Cl. No.29.0) | |
| | Microwave Ovens | | IEC/EN 60335-2-24 (2012) (Cl. No.29.0) | |
| | Electric Clocks | | IEC/EN 60335-2-25(2014) (Cl. No.29.0) IS 302-2-25 :2012+A2 :2016 (Cl. No.29.0) | |
| | | | IEC/EN 60335-2-26 (2008) (Cl. No.29.0) IS 302-2-26 :2014 (Cl. No.29.0) | |

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|-----|--|-------------------------|--|---|
| | Measuring relays and protection equipment- Safety requirements | | IEC/EN 60255-27(2013) (Cl. No. 5.1, 10.6) | |
| | UPS | | IEC/EN 62040-1 2008+A1:2013 (Cl. No.5.7) | |
| | Lamp Control gear | | IEC/EN 61347-1 :2015 (Cl. No.16.0) IEC/EN 61347-2-9(2012) (Cl. No.18.0) | |
| | Transformers | | IEC/EN 61558-1 (2009) (Cl. No.26.0) IEC/EN 61558-2-4 (2009) (Cl. No.26.0) IEC/EN 61558-2-16 (2009) (Cl. No.26.0) | |
| 15. | IT / Telecom | Steel Ball Impact Test | IEC/EN 60950-1 2005+A1:2009+A2:2013 (Cl. No. - 4.2.5) IS 13252-1 :2010+A1:2013 +A2 :2015 (Cl. No. - 4.2.5) | Qualitative (500g Steel Ball, 50mm dia, and 1.3m height) |
| | Medical | | IEC/EN 60601-1 2005+A1:2012 (Cl. No.15.3.3) | |
| | Particular requirements for infant radiant warmers | | IEC/EN 60601-2-21 :2009+A1:2016 (Cl. No.15.3.3) | |
| | Particular requirements for infant phototherapy equipment | | IEC/EN 60601-2-50 :2009+A1:2016 (Cl. No.15.3.3) | |

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|-----|--|--------------------------|--|---|
| | Particular requirements for ultrasonic medical diagnostic and monitoring equipment | | IEC/EN 60601-2-37 :2007+A1 2015 (Cl. No.15.3.3) | |
| | Particular requirements for multifunction patient monitoring equipment | | IEC/EN 60601-2-49(2011) (Cl. No.15.3.3) | |
| | Electrical Equipment for measurement control and laboratory usage | | IEC/EN 61010-1(2010) (Cl. No.8.2.2) | |
| | Audio/Video and IT | | IEC/EN 62368-1(2014) (Ann T.6) | |
| | Luminaires | | IEC/EN 60598-1 (2014) (Cl. No.4.13) | |
| | Audio Video Similar Electronics Apparatus | | IEC/EN 60065(2014) IS 616 :2010+A2 : 2014 (Cl. No.12.1.4) | |
| | UPS | | IEC/EN 62040-1 2008+A1:2013 (Cl. No.7.3) | |
| 16. | IT / Telecom | Capacitor Discharge Test | IEC/EN 60950-1 2005+A1:2009+A2:2013 (Cl. No. - 2.1.1.7) IS 13252-1 :2010+A1:2013 +A2 :2015 (Cl. No. - 2.1.1.7) | Voltage across Line & Neutral, Line/Neutral to Ground Pins to decay less than 37% in 1Sec |

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|-----|--|-------------------------|---|--|
| | Medical | | IEC/EN 60601-1 :2005+A1:2012 (Cl. No.8.4.3) | Upto 50 V Upto 60 s |
| | Particular requirements for infant radiant warmers | | IEC/EN 60601-2-21 :2009+A1:2016 (Cl. No.8.4.3) | |
| | Particular requirements for infant phototherapy equipment | | IEC/EN 60601-2-50 :2009+A1:2016 (Cl. No.8.4.3) | |
| | Particular requirements for ultrasonic medical diagnostic and monitoring equipment | | IEC/EN 60601-2-37 :2007+A1 2015 (Cl. No.8.4.3) | |
| | Particular requirements for multifunction patient monitoring equipment | | IEC/EN 60601-2-49(2011) (Cl. No.8.4.3) | |
| | Electrical Equipment for measurement control and laboratory usage | | IEC/EN 61010-1(2010) (Cl. No.6.6.2) | |
| | Audio Video Similar Electronics Apparatus | | IEC/EN 60065(2014) IS 616 :2010+A2 : 2014 (Cl. No.9.1.6) | |
| | UPS | | IEC/EN 62040-1 2008+A1:2013 (Cl. No.5.1 & 7.1) | |

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|-----|---|-------------------------|--|--|
| | House hold and similar Electrical Appliances | | IEC/EN 60335-1:2010 +A1 :2013+A2 :2016 (Cl. No. 22.5) | |
| | Appliances for skin and health care | | IEC/EN 60335-2-23 (2016) (Cl. No. 22.5) | |
| | Appliances for refrigerating appliances& ice cream appliances, icemakers | | IEC/EN 60335-2-24 (2012) (Cl. No.22.5) | |
| | Electric Clocks | | IEC/EN 60335-2-26 (2008) (Cl. No.22.5) IS 302-2-26 :2014 (Cl. No.22.5) | |
| | Microwave Ovens | | IEC/EN 60335-2-25(2014) (Cl. No.22.5) IS 302-2-25 :1994 (Cl. No.22.5) | |
| | Particular requirements for commercial refrigerating appliances with an incorporated or remote refrigerant unit or compressor | | IEC 60335-2-89 (2010, +A1:2012, +A2:2015) (Cl. No.22.5) | |
| | Audio / Video and IT | | IEC/EN 62368-1(2014) (Cl. No. 5.5) | |
| | Luminaires | | IEC /EN 60598-1 (2014) (Cl. No. - 8.2) | |
| | Measuring relays and protection equipment- Safety requirements | | IEC/EN 60255-27(2013) (Cl. No. 5.1.3) | |

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|-----|--|-------------------------|---|--|
| | Transformers | | IEC/EN 61558-1 (2009) (Cl. No.9.0) IEC/EN 61558-2-4 (2009) (Cl. No.9.0) IEC/EN 61558-2-16 (2009) (Cl. No.9.0) | 1 |
| | Audio / Video and IT | | IEC/EN 62368-1(2014) (Cl. No. 8.6) | |
| | Audio Video Similar Electronics Apparatus | | IEC/EN 60065(2014) (Cl. No.19) IS 616 :2010+A2 : 2014 (Cl. No.19) | |
| | UPS | | IEC/EN 62040-1 2008+A1:2013 (Cl. No.7.2) | |
| 17. | IT / Telecom | Sharp edges and corners | IEC/EN 60950-1 2005+A1:2009+A2:2013 (Cl. No. - 4.3.1) IS 13252-1 :2010+A1:2013 +A2 :2015 (Cl. No. 4.3.1) | Qualitative |
| | Medical | | IEC/EN 60601-1 2005+A1:2012 (Cl. No.9.3) | |
| | Particular requirements for infant radiant warmers | | IEC/EN 60601-2-21 :2009+A1:2016 (Cl. No.9.3) | |
| | Particular requirements for infant phototherapy equipment | | IEC/EN 60601-2-50 :2009+A1:2016 (Cl. No.9.3) | |
| | Particular requirements for ultrasonic medical diagnostic and monitoring equipment | | IEC/EN 60601-2-37:2007+A1 2015 (Cl. No.9.3) | |

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|-----|--|-------------------------|---|--|
| | Particular requirements for multifunction patient monitoring equipment | | IEC/EN 60601-2-49(2011) (Cl. No.9.3) | |
| | Electrical Equipment for measurement control and laboratory usage | | IEC/EN 61010-1(2010) (Cl. No.7.2) | |
| | UPS | | IEC/EN 62040-1 2008+A1:2013 (Cl. No.7.4.1) | |
| | Audio / Video and IT | | IEC/EN 62368-1(2014) (Cl. No. 8.4) | |
| 18. | IT / Telecom | Push Pull Force | IEC/EN 60950-1 2005+A1:2009+A2:2013 (Cl. No. -2.1,4.1 & 4.2) IS 13252-1 :2010+A1:2013 +A2 :2015 (Cl. No. - 2.1, 4.1 & 4.2) | Qualitative (10N to 300 N) |
| | Medical | | IEC/EN 60601-1 2005+A1:2012 (Cl. No. 15.3) | |
| | Particular requirements for infant radiant warmers | | IEC/EN 60601-2-21 :2009+A1:2016 (Cl. No. 15.3) | |
| | Particular requirements for infant phototherapy equipment | | IEC/EN 60601-2-50 :2009+A1:2016 (Cl. No. 15.3) | |

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| | Particular requirements for ultrasonic medical diagnostic and monitoring equipment | | IEC/EN 60601-2-37 :2007+A1 2015 (Cl. No. 15.3) | |
| | Particular requirements for multifunction patient monitoring equipment | | IEC/EN 60601-2-49(2011) (Cl. No. 15.3) | |
| | Electrical Equipment for measurement control and laboratory usage | | IEC/EN 61010-1(2010) (Cl. No.6.10.2 & 8.2.1) | |
| | Audio Video Similar Electronics Apparatus | | IEC/EN 60065(2014) (Cl. No.8.13 to 8.15) IS 616 :2010+A2 : 2014 (Cl. No.8.13 to 8.15) | |
| | Audio / Video and IT | | IEC/EN 62368-1(2014) (Cl. No. 8 & Ann T.2-T.5) | |
| | House hold and similar Electrical Appliances | | IEC/EN 60335-1:2010 +A1 :2013+A2 :2016 (Cl. No.20.11 to 20.12) IS 302-1 :2008+A1: 2009 A2:2013 A3:2014 (Cl. No.20.2) | |
| | Appliances for skin and health care | | IEC/EN 60335-2-23 (2016) (Cl. No.20.2) | |
| | Appliances for refrigerating appliances& ice cream appliances, icemakers | | IEC/EN 60335-2-24 (2012) (Cl. No.20.2) | |

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|-----|---|---------------------------|--|--|
| | Microwave Ovens | | IEC/EN 60335-2-25(2014) (Cl. No.20.11 to 20.12) IS 302-2-25 :2012+A2 :2016 (Cl. No. 20.11 to 20.12) | |
| | Particular requirements for commercial refrigerating appliances with an incorporated or remote refrigerant unit or compressor | | IEC 60335-2-89 (2010, +A1:2012, +A2:2015) (Cl. No.20.2) | |
| | Electric Clocks | | IEC/EN 60335-2-26 (2008) (Cl. No.20.11 to 20.12) IS 302-2-26 :2014 (Cl. No.20.2) | |
| | UPS | | IEC/EN 62040-1 2008+A1:2013 (Cl. No.7.3) | |
| | Transformers | | IEC/EN 61558-1 (2009) (Cl. No.16.0) IEC/EN 61558-2-4 (2009) (Cl. No.16.0) IEC/EN 61558-2-16 (2009) (Cl. No.16.0) | |
| | Luminaires | | IEC /EN 60598-1 (2014) (Cl. No. - 3.4, 4.13, 4.14) | |
| 19. | IT / Telecom | Durability & Marking Test | IEC/EN 60950-1 2005+A1:2009+A2:2013 (Cl. No. - 1.7.11) IS 13252-1 :2010+A1:2013 +A2 :2015 (Cl. No. - 1.7.11) | Qualitative |

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|-----|--|-------------------------|--|--|
| | Medical | | IEC/EN 60601-1 2005+A1:2012 (Cl. No.7.1) | |
| | Particular requirements for infant radiant warmers | | IEC/EN 60601-2-21 :2009+A1:2016 (Cl. No.7.1) | |
| | Particular requirements for infant phototherapy equipment | | IEC/EN 60601-2-50 :2009+A1:2016 (Cl. No.7.1) | |
| | Particular requirements for ultrasonic medical diagnostic and monitoring equipment | | IEC/EN 60601-2-37 :2007+A1 2015 (Cl. No.7.1) | |
| | Particular requirements for multifunction patient monitoring equipment | | IEC/EN 60601-2-49(2011) (Cl. No.7.1) | |
| | Luminaires | | IEC/EN 60598-1 (2014) (Cl. No. - 3.4) | |
| | Electrical Equipment for measurement control and laboratory usage | | IEC/EN 61010-1(2010) (Cl. No.5.3) | |
| | Audio Video Similar Electronics Apparatus | | IEC/EN 60065(2014) (Cl. No.5.0) IS 616 :2010+A2 : 2014 (Cl. No.5.0) | |
| | Audio / Video and IT | | IEC/EN 62368-1(2014) (Ann. F) | |

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|-----|---|-------------------------|--|--|
| | House hold and similar Electrical Appliances | | IEC/EN 60335-1:2010 +A1 :2013 +A2 :2016 (Cl. No.7.0) IS 302-1 :2008+A1: 2009 A2:2013 A3:2014 (Cl. No.7.0) | |
| | Appliances for skin and health care | | IEC/EN 60335-2-23 (2016) (Cl. No.7.0) | |
| | Appliances for refrigerating appliances& ice cream appliances, icemakers | | IEC/EN 60335-2-24 (2012) (Cl. No.7.0) | |
| | Microwave Ovens | | IEC/EN 60335-2-25(2014) (Cl. No.7.0) IS 302-2-25 :2012+A2 :2016 (Cl. No.7.0) | |
| | Electric Clocks | | IEC/EN 60335-2-26 (2008) (Cl. No.7.0) IS 302-2-26 :2014 (Cl. No.7.0) | |
| | Particular requirements for commercial refrigerating appliances with an incorporated or remote refrigerant unit or compressor | | IEC 60335-2-89 (2010, +A1:2012, +A2:2015) (Cl. No.7.0) | |
| | UPS | | IEC/EN 62040-1 2008+A1:2013 (Cl. No.4.7.16) | |

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|-----|--|---|---|--|
| | Transformers | | IEC/EN 61558-1 (2009) (Cl. No.8.0) IEC/EN 61558-2-4 (2009) (Cl. No.8.0) IEC/EN 61558-2-16 (2009) (Cl. No.8.0) | |
| | Lamp Control Gear | | IEC/EN 61347-1 :2015 (Cl. No.7.0) IEC/EN 61347-2-(2012) (Cl. No.7.0) | |
| | Measuring relays and protection equipment- Common requirements | | IEC/EN 60255-1(Cl. No. 6.1) | |
| | Measuring relays and protection equipment- Safety requirements | | IEC/EN 60255-27 (Cl. No. 9.1) | |
| 20. | Medical | Defibrillation protection | IEC/EN 60601-1 2005+A1:2012 (Cl. No.8.5.5.1) | Upto 5 KV |
| 21. | IT / Telecom | Stress relief test/ Resistance to heat | IEC/EN 60950-1 2005+A1:2009+A2:2013 (Cl. No. - 4.2.7) IS 13252-1 :2010+A1:2013 +A2 :2015 (Cl. No. - 4.2.7) | Qualitative |
| | Audio Video Similar Electronics Apparatus | | IEC/EN 60065(2014) (Cl. No.12.1.6) IS 616 :2010+A2 : 2014 (Cl. No.12.1.6) | |
| | Medical | | IEC/EN 60601-1 2005+A1:2012 (Cl. No.15.3.6) | |

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|-----|--|-------------------------|--|--|
| | Particular requirements for infant radiant warmers | | IEC/EN 60601-2-21:2009+A1:2016 (Cl. No.15.3.6) | |
| | Particular requirements for infant phototherapy equipment | | IEC/EN 60601-2-50:2009+A1:2016(Cl. No.15.3.6). | |
| | Particular requirements for ultrasonic medical diagnostic and monitoring equipment | | IEC/EN 60601-2-37:2007+A1 2015 (Cl. No.15.3.6) | |
| | Particular requirements for multifunction patient monitoring equipment | | IEC/EN 60601-2-49(2011) (Cl. No.15.3.6) | |
| | Electrical Equipment for measurement control and laboratory usage | | IEC/EN 61010-1(2010) (Cl. No.10.5.2) | |
| | Audio / Video and IT | | IEC/EN 62368-1(2014) (Ann. T) | |
| | UPS | | IEC/EN 62040-12008+A1:2013(Cl. No.7.3) | |
| | Transformers | | IEC/EN 61558-1 (2009) (Cl. No.19.0) IEC/EN 61558-2-4 (2009) (Cl. No.19.0) IEC/EN 61558-2-16 (2009) (Cl. No.19.0) | |

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|-----|--|--|---|--|
| 22. | IT / Telecom | Cord anchorages strain relief and Torque | IEC/EN 60950-1 2005+A1:2009+A2:2013 (Cl. No. - 3.2.6) IS 13252-1 :2010+A1:2013 +A2 :2015 (Cl. No. - 3.2.6) | 10N to 250 N Upto 2mm |
| | Medical | | IEC/EN 60601-1 2005+A1:2012(Cl. No.8.11.3.5) | |
| | Particular requirements for infant radiant warmers | | IEC/EN 60601-2-21 :2009+A1:2016 (Cl. No.8.11.3.5) | |
| | Particular requirements for infant phototherapy equipment | | IEC/EN 60601-2-50:2009+A1:2016 (Cl. No.8.11.3.5) | |
| | Particular requirements for ultrasonic medical diagnostic and monitoring equipment | | IEC/EN 60601-2-37 :2007+A1 2015 (Cl. No.8.11.3.5) | |
| | Particular requirements for multifunction patient monitoring equipment | | IEC/EN 60601-2-49(2011) (Cl. No.8.11.3.5) | |
| | Electrical Equipment for measurement control and laboratory usage | | IEC/EN 61010-1(2010) (Cl. No.6.10.2) | |

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|-----|---|-------------------------|---|--|
| | Audio Video Similar Electronics Apparatus | | IEC/EN 60065(2014) (Cl. No.16.5) IS 616 :2010+A2 : 2014 (Cl. No.16.5) | |
| | Audio / Video and IT | | IEC/EN 62368-1(2014) (Ann G.7) | |
| | House hold and similar Electrical Appliances | | IEC/EN 60335-1:2010 +A1 :2013+A2 :2016 (Cl. No.25.15) IS 302-1 :2008+A1: 2009 A2:2013 A3:2014 (Cl. No.25.15) | |
| | Particular requirements for commercial refrigerating appliances with an incorporated or remote refrigerant unit or compressor | | IEC 60335-2-89 (2010, +A1:2012, +A2:2015) (Cl. No.25.15) | |
| | Appliances for skin and health care | | IEC/EN 60335-2-23 (2016) (Cl. No.25.15) | |
| | Appliances for refrigerating appliances& ice cream appliances, icemakers | | IEC/EN 60335-2-24 (2012) (Cl. No.25.15) | |
| | Microwave Ovens | | IEC/EN 60335-2-25(2014) (Cl. No.25.15) IS 302-2-25 :2012 +A2 :2016 (Cl. No.25.15) | |
| | Electric Clocks | | IEC/EN 60335-2-26 (2008) (Cl. No.25.15) IS 302-2-26 :2014 (Cl. No.25.15) | |

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|-----|---|---|---|--|
| | UPS | | IEC/EN 62040-12008 +A1:2013 (Cl. No.6.2) | |
| | Luminaires | | IEC 60598-1 (2014)/EN 60598-1 (2015) (Cl. No. - 5.2.10.3) | |
| | Transformers | | IEC/EN 61558-1 (2009) (Cl. No.22.0) IEC/EN 61558-2-4 (2009) (Cl. No.22.0) IEC/EN 61558-2-16 (2009) (Cl. No.22.0) | |
| 23. | Medical | Visual alarm signals/ Auditory alarm signals/ Alarm presets | IEC/EN 60601-1-8 (2010) +A1(2013) | Qualitative (Illuminance: 100 lux to 1500 lux Tape: 4m DSO:200 MHz Timer: 30s -3s +0s) |
| 24. | IT / Telecom/ Medical/ Electrical Equipment for measurement control and laboratory Usage/ Power Transformers/ Luminaires/ House hold appliances | Resistance to heat and fire (Glow wire Test) | IEC/EN 60695-2-10(2013) IEC/EN 60695-2-11(2014) IEC/EN 60695-2-12(2010) +A1 (2014) IEC/EN 60695-2-13(2010) +A1(2014) | Qualitative (Upto 1000 deg C Upto 15 min) |
| 25. | Industrial Process/ Consumer Electronics/ Electricals/UPS/ Transformers/ Power supply units/ Luminaires/ House hold appliances | Resistance to heat and fire (Needle Flame Test) | IEC/EN 60695-11-5(2004) | Qualitative (Burner Dia: 0.5 ± 0.1 mm Flame height: 12mm ± 2 mm) |

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|------|--|------------------------------------|---|---|
| III. | ENVIRONMENTAL TEST FACILITY | | | |
| 1. | Electronic Products (IT Products Telecom Wireless Products Medical Consumer Household Test and Measurement Laboratory Industrial Automation Machinery Automotive Scientific Defense/ Military Aerospace Locomotive) | Sine Vibration Random Vibration | IEC 60068-2-6 : 2007 IEC 60068-2-64: 2008 EN ETSI 300019-1-1: 2014 EN ETSI 300019-1-2: 2014 EN ETSI 300019-1-3: 2014 EN ETSI 300019-2-1:2014 EN ETSI 300019-2-2: 2013 EN ETSI 300019-2-3: 2015 EN ETSI 300019-2-4: 2015 NEBS GR 63:ISSUE4: 2012, BS EN IEC 61587-1: 2011, QM 333 / Issue: March 2010, NEMA STD TS2: 2003 Version 02.06: Section 2 IS9000 (Part VIII): -1981 (Reaffirmed 2003) SAE J1455: 2012 SAE J1211: 2012 ASTM D999 :2015 ASTM D3580-95: 2015 ASTM D5112 :2015 ASTM D4728: 2006 BS EN IEC 62052-11: 2003 ISTA 2A: 2011 JSS 5555, Revision No. 2, 2000 test number 28. MIL-STD-810G: 2014 Method 514.6 MIL STD 202G: 2002 Method 201A, 214A JIS D1601: 1995 MIL PRF 28800F:1996 RTCA-DO-160G: 2010 BS EN IEC 61373: 2010 | Frequency - 5Hz to 3000Hz Acceleration level: {0.3g to 100 g for Frequency from 5 to 3000Hz, 0.1g to 100 g for Frequency from 5 to 600Hz} for weight up to 3.5kg 0.3g to 6 g for weight up to 400kg. Displacement Up to 50mm (Peak-Peak). |

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|-----|---|---|--|--|
| 2. | Electronic Products (IT Products Telecom Wireless Products Medical Consumer Household Test and Measurement Laboratory Industrial Automation Machinery Automotive Scientific Defense/ Military Aerospace Locomotive) | Mechanical Shock (Electrodynamic shaker) Half sine, Rectangular Trapezoidal, Final peak saw tooth, Initial saw tooth | IEC 60068-2-27: 2008 EN ETSI 300019-1-1: 2014 EN ETSI 300019-1-2: 2014 EN ETSI 300019-1-3: 2014 EN ETSI 300019-2-1: 2014 EN ETSI 300019-2-2: 2013 EN ETSI 300019-2-3: 2015 EN ETSI 300019-2-4: 2015 NEBS GR 63:ISSUE4: 2012 BS EN IEC 61587-1: 2011 NEMA STD TS2: 2003 Version 02.06: Section 2 BS EN IEC 62052-11: 2003 ISTA 2A : 2011 QM 333 / Issue: March 2010 SAE J1455: 2012 SAE J1211: 2012 ASTM D999 :2015 ASTM D3580-95: 2015 ASTM D5112 :2015 ASTM D4728: 2012 NEMA STD TS2: 2003 Version 02.06: Section 2 JSS 55555, Revision No. 2, 2000 test number 5 & 24 MIL-STD-810G: 2014 Method 516.6 MIL STD 202G:2002 Method 202D and 213B MIL PRF 28800F-1996 RTCA-DO-160G:2010 Section 7 BS EN IEC 61373: 2010 | Acceleration level 150g, 2ms. 1g, 50ms |

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|-----|---|--|---|---|
| 3. | Electronic Products (IT Products Telecom Wireless Products Medical Consumer Household Test and Measurement Laboratory Industrial Automation Machinery Automotive Scientific Defense/ Military Aerospace Locomotive) | Mechanical Shock (Shock Test Machine) Half sine, Trapezoidal, Square Pulses | IEC 60068-2-27: 2008 EN ETSI 300019-1-1: 2014 EN ETSI 300019-1-2: 2014 EN ETSI 300019-1-3: 2014 EN ETSI 300019-2-1: 2014 EN ETSI 300019-2-2: 2013 EN ETSI 300019-2-3: 2015 EN ETSI 300019-2-4: 2015 NEBS GR 63:ISSUE4: 2012 BS EN IEC 61587-1: 2011 NEMA STD TS2: 2003 Version 02.06: Section 2 BS EN IEC 62052-11: 2003 ISTA 2A : 2011 QM 333 / Issue: March 2010 SAE J1455: 2012 SAE J1211: 2012, ASTM D999: 2008, ASTM D3580-95: 2004 ASTM D5112: 2003 ASTM D4728: 2006 NEMA STD TS2: 2003 Version 02.06: Section 2 BS EN IEC 62052-11: 2003 JSS 50101:1996, Revision No. 1, 2001 JSS 55555, Revision No. 2, 2000 test number 5 & 24 MIL-STD-810G: 2014 Method 516.6 MIL STD 202G: 2002 Method 213B and 202D MIL PRF 28800F: 1996, RTCA-DO-160G: 2010 IEC 61373: 2010 | Half sine pulse range: 600g-2ms; 20g,-35ms. Square/Trapezoidal pulse range: 75g-10ms; 10g,-50ms. Max specimen weight: 227kg. Table size: 650x810mm |

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|-----|---|-----------------------------|--|---|
| 4. | Electronic Products (IT Products Telecom Wireless Products Medical Consumer Household Test and Measurement Laboratory Industrial Automation Machinery Automotive Scientific Defense/ Military Aerospace Locomotive) | Cold (Low Temperature) | IEC 60068-2-1: 2012 EN ETSI 300019-1-1: 2014 EN ETSI 300019-1-2: 2014 EN ETSI 300019-1-3: 2014 EN ETSI 300019-2-1: 2014 EN ETSI 300019-2-2: 2013 EN ETSI 300019-2-3: 2015 EN ETSI 300019-2-4: 2015 NEBS GR 63:ISSUE4: 2012 BS ISO 16750-4: 2010 BS EN IEC 61587-1: 2011 NEMA STD TS2: 2003 Version 02.06: Section 2 BS EN IEC 62052-11: 2003 QM 333 / Issue: March 2010 SAE J1455: 2012 JSS 55555, Revision No. 2: 2000 test number 20 MIL-STD-810G: 2014 Method 502.6 RTCA-DO-160G: 2010 | Part 1: Up to - 70°C. Maximum specimen size up to 0.543m ³ . Part 2: Walk-In Type chamber; up to -65°C Maximum specimen size up to 7.5m ³ . |
| 5. | Electronic Products (IT Products Telecom Wireless Products Medical Consumer Household Test and Measurement Laboratory Industrial) | Dry Heat (High Temperature) | IEC 60068-2-2: 2007 EN ETSI 300019-1-1: 2014 EN ETSI 300019-1-2: 2014 EN ETSI 300019-1-3: 2014 EN ETSI 300019-2-1: 2014 EN ETSI 300019-2-2: 2013 EN ETSI 300019-2-3: 2015 EN ETSI 300019-2-4: 2015 NEBS GR 63:ISSUE4: 2012 BS ISO 16750-4: 2010 BS EN IEC 61587-1: 2011 | Part 1: Up to +190 °C. Maximum specimen size up to 0.543m ³ . Part 2: Walk-In Type chamber; up to +120°C. Maximum specimen size up to 7.5m ³ . |

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|-----|---|-------------------------|--|--|
| | Automation Machinery Automotive Scientific Defense/ Military Aerospace Locomotive) | | BS EN IEC 62052-11: 2003 NEMA STD TS2: 2003 Version 02.06: Section 2, QM 333 / Issue: March 2010, SAE J1455: 2012 JSS 55555, Revision No. 2, 2000 test number 17 MIL PRF 28800F: 1996 RTCA-DO-160G: 2010 MIL-STD-810G: 2014 Method 501.6 MIL STD 202G: 2002 Method 108A | |
| 6. | Electronic Products (IT Products Telecom Wireless Products Medical Consumer Household Test and Measurement Laboratory Industrial Automation Machinery Automotive Scientific Defense/ Military Aerospace Locomotive) | Temperature Cycling | IEC 60068-2-14: 2009 EN ETSI 300019-1-1: 2014 EN ETSI 300019-1-2: 2014 EN ETSI 300019-1-3: 2014 EN ETSI 300019-2-1: 2014 EN ETSI 300019-2-2: 2013 EN ETSI 300019-2-3: 2015 EN ETSI 300019-2-4: 2015 NEBS GR 63:ISSUE4: 2012, BS ISO 16750-4: 2010 BS EN IEC 61587-1: 2011 BS EN IEC 62052-11: 2003 NEMA STD TS2: 2003 Version 02.06: Section 2 QM 333 / Issue: March 2010, SAE J1455: 2012 MIL STD 202G, Method 107G, 2002 MIL-STD-810G: 2014, Method 503.6 RTCA-DO-160G: 2010 MIL PRF 28800F: 1996 | Part 1: Up to - 70°C (Cold) Up to 190 °C (Hot). Maximum specimen size up to 0.543m ³ Part 2: Walk-In Type chamber; Up to - 65°C (Cold) Up to +120 °C (Hot). Maximum specimen size up to 7.5m ³ |

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| Sl. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|-----|--|--|---|--|
| | | | JSS 55555, Revision No. 2, 2000 test number 22 JSS 50101:1996, Revision No. 1, 2001 | |
| 7. | Electronic Products (IT Products Telecom Wireless Products Medical Consumer Household Test and Measurement Laboratory Industrial Automation Machinery Automotive Scientific Defense/ Military Aerospace Locomotive) | Humidity/ Damp Heat (Cyclic)/ Damp Heat (Steady State) | IEC 60068-2-30: 2005 EN ETSI 300019-1-1: 2014 EN ETSI 300019-1-2: 2014 EN ETSI 300019-1-3: 2014 EN ETSI 300019-2-1: 2014 EN ETSI 300019-2-2: 2013 EN ETSI 300019-2-3: 2015 EN ETSI 300019-2-4: 2015 NEBS GR 63:ISSUE4: 2012 BS ISO 16750-4: 2005, BS EN IEC 61587-1: 2011, BS EN IEC 62052-11: 2003 NEMA STD TS2: 2003 Version 02.06: Section 2 QM 333 / Issue: March 2010 IEC 60068-2-78: 2013 SAE J 1211: 2012 SAE J 1455 :2012 JSS 55555, Revision No. 2, 2000 test number 10 MIL PRF 28800F: 1996 RTCA-DO-160G: 2010 MIL-STD-810G: 2014; Method 507.6 MIL STD 202G Method 103B, 2002 | Humidity Range: 10% to 95% RH Temperature Range: 5°C to 85°C Maximum specimen size up to 7.5m ³ . |
| 8. | Electronic Products (IT Products) | Composite Temperature & Humidity | IEC 60068-2-38: 2009 EN ETSI 300019-1-1: 2014 EN ETSI 300019-1-2: 2014 | Humidity Range: 10% to 95% RH Temperature Range: |

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|-----|--|-------------------------|---|--|
| | Telecom Wireless Products Medical Consumer Household Test and Measurement Laboratory Industrial Automation Machinery Automotive Scientific Defense/ Military Aerospace Locomotive) | | EN ETSI 300019-1-3: 2014 EN ETSI 300019-2-1: 2014 EN ETSI 300019-2-2: 2013 EN ETSI 300019-2-3: 2015 EN ETSI 300019-2-4: 2015 NEBS GR 63:ISSUE4: 2012 ISO 16750-4: 2010, NEMA STD TS2: 2003 Version 02.06: Section 2 QM 333 / Issue: March 2010 SAE J1455: 2012 MIL STD 202G: 2002 Method 106G MIL PRF 28800F: 1996 RTCA-DO-160G: 2010 | 5°C to 85°C Maximum specimen size up to 7.5m ³ . |
| 9. | Electronic Products (IT Products Telecom Wireless Products Medical Consumer Household Test and Measurement Laboratory Industrial Automation Machinery Automotive Scientific Defense/ Military Aerospace Locomotive) | HALT/ HASS | QualMark HALT Guideline Doc 933-0336 Rev 4: Dated 13/09/2010 Qual Mark HASS Guideline Doc 933-0384_00_2010 | Vibration- 50 Grms max. Temp range -100 to +200 °C Thermal transition rate: 1 to 60°C/min Maximum specimen size up to 0.35m ³ |

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|-----|--|-------------------------------------|--|--|
| 10. | Electronic Products (IT Products Telecom Wireless Products Medical Consumer Household Test and Measurement Laboratory Industrial Automation Machinery Automotive Scientific Defense/ Military Aerospace Locomotive) | Salt Spray/Mist at ambient pressure | BS EN ISO 9227: 2012 BS ISO 16750-4: 2010 IEC 61587-1: 2016 BS EN IEC 60068-2-11: 1999 BS EN IEC 60068-2-52: 1996 EN ETSI 300019-1-1: 2014 EN ETSI 300019-1-2: 2014 EN ETSI 300019-1-3: 2014 EN ETSI 300019-2-1: 2014 EN ETSI 300019-2-2: 2013 EN ETSI 300019-2-3: 2015 EN ETSI 300019-2-4: 2015 NEBS GR 63:ISSUE4: 2012 QM 333 / Issue: March 2010 ASTM B117: 2011 JSS 55555, Revision No. 2, 2000 test number 9 RTCA-DO-160G: 2010 MIL-STD-810G: 2014 Method 509.6 MIL-STD-202G: 2002 Method 101E ISO 11997-1: 2005 ISO 14993: 2001 BS EN IEC 60068-2-52: 1996 SAE J1455: 2012 | Condensation humidity mode Temperature range: 25°C to +55°C Salt spray mode Temperature range: 25°C to +50°C RH Range: 55 to 95% Salt spray fall-out rates: 0.5 to 3.0 ml per 80 cm ² per hour |
| 11. | Electronic Products (IT Products Telecom) | Altitude | EN ETSI 300019-1-1: 2014 EN ETSI 300019-1-2: 2014 EN ETSI 300019-1-3: 2014 EN ETSI 300019-2-1: 2014 | Altitude range: Pressure up to 50mbar (63,366KFT; 19,314meters)* |

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|-----|--|--|---|--|
| | Wireless Products Medical Consumer Household Test and Measurement Laboratory Industrial Automation Machinery Automotive Scientific Defense/ Military Aerospace Locomotive) | | EN ETSI 300019-2-2: 2013 EN ETSI 300019-2-3: 2015 EN ETSI 300019-2-4: 2015 NEBS GR 63:ISSUE4: 2012 IEC 60068-2-13: 1983 BS ISO 16750-4: 2010 ISO 2873: 2000 IEC 60721-1: 2002 QM 333 / Issue: March 2010, SAE J1455: 2012 JSS 55555, Revision No. 2, 2000 test number 3 MIL PRF 28800F: 1996 RTCA-DO-160G: 2010 MIL-STD-810G: 2008 Method 500.5 MIL STD 202G: 2002Method 105C, | |
| 12. | Electronic Products (IT Products Telecom Wireless Products Medical Consumer Household Test and Measurement Laboratory Industrial Automation Machinery Automotive Scientific Defense/ Military Aerospace Locomotive) | Combined sequential cold, low air pressure, and damp heat test | IEC 60068-2-39:1976 | Altitude range: Pressure up to 19,000 m, 5.3kPa, Temperature range: -70°C to 175°C Relative Humidity range: 40% to 95% |

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|-----|---|--|---|---|
| 13. | Electronic Products (IT Products Telecom Wireless Products Medical Consumer Household Test and Measurement Laboratory Industrial Automation Machinery Automotive Scientific Defense/ Military Aerospace Locomotive) | Combined cold/low air pressure tests | IEC 60068-2-40: 1983 | Altitude range: Pressure up to 19,000 m, 5.3kPa, Temperature range: up to -70° C. |
| 14. | Electronic Products (IT Products Telecom Wireless Products Medical Consumer Household Test and Measurement Laboratory Industrial Automation Machinery Automotive Scientific Defense/ Military Aerospace Locomotive) | Combined dry heat/low air pressure tests | IEC 60068-2-41: 1983 | Altitude range: Pressure up to 19,000m, 5.3kPa, Temperature range: Up to 175°C. Relative Humidity range: 40% to 95% |

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| 15. | Electronic Products (IT Products Telecom Wireless Products Medical Consumer Household Test and Measurement Laboratory Industrial Automation Machinery Automotive Scientific Defense/ Military Aerospace Locomotive) | Thermal Shock/Rapid Temperature Cycling | BS EN 60068-2-14 : 2009 SAE J 1455-2012 MIL-STD-810G: 2014 Method 503.6 MIL-STD-202G:2002 Method 107G JSS 55555, Revision No. 2: 2000,test number 22 | Temperature range: Cold Cabinet : -85 to +180 °C Hot cabinet : +60 °C to +200 °C Transfer Time – 10 Sec Maximum specimen size up to 0.6 m ³ |

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MECHANICAL TESTING

| I. | PERFORMANCE TESTING | | | |
|----|---|---|--|---|
| 1. | IT Products Telecom Wireless Products Medical Consumer Household Test and Measurement Laboratory Industrial Automation Machinery Automotive Scientific Defense/ Military Aerospace Locomotive | Measuring Sound Pressure Levels and Sound Power Levels. | BS EN ISO 1680: 2013 BS EN ISO 3744:2010 BS EN ISO 3745:2012 BS EN ISO 7779: 2010 BS EN ISO 9614-1:2009 ECMA 74:2015 ECMA 108:2016 ECMA 109:2016 ECMA 370:2015 ETSI EN 300 753: 2012 IEC 60704-1, Edn3: 2010 IEC 60704-2-10, Edn2.0, 2011 IEC 60704-2-14, Edn2.0, 2014 IEC 60704-3, Ed 2.0, 2006 IEC 60601-1, Edn3: 2005 IEC 60601-1-8: 2012 IS EN ISO 11200:2019 IS EN ISO 11201:2010 IS EN ISO 11203:2009 IS EN ISO 11204:2010 NEBS GR 63 CORE ISSUE 4: 2012 | Sound pressure levels from 27dBA to 114 dBA; Accuracy: 0.5 dB Frequency Range: 80Hz to 20kHz (As per ISO 3745 Standard). Maximum Size of EUT can be test: 5m ³ with no dimension exceeding 2m. |

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| | | Prominent discrete Tone (tone to tone ratio) method | ECMA 74:2015 ETSI EN 300 753: 2012 BS EN ISO 7779: 2010 | Sound levels from 27dBA to 114 dBA; Accuracy: 0.5 dB Measurement Frequency Range: 20Hz to 20kHz Maximum Size of EUT can be test: 5m ³ with no dimension exceeding 2m. |

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