dresden elektronik

EMC testing at dresden elektronik

Standards for the test performance

1. testing of the interference emission

For the supply of the devices to be tested, an AC/DC power source is available in our test laboratory. with the following parameters:

Rated power: AC 3kVA, DC 2.1kW
Operating mode: AC, DC, AC+DC
Output voltage range 0 - 300 VAC; 0 - 400VDC
Output frequency range AC 16 - 1000 Hz

Test	Value range of the emitted interference to be measured	Measuring arrangement / information on the test specimen
Radio interference voltage, conducted EN 55011, EN 55032	9 kHz...30 MHz	network simulation with L,N,PE maximum DUT supply 250V/10A/0...60Hz (short time up to17 A)
Radio interference current on lines	20 Hz...200 MHz	Current clamp Maximum wire diameter 3 cm
Radio interference field strength EN 55011, EN 55032	30 MHz...1 GHz	Measuring cell Test piece size (homogeneous field) (50 x 50 x 50) cm absolute WxHxD: (90 x 60 x 90) cm maximum DUT power supply AC 230 V / 6 A / 50 Hz / DC 30V / 2 A maximum power dissipation 500 W maximum test weight 50 kg
Harmonic currents EN 61000-3-2	2nd - 40th harmonic of the mains frequency	ProfiLine system up to 3 kVA
Voltage fluctuations/ Flicker EN 61000-3-3	dc, dmax, Pst, Plt	ProfiLine system up to 3 kVA
spatial field structure current in pins and traces Field leakage from surfaces and edges Magnetic field on surfaces	..1GHz	Near-field probes

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2. testing of the interference emission

Test / EMC basic standard	Value range of the Test disturbance variable	Coupling / information on the test specimen
electrostatic discharges (ESD) EN 61000-4-2	15 kV air discharge 8 kV contact discharge	Discharge gun on surfaces, HCP + VCP, touchable connections
electromagnetic HF field radiated EN 61000-4-3	80 MHz...1 GHz up to 10 V/m	Measuring cell Test piece size (homogeneous field) (50 x 50 x 50) cm absolute WxHxD: (90 x 60 x 90) cm Maximum DUT power supply AC 230 V / 6 A / 50 Hz / DC 30 V / 2 A maximum power dissipation 500W maximum test weight 50kg
fast transients (burst) EN 61000-4-4	200V...4400 V±10%	coupling network on L, N, PE maximum DUT supply AC 250 V / 16 A / 16-500 Hz / DC 250 V / 10 A) capacitive on signal lines (coupling clamp) minimum cable length 120 cm
Surge voltages EN 61000-4-5	160 V...4000 V±10% max. 2000 V with ext. Coupling network	coupling network on L, N, PE maximum DUT supply AC 250 V / 16 A / DC 250 V / 10 A) external coupling network for up to 4 signal lines with maximum 50 V / 1 A
Conducted induced RF EN 61000-4-6	150 kHz...250 MHz up to 10 V	Coupling network on L,N,PE maximum DUT supply 240V/16A EM clamp on signal lines minimum cable length 80cm
Magnetic field, 50 Hz, 60 Hz EN 61000-4-8	up to 30 A/m	maximum test specimen size (-3dB range) (60 x 60 x 60) cm
pulsed magnetic field EN 61000-4-9	up to 2000 A/m	maximum test specimen size (-3dB range) (60 x 60 x 60) cm
Voltage dips and - interruptions, voltage fluctuations EN 61000-4-11, -4-29		maximum DUT supply AC 250 V / 16 A / 16-500 Hz / DC 60 V / 4 A

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