# **EMC NORMS**



#### **Directives and Guidelines**

2014/30/EU*EMV	Directive 2014/30/EU of the European parliament and of the council of 26
	February 2014 on the harmonisation of the laws of the Member States
	relating to electromagnetic compatibility
ILAC-P10	ILAC Policy on Metrological Traceability of Measurement Results
ILAC-P9	LAC Policy for Participation in Proficiency Testing Activities
EA-3/01	EA Conditions for the use of Accreditation Symbols, Logos and other claims of
	accreditation and reference to the EA MLA Signatory status (rev05)

## **Emission and Immunity (international)**

CISPR 11	Industrial, scientific and medical equipment - Radio-frequency disturbance
	characteristics - Limits and methods of measurement
CISPR 14-1	Electromagnetic compatibility - Requirements for household appliances,
	electric tools and similar apparatus - Part 1: Emission
CISPR 32	Electromagnetic compatibility of multimedia equipment – Emission
	requirements
CISPR 14-2	Electromagnetic compatibility – Requirements for household appliances,
	electric tools and similar apparatus – Part 2: Immunity – Product family
	standard

#### **Basic Standards (international)**

IEC 61000-3-2	Electromagnetic compatibility (EMC) – Part 3-2: Limits – Limits for harmonic current emissions (equipment input current $\leq$ 16 A per phase)
IEC 61000-3-3	Electromagnetic compatibility (EMC) – Part 3-3: Limits – Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current ≤ 16 A per phase and not subject to conditional connection
IEC 61000-4-2	Electromagnetic compatibility (EMC) – Part 4-2: Testing and measurement techniques – Electrostatic discharge immunity test
IEC 61000-4-3	Electromagnetic compatibility (EMC) – Part 4-3: Testing and measurement techniques – Radiated, radio-frequency electromagnetic field immunity test
IEC 61000-4-4	Electromagnetic compatibility (EMC) – Part 4-4: Testing and measurement techniques – Electrical fast transient/burst immunity test
IEC 61000-4-5	Electromagnetic compatibility (EMC) - Part 4-5: Testing and measurement techniques - Surge immunity test
IEC 61000-4-6	Electromagnetic compatibility (EMC) – Part 4-6: Testing and measurement techniques – Immunity to conducted disturbances, induced by radio-frequency fields
IEC 61000-4-8	Electromagnetic compatibility (EMC) – Part 4-8: Testing and measurement techniques – Power frequency magnetic field immunity test
IEC 61000-4-11	Electromagnetic compatibility (EMC) - Part 4-11: Testing and measurement techniques - Voltage dips, short interruptions and voltage variations immunity tests for equipment with input current up to 16 A per phase
IEC 61000-4-13	Electromagnetic compatibility (EMC) – Part 4-13: Testing and measurement techniques – Harmonics and interharmonics including mains signalling at a.c. power port, low frequency immunity tests



# **Product Family Standards (international)**

IEC 60601-1-2	Medical electrical equipment – Part 1-2: General requirements for basic safety and essential performance – Collateral Standard: Electromagnetic disturbances – Requirements and tests IEC
IEC 61326-1	Electrical equipment for measurement, control and laboratory use – EMC requirements – Part 1: General requirements
IEC 61547	Equipment for general lighting purposes – EMC immunity requirements
IEC 62233	Measurement methods for electromagnetic fields of household appliances and similar apparatus with regard to human exposure
EN 50121-3-2	Railway applications – Electromagnetic compatibility – Part 3-2: Rolling stock – Apparatus
EN 50121-4	Railway applications – Electromagnetic compatibility – Part 4: Emission and immunity of the signalling and telecommunications apparatus

# **Emission and Immunity (Europe)**

EN 55011	Industrial, scientific and medical equipment – Radio-frequency disturbance characteristics – Limits and methods of measurement
EN 55014-1	Electromagnetic compatibility – Requirements for household appliances, electric tools and similar apparatus – Part 1: Emission
EN IEC 55015	Limits and methods of measurement of radio disturbance characteristics of electrical lighting and similar equipment
EN 55024	Information technology equipment – Immunity characteristics – Limits and methods of measurement
EN 55032	Electromagnetic compatibility of multimedia equipment – Emission requirements
EN 55014-2	Electromagnetic compatibility – Requirements for household appliances, electric tools and similar apparatus – Part 2: Immunity – Product family standard

# Basic Standards (Europe)

EN IEC 61000-3-2	Electromagnetic compatibility (EMC) – Part 3-2: Limits – Limits for harmonic current emissions (equipment input current ≤16 A per phase)
EN 61000-3-3	Electromagnetic compatibility (EMC) – Part 3-3: Limits – Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current ≤16 A per phase and not subject to conditional connection
EN 61000-4-2	Electromagnetic compatibility (EMC) – Part 4-2: Testing and measurement techniques – Electrostatic discharge immunity test
EN 61000-4-3	Electromagnetic compatibility (EMC) – Part 4-3: Testing and measurement techniques – Radiated, radio-frequency, electromagnetic field immunity test
EN 61000-4-4	Electromagnetic compatibility (EMC) – Part 4-4: Testing and measurement techniques – Electrical fast transient/burst immunity test
EN 61000-4-5	Electromagnetic compatibility (EMC) – Part 4-5: Testing and measurement techniques – Surge immunity test
EN 61000-4-6	Electromagnetic compatibility (EMC) – Part 4-6: Testing and measurement techniques – Immunity to conducted disturbances, induced by radio-frequency fields

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EN 61000-4-8	Electromagnetic compatibility (EMC) – Part 4-8: Testing and measurement techniques – Power frequency magnetic field immunity test
EN 61000-4-11	Electromagnetic compatibility (EMC) – Part 4-11: Testing and measurement techniques – Voltage dips, short interruptions and voltage variations immunity tests for equipment with input current up to 16 A per phase
EN 61000-4-13	Electromagnetic compatibility (EMC) – Part 4-13: Testing and measurement techniques – Harmonics and interharmonics including mains signalling at a.c. power port, low frequency immunity tests

# **Product Family Standards (Europe)**

EN 60601-1-2	Medical electrical equipment – Part 1-2: General requirements for basic safety and essential performance – Collateral Standard: Electromagnetic disturbances – Requirements and tests
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EN 61547	Equipment for general lighting purposes - EMC immunity requirements
EN 62233	Measurement methods for electromagnetic fields of household appliances and similar apparatus with regard to human exposure

### **Generic Standards (Europe)**

EN IEC 61000-6-1	Electromagnetic compatibility (EMC) – Part 6-1: Generic standards – Immunity
	standard for residential, commercial and light-industrial environments
EN IEC 61000-6-2	Electromagnetic compatibility (EMC) – Part 6-2: Generic standards – Immunity
	standard for industrial environments
EN 61000-6-3	Electromagnetic compatibility (EMC) – Part 6-3: Generic standards – Emission
	standard for equipment in residential environments
EN IEC 61000-6-4	Electromagnetic compatibility (EMC) – Part 6-4: Generic standards – Emission
	standard for industrial environments

# Standards for Radio Equipment and Services (RED)

ETSI EN 301 489-1	ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 1: Common technical requirements; Harmonised Standard for ElectroMagnetic Compatibility
ETSI EN 301 489-3	ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 3: Specific conditions for Short-Range Devices (SRD) operating on frequencies between 9 kHz and 246 GHz; Harmonised Standard covering the essential requirements of article 3.1(b) of Directive 2014/53/EU
EN 301489-7	Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 7: Specific conditions for mobile and portable radio and ancillary equipment of digital cellular radio telecommunications systems (GSM and DCS)
ETSI EN 301 489-17	ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 17: Specific conditions for Broadband Data Transmission Systems; Harmonised Standard for ElectroMagnetic Compatibility