| Last update, 15.Nov.2019  |                   |                  |                          |                                  |  |
|---|-------------------|------------------|--------------------------|----------------------------------|--|
| Basic EMC Publications and Standards  |                   |                  | © 2019 by Academy of EMC |                                  |  |
| General guideance   | Emission Immunity |                  | Туре                     | Remark                           |  |
| General guide to EMC publications   | IEC Guide 107     |                  | Basic<br>Publication     |                                  |  |
| General terminology   | Emission          | Immunity         | Туре                     | Remark                           |  |
| General terminology, international electrotechnical vocabulary  | IEC 60050-161     |                  | Basic<br>Publication     |                                  |  |
| General considerations  | Emission          | Immunity         | Туре                     | Remark                           |  |
| Application and interpretation of fundamental definitions and terms   | IEC 610           | 000-1-1          | Basic<br>Publication     |                                  |  |
| Methodology for the achievement of <b>functional safety</b> of electrical and electronic systems including equipment with regard to electromagnetic phenomena                                   | IEC 61000-1-2     |                  | Basic<br>Publication     |                                  |  |
| The effects of high-altitude EMP ( <b>HEMP</b> ) on <b>civil equipment</b> and systems  | IEC TR 61000-1-3  |                  | Basic<br>Publication     | Technical Report (non-normative) |  |
| Historical rationale for the limitation of power-frequency conducted harmonic current emissions from equipment, in the frequency range up to 2 kHz  | IEC TR 61000-1-4  |                  | Basic<br>Publication     | Technical Report (non-normative) |  |
| High power electromagnetic (HPEM) effects on civil systems  |                   | IEC TR 61000-1-5 | Basic<br>Publication     | Technical Report (non-normative) |  |
| Environment classification (basic publications)   | Emission          | Immunity         | Туре                     | Remark                           |  |
| Classification of <b>electromagnetic environments</b> . Basic EMC publication.  |                   | IEC 61000-2-5    |                          | Technical Report (non-normative) |  |
| Environment LF conducted emission (basic publications)  | Emission          | Immunity         | Туре                     | Remark                           |  |
| Description of the environment - Electromagnetic environment for low-frequency conducted disturbances and signalling in public power supply systems   | IEC TR 61000-2-1  |                  | Basic<br>Publication     | Technical Report (non-normative) |  |
| Compatibility levels for low-frequency conducted disturbances and signalling in public low-voltage power supply systems   | IEC 61000-2-2     |                  | Basic<br>Publication     |                                  |  |
| Compatibility levels in industrial plants for low-frequency conducted disturbances  | IEC 61000-2-4     |                  | Basic<br>Publication     |                                  |  |
| Assessment of the emission levels in the power supply of industrial plants as regards low-frequency conducted disturbances  | IEC TR 61000-2-6  |                  | Basic<br>Publication     | Technical Report (non-normative) |  |
| Voltage dips and short interruptions on public electric power supply systems with statistical measurement results   | IEC TR 61000-2-8  |                  | Basic<br>Publication     | Technical Report (non-normative) |  |
| Compatibility levels for low-frequency conducted disturbances and signalling in public medium-voltage power supply systems  | IEC 61000-2-12    |                  | Basic<br>Publication     |                                  |  |
| Overvoltages on public electricity distribution networks  | IEC TR 61000-2-14 |                  | Basic<br>Publication     | Technical Report (non-normative) |  |
| Consideration of reference impedances and public supply network impedances for use in determining disturbance characteristics of electrical equipment having a rated current = < 75 A per phase | IEC TR 60725      |                  | Basic<br>Publication     | Technical Report (non-normative) |  |
| Environment LF radiated emission (basic publications)   | Emission          | lmmunity         | Туре                     | Remark                           |  |
| Low frequency magnetic fields in various environments   | IEC TR 61000-2-7  |                  | Basic<br>Publication     | Technical Report (non-normative) |  |
| HF conducted/radiated disturbances (basic publications)   | Emission Immunity |                  | Туре                     | Remark                           |  |
| Description of the environment - Radiated and non-network-frequency-related conducted phenomena   | IEC TR 61000-2-3  |                  | Basic<br>Publication     | Technical Report (non-normative) |  |
| HEMP (basic publications)   | Emission Immunity |                  | Туре                     | Remark                           |  |
| Description of HEMP environment - Radiated disturbance. Basic EMC publication   |                   | IEC 61000-2-9    | Basic<br>Publication     |                                  |  |

| Description of HEMP environment - Conducted disturbance   |                           | IEC 61000-2-10            | Basic<br>Publication |   |
|---|---------------------------|---------------------------|----------------------|---|
| Classification of HEMP environments   |                           | IEC 61000-2-11            | Basic<br>Publication |   |
| High-power electromagnetic (HPEM) environments - Radiated and conducted   |                           | IEC 61000-2-13            | Basic<br>Publication |   |
| Installation and mitigation guidelines (basic publications)   | Emission                  | Immunity                  | Туре                 | Remark                                  |
| Installation and mitigation guidelines - General considerations   | IEC TR 6                  | 31000-5-1                 | Basic<br>Publication | Technical Report (non-normative)        |
| Installation and mitigation guidelines - Earthing and cabling   | IEC TR 6                  | 31000-5-2                 | Basic<br>Publication | Technical Specification (non-normative) |
| Installation and mitigation guidelines - Mitigation of external EM influences   | IEC TR 6                  | 31000-5-6                 | Basic<br>Publication | Technical Specification (non-normative) |
| Installation and mitigation guidelines - Degrees of protection provided by enclosures against electromagnetic disturbances (EM code)  | IEC 61                    | IEC 61000-5-7             |                      |   |
| Installation and mitigation guidelines - HEMP protection concepts   |                           | IEC TR 61000-5-3          | Basic<br>Publication |   |
| Installation and mitigation guidelines - Section 4: Immunity to HEMP - Specifications for protective devices against HEMP radiated disturbance. Basic EMC Publication         |                           | IEC TS 61000-5-4          | Basic<br>Publication | Technical Specification (non-normative) |
| Installation and mitigation guidelines - Section 5: Specification of protective devices for HEMP conducted disturbance. Basic EMC Publication                                 |                           | IEC 61000-5-5             | Basic<br>Publication |   |
| LF conducted emission   | Emission                  | Immunity                  | Туре                 | Remark                                  |
| Testing and measurement techniques - General guide on harmonics and interharmonics measurements and instrumentation, for power supply systems and equipment connected thereto | IEC 61000-4-7             |                           | Basic<br>Publication |   |
| Testing and measurement techniques - Flickermeter - Functional and design specifications  | IEC 61000-4-15            |                           | Basic<br>Publication |   |
| HF conducted and radiated emission  | Emission                  | Immunity                  | Туре                 | Remark                                  |
| CISPR 16-1: Specification for radio disturbance and immunity measuring apparat  | us and methods - Radio di | sturbance and immunity m  | easuring appa        | aratus                                  |
| Measuring apparatus   | CISPR 16-1-1              |                           | Basic<br>Publication |   |
| Coupling devices for conducted disturbance measurements   | CISPR 16-1-2              |                           | Basic<br>Publication |   |
| Ancillary equipment - Disturbance power   | CISPR 16-1-3              |                           | Basic<br>Publication |   |
| Antennas and test sites for radiated disturbance measurements   | CISPR 16-1-4              |                           | Basic<br>Publication |   |
| Antenna calibration sites and reference test sites for 5 MHz to 18 GHz  | CISPR 16-1-5              |                           | Basic<br>Publication |   |
| EMC antenna calibration   | CISPR 16-1-6              |                           | Basic<br>Publication |   |
| CISPR 16-2: Specification for radio disturbance and immunity measuring apparat  | us and methods - Methods  | of measurement of disturb | ances and im         | munity                                  |
| Conducted disturbance measurements  | CISPR 16-2-1              |                           | Basic<br>Publication |   |
| Measurement of disturbance power  | CISPR 16-2-2              |                           | Basic<br>Publication |   |
| Radiated disturbance measurements   | CISPR 16-2-3              |                           | Basic<br>Publication |   |
| Immunity measurements   | CISPR 16-2-4              |                           | Basic<br>Publication |   |

| In situ measurements for disturbing emissions produced by physically large equipment   | CISPR TR 16-2-5 |                   | Basic<br>Publication | Technical Report (non-normative) |  |  |
|--|-----------------|-------------------|----------------------|----------------------------------|--|--|
| CISPR technical reports  | CISPR TR 16-3   |                   | Basic<br>Publication | Technical Report (non-normative) |  |  |
| CISPR 16-4: Specification for radio disturbance and immunity measuring apparatus and methods - Uncertainties, statistics and limit modelling |                 |                   |                      |                                  |  |  |
| Uncertainties in standardized EMC tests  | CISPR TR 16-4-1 |                   | Basic<br>Publication | Technical Report (non-normative) |  |  |
| Measurement instrument uncertainty   | CISPR 16-4-2    |                   | Basic<br>Publication |                                  |  |  |
| Statistical considerations in the determination of EMC compliance of mass-produced products  | CISPR TR 16-4-3 |                   | Basic<br>Publication | Technical Report (non-normative) |  |  |
| Statistics of complaints and a model for the calculation of limits for the protection of radio services                                      | CISPR TR 16-4-4 |                   | Basic<br>Publication | Technical Report (non-normative) |  |  |
| Conditions for the use of alternative test methods   | CISPR TR 16-4-5 |                   | Basic<br>Publication | Technical Report (non-normative) |  |  |
| General immunity testing techniques  | Emission        | Immunity          | Туре                 | Remark                           |  |  |
| Testing and measurement techniques - Overview of immunity tests (IEC 61000-4 series)   |                 | IEC TR 61000-4-1  | Basic<br>Publication | Technical Report (non-normative) |  |  |
| LF conducted immunity (testing and measurement technique)  | Emission        | Immunity          | Туре                 | Remark                           |  |  |
| Voltage dips, short interruptions and voltage variations immunity tests  |                 | IEC 61000-4-11    | Basic<br>Publication |                                  |  |  |
| Harmonics and interharmonics including mains signalling at a.c. power port, low frequency immunity tests                                     |                 | IEC 61000-4-13    | Basic<br>Publication |                                  |  |  |
| Voltage fluctuation immunity test for equipment with input current not exceeding 16 A per phas   |                 | IEC 61000-4-14    | Basic<br>Publication |                                  |  |  |
| Test for immunity to conducted, common mode disturbances in the frequency range 0 Hz to 150 kHz  |                 | IEC 61000-4-16    | Basic<br>Publication |                                  |  |  |
| Ripple on d.c. input power port immunity test  |                 | IEC 61000-4-17    | Basic<br>Publication |                                  |  |  |
| Unbalance, immunity test for equipment with input current not exceeding 16 A per phase   |                 | IEC 61000-4-27    | Basic<br>Publication |                                  |  |  |
| Variation of power frequency, immunity test for equipment with input current not exceeding 16 A per phase                                    |                 | IEC 61000-4-28    | Basic<br>Publication |                                  |  |  |
| Voltage dips, short interruptions and voltage variations on d.c. input power port immunity test  |                 | IEC 61000-4-29    | Basic<br>Publication |                                  |  |  |
| Power quality measurement methods  |                 | IEC 61000-4-30    | Basic<br>Publication |                                  |  |  |
| Voltage dips, short interruptions and voltage variations immunity tests for equipment with mains current more than 16 A per phase            |                 | IEC 61000-4-34    | Basic<br>Publication |                                  |  |  |
| Test, verification and calibration protocol for fluctuation and flicker compliance test systems  |                 | IEC TR 61000-4-38 | Basic<br>Publication | Technical Report (non-normative) |  |  |
| LF radiated immunity (testing and measurement techniques)  | Emission        | lmmunity          | Туре                 | Remark                           |  |  |
| Power frequency magnetic field immunity test   |                 | IEC 61000-4-8     | Basic<br>Publication |                                  |  |  |
| HF conducted immunity (testing and measurement technique)  | Emission        | Immunity          | Туре                 | Remark                           |  |  |
| Electrical fast transient / <b>burst</b> immunity test   |                 | IEC 61000-4-4     | Basic<br>Publication |                                  |  |  |
| Surge immunity test  |                 | IEC 61000-4-5     | Basic<br>Publication |                                  |  |  |

| Immunity to conducted disturbances, induced by radio-frequency fields   | IEC 61000-4-6        |   | Basic<br>Publication  |  |
|---|----------------------|---|---|--|
| Ring wave immunity test   |                      | IEC 61000-4-12  | Basic<br>Publication  |  |
| Damped oscillatory wave immunity test   |                      | IEC 61000-4-18  | Basic<br>Publication  |  |
| Test for immunity to conducted, differential mode disturbances and signalling in the frequency range 2kHz to 150 kHz at AC power ports  |                      | IEC 61000-4-19  | Basic<br>Publication  |  |
| HF radiated immunity (testing and measurement techniques)   | Emission             | Immunity  | Туре  | Remark                                   |
| Radiated, radio-frequency, electromagnetic field immunity test  |                      | IEC 61000-4-3   | Basic<br>Publication  |  |
| Pulse magnetic field immunity test  |                      | IEC 61000-4-9   | Basic<br>Publication  |  |
| Damped oscillatory magnetic field immunity test   |                      | IEC 61000-4-10  | Basic<br>Publication  |  |
| Emission and immunity testing in <b>transverse electromagnetic (TEM)</b> waveguides   | IEC 610              | 00-4-20   | Basic<br>Publication  |  |
| Reverberation chamber test methods  | IEC 610              | 00-4-21   | Basic<br>Publication  |  |
| Radiated emissions and immunity measurements in fully anechoic rooms (FARs)   | IEC 61000-4-22       |   | Basic<br>Publication  |  |
|   |                      |   | *   |  |
| Radiated fields in close proximity - Immunity test  |                      | IEC 61000-4-39  | Basic<br>Publication  |  |
| Radiated fields in close proximity - Immunity test  Electrostatic discharges (ESD)  | Emission             | IEC 61000-4-39  |   | Remark                                   |
|   | Emission             |   | Publication   | Remark                                   |
| Electrostatic discharges (ESD)  | Emission<br>Emission | Immunity  | Publication  Type  Basic  | Remark<br>Remark                         |
| Electrostatic discharges (ESD)  Electrostatic discharge (ESD) immunity test   |                      | Immunity IEC 61000-4-2  | Type  Basic Publication   |  |
| Electrostatic discharges (ESD)  Electrostatic discharge (ESD) immunity test  HEMP   |                      | Immunity  IEC 61000-4-2  Immunity   | Type  Basic Publication  Type  Basic  |  |
| Electrostatic discharges (ESD)  Electrostatic discharge (ESD) immunity test  HEMP  Test methods for protective devices for HEMP and other radiated disturbances   |                      | Immunity  IEC 61000-4-2  Immunity  IEC 61000-4-23   | Type  Basic Publication  Type  Basic Publication  Basic Publication   |  |
| Electrostatic discharges (ESD)  Electrostatic discharge (ESD) immunity test  HEMP  Test methods for protective devices for HEMP and other radiated disturbances  Test methods for protective devices for HEMP conducted disturbance   |                      | Immunity  IEC 61000-4-2  Immunity  IEC 61000-4-23   | Type  Basic Publication  Type  Basic Publication  Basic Publication  Basic Publication  |  |
| Electrostatic discharges (ESD)  Electrostatic discharge (ESD) immunity test  HEMP  Test methods for protective devices for HEMP and other radiated disturbances  Test methods for protective devices for HEMP conducted disturbance  HEMP immunity test methods for equipment and systems   |                      | Immunity  IEC 61000-4-2  Immunity  IEC 61000-4-23  IEC 61000-4-24                                 | Type  Basic Publication  Type  Basic Publication  Basic Publication  Basic Publication  Basic Publication  Basic Publication  | Remark                                   |
| Electrostatic discharges (ESD)  Electrostatic discharge (ESD) immunity test  HEMP  Test methods for protective devices for HEMP and other radiated disturbances  Test methods for protective devices for HEMP conducted disturbance  HEMP immunity test methods for equipment and systems  High-altitude electromagnetic pulse (HEMP) simulator compendium  |                      | Immunity  IEC 61000-4-2  Immunity  IEC 61000-4-23  IEC 61000-4-24  IEC 61000-4-25                 | Type  Basic Publication  Type  Basic Publication                    | Remark                                   |
| Electrostatic discharges (ESD)  Electrostatic discharge (ESD) immunity test  HEMP  Test methods for protective devices for HEMP and other radiated disturbances  Test methods for protective devices for HEMP conducted disturbance  HEMP immunity test methods for equipment and systems  High-altitude electromagnetic pulse (HEMP) simulator compendium  Measurement methods for high-power transient parameters |                      | Immunity  IEC 61000-4-2  Immunity  IEC 61000-4-23  IEC 61000-4-24  IEC 61000-4-32  IEC 61000-4-32 | Type  Basic Publication  Type  Basic Publication  Basic Publication | Remark  Technical Report (non-normative) |

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|--|---------------|---------------|---------------------|---|--|--|
|  | Emission      | Immunity      | Type                | Remark  |  |  |
| Residential, commercial, light industrial environment              | IEC 61000-6-3 | IEC 61000-6-1 | Generic<br>Standard |   |  |  |
| Industrial environment   | IEC 61000-6-4 | IEC 61000-6-2 | Generic<br>Standard |   |  |  |
| Light industrial environment                                       | IEC 61000-6-8 |               | Generic<br>Standard | For equipment: defined as professional equipment, professionally installed and maintained, not intended for residential locations |  |  |
| Immunity for power station and substation environments             |               | IEC 61000-6-5 | Generic<br>Standard |   |  |  |
| Indoor equipment HEMP immunity                                     |               | IEC 61000-6-6 | Generic<br>Standard |   |  |  |
| Safety-related systems (functional safety) in industrial locations |               | IEC 61000-6-7 | Generic<br>Standard | For equipment to comply with IEC 61508  |  |  |

| EMC Product (Family) Standards  |                              |                                    |                     | © 2021 by Academy of EMC   |  |  |
|---|------------------------------|------------------------------------|---------------------|--|--|--|
|   | Emission                     | Immunity                           | Туре                | Remark   |  |  |
| Automotive: Vehicles, boats and internal combustion engines   | CISPR 12<br>CISPR 25         | -                                  | Product<br>Standard |  |  |  |
| Automotive: Road vehicles - Vehicle test methods  | -                            | ISO 11451<br>ISO 10605             | Product<br>Standard | Vehicles.  |  |  |
| Automotive: Road vehicles - Component test methods  | -                            | ISO 11452<br>ISO 7637<br>ISO 10605 | Product<br>Standard | Components.  |  |  |
| Avionics: Airborne equipment, aircraft, helicopters   | RTCA DO-160<br>EUROCAE ED-14 |                                    | Product<br>Standard | RTCA DO-160 and EUROCAE ED-14 are identically worded.  |  |  |
| Electricity metering equipment (AC)   | -                            | IEC 62052-11                       | Product<br>Standard |  |  |  |
| Household: Household appliances, electric tools and similar apparatus   | CISPR 14-1                   | CISPR 14-2                         | Product<br>Standard |  |  |  |
| Information technology equipment: ITE, notebooks, telephones  | CISPR 32                     | CISPR 35                           | Product<br>Standard | CISPR 32 replaced CISPR 22 in 2017.  |  |  |
| Lightning: Electrical lighting and similar equipment  | CISPR 15                     | IEC 61547                          | Product<br>Standard |  |  |  |
| <b>Medical equipment:</b> Medical electrical equipment - General requirements for basic safety and essential performance - Collateral Standard: Electromagnetic disturbances - Requirements and tests | IEC 60                       | IEC 60601-1-2                      |                     | In EU: Medical Equipment falls under the Medical Directive (93/68/EEC) and not the EMC Directive (2014/30/EU).                           |  |  |
| <b>Medical laboratory equipment:</b> Electrical equipment for measurement, control and laboratory use - EMC requirements  | IEC 61326-1                  | IEC 61326-1                        | Product<br>Standard |  |  |  |
| <b>Medical IVD equipment:</b> Electrical equipment for measurement, control and laboratory use - EMC requirements   | IEC 61326-2-6                |                                    | Product<br>Standard |  |  |  |
| <b>Medical safety equipment:</b> Electrical equipment for measurement, control and laboratory use - Immunity requirements for safety-related systems and equipment                                    | -                            | IEC 61326-3-1                      | Product<br>Standard | IEC 61326-3-1 is limited to systems/equipment for industrial applications intended to perform safety functions (IEC 61508 with SIL 1-3). |  |  |
| <b>Power unitities:</b> Communication networks and systems for power utility automation   | IEC 61850-3                  |                                    | Product<br>Standard |  |  |  |
| Relays: Measuring relays and protection equipment   | IEC 60255-26                 | IEC 60255-26                       | Product<br>Standard |  |  |  |
| Residual current operated circuit-breakers with integral overcurrentprotection for household and similar uses   | IEC 61009-1                  |                                    | Product<br>Standard | Rated voltages not exceeding 440 V AC. with rated frequencies of 50 Hz, 60 Hz or 50/60 Hz.   |  |  |
| Ships with a metallic hull: Electrical and electronic installations in ships - Electromagnetic compatibility (EMC)  | IEC 60533                    | IEC 60533                          | Product<br>Standard |  |  |  |

| EMC Product (Family) Standards   |   |  |  |  |  |
|----------------------------------|---|--|--|--|--|
| Emission                         | Immunity  | Remark   |  |  |  |
| CISPR 12<br>CISPR 25<br>CISPR 36 | -   | CISPR 36: Electric and hybrid electric road vehicles.  |  |  |  |
| -                                | ISO 11451<br>ISO 10605  | Vehicles.  |  |  |  |
| -                                | ISO 11452<br>ISO 7637<br>ISO 10605  | Components.  |  |  |  |
|                                  |   | RTCA DO-160 and<br>EUROCAE ED-14 are<br>identically worded.  |  |  |  |
| -                                | IEC 62052-11  |  |  |  |  |
| CISPR 14-1                       | CISPR 14-2  |  |  |  |  |
| CISPR 32                         | CISPR 35  | CISPR 32 replaced CISPR<br>22 in 2017. CISPR 35<br>replases CISPR 24 in 2022.  |  |  |  |
| CISPR 15                         | IEC 61547   |  |  |  |  |
| IEC 60601-1-2                    |   |  |  |  |  |
| IEC 61326-1                      | IEC 61326-1   |  |  |  |  |
| IEC 61326-2-6                    |   |  |  |  |  |
| -                                | IEC 61326-3-1   |  |  |  |  |
| IEC 61850-3                      |   |  |  |  |  |
| IEC 60255-26                     | IEC 60255-26  |  |  |  |  |
| IEC 61009-1                      |   |  |  |  |  |
| IEC 60533                        | IEC 60533   |  |  |  |  |
|                                  | Emission CISPR 12 CISPR 25 CISPR 36  RTCA I EUROCA  CISPR 14-1  CISPR 32  CISPR 15  IEC 600  IEC 61326-1  IEC 61:  IEC 67 | Emission Immunity  CISPR 12 CISPR 25 CISPR 36  ISO 11451 ISO 10605  ISO 11452 ISO 7637 ISO 10605  RTCA DO-160 EUROCAE ED-14  IEC 62052-11  CISPR 14-1 CISPR 14-2  CISPR 32 CISPR 35  CISPR 32 CISPR 35  CISPR 15 IEC 61547  IEC 60601-1-2  IEC 61326-1 IEC 61326-1  IEC 61326-2-6  IEC 61326-3-1  IEC 61850-3  IEC 60255-26 IEC 60255-26 |  |  |  |