

## Products versus CISPR EMC standards

Which EMC standard has to be applied when testing a product for pre-compliance or compliance?

The list on the following pages tries to give an answer to this question.

The information is excerpted from the CISPR guide 2010 of the International Electrotechnical Commission and from IEC lists.

EN 550xx standards are equivalent to CISPR xx.



Product	Applicable CISPR standards									Remarks
	11	12/ 25	13	14 -1	14 -2	15	20	22	24	
Active loudspeaker units			X							
AC Watt hour meter										
Accelerators (medical)	X									
Agricultural equipment such as electric fences, milking machines, etc				X	X					
Agricultural machinery		X								
Arc Welder	X									
Associated equipment with RF modulator			X							
Audio Amplifiers			X				X			
Audio magnetic recording and playback equipment			X							
Automatic Teller Machine								X	X	
Battery Chargers - rectifier style				X	X					
Battery Chargers - switch mode	X			X	X					
Battery powered floor finishing machines		X								
Boats (<15m length)		X								
Cap lights for mines						X				
Car radios		X	X				X			
CD / DVD Player			X				X			



Product	Applicable CISPR standards									Remarks
	11	12/ 25	13	14 -1	14 -2	15	20	22	24	
Decoders NTSC, PAL, SECAM			X				X			
Demodulators			X				X			
Demonstration models for education and training	X									
Demultiplexers			X				X			
Dielectric heating equipment	X									
Digital Still Camera								X	X	Data processing + display + memory suggests ITE
Digital Video Camera								X	X	
Dispensing Machines				X						
Electrical Household equipment and Portable Tools				X	X					
Electric toys such as toys running on tracks, etc				X	X					
Electric welding equipment	X									
Electro-discharge machining (EDM) equipment	X									
Electronic musical instruments			X				X			
Electronic regulating controls				X	X					



Product	Applicable CISPR standards									Remarks
	11	12/ 25	13	14 -1	14 -2	15	20	22	24	
Internal combustion engine devices: (electric generators, pumps, lawn mowers, garden tools, chain saws, etc.)		X								
Kitchen machines				X	X					
Laboratory equipment	X									
Landscaping equipment (Lawn mowers (mains powered mowers excluded), garden tillers, etc.)		X								
LED luminaires						X				
lighting equipment with a primary function of generating and/or distributing light intended for illumination purposes, and intended either for connection to the low voltage electricity supply or for battery operation						X				
lighting part of multi-function equipment where one of the primary functions is illumination						X				
Local Area Network devices								X	X	
Machine tools (industrial)	X									
Magnetic Tape Device								X	X	
Magnetic Disk Device								X	X	
Medical electrical equipment	X									More / other EMC standards may apply, depending on specific product

Product	Applicable CISPR standards									Remarks
	11	12/ 25	13	14 -1	14 -2	15	20	22	24	
Medical electrical equipment	X									More / other EMC standards may apply, depending on specific product
Memory Device								X	X	
Microwave lighting apparatus	X									
Microwave oven	X				X					
Microwave-powered UV irradiating apparatus	X									
Modem (all types)								X	X	
Motor-driven electro-medical apparatus				X						
MP3 player			X				X	X	X	Going by definition of product and scope of the std, CISPR 13 seems appropriate –AV equip
Neon advertising signs						X				
Optical Disk Device: CD-ROM, DVD-ROM								X	X	
PC TV Tuner Cards			X				X			TV tuner portion tested to CISPR13
PC AM / FM Radio Tuner cards			X				X			
Record Players			X				X			
Rectifier diode power supplies				X	X					
Point of Sale Terminal								X	X	

Product	Applicable CISPR standards									Remarks
	11	12/ 25	13	14 -1	14 -2	15	20	22	24	
Power tools (including battery powered)				X	X					
Record players			X				X			
RF amplifiers			X				X			
RF converters			X				X			
RF cooking hobs and ovens and induction cooking appliances	X				X					
Road vehicles including passenger cars, trucks and busses powered by an internal combustion, an electric motor or hybrid technology		X								
Satellite tuner units (1st IF)			X				X			
Scientific equipment	X									
Self propelled floor finishing equipment, excluding robotic vacuum carpet sweepers		X								
Semiconductor converters	X									
Semiconductor manufacturing equipment	X									
Separate parts: such as: motors, switching devices (e.g. power or protective relays)				X						
"Single components", such as heating thermostats, etc				X						
street/flood lighting intended for outdoor use only						X				
Switch mode power supplies	X			X	X					



Product	Applicable CISPR standards									Remarks
	11	12/ 25	13	14 -1	14 -2	15	20	22	24	
Telecommunication Terminal								X	X	
Television receivers			X				X			
Telephone								X	X	
transport lighting (installed in buses, trains, etc.)						X				
TV set-top boxes (analog or digital)			X				X			
UV and IR radiation equipment						X				
UV & IR radiators for personal care					X					
Video projector			X				X			
Video recorders			X				X			

You did not find your product?

Check following list of IEC standards. The above CISPR standards are a sub-set Of the IEC standards listed below:

Product	Technical / Special Comitee	Standard	Remarks
Rotating machinery	TC2	IEC 60034-1	Rotating electrical machines - Part 1: Rating and performance
Hydraulic turbines	TC4	IEC 61362	Guide to specification of hydraulic turbine control systems
Electrical equipment and systems for railways	TC9	IEC 62236-1	Railway applications - Electromagnetic compatibility - Part 1: General
		IEC 62236-2	Railway applications - Electromagnetic compatibility - Part 2: Emission of the whole railway system to the outside world
		IEC 62236-3-1	Railway applications - Electromagnetic compatibility - Part 3-1: Rolling stock - Train and complete vehicle
		IEC 62236-3-2	Railway applications - Electromagnetic compatibility - Part 3-2: Rolling stock - Apparatus
		IEC 62236-4	Railway applications - Electromagnetic compatibility - Part 4: Emission and immunity of the signalling and telecommunications apparatus
		IEC 62236-5	Railway applications - Electromagnetic compatibility - Part 5: Emission and immunity of fixed power supply installations and apparatus

Product	Technical / Special Comitee	Standard	Remarks
Electricity enery management, tariff and load control	TC13	IEC 62052-11	Electricity metering equipment (AC) - General requirements, tests and test conditions - Part 11: Metering equipment
		IEC 62052-21	Electricity metering equipment (a.c.) - General requirements, tests and test conditions - Part 21: Tariff and load control equipment
		IEC 62053-31	Electricity metering equipment (a.c.) - Particular requirements - Part 31: Pulse output devices for electromechanical and electronic meters (two wires only)
		IEC 62054-11	Electricity metering (a.c.) - Tariff and load control - Part 11: Particular requirements for electronic ripple control receivers
		IEC 62054-21	Electricity metering (a.c.) - Tariff and load control - Part 21: Particular requirements for time switches
HV switchgear and control gear HV switchgear and control gear assemblies	SC17A SC17C	IEC 62271-1	High-voltage switchgear and controlgear - Part 1: Common specifications
LV switchgear and control gear	SC17B	IEC 60947-1	Low-voltage switchgear and controlgear - Part 1: General rules
		IEC 60947-2	Low-voltage switchgear and controlgear - Part 2: Circuit-breakers
		IEC 60947-3	Low-voltage switchgear and controlgear - Part 3: Switches, disconnectors, switch-disconnectors and fuse-combination units
		IEC 60947-4-1	Low-voltage switchgear and controlgear - Part 4-1: Contactors and motor-starters - Electromechanical contactors and motor-starters
		IEC 60947-4-2	Low-voltage switchgear and controlgear - Part 4-2: Contactors and motor-starters - AC semiconductor motor controlllers and starters
		IEC 60947-4-3	Low-voltage switchgear and controlgear - Part 4-3: Contactors and motor-starters - AC semiconductor controlllers and contactors for non-motor loads

Product	Technical / Special Comitee	Standard	Remarks
LV switchgear and control gear	SC17B	IEC 60947-5-1	Low-voltage switchgear and controlgear - Part 5-1: Control circuit devices and switching elements - Electromechanical control circuit devices
		IEC 60947-5-2	Low-voltage switchgear and controlgear - Part 5-2: Control circuit devices and switching elements - Proximity switches
		IEC 60947-5-3	Low-voltage switchgear and controlgear - Part 5-3: Control circuit devices and switching elements - Requirements for proximity devices with defined behaviour under fault conditions
		IEC 60947-6-1	Low-voltage switchgear and controlgear - Part 6-1: Multiple function equipment - Transfer switching equipment
		IEC 60947-6-2	Low-voltage switchgear and controlgear - Part 6-2: Multiple function equipment - Control and protective switching devices (or equipment)
		IEC 62026-1	Low-voltage switchgear and controlgear - Controller-device interfaces (CDIs) - Part 1: General rules
		IEC 62026-2	Low-voltage switchgear and controlgear - Controller-device interfaces (CDIs) - Part 2: Actuator sensor interface (AS-i)
		IEC 62026-3	Low-voltage switchgear and controlgear - Controller-device interfaces (CDIs) - Part 3: DeviceNet
		IEC 62091	Low-voltage switchgear and controlgear - Controllers for drivers of stationary fire pumps
LV switchgear and control gear assemblies	SC17D	IEC 61439-1	Low-voltage switchgear and controlgear assemblies - Part 1: General rules
Electrical installations of ships and of mobile and fixed offshore units	TC 18	IEC 60533	Electrical and electronic installations in ships - Electromagnetic compatibility

Product	Technical / Special Comitee	Standard	Remarks
Power electronic systems and equipment	TC22	IEC 62103	Electronic equipment for use in power installations
		IEC 60146-2	Semiconductor converters - Part 2: Self-commutated semiconductor converters including direct d.c. converters
Stabilized power supplies	SC22E	IEC 61204-3	Low-voltage power supplies, d.c. output - Part 3: Electromagnetic compatibility (EMC)
Adjustable speed electric drive systems incorporating semiconductor power converters	SC22G	IEC 61800-3	Adjustable speed electrical power drive systems - Part 3: EMC requirements and specific test methods
		IEC 62493	Assessment of lighting equipment related to human exposure to electromagnetic fields
Uninterruptable power systems (UPS)	SC22H	IEC 62040-2	Uninterruptible power systems (UPS) - Part 2: Electromagnetic compatibility (EMC) requirements
		IEC62310-2	Static transfer systems (STS) - Part 2: Electromagnetic compatibility (EMC) requirements
Electrical accessories	TC23	IEC 62080	Sound signalling devices for household and similar purposes
Plugs, socket-outlets and switches	SC23B	IEC 60669-2-1	Switches for household and similar fixed electrical installations - Part 2-1: Particular requirements - Electronic switches
Circuit-breakers and similar equipment for household use	SC23E	IEC 60934	Circuit-breakers for equipment (CBE)
		IEC 61540	Electrical accessories - Portable residual current devices without integral overcurrent protection for household and similar use (PRCDs)
		IEC 61543	Residual current-operated protective devices (RCDs) for household and similar use - Electromagnetic compatibility
		IEC 62020	Electrical accessories - Residual current monitors for household and similar uses (RCMs)

Product	Technical / Special Comitee	Standard	Remarks
Electric welding	TC26	IEC 60974-10	Arc welding equipment - Part 10: Electromagnetic compatibility (EMC) requirements
		IEC 62135-20	Resistance welding equipment - Part 2: Electromagnetic compatibility (EMC) requirements
Electroacoustics	TC29	IEC 60118-13	Electroacoustics - Hearing aids - Part 13: Electromagnetic compatibility (EMC)
		IEC 60942	Electroacoustics - Sound calibrators
		IEC 61252	Electroacoustics - Specifications for personal sound exposure meters
		IEC 61260	Electroacoustics - Octave-band and fractional-octave-band filters
		IEC 61672-1	Electroacoustics - Sound level meters - Part 1: Specifications
		IEC 61672-2	Electroacoustics - Sound level meters - Part 2: Pattern evaluation tests
Power capacitors and their applications	TC33	IEC 60831-1	Shunt power capacitors of the self-healing type for a.c. systems having a rated voltage up to and including 1000 V - Part 1: General - Performance, testing and rating - Safety requirements - Guide for installation and operation
		IEC 60931-1	Shunt power capacitors of the non-self-healing type for a.c. systems having a rated voltage up to and including 1000 V - Part 1: General - Performance, testing and rating - Safety requirements - Guide for installation and operation
Lamps and related equipment		IEC 61547	Equipment for general lighting purposes - EMC immunity requirements

Product	Technical / Special Comitee	Standard	Remarks
Instrument transformers	TC38	IEC 60044-7	Instrument transformers - Part 7: Electronic voltage transformers
		IEC 60044-8	Instrument transformers - Part 8: Electronic current transformers
Safety of machinery - Electrotechnical aspects	TC44	IEC 60204-31	Safety of machinery - Electrical equipment of machines - Part 31: Particular safety and EMC requirements for sewing machines, units and systems
Instrumentation and control of nuclear facilities	SC45A	IEC 62003	Nuclear power plants - Instrumentation and control important to safety - Requirements for electromagnetic compatibility testing
Cables, wires, waveguides, R.F. connectors, R.F. and microwave passive components and accessories	TC46	IEC/TR 62153-4-1	Metallic communication cable test methods - Part 4-1: Electromagnetic compatibility (EMC) - Introduction to electromagnetic (EMC) screening measurements
Coaxial cables	SC46A	IEC 61726	Cable assemblies, cables, connectors and passive microwave components - Screening attenuation measurement by the reverberation chamber method
Integrated circuits	SC47A	IEC 61967-1	Integrated circuits - Measurement of electromagnetic emissions, 150 kHz to 1 GHz - Part 1: General conditions and definitions
		IEC 61967-2	Integrated circuits - Measurement of electromagnetic emissions, 150 kHz to 1 GHz - Part 2: Measurement of radiated emissions - TEM cell and wideband TEM cell method
		IEC 61967-3	Integrated circuits - Measurement of electromagnetic emissions, 150 kHz to 1 GHz - Part 3: Measurement of radiated emissions - Surface scan method
		IEC 61967-4	Integrated circuits - Measurement of electromagnetic emissions, 150 kHz to 1 GHz - Part 4: Measurement of conducted emissions - 1 $\Omega$ /150 $\Omega$ direct coupling method

Product	Technical / Special Comitee	Standard	Remarks
Integrated circuits	SC47A	IEC 61967-5	Integrated circuits - Measurement of electromagnetic emissions, 150 kHz to 1 GHz - Part 5: Measurement of conducted emissions - Workbench Faraday Cage method
		IEC 61967-6	Integrated circuits - Measurement of electromagnetic emissions, 150 kHz to 1 GHz - Part 6: Measurement of conducted emissions - Magnetic probe method
		IEC 62132-1	Integrated circuits - Measurement of electromagnetic immunity, 150 kHz to 1 GHz - Part 1: General conditions and definitions
		IEC 62132-2	Integrated circuits - Measurement of electromagnetic immunity - Part 2: Measurement of radiated immunity - TEM cell and wideband TEM cell method
		IEC 62132-3	Integrated circuits - Measurement of electromagnetic immunity, 150 kHz to 1 GHz - Part 3: Bulk current injection (BCI) method
		IEC 62132-4	Integrated circuits - Measurement of electromagnetic immunity 150 kHz to 1 GHz - Part 4: Direct RF power injection method
Mechanical structures for electronic equipment	SC48D	IEC 61587-3	Mechanical structures for electronic equipment - Tests for IEC 60917 and IEC 60297 - Part 3: Electromagnetic shielding performance tests for cabinets, racks and subracks
Power systems management and associated information exchange	TC57	IEC 60870-2-1	Telecontrol equipment and systems - Part 2: Operating conditions - Section 1: Power supply and electromagnetic compatibility
		IEC 61334-3-1	Distribution automation using distribution line carrier systems - Part 3-1: Mains signalling requirements - Frequency bands and output levels
		IEC 61850-3	Communication networks and systems in substations - Part 3: General requirements



Product	Technical / Special Comitee	Standard	Remarks
Safety of household and similar electrical appliances	TC61	IEC 60335-1	Household and similar electrical appliances - Safety - Part 1: General requirements
Common aspects of electrical equipment used in medical practice	SC62A	IEC 60601-1-2	Medical electrical equipment - Part 1-2: General requirements for basic safety and essential performance - Collateral standard: Electromagnetic compatibility - Requirements and tests
Diagnostic imaging equipment	SC62B	IEC 60601-2-37	Medical electrical equipment - Part 2-37: Particular requirements for the basic safety and essential performance of ultrasonic medical diagnostic and monitoring equipment
Electromedical equipment	SC62D	IEC 60601-2-4	Medical electrical equipment - Part 2-4: Particular requirements for the safety of cardiac defibrillators
Electrical installations and protection against electric shock	TC64	IEC 60364-5-51	Electrical installations of buildings - Part 5-51: Selection and erection of electrical equipment - Common rules
		IEC 60364-4-44	Low-voltage electrical installations - Part 4-44: Protection for safety - Protection against voltage disturbances and electromagnetic disturbances
		IEC 62066	Surge overvoltages and surge protection in low-voltage a.c. power systems - General basic information
Industrial-process measurement, control and automation - System aspects	SC65A	IEC 61326-1	Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 1: General requirements
		IEC 61326-2-1	Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 2-1: Particular requirements - Test configurations, operational conditions and performance criteria for sensitive test and measurement equipment for EMC unprotected applications
		IEC 61326-2-2	Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 2-2: Particular requirements - Test configurations, operational conditions and performance criteria for portable test, measuring and monitoring equipment used in low-voltage distribution systems

Product	Technical / Special Comitee	Standard	Remarks
Industrial-process measurement, control and automation - System aspects	SC65A	IEC 61326-2-3	Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 2-3: Particular requirements - Test configuration, operational conditions and performance criteria for transducers with integrated or remote signal conditioning
		IEC 61326-2-4	Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 2-4: Particular requirements - Test configurations, operational conditions and performance criteria for insulation monitoring devices according to IEC 61557-8 and for equipment for insulation fault location according to IEC 61557-9
		IEC 61326-2-5	Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 2-5: Particular requirements - Test configurations, operational conditions and performance criteria for field devices with interfaces according to IEC 61784-1, CP 3/2
		IEC 61326-2-6	Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 2-6: Particular requirements - In vitro diagnostic (IVD) medical equipment
		IEC 61326-3-1	Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 3-1: Immunity requirements for safety-related systems and for equipment intended to perform safety-related functions (functional safety) - General industrial applications
		IEC 61326-3-2	Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 3-2: Immunity requirements for safety-related systems and for equipment intended to perform safety-related functions (functional safety) - Industrial applications with specified electromagnetic environment

Product	Technical / Special Comitee	Standard	Remarks
Industrial-process measurement, control and automation - Measurement and control devices	SC65B	IEC 61298-3	Process measurement and control devices - General methods and procedures for evaluating performance - Part 3: Tests for the effects of influence quantities
		IEC 60770-1	Transmitters for use in industrial-process control systems - Part 1: Methods for performance evaluation
Electric road vehicles and electric industrial trucks	TC69	IEC 61851-21	Electric vehicle conductive charging system - Part 21: Electric vehicle requirements for conductive connection to an a.c./d.c. supply
		IEC 61851-22	Electric vehicle conductive charging system - Part 22: AC electric vehicle charging station
Automatic controls for household use	TC72	IEC 60730-1	Automatic electrical controls for household and similar use - Part 1: General requirements
Electromagnetic compatibility - Low frequency phenomena	SC77A	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 $\leq 16$ A per phase and not subject to conditional connection
		IEC 61000-3-11	Electromagnetic compatibility (EMC) - Part 3-11: Limits - Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems - Equipment with rated current $\leq 75$ A and subjet to conditional connection
Alarm and electronic security systems	TC79	IEC 62599-2	Alarm systems - Part 2: Electromagnetic compatibility - Immunity requirements for components of fire and security alarm systems

Product	Technical / Special Comitee	Standard	Remarks
Maritime navigation and radiocommunication equipment and systems	TC80	IEC 60945	Maritime navigation and radiocommunication equipment and systems - General requirements - Methods of testing and required test results
All-or-nothing electrical relays	TC94	IEC 61812-1	Specified time relays for industrial use - Part 1: Requirements and tests
Measuring relays and protection equipment	TC95	IEC 60255-11	Measuring relays and protection equipment - Part 11: Voltage dips, short interruptions, variations and ripple on auxiliary power supply port
		IEC 60255-22-1	Measuring relays and protection equipment - Part 22-1: Electrical disturbance tests - 1 MHz burst immunity tests
		IEC 60255-22-2	Measuring relays and protection equipment - Part 22-2: Electrical disturbance tests - Electrostatic discharge tests
		IEC 60255-22-3	Measuring relays and protection equipment - Part 22-3: Electrical disturbance tests - Radiated electromagnetic field immunity
		IEC 60255-22-4	Measuring relays and protection equipment - Part 22-4: Electrical disturbance tests - Electrical fast transient/burst immunity test
		IEC 60255-22-5	Measuring relays and protection equipment - Part 22-5: Electrical disturbance tests - Surge immunity test
		IEC 60255-22-6	Electrical relays - Part 22-6: Electrical disturbance tests for measuring relays and protection equipment - Immunity to conducted disturbances induced by radio frequency fields
		IEC 60255-22-7	Electrical relays - Part 22-7: Electrical disturbance tests for measuring relays and protection equipment - Power frequency immunity tests
		IEC 60255-25	Electrical relays - Part 25: Electromagnetic emission tests for measuring relays and protection equipment
		IEC 60255-26	Measuring relays and protection equipment - Part 26: Electromagnetic compatibility requirements

Product	Technical / Special Comitee	Standard	Remarks
Transformers, reactors, power supply units, and combinations thereof	TC96	IEC 61851-21	Safety of transformers, reactors, power supply units and combinations thereof - EMC requirements
Cable networks for television signals, sound signals and interactive services	TC100 TA5	IEC 60728-2	Cable networks for television signals, sound signals and interactive services - Part 2: Electromagnetic compatibility for equipment
		IEC 60728-12	Cabled distribution systems for television and sound signals - Part 12: Electromagnetic compatibility of systems
Interference relating to industrial, scientific and medical radio-frequency apparatus	CISPR/B	CISPR 11	Industrial, scientific and medical equipment - Radio-frequency disturbance characteristics - Limits and methods of measurement
Electromagnetic disturbances related to motor engines	CISPR/D	CISPR 12	Vehicles, boats and internal combustion engines - Radio disturbance characteristics - Limits and methods of measurement for the protection of off-board receivers
		CISPR 25	Vehicles, boats and internal combustion engines - Radio disturbance characteristics - Limits and methods of measurement for the protection of on-board receivers
Interference relating to household appliances tools, lighting equipment and similar apparatus	CISPR/F	CISPR 14-1	Electromagnetic compatibility - Requirements for household appliances, electric tools and similar apparatus - Part 1: Emission
		CISPR 14-2	Electromagnetic compatibility - Requirements for household appliances, electric tools and similar apparatus - Part 2: Immunity - Product family standard
		CISPR 15	Limits and methods of measurement of radio disturbance characteristics of electrical lighting and similar equipment
Electromagnetic compatibility of information technology equipment, multimedia equipment and receivers	CISPR/I	CISPR 13	Sound and television broadcast receivers and associated equipment - Radio disturbance characteristics - Limits and methods of measurement
		CISPR 20	Sound and television broadcast receivers and associated equipment - Immunity characteristics - Limits and methods of measurement
		CISPR 22	Information technology equipment - Radio disturbance characteristics - Limits and methods of measurement
		CISPR 24	Information technology equipment - Immunity characteristics - Limits and methods of measurement

For other products not listed above and where a specific product standard does not exist, use the Generic EMC Emission Standards IEC 61000-6-3 or IEC 61000-6-4.

Further information on [www.tekbox.net](http://www.tekbox.net)