

About EMC

What is EMC?

Electromagnetic compatibility (EMC) is the ability of a device or equipment not to be disturbed by electromagnetic effects and by itself and to act acceptably on its environment. The source of the interference can influence its environment via four different coupling paths, line coupling (galvanic), electrical (capacitive), magnetic (inductive) and radiated (electromagnetic) coupling.

Why EMC testing?

The essential requirements for EMC are defined in the European Directive 2014/30/EU on electromagnetic compatibility. EMC tests according to specifications of harmonized standards are used to assess compliance with the essential requirements of this directive. Passed tests can be used for the EU declaration of conformity by the manufacturer and support them in their successful product positioning in the market.

Additional EMC services!

Our team of well experienced EMC specialists will perform the tests you need. The combination of specialists and state-of-the-art test equipment can be used for conformity assessments and for preliminary development tests. Our services cover the support for the test plan preparation and execution of the test in our test laboratory, which is accredited by the Deutsche Akkreditierungsstelle GmbH (DAkkS). Finally we generate the test report according to DIN EN ISO/IEC 17025.



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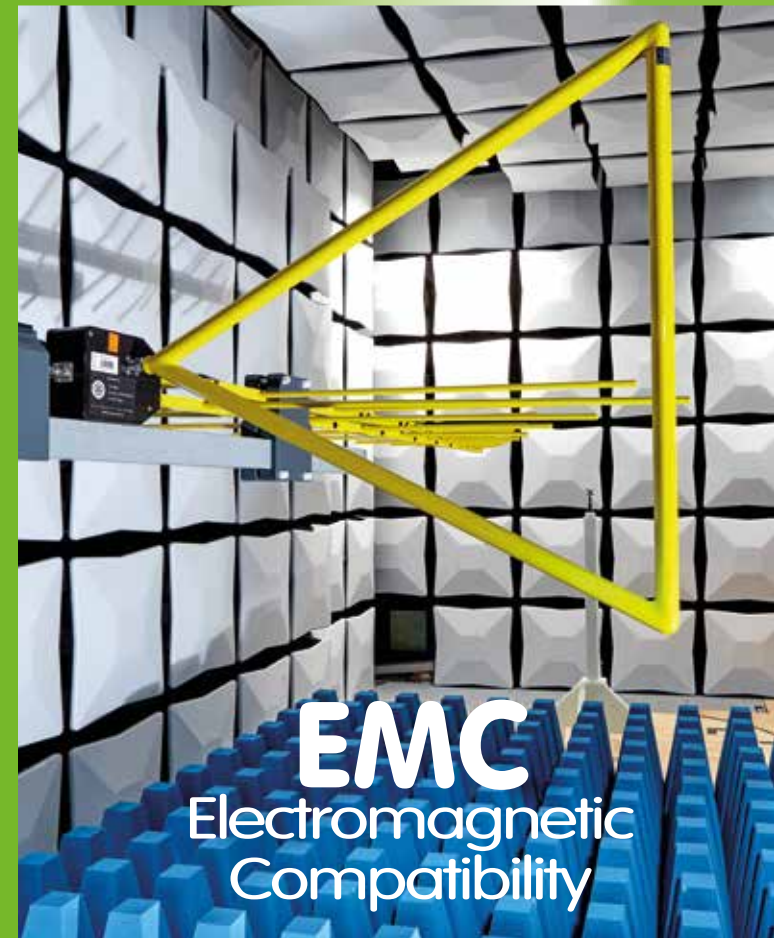
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More than testing



EMC
Electromagnetic
Compatibility

EMC Tests

The EMC test laboratory of I²PS GmbH has a full anechoic chamber (FAR) with a 3 m measuring distance, which is compliant to CISPR 16-1 and CISPR 16-2. This FAR fulfills all requirements to perform immunity tests in the frequency range from 80 MHz to 6 GHz, as well as measurements of radiated emissions in the range from 30 MHz to 6 GHz.



You as our customer will gain from our modern test equipment. With the help of our FAR chamber the time-consuming height scan that is required by standards for partial absorber rooms is obsolete. In addition, our fast FFT-based emission measurement ensures that a peak value measurement over a complete frequency band is already completed after a very short time.

Of course, many other EMC tests for industrial, commercial, business, and residential equipment can also be performed by our test specialists with their extensive knowledge in electrical engineering.

Immunity Tests

Testing by:

- discharge of static electricity (ESD) up to ± 30 kV
- high-frequency electromagnetic fields from 80 MHz to 6 GHz
- fast transient electrical disturbances (burst) up to ± 4 kV at 5 kHz and 100 kHz
- surge voltages (SURGE) from ± 6.6 kV at 1.2/50 μ s and up to 3.3 kA at 8/20 μ s
- conducted disturbances induced by high-frequency fields from 150 kHz to 80 MHz
- magnetic fields with energy-related frequencies
- voltage fluctuations, short-term interruptions and voltage dips

Standards:

- EN / IEC 61000-4-2
- EN / IEC 61000-4-3
- EN / IEC 61000-4-4
- EN / IEC 61000-4-5
- EN / IEC 61000-4-6
- EN / IEC 61000-4-8
- EN / IEC 61000-4-11
- EN / IEC 61000-4-13
- EN / IEC 61000-4-14
- EN / IEC 61000-4-17
- EN / IEC 61000-4-27
- EN / IEC 61000-4-28
- EN / IEC 61000-4-29
- EN / IEC 61000-6-1
- EN / IEC 61000-6-2

In many cases, standards refer to the basic EMC standards or contain further requirements.

Emission Tests

Testing of:

- conducted interference emissions in the frequency range from 10 kHz to 30 MHz
- radiated interference emissions in the frequency range from 30 MHz to 6 GHz
- harmonic current emissions, equipment input current ≤ 16 A per phase
- voltage changes, voltage fluctuations and flicker for equipment with rated current ≤ 16 A per phase

Standards:

- EN 55011 / CISPR 11
- EN 55022 / CISPR 22
- EN 55032 / CISPR 32
- EN / IEC 61000-3-2
- EN / IEC 61000-3-3
- EN / IEC 61000-6-3
- EN / IEC 61000-6-4

