Reduce your certification costs and "time-to-market".

Prevas has many years of experience in designing products to comply with the international electromagnetic compatibility (EMC) requirements, and we are updated on the harmonized standards and the conformity assessment procedure of the EMC directive.

We have instruments and equipment to analyze and verify EMC properties of products in the prototype phase. Thus we can optimize EMC performance in an early design phase and hence reduce time-to-market and manufacturing costs. Our EMC experts can give advice on how to solve problems, participate in review processes and help with re-design and testing.

PREVAS OFFERING

- Advise on electronic design, PCB design and mechanical design early in a project
- Review of electronic design, PCB design and mechanical design
- Design and development of electronic boards
- High speed signal integrity simulation
- Pre-compliance testing in our own EMC-lab
- Certification procedures

Some of the tests we can do in our lab:

EMISSION

- Conducted emission
  AC and DC power cables (disturbance voltage). Signal cables (disturbance current). Ethernet cables (disturbance voltage and disturbance current).
  Standard examples: EN 55011, EN 55014, (EN 55022), EN 55032, EN 55025 (automotive).
- Radiated field strength
  Antenna measurements in our semi-anechoic chamber (Kummelkammaren). Up to 3 m measurement distance. Standard examples: EN 55011, EN 55014, (EN 55022), EN 55032. Also measurements according to EN 55025, automotive, with 1m measurement distance.

- Radiated power
  Via cables radiated power. Fast method for pre-compliance. Works well for well-screened or small equipment. Often gives a good idea of performance even for bigger, not so well-screened equipment.
  Standard examples: EN 55014.

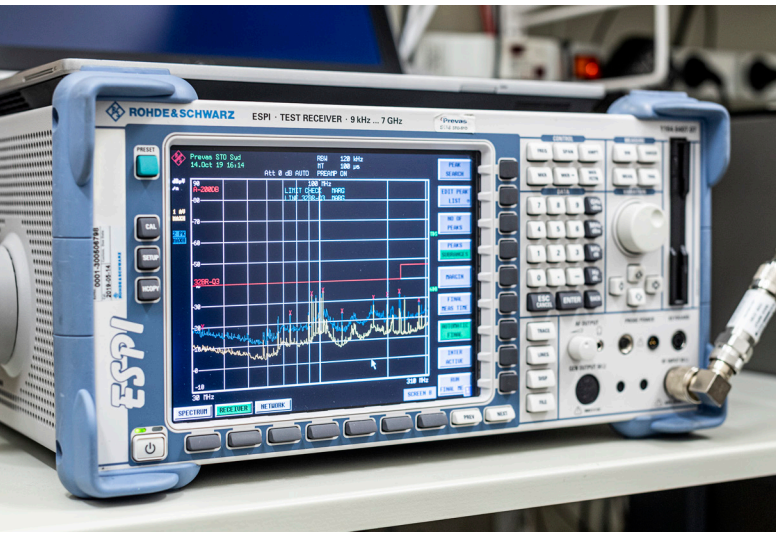
- Close-field probing
  Disturbance source location on PCBs and cables.
  Cabinet leakage localisation.

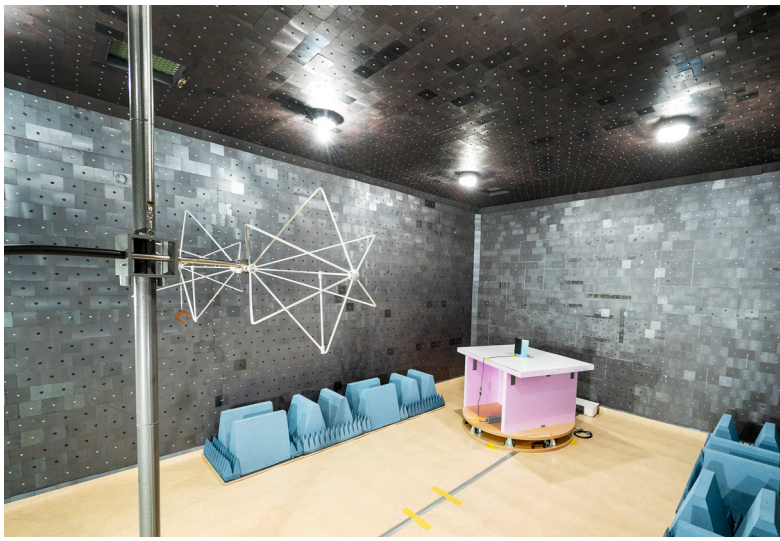
IMMUNITY

- ESD
  Electrostatic discharge testing according to standard.Standard example EN 61000-4-2, EN 55035, EN 55025 etc.

- Electromagnetic field immunity
  Radiated immunity 80 1000 MHz, up to approximately 20V/m. At higher frequency, sometimes location of sensitive areas of PCBs or sensitive cables can be made by injecting fields using close-field probes, current probes etc. Standard example EN 61000-4-3, EN 55035, EN 55025 etc.

- Immunity to conducted radio-frequency currents induced by radio-frequency fields
  In some cases we can make relevant testing of immunity to injected rf currents. Standard example EN 61000-4-6, EN 55035, etc.





Our pre-compliance EMC equipment

SHIELDED SEMI-ANECHOIC EMC CHAMBER:

"Kummelkammaren" is a shielded semi-anechoic EMC chamber for three meter measurements. The chamber is built to fit objects up to approx. one m³. The absorbent material is ferrite tiles which provide good test conditions.

SPECTRUM ANALYSER / EMI TEST RECEIVER:

Rohde & Schwarz ESPI7
Frequency range 9 kHz - 7 GHz.

SPECTRUM ANALYSER:

Hewlett Packard 8590A med EMI-option H51
Frequency range 10 kHz - 1500 MHz.

LINE IMPEDANCE STABILISATION NETWORK (LISN) / ARTIFICIAL MAINS NETWORK (AMN):

For conducted emission measurements.
50µH+5ohm//50ohm, according to CISPR 16. 9 kHz - 30 MHz 3-phase.
50µH+5ohm//50ohm, according to CISPR 16. 9 kHz - 30 MHz 1-phase. Schwarzbeck NNLA 8119.
5µH//50ohm, according to EN 55025. 150 kHz – >150 MHz. TEKBOX TBOH01.

Prevas

ABSORBING CLAMP:
Lüthi MDS 21
30 MHz - 1000 MHz. For radiated power measurements.

ANTENNAS:
EMCO
EMCO 3301B Active Rod and Field Antenna. 30Hz – 50 MHz. For emission measurements (EN 55025).
EMCO 3142B BiConiLog antenna. 26MHz – 2000 MHz. For radiated immunity testing with power up to 300-1000 W.

Schwarzbeck
AM9104 Antenna Mast System.
VHA9103 VHF-Dipole 30-300 MHz.
BBA9106 Double Cone Broadband VHF Dipole. 30-300 MHz. (Usable 25-310 MHz).
UHALP9107 Log periodic UHF antenna 300-1000 MHz.
STLP 9149 Stacked log periodic antenna 600 MHz-10,5 GHz.

TURNTABLE WITH CONTROLLER:
Controller: Innco CO 3000-1D
Turntable: Innco DS 1200-HA
Max load 300 kg.

POWER AMPLIFIER:
Vectawave VBA1000-65
80 MHz – 1000 MHz. >65W.

CURRENT PROBES:
Rohde & Schwarz EZ-17
20 Hz – 100(200) MHz.
Rohde & Schwarz ESV-Z1
9 kHz – 600 MHz.
Lüthi RDL 10
20 – 1000 MHz.

CLOSE FIELD PROBES:
Hewlett Packard (Agilent) Close-field probe set 11945A
Consists of: Close field probe 11941A 9 kHz - 30 MHz.
Close field probe 11940A 30 MHz - 1000 MHz.
Preamplifier 8447F Option H64.

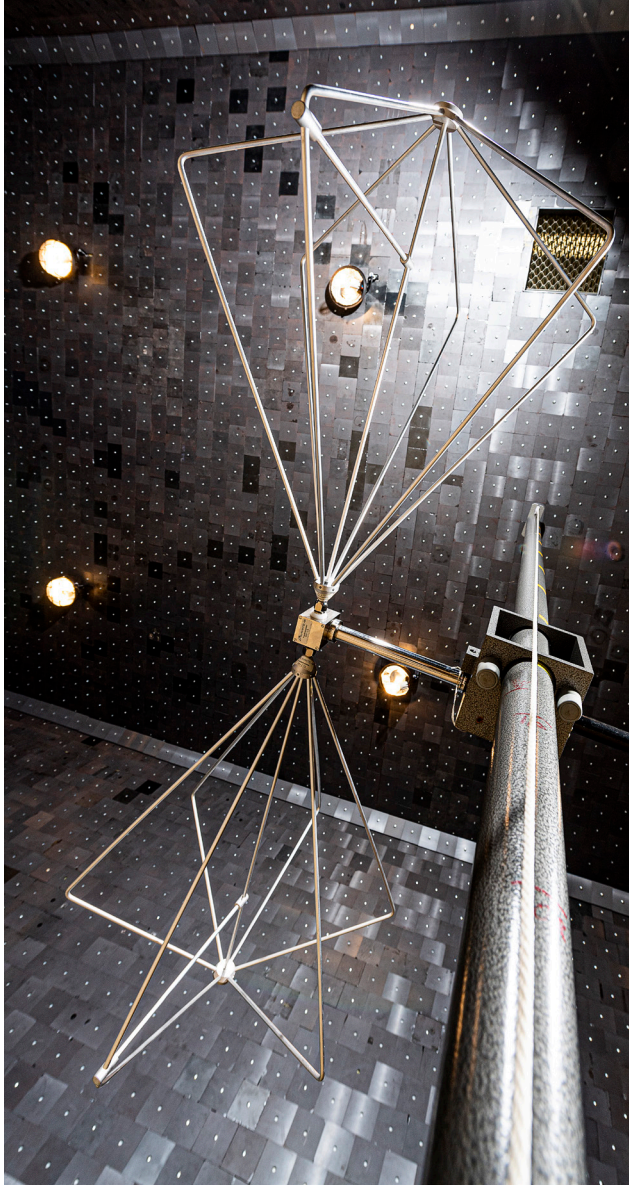
EMCO Model 7405 Near-field probe set
Consists of: 3 pcs (6/3/1 cm) Magnetic-Field Loop Probes.
2 pcs (3,6 cm/6 mm) Electric-Field Probes.

Langer EMV-technik
Near-Field Probes RF-B 0,3-3 and LF-B 3.

ESD-GUN:
KeyTek MiniZap MZ-15
15 kV air discharge and 10 kV contact discharge voltage.

SIGNAL GENERATORS:
IFR (Aeroflex) 2025
Frequency range 9 kHz – 2,51 GHz.
Rohde & Schwarz SMR 20
Frequency range 10 MHz – 20 GHz.

ELECTROSTATIC SURFACE POTENTIAL MEASUREMENTS (“FIELD MILL”):
JCI Static Monitor JCI 140



Contact

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About Prevas

Prevas is a development hub with ingenuity at its core. With a high technical competence and a deep business understanding, we help customers from a wide variety of industries benefit through continuous technological innovation. Good for people, planet, and profit. Prevas was established in 1985 and currently employs 600 people in Sweden, Denmark and Norway. Prevas is listed on NASDAQ Stockholm since 1998. For more information about Prevas, visit www.prevas.com.