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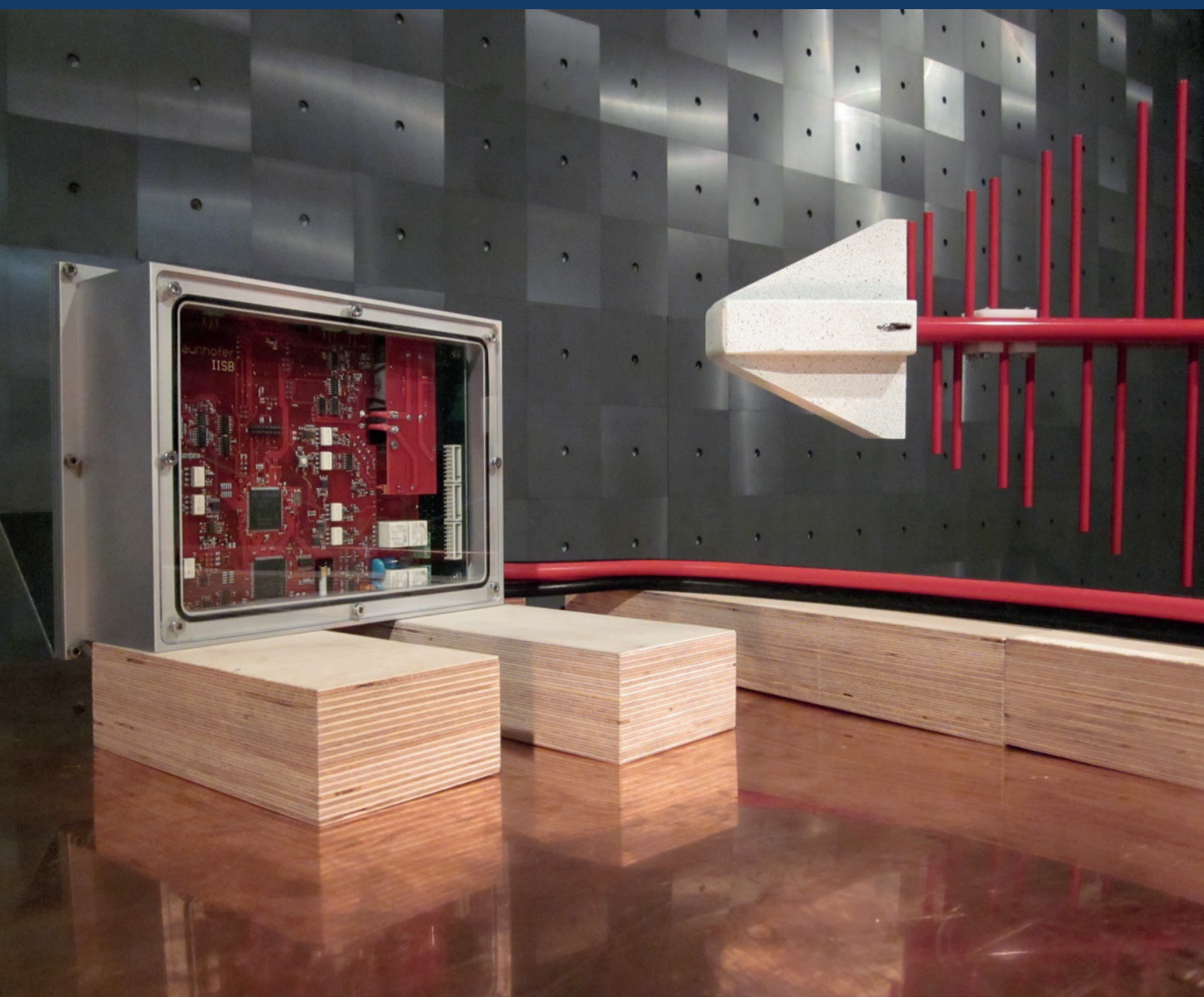
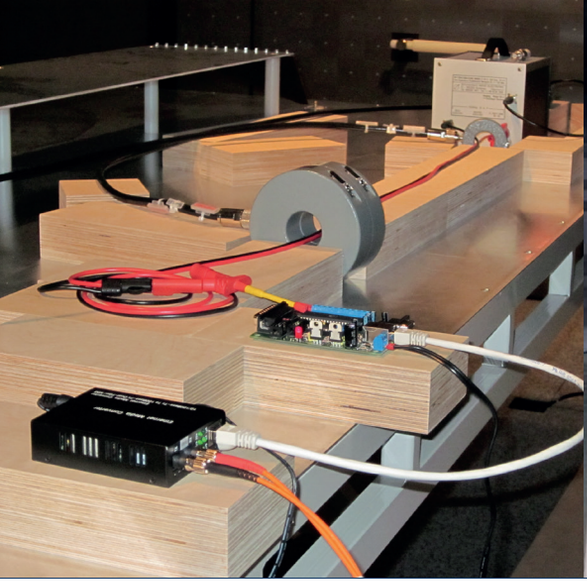
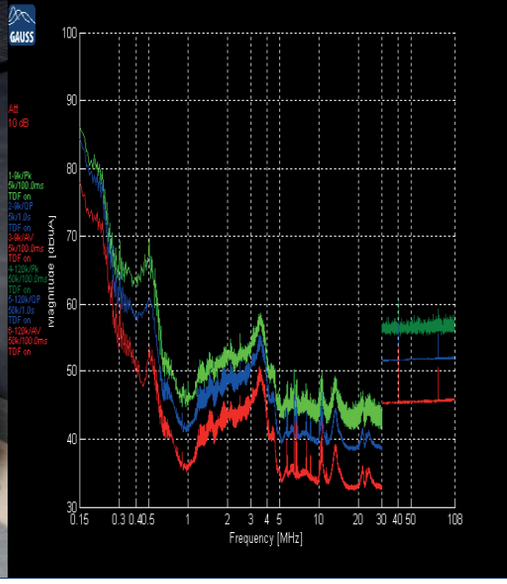
FRAUNHOFER INSTITUTE FOR INTEGRATED SYSTEMS AND DEVICE TECHNOLOGY

Electromagnetic Compatibility (EMC)







Electromagnetic Compatibility (EMC)

The EMC lab at the Fraunhofer IISB offers precompliance measurements during the development process of our prototype systems and the components of our industrial partners. We offer a broad range of services from consulting in case of EMC problems to different measurements according to harmonized standards to very detailed circuit and layout optimizations.

EMC immunity and emissions testing

The immunity and emission to electromagnetic interferences can be tested in our Fully Anechoic Room (FAR) in according to residential, industrial and automotive standards. These tests include all relevant pre compliance measurements in context of a homologation testing in accordance to the automotive standards of UN-ECE R10 Rev. 4 (e/E) Regulation or the EMC directive 204/108/EEC (CE).

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EMC test site environment

Fully Anechoic Room (FAR)
6.0 m x 3.5 m x 2.0 m (car-trafficable)

The equipment under test (EUT) can be supplied with coolant and electrical energy via high power feed-through filters
(690 VAC / 250 A and 1000 VDC / 500 A)

Full compliant time domain EMI test receiver up to 7 GHz (CISPR 16-1-1)

Car radio dummy for automotive emission measurements in acc. to CISPR 25

Load Dump generator in accordance to ISO 7637, ISO 16750-2 and most car manufacturer requirements

Artificial networks as per ISO 7637 or CISPR 25 / ISO up to 200 A

Electrical Fast Transient Generator (Burst)

Surge Generator 1.2/50 µs resp. 8/20 µs

V-Line LISN in acc. to CISPR16 up to 63A

Simulator and calibration target for ESD in acc. to IEC 61000-4-2

Uniform radiated electromagnetic field (RF) as per IEC/ISO specification up to 1 GHz and with variety of modulations (CW, AM, FM, Pulsed)

150W RF amplifier from 9 kHz to 1 GHz
Field strengths designed for >100 V/m in acc. to ISO 11452-5 (Stripline)

Exposure Level Test

B-field measuring for evaluating safety in magnetic fields in the frequency range from 1 Hz to 400 kHz

EMC tests for automotive, residential and industry applications

Basic Standards

- Electrostatic discharge immunity test
- Radiated, radio-frequency, electromagnetic field immunity test
- Electrical fast transient/burst immunity test
- Surge immunity test
- Immunity to conducted disturbances, induced by radio-frequency fields

Generic Standards

- Immunity for residential, commercial, light-industrial and industrial environments
- Emission standard for residential, commercial, light-industrial and industrial environments

Product Standards

- Adjustable speed electrical power drive systems
- Industrial, scientific and medical equipment
- Radio-frequency disturbance characteristics
- Requirements for household appliances, electric tools and similar apparatus
- Vehicles, boats and internal combustion engines - Radio disturbance characteristics