



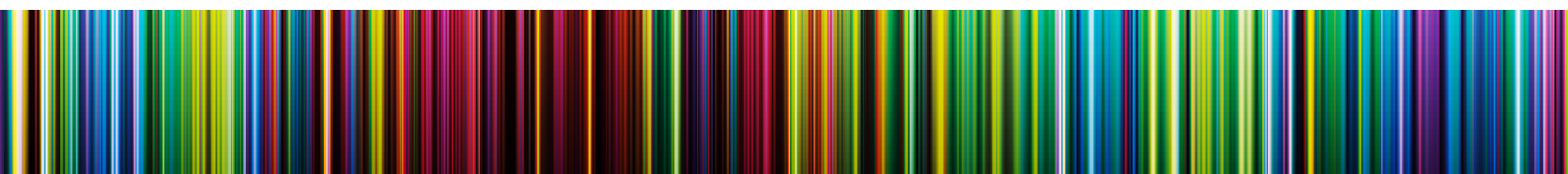
Pioneers for Progress

Lightning Electromagnetic Effects on Aircraft

Public Seminar in English Language
2024-06-13 to 2024-06-14



TEST & CALIBRATION LABORATORY
DIN EN ISO/IEC 17025 ACCREDITED



SEMINAR PROGRAM

Lightning Electromagnetic Effects on Aircraft – Two Days Seminar

Seminar venue

The seminar takes place in the EMCC Seminar Center in Unterleinleiter. It is located at the EMCC Test Labs site, which among others provide aircraft EMC services. The broad area of activities can be viewed on www.emcc.de.

The EMCC aircraft group with the associated labs are an ideal environment for the seminar. The vast experience in aircraft measurements, system and equipment testing is combined with the latest high end test infrastructure. EMCC also design and manufacture HIRF generators, NEMP generators and direct as well as indirect lightning generators. These meet and exceed maximum levels of current standards and specifications.

The combination of experience and infrastructure enables an experimental portion which includes demonstrations and seeing test setups. Visits and experiments are conducted in small groups. Various kind of sites are part of the course, among them are anechoic chamber, open area test site (OATS), GTEM cell, TEM cell, reverberation chamber as well as lightning test setups. Examples are provided. Discussion and questions will be part of the seminar. Seminar notes in English language are included in the fee as well as lunch and coffee breaks.

Contents

- ▶ Physical Phenomena
- ▶ Certification Regulation and Standards
- ▶ Associated Test Methods and Procedures
- ▶ Aircraft, System and Avionics Design to reach Compliance
- ▶ Visiting the EMCC Test Laboratories

Who should attend?

- ▶ EMC Engineers
- ▶ EMC Project Managers
- ▶ Certification Staff
- ▶ EMC Test Staff
- ▶ System Designers and Integrators
- ▶ Equipment Designers

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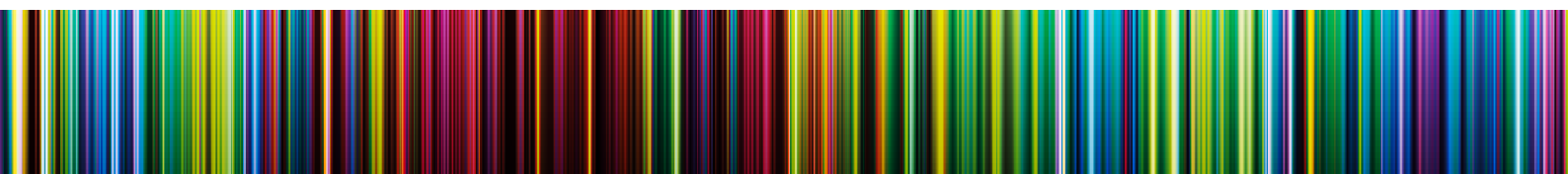
Day 1: Lightning Protection of Aircraft and Avionics

- ▶ Basics of Electromagnetic Compatibility
- ▶ Thundercloud Electrification and Lightning
- ▶ Lightning Interaction with Aircraft
- ▶ Direct Effects of Lightning
- ▶ Indirect Effects of Lightning
- ▶ Standardised Lightning Environment, Airworthiness Regulations
- ▶ Basic Steps in Lightning Protection, Design and Certification
- ▶ EMCC Labs Visit – Unterleinleiter Site
- ▶ Basic Steps in Aircraft Lightning Protection Certification
- ▶ Direct Effects of Lightning
- ▶ Fuel Systems
- ▶ Indirect Effects of Lightning
- ▶ Equipment Transient Design Levels and Transient Control Levels
- ▶ Real World Situations
- ▶ Basic Steps in Lightning Protection Design
- ▶ Shielding, Filtering, Grounding

Day 2: Approach to Compliance and Test

- ▶ Test Methods for Indirect Effects of Lightning
- ▶ Test Methods for Direct Effects on Structures
- ▶ Test Methods for Fuel Systems
- ▶ Test Plan/Test Procedures
- ▶ Real World Issues
- ▶ Discussion, Questions and Answers
- ▶ Transfer to the EMCC Labs, Moggast Site, Lab Visit
- ▶ Practical Demonstrations
- ▶ Test Methods for Verification of Protection, Lightning Indirect Effects
- ▶ Test Methods for Verification of Protection, Lightning Direct Effects

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EMCC SEMINARS – TERMS AND CONDITIONS OF PARTICIPATION

Registration: By Mail / E-Mail / Fax / Phone

EMCCons DR. RAŠEK GmbH & Co. KG

Stoernhofer Berg 15 | 91364 Unterleinleiter | Germany

T: +49 9194 7263-0 | F: +49 9194 7262-199

E: emc.sem@emcc.de | www.emcc.de

Fees

The seminar fee must be paid after receipt of the invoice and the confirmation of booking. All invoices must be paid in advance, 14 days prior to the seminar start at the latest. The costs for all documentation and seminar papers are included in the seminar fee. The seminar fee is subject to VAT if applicable.

Cancellations

No charges will be considered for cancellations received not later than 14 days prior to the event. Cancellations within 13 to 3 working days before the start of the seminar will be liable for 50 % of the seminar fee. After this date cancellations are liable for the full seminar fee. The same applies to non-appearance or interruption. However, we are happy to accept substitute delegates at any time.

Change of Terms

In case of cancellation caused by EMCC DR. RAŠEK (e.g. for sick leave or insufficient number of participants), the entire fee will be refunded. A change of speakers does not legitimate a reduction of the seminar fee or withdrawal of the booking.

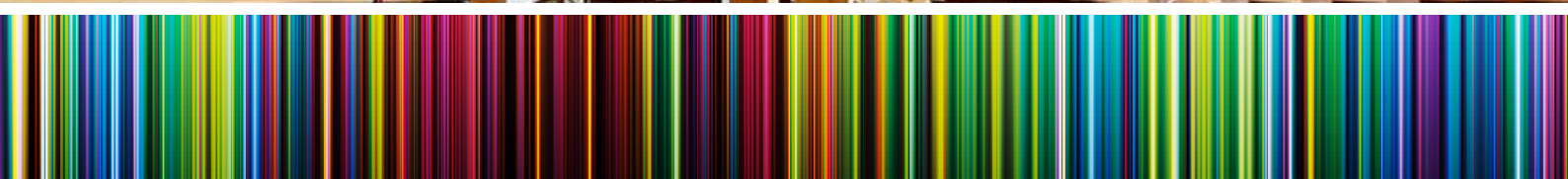
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The terms and conditions set out above are accepted with the seminar booking.

Place of jurisdiction is Bamberg, Germany.

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To
EMCC DR. RAŠEK GmbH & Co. KG
Seminar Center
Stoernhofer Berg 15
91364 Unterleinleiter
Germany

Proj. # _____
Purchase order # _____
Reference # _____
Date _____

Registration Form

for the Two Days Seminar # 11.02.02E from 2024-06-13 to 2024-06-14
Topic: LEMP –Lightning Electromagnetic Effects on Aircraft in English Language
Seminar venue: EMCC DR. RAŠEK Seminar Center, in 91364 Unterleinleiter, Stoernhofer Berg 15, Door #1,
Germany, T: +49 9194 7263 0, F: +49 9194 7262 199, E: emc.sem@emcc.de.

Company: _____
Contact: _____
Address: _____
Postcode/Town/City _____
Telephone: _____ Telefax: _____ Mail: _____

Name of participants (for more participants please use separate sheet):	Position:
1. _____	_____
2. _____	_____
3. _____	_____
4. _____	_____

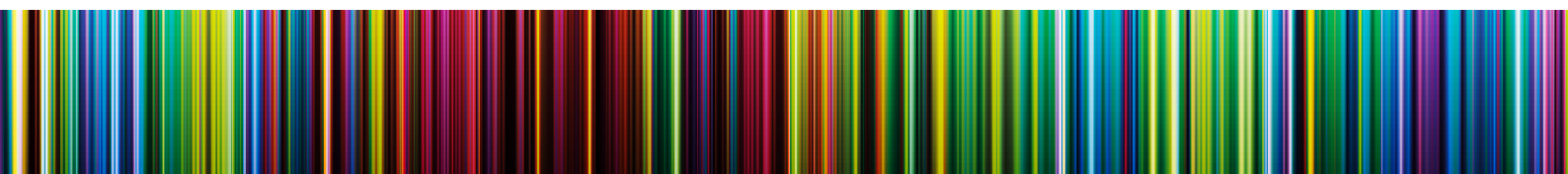
Seminar fees: EUR 1,450.00 per participant, VAT additionally if applicable.

The EMCC general conditions will be accepted with the booking. Seminar fees are due on receipt of invoice, 14 days before seminar start, latest.

(Place, date)

(Authorized signature)

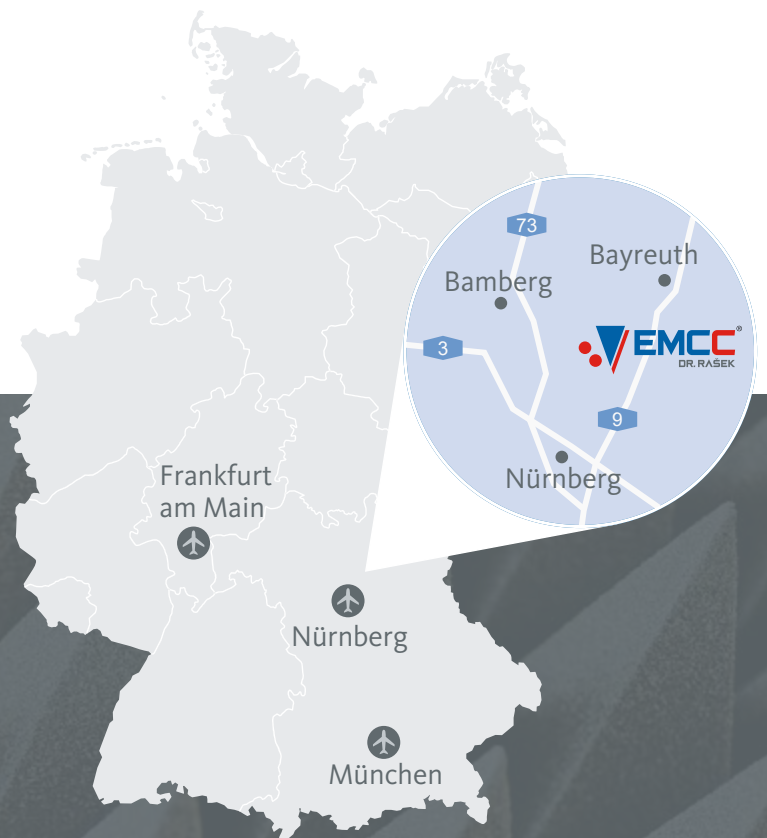
Invoicing address and VAT number:



SOLUTIONS FROM A SINGLE SOURCE

We are an independent, DIN EN ISO/IEC 17025 accredited test & calibration laboratory which provides end-to-end services since 1977. Our product and service portfolio ranges from testing to consulting in the fields of EMC, calibration, environmental simulation, direct and indirect lightning, electrical safety up to seminars and R&D. We test according to national and international EMC standards and according to special customers' requirements, as well as many environmental and safety standards.

- ▶ **EMC**
- ▶ **Calibration**
- ▶ **Environmental Simulation**
 - ▶ Climatic Testing / Vibration & Shock Testing / Corrosion Testing (Salt Spray) / Pressure Testing / Fluid Susceptibility Testing / IP Testing / Icing Testing / Constant Acceleration on Centrifuge / Crash Safety Pulse and Sustained
- ▶ **Direct & Indirect Lightning**
- ▶ **EMP, HEMP, HERF, HIRF, HPM, LEMP, NEMP**
- ▶ **Electrical Safety**
- ▶ **Electromagnetic Field Simulation**
- ▶ **Consulting / Testing**
- ▶ **Impulse Test Generator Systems**
- ▶ **Seminars & Training**
- ▶ **In Our Labs, On-site Worldwide**



CONTACT US

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