EMC Training Programme

Aiming to reduce project risks, development time, and overall costs, this EMC Training programme provides a practical and accessible approach to achieving electromagnetic compatibility (EMC) compliance quickly and cost-effectively. It will cover sequentially all the main development phases of a product over two days, using plain English, visual aids, and simple mathematics.

The course will take place on Thursday 30th April and Friday 1st May during the second and third day of the EMC & CI event in Oxford, and will also offer to the trainees the possibility to benefit of its entire technical and scientific EMC environment together with the conference delegates and the technical exhibition. The registration to this training course will include refreshments and lunches provided by the EMC & CI event.

The training is delivered by a team of experienced professionals, including James Pawson, Chris Nicholas, Ignacio de Mendizabal, Keith Armstrong, Marco Klingler, Min Zhang, and others to be announced.

Participants who attend the full course will receive an *EMC Academy* certificate of attendance, which will be useful for documenting their CPD (Continuing Professional Development). This will be presented to them at the end of the course. The certificate will show the name, the course title and the dates of the course they attended.

The first day focuses on core EMC principles and design practices. It begins with an overview of EMC compliance requirements worldwide and the practical steps they need throughout a project.

This is followed by a session on electromagnetic physics, providing essential understanding of wave behaviour, near- and far-field effects, materials, accidental antennas, grounding, and interference mechanisms. Visualisation techniques are emphasized, with only a few simple maths formulas.

Afternoon sessions cover the EMC design of products, systems and installations, including EM zoning, PCB layout, cabling, analogue, digital, data- and power-conversion circuits, plus mitigation techniques such as filtering, shielding, and isolation. EMC issues with purchasing components and equipment, legacy equipment, and incompatible combinations, are also explored.

The second day emphasizes tools and methods that help teams ensure EMC success early in the project lifecycle. It starts with simulation techniques using SPICE and field-solver. Next is hands-on experimentation and prototyping without requiring a shielded chamber; using mock-ups, near-field probing, and RF current monitoring.

(1) SI = Signal Integrity
(2) PI = Power Integrity Both SI and PI are needed for good functional performance and low warranty costs

The afternoon sessions guide participants through pre-compliance and full compliance testing, followed by quick low-cost troubleshooting techniques for identifying and resolving remaining EMC issues.

EMC Training Programme

Thursday 30th April

Hawking Suite

09:00 Start of Day 1

09:00 - 10:30 **EMC Compliance**

What it means; Worldwide requirements; Practical issues from start to finish
Ignacio de Mendizabal – Spectral Electronics, Spain (training in collaboration with Denpaflux)

10:30 - 11:00 Coffee Break

11:00 - 12:30 **EM Physics (visualising and analysing electromagnetic propagation)**

(underpins the quick cost-effective techniques for SI(1), PI(2) and EMC, below)

Covers: near & far fields, waves, μ, ε, currents & skin effects, waveforms spectrums & antennas; differential & common modes, 'earthing & grounding', demodulation & intermodulation
Keith Armstrong – Cherry Clough Consultants Ltd, United Kingdom

12:30 - 13:30 Lunch Break

13:30 - 15:00 **SI, PI, EMC Design of Products (e.g., modules, items of equipment, etc.)**

EMC issue- for components; Zoning (segregation); PCBs; Wiring/cabling/PCBs; Analogue; Digital; Data and power conversion; Mitigation (filtering, shielding, isolating, etc.)
Chris Nicholas – Threysus, an Associate of Cherry Clough Consultants Ltd, United Kingdom

15:00 - 15:30 Coffee Break

15:30 - 17:00 **EMC Design of Systems (and Installations)**

EMC system planning; Purchasing issues for modules & equipment; CE+CE ≠ CE; Legacy issues; Zoning (segregation); Wiring/cabling; Mitigation (filtering, shielding, isolating, etc.)
Keith Armstrong – Cherry Clough Consultants Ltd, United Kingdom

17:00 End of Day 1

Friday 1st May

Hawking Suite

09:00 Start of Day 2

09:00 - 10:30 **EMC Numerical Simulation**

Practical use of SPICE, and Field Solvers (1D, 2D, 2.5D, 3D) to help de-risk mechanical, electronic, and system design as early as practical in the project timeline
Dr. Marco Klingler – Klingler International Consulting Services, France

10:30 - 11:00 Coffee Break

11:00 - 12:30 **EMC Experimentation and Prototyping (without a shielded chamber)**

Helps to de-risk mechanical, electronic, and system design early in the project timeline, using low-cost: mock-ups, breadboarding, prototyping, near-field probes, RF current monitoring

Tristen Boeckx – Würth, Belgium

12:30 - 13:30 Lunch Break

13:30 - 15:00 **EMC Testing: Pre-compliance; Full compliance**

Helps to de-risk final development and achieve cost-effective EMC compliance sooner

James Pawson – Unit 3 Compliance Ltd, United Kingdom

15:00 - 15:30 Coffee Break

15:30 - 17:00 **EMC Troubleshooting**

(should only rarely be needed if the above is done)

Finding and fixing causes of test failures by: design reviews, near-field probing, RF current monitoring, pin probing, etc., all without adding too much delay or cost

Dr. Min Zhang – Mach One Design, United Kingdom

17:00 End of Day 2

Training order form

We wish to register for the EMC training course held on 30th April to 1st May 2026.

Rates (VAT not included)	**Qty.**	**Early bird (before 01/03)**	**Regular (start 01/03)**
Training full registration (2 days, Thursday + Friday)		**£ 880**	**£ 1100**
Training 1-day registration (Thursday or Friday)		**£ 600**	**£ 770**
Company group rate (2 days, minimum of 5 employees)		**£ 700**	**£ 880**

Contact name: ……..

Company name: ……..

Address: ……..

Post code: …… City: ……...

Email address: ……..

Tel No: ……

Date: …… Signature: ……

Bank transfer details
Name of bank: Barclays Bank, Shrewsbury
Bank address: Shrewsbury 44/46 Castle St, Shrewsbury SY1 2BU
Account number: 53645495
Sort code: 20-45-45
IBAN: GB15BUKB20454553645495
SWIFT/BIC: BUKBGB22
Currency: Pounds Sterling
Account name: EMGINEERING LIMITED
Detail of transfer: Invoice number or participant name

Information required to create a supplier account
Company name: EMGINEERING LIMITED
Country: United Kingdom
Company registration number: 10505134
VAT Number: 468606556
Registered office address: 15 Riverside Studios, Newcastle Upon Tyne, England, NE4 7YL
Contact email address for Purchase Orders to be issued to: contact@emcandci.com
Contact email address for accounts: contact@emcandci.com