

# Electromagnetic Compliance Training Kit

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## EMC Course in a Box

Learn the ins and outs of EMC diagnostics with the EMC Training Kit model CTK031.

The kit contains a set of ScanEM®-C near-field probes (electric and magnetic), a step-by-step guide, an EMI Demo Fixture, a cable, and adapters in case you want to connect the probes to your spectrum analyzer, oscilloscope or multimeter; in short, everything you need to learn (or teach) about the complex world of EMC.

And after you are done learning, you can use ScanEM-C probes for actual work on your real-life EMC tasks—these are professional tools used by engineers worldwide.

Just two of the experiments included in CTK031:

Observe how a ferrite choke reduces emission



Verify the effectiveness of shielding



## From Theory to Practice

If every design engineer knew the practical approach to electromagnetic compliance, FCC and CE test failure rates would drop, time to market would shorten, production costs would go down and unpleasant surprises at compliance test time would be eliminated.

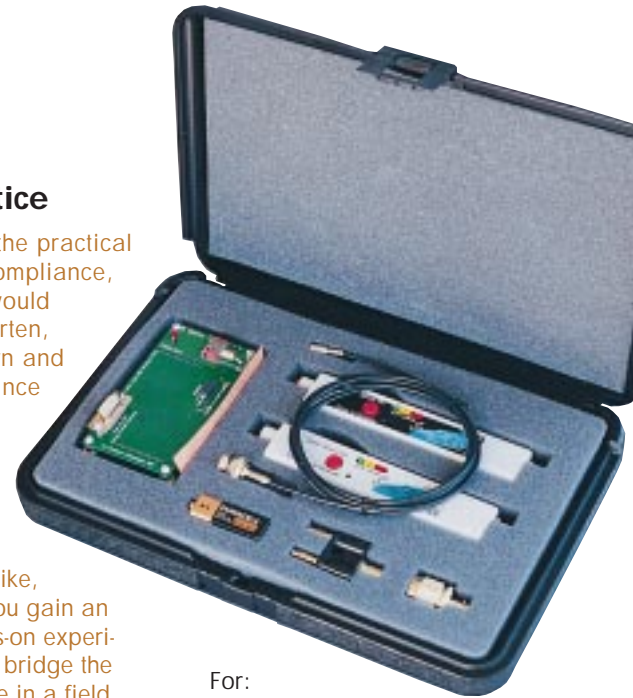
Electromagnetic compliance doesn't have to be the "black magic" limited to a few experts.

For students and professionals alike, EMC Training Kit CTK031 lets you gain an invaluable set of skills and hands-on experience. Easy-to-follow experiments bridge the gap between theory and practice in a field that is often shunned for its complexity.

## What It Can Do

With CTK031, following the clearly illustrated, step-by-step instructions, you can demonstrate and experience:

- The difference between electric and magnetic fields
  - The directional characteristics of a magnetic field
  - The effectiveness of a ferrite as a high-frequency noise suppressor
  - The effectiveness of a shielding material
  - Ground plane currents
  - The location of hidden traces generating emissions
  - Signal integrity problems in a high-speed circuit
  - Pinpoint sources of emission
  - Study the spectrum of signals in components and traces on a spectrum analyzer
  - Observe waveforms of voltages and currents in components and traces on your oscilloscope
- ...and more.



For:  
Universities and Colleges  
EMC Training Courses  
In-House Training  
Self-Training

**EMC Training Kit**  
Model CTK031



**Credence Technologies, Inc.**

## ScanEM®-C Probes

CTK031 kit contains the award-winning ScanEM®-C near-field probes for electric and magnetic fields. ScanEM-C probes are versatile EMC diagnostic tools for detecting, locating and measuring electromagnetic emission.

ScanEM-C probes provide audio and visual indication of EMI as stand-alone instruments, and work also as amplified near-field probes with a spectrum analyzer, as non-intrusive signal integrity probes with an oscilloscope and as field probes with a multimeter.

## Specification



Parameters	ScanEM-EC Model CTM030	ScanEM-HC Model CTM032
Fields	Electric	Magnetic
Frequency Response	2MHz–2GHz	1MHz–1GHz
RF Output	Yes	Yes
DC Output to a Multimeter	Yes	Yes
Sensitivity (typical)	-10dBm/(V/m)	-20dBm/mA
Connector	SMB/BNC	SMB/BNC
Dimension (approx.)	6.18"x1.21"x0.76" 157x31x20mm	6.18"x1.21"x0.76" 157x31x20mm
Weight (approx.)	2.25oz (65g)	2.25oz (65g)
Battery	2xAAA (included)	2xAAA (included)
LED Bar Graph	5 LED color bar	5 LED color bar
Audio Indication	Speaker (tone pitch proportional to the field strength)	
<b>Applications</b>		
ScanEM-EC/HC	PCB level EMC diagnostics, Signal Integrity, Repair	

## EMI Demo Fixture



EMC Demo Fixture model CTA201 features a multitude of typical EMC problems: a high frequency clock with sharp edges, questionable grounding, poorly laid out and unterminated traces with distributed inductance and capacitance, poor ground returns, etc.

The Training Kit gives you the opportunity to experience and diagnose these problems on the Demo Fixture so you will know how to prevent them in your product.

## EMC Training Kit model CTK031 includes:

- ScanEM-EC electric probe
- ScanEM-HC magnetic probe
- 6' (1.8m) SMB/BNC cable
- EMI Demo Fixture
- BNC/N Adapter
- BNC/Banana Plug Adapter
- User's Guide
- Training Guide
- Shielding
- Spare 9V Battery



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