

# CERTIFICATION

This is to certify that

**Kamil Kanas**

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has successfully completed  
EMCSTANDARDS course

**Essential PCB design/layout  
techniques for good EMC**

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Date: **20 DEC 2022**

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Course tutor:

*Keith Armstrong*

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**Course duration:** 5h 25min

**Course content:** Saving time and money, Scope and application of these design techniques, EM Zoning (i.e. segregation), Interface analysis, filtering, and suppression), Planes for 0V(GND) and other power rails (PWR), RF-bonding PCB Reference Planes at EMZ boundaries, Power supply decoupling, Switching power converters (AC/DC, DC/DC, DC/AC, etc.), Matched transmission line techniques, Layer stacking and trace routing, Devices with BGA packages and/or multiple DC rails, Some useful references, sources, and webinars

Certificate number: 1a67780c2943555b997a4d764