

# Certificate of Attendance

This certifies that

**Bhagath Talluri**

attended and successfully completed the training course

***Advanced EM in ADS***

from October 3<sup>rd</sup> to 5<sup>th</sup>, 2023

**EM Component parameterization is the basis for EM-circuit-system cooptimizations.**

Learn the two methods to convert static to parameterized geometries – Nominal/Perturbed graphical and Subcircuit component based. Compare traditional “puzzle-piece” modeling approaches to modeling an entire geometry in a single EM simulation. Understand and efficiently use thick conductor modeling using LTCC spiral inductors as examples. For custom geometries with complex parameterization requirements,

learn how to define AEL artwork macros and convert them to EM Components

**Efficient CPW & Multilayer Modeling & Analysis of Differential Structures**

Use slot layers to efficiently model (CPW) Coplanar Waveguide and multilayer PCB structures.

Learn the different grounding concepts such as localized grounds and return paths vs. ground at infinity, and differential signaling. Perform pure differential and mixed-mode (common–differential) S Parameter simulations

using schematic templates and DDS equations and understand the implications this has on real world differential signal routing.

**Multitechnology Structures, IC Packaging, Modules, SiP**

The Finite Element Method is the most general 3D simulation technique and allows users to simulate IC or multi-chip module packages and many other structures that Momentum cannot represent. FEM can also be used to validate Momentum simulations to increase confidence levels. In this class, you will also learn why building 3D models from a 2D layout user-interface has significant benefits over having to draw 3D structures in a CAD UI.



**Bart Van Hecke,**  
Trainer