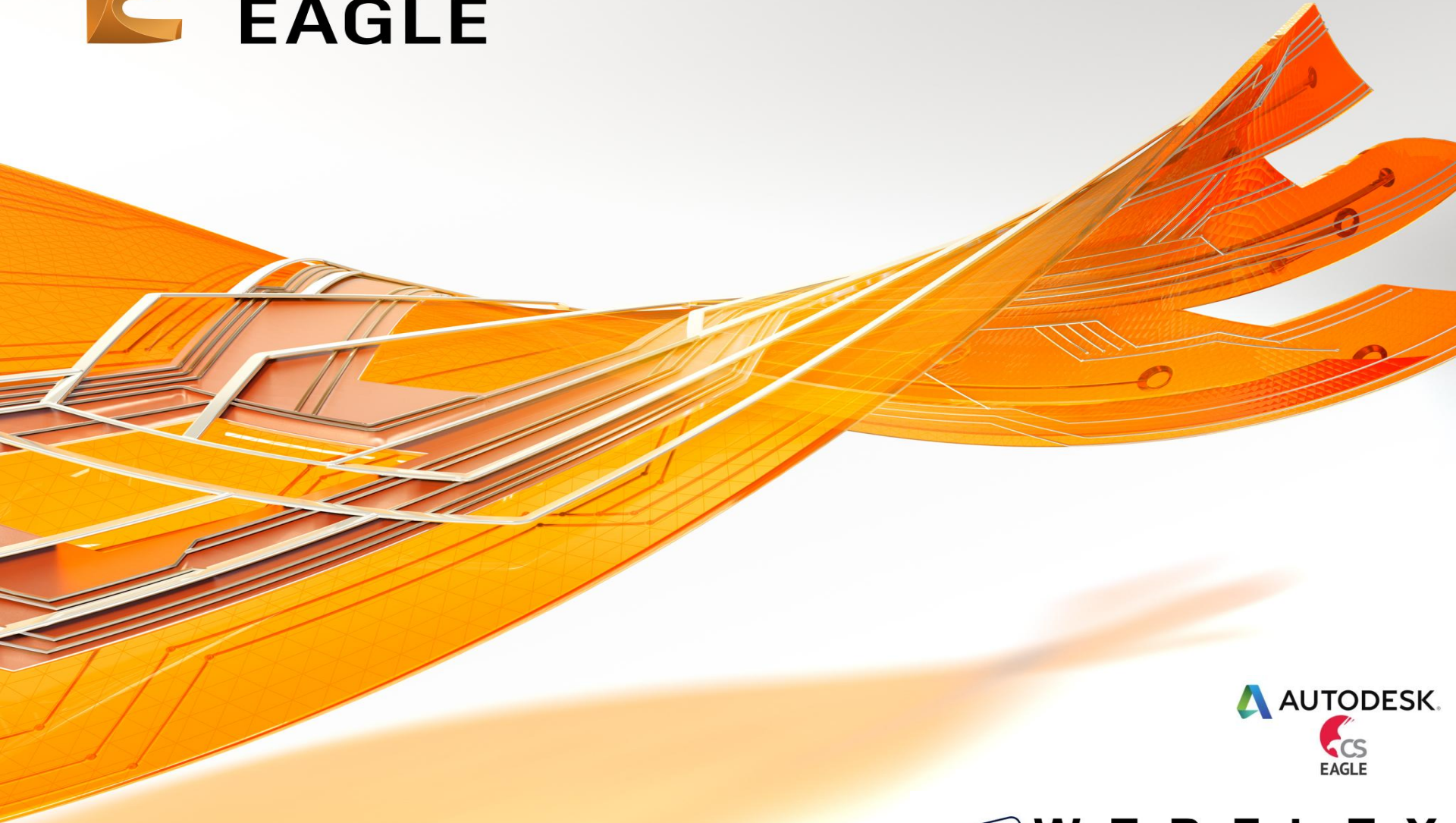




**AUTODESK®  
EAGLE**



**AUTODESK®**  
Authorized Training Center  
Certification Center  
Academic Partner



**WEBFLEX**  
CONSULTANCY  
Service Private Limited

# TRAINING SUMMARY

**TOTAL DURATION OF TRAINING IS SIX MONTHS (50 HRS TO 144 HRS)**

**Total 144 Hours Live online Training Along with live practical support via**

- **Microsoft Team Live Training Support**
- **Remote Support**
- **Whatsapp Support**
- **Mobile Support**
- **Email Support**



**Student Will also get Softcopy of Study Materials , Session Wise Video Tutorial, Day To Day Live Training Class Recording Link.**





# STUDENT WILL LEARN

This Syllabus is created by industry experts having experience more than 10 years . Students learn by doing actual drawings with AutoDesk Certified Instructors. Students are taught many commands and tools to create drawings fast and easy. Our AutoDESK Instructors will make sure no one is left behind.

## **You will know**

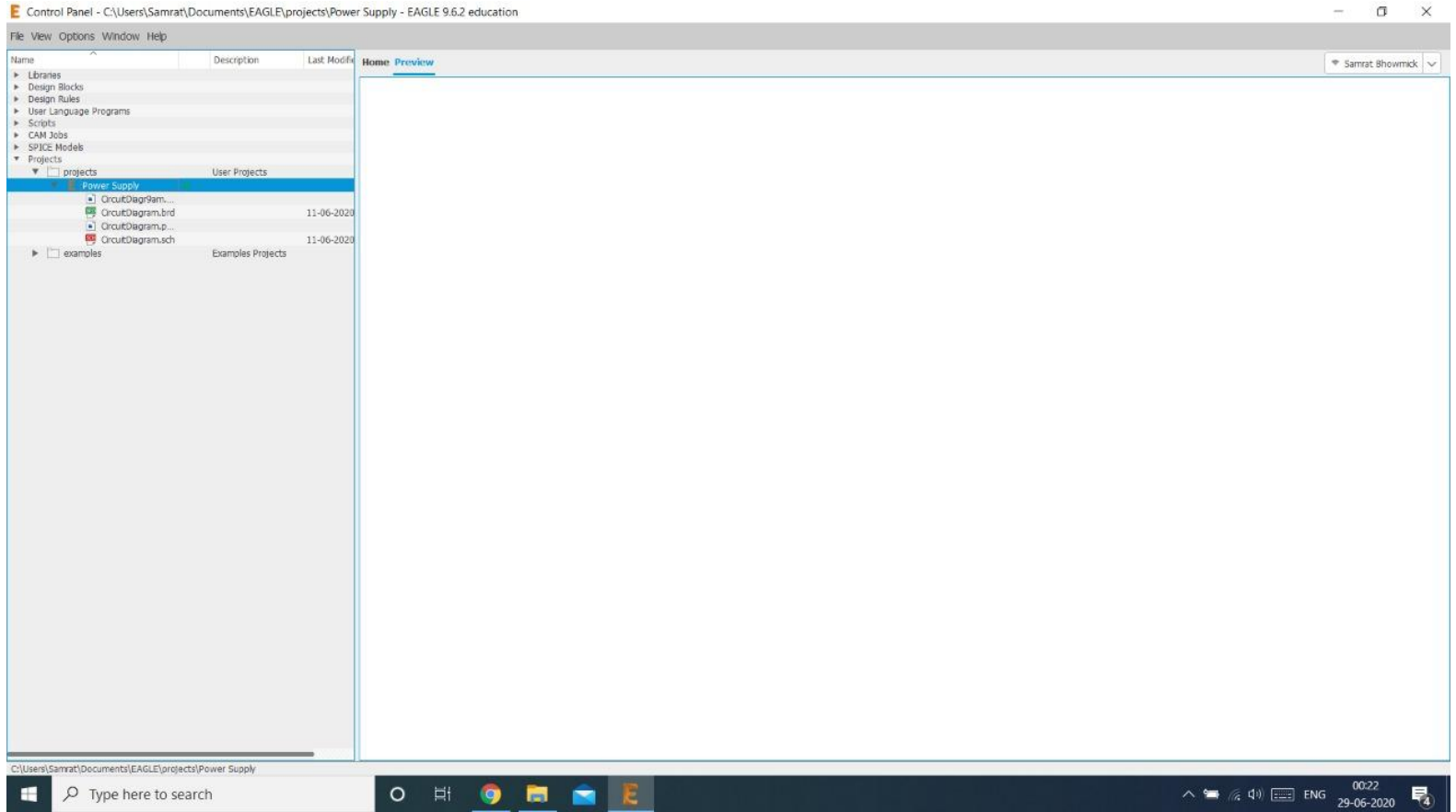
- ✓ How to design PCB & Circuit Designs.
- ✓ Creates the user an opportunity to create virtual environment to simulate the tests or working conditions of the products before manufacturing
- ✓ Students can increase the proficiency through our Eagle Training classes



AUTODESK®



# Autodesk EAGLE 9.6.2 Layout



# COURSE CURRICULAM

## SESSION 1

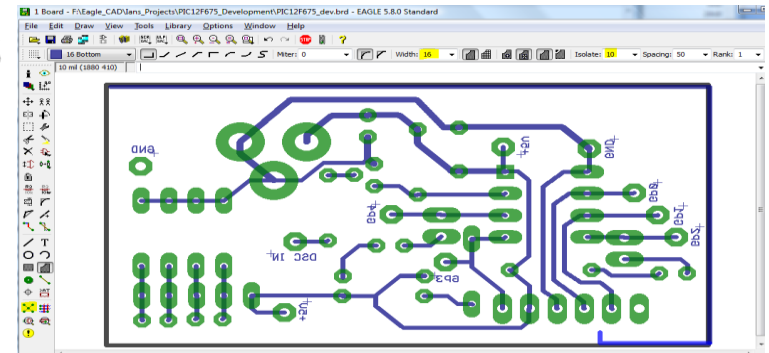
### Introduction to PCB designing & Circuit Designing concepts

#### Introduction & Brief History

- What is PCB
- Difference between PWB and PCB
- Types of PCBs: Single Sided, Multi-Layer (Double Sided)
- PCB Materials

### Introduction to Electronic design Automation (EDA)

- What is EDA?
- How it helps and Why it requires
- Different EDA tools
- Introduction to Autodesk EAGLE Environment
- Why EAGLE for Designing PCBs?





## SESSION 2

### Component introduction and their categories

- Types of Components
- Active Components
- Passive Components

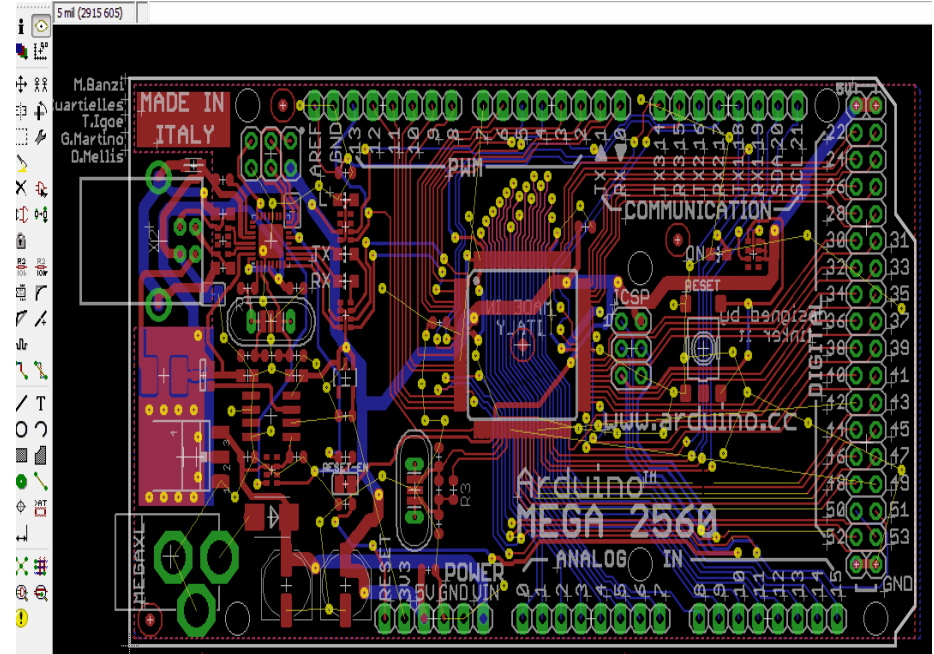
### Component Package Types

- Through Hole Packages
- Surface-mount Packages

## SECTION 3

### Introduction to Development Tools

- Introduction to PCB Design using Autodesk EAGLE tool



## SESSION 4

### Detailed description and practical of PCB Designing

#### PCB Designing Flow Chart

- Schematic Entry
- Net listing
- PCB Layout Designing
- Prototype Designing

Design Rule Check(DRC)

Design For Manufacturing(DFM)

- PCB Making
- Printing
- Etching
- Drilling

- Assembly of components

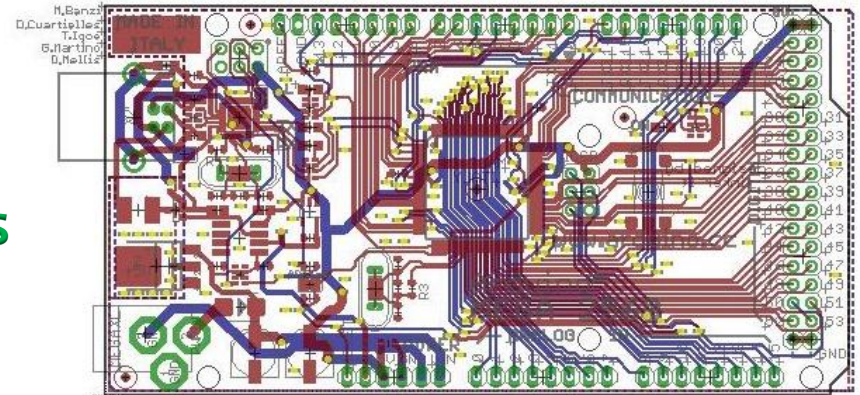
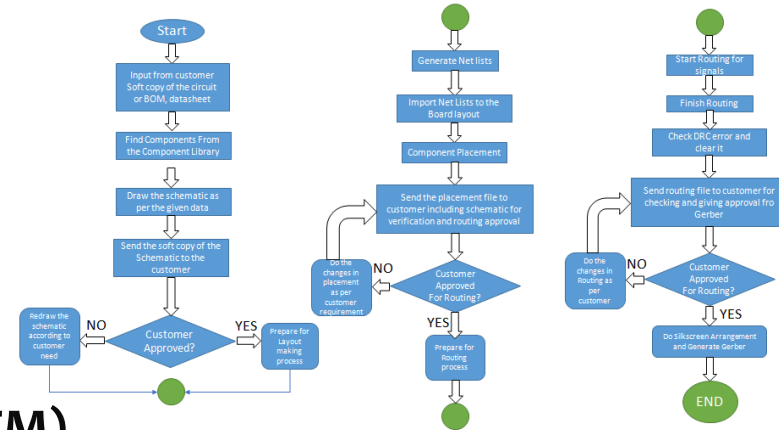
#### Description of PCB Layers

- Electrical Layers

Top Layer

Mid Layer

Bottom Layer





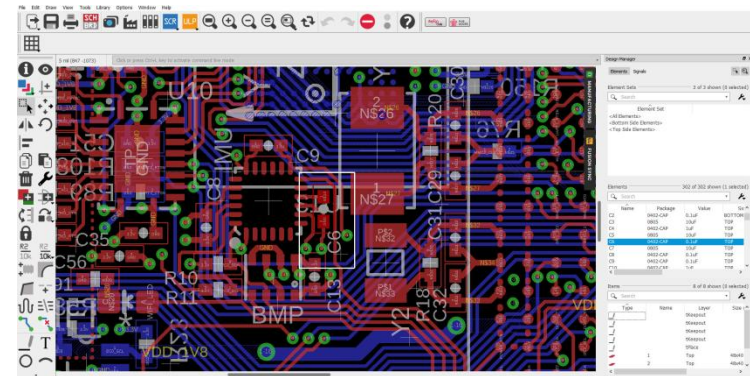
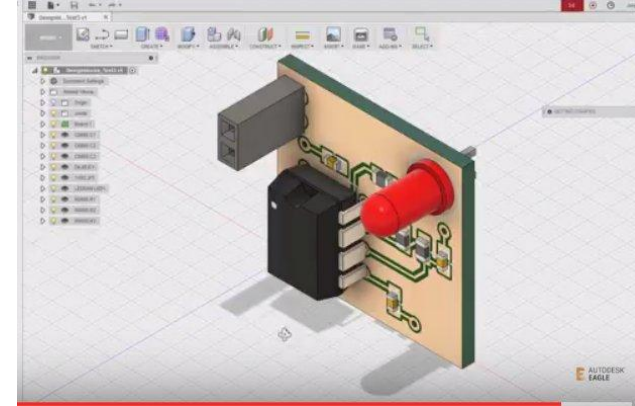
➤ **Mechanical Layers**  
Board Outlines and Cutouts  
Drill Details

➤ **Documentation Layers**  
Components Outlines  
Reference Designation  
Text Keywords & Their Description

- Footprint
- Pad stacks
- Vias
- Tracks
- Color of Layers
- PCB Track Size Calculation Formula

## PCB Materials

- Standard FR-4 Epoxy Glass
- Multifunctional FR-4
- Tetra Functional FR-4
- NelcoN400-6
- GETEK



- BT Epoxy Glass
- Cyanate Ester
- Polyimide Glass
- Teflon

## Rules for Track

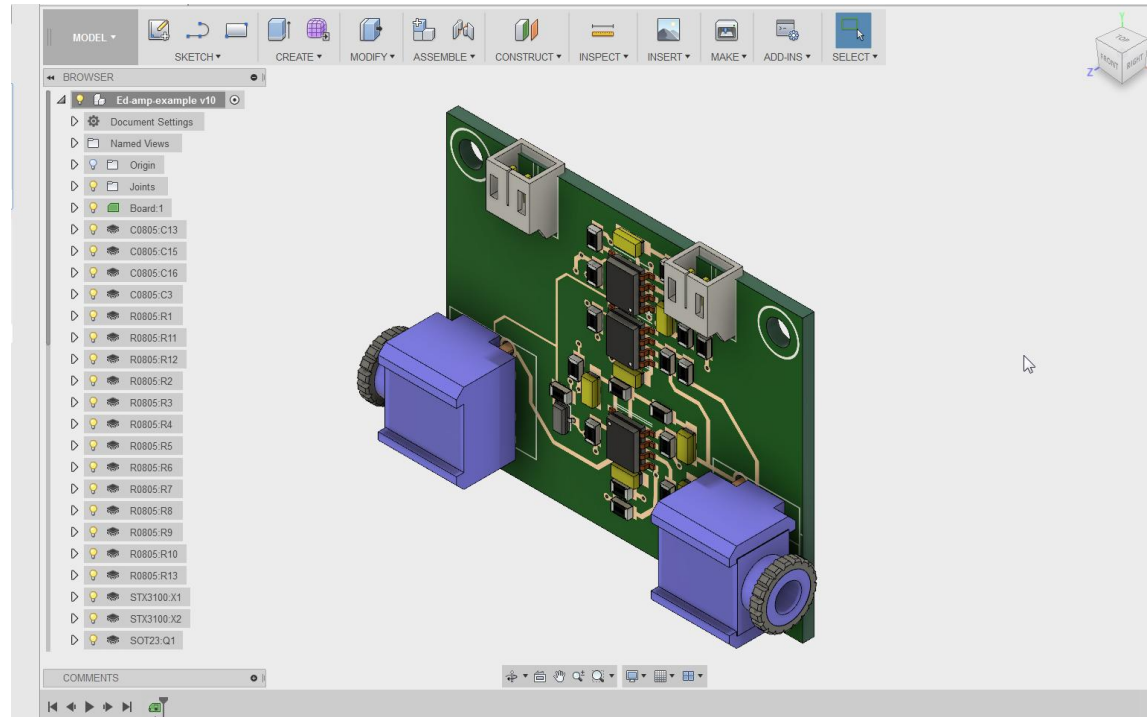
- Track Length
- Track Angle
- Rack Joints
- Track Size

## SESSION 5

### Lab practice and designing concepts

### Starting the PCB designing in Autodesk Eagle

- Understanding the schematic Entry
- Creating Library & Components
- Drawing a Schematic
- Design a Board



## ➤ Auto routing

Introduction to Auto routing

Setting up Rules

Auto router Setup

## PCB Designing Practice

PCB Designing of Basic and Analog Electronic Circuits

PCB Designing of Power Supplies

PCB Designing of Different Sensor modules

PCB Designing of Electronics Projects with LED

PCB Designing of Electronics Projects with Op-amp

PCB Designing Projects with Microcontrollers and  
Microprocessor

## Post Designing & PCB Fabrication Process

Printing the Design

Etching

Drilling

Gerber Generation

Soldering and De-soldering

Component Mounting

### Single Layer PCB



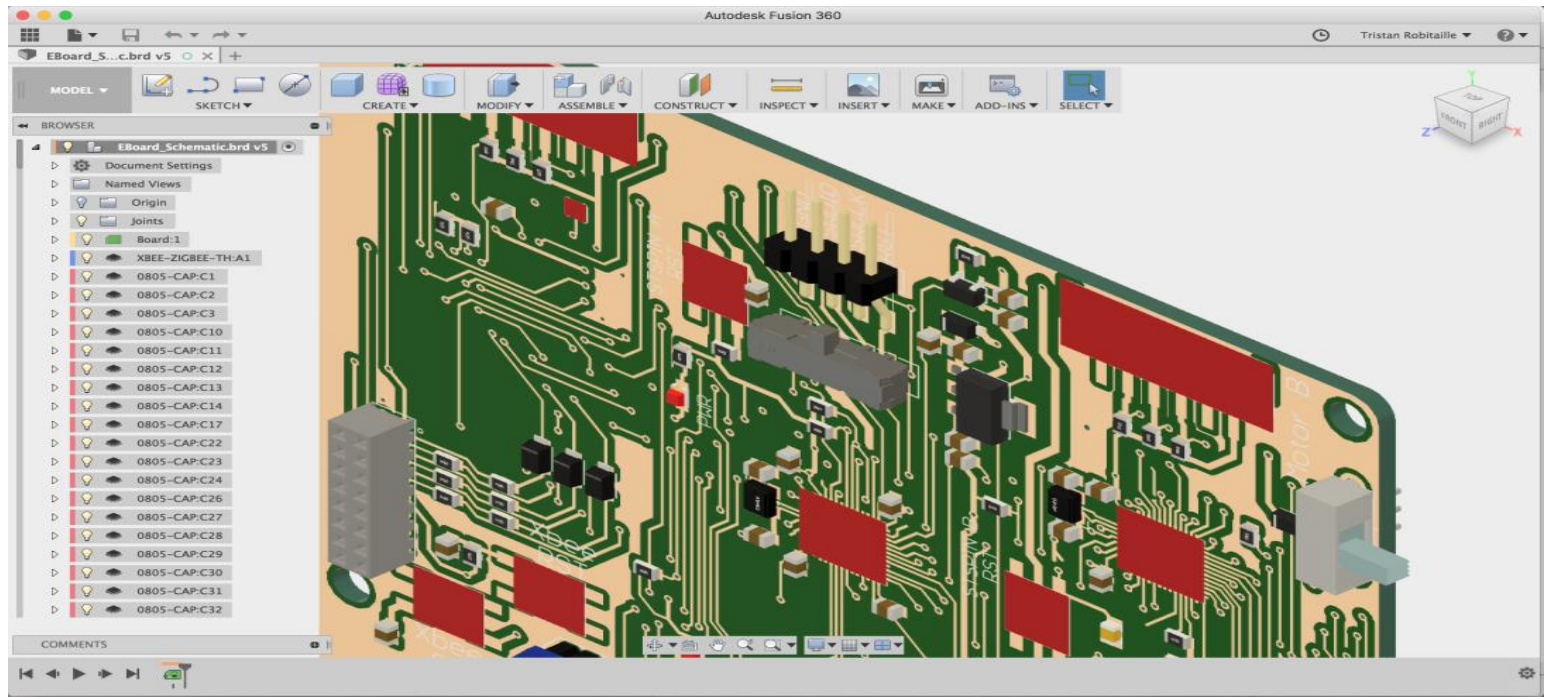
### Double Layer PCB





# Electro Mechanical Collaboration Through Autodesk EAGLE with Fusion360 (CAD/CAM)

(Now a day Many Mechanical Device is now Associate with Electronics Circuit . So This Advance Platform is very useful where Electronics PCB Designing Software EAGLE Collaboratively work with Mechanical CAD/CAM Software FUSION360 for Create Electro Mechanical Device)





# AUTODESK COURSE COMPLETION CERTIFICATE



## CERTIFICATE OF COMPLETION

### CONGRATULATIONS!

You have successfully completed an Autodesk® Authorized Training Center® course specifically designed to satisfy your training requirements. Authorized Training Center instructors deliver quality-learning experiences with courses related to Autodesk products utilizing relevant content and comprehensive courseware. Autodesk's vision is to help people imagine, design, and create a better world.

REYAZ AHAMED A

NAME

EAGLE

COURSE TITLE

V. KUMARESH

INSTRUCTOR

EAGLE

PRODUCT

01/12/2018

COURSE DATE

41-100 HOURS

COURSE DURATION

AUTODESK AUTHORIZED TRAINING CENTER

Certificate No. AP09290982533443344

2018

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# END OF COURSE