

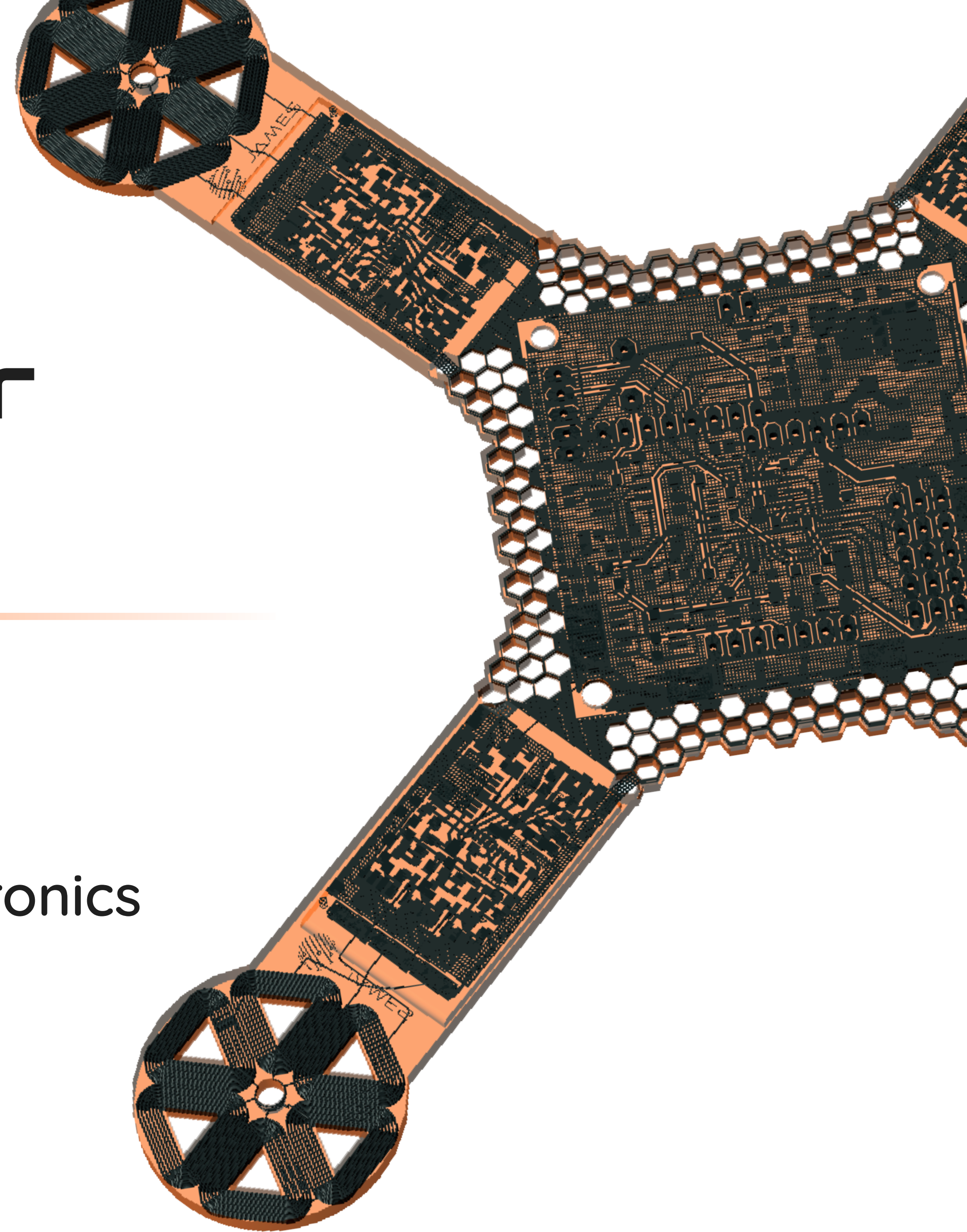


J.A.M.E.S.

Educational AME-Motor Experience Bundle

2023

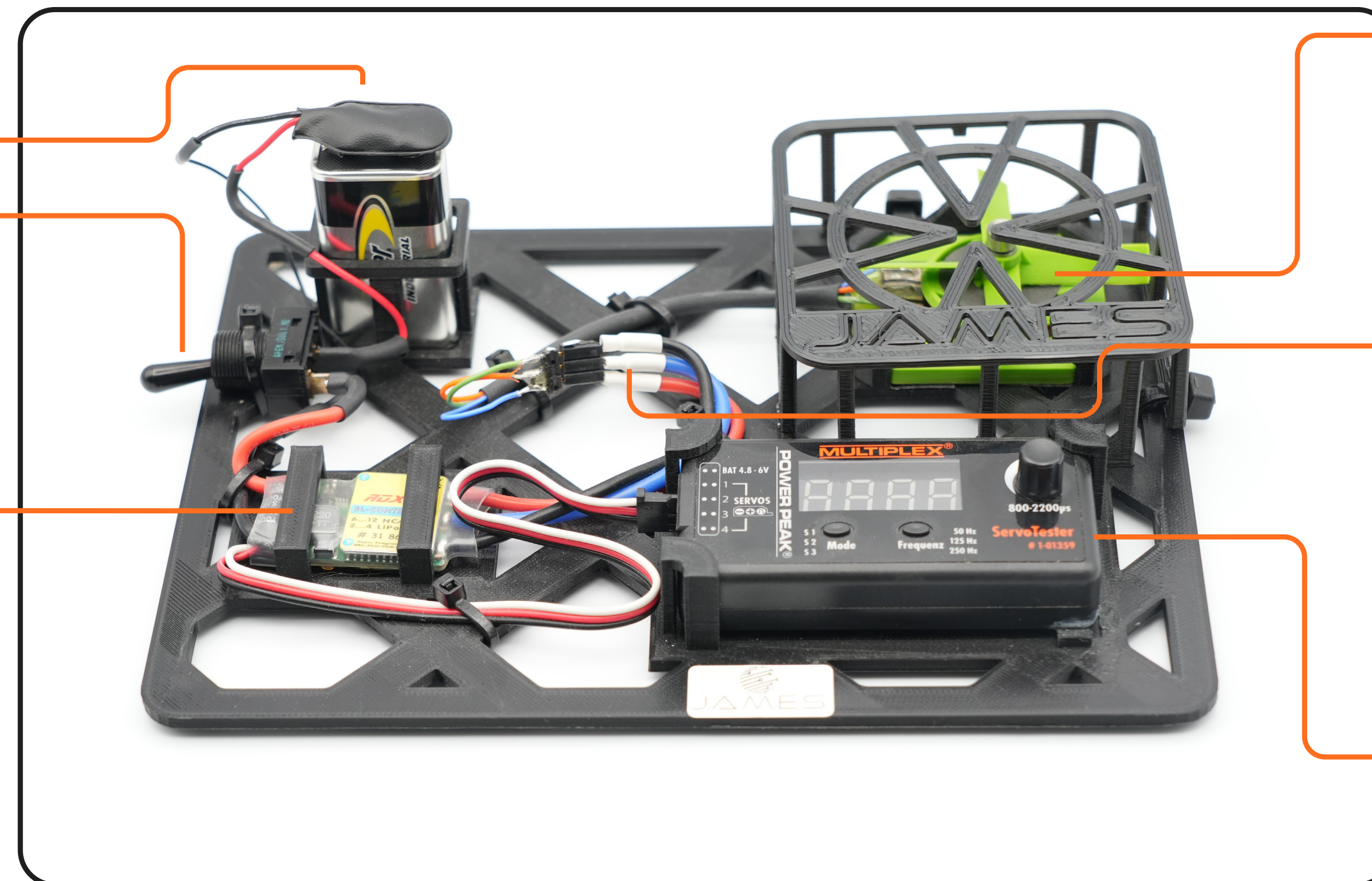
Perspectives of Additive Manufacturing Electronics
to make a Motor run



AME-Motor Experience: Demonstrator 1

Basic elements ...

- Battery or 12 DC Power Supply Jack
- ON/OFF Switch
- Brushless Motor Controller (COTs)



Motors ...

- Flat AME Motor (axial-flux; Stator with Magnetic Iron Filament)
- Optional outrunner AME Motor

Connection Interface for optional Outrunner AME Motor

- 3D-shaped Integration of 3D-printed coils and Magnetic Iron Filament

Servo Tester

- For speed control

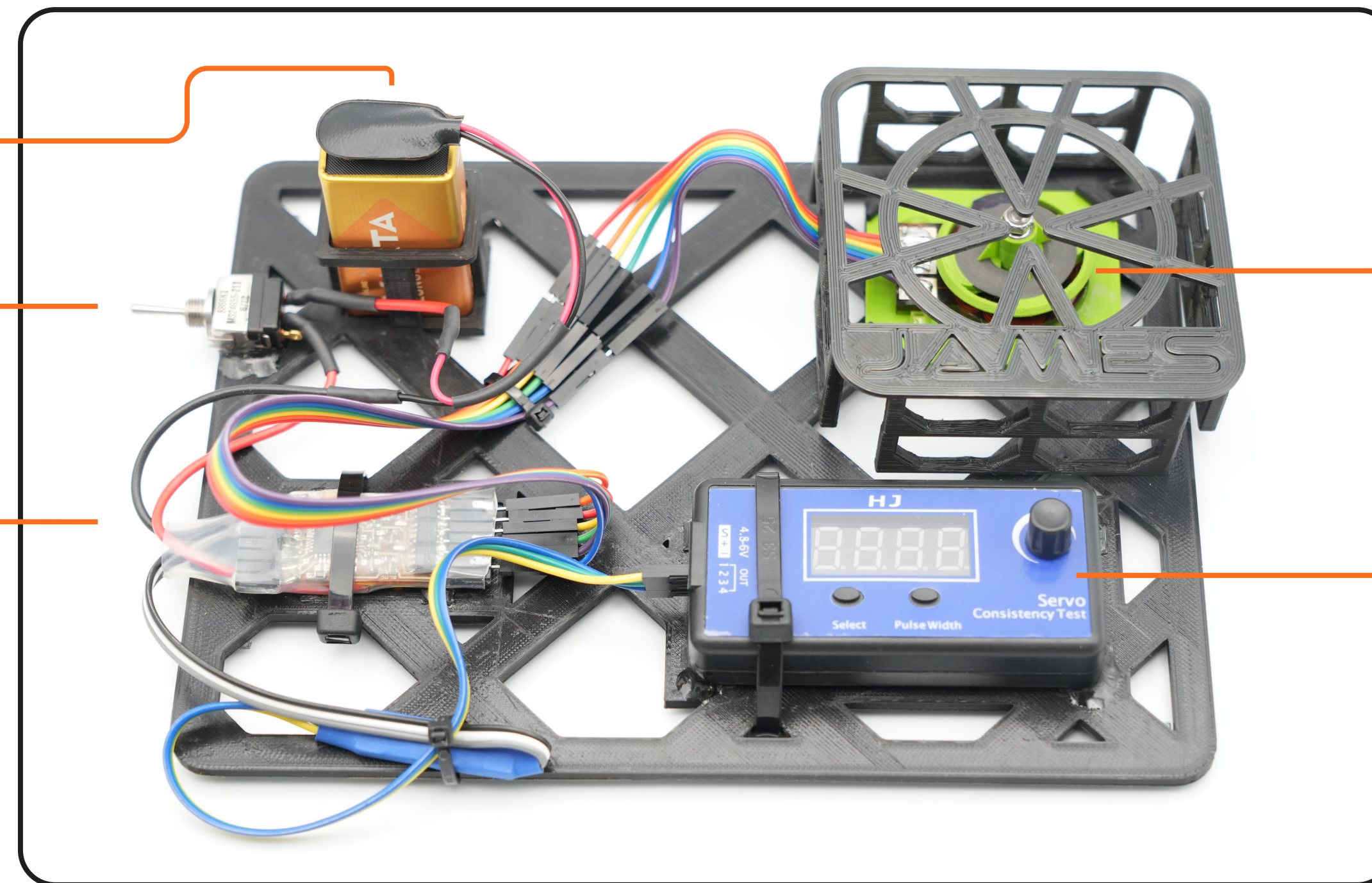


J.A.M.E.S

AME-Motor Experience: Demonstrator 2

Basic elements ...

- Battery or 12 DC Power Supply Jack
- ON/OFF Switch
- AME Brushless Motor Controller (3D-printed)



Motor

- Flat AME Motor (axial-flux; Stator without additional magnetic material)

Servo Tester

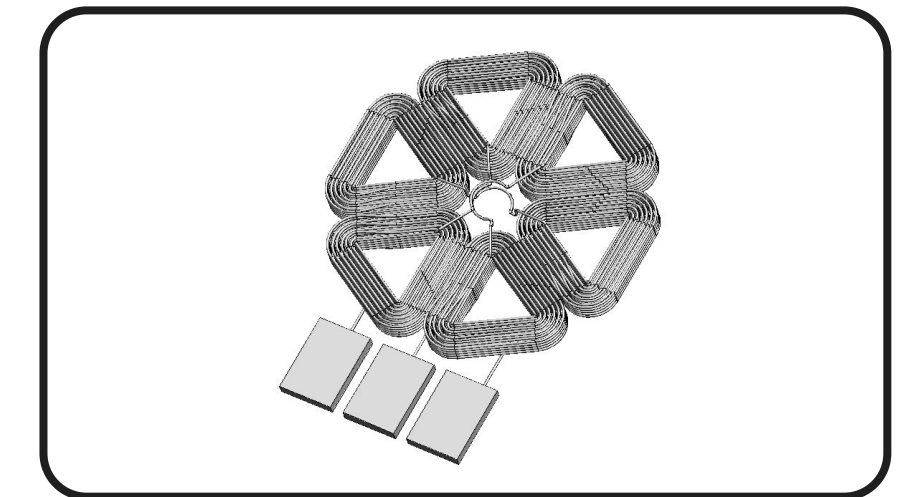
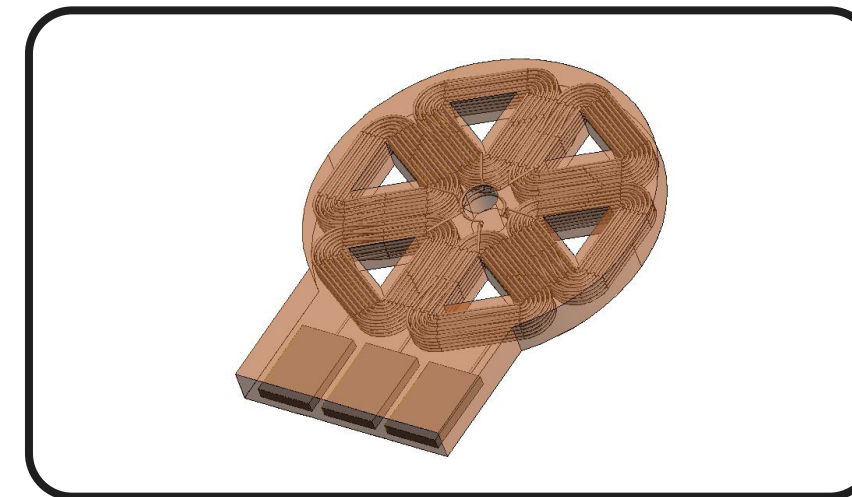
- For speed control



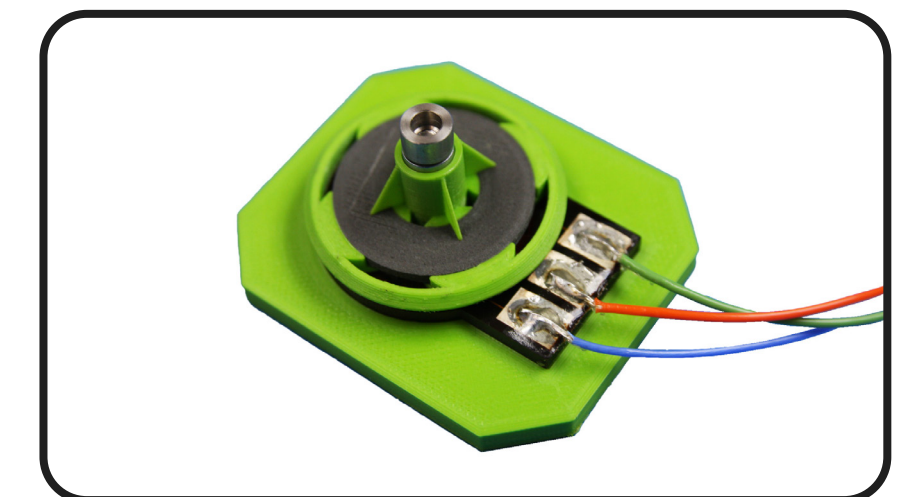
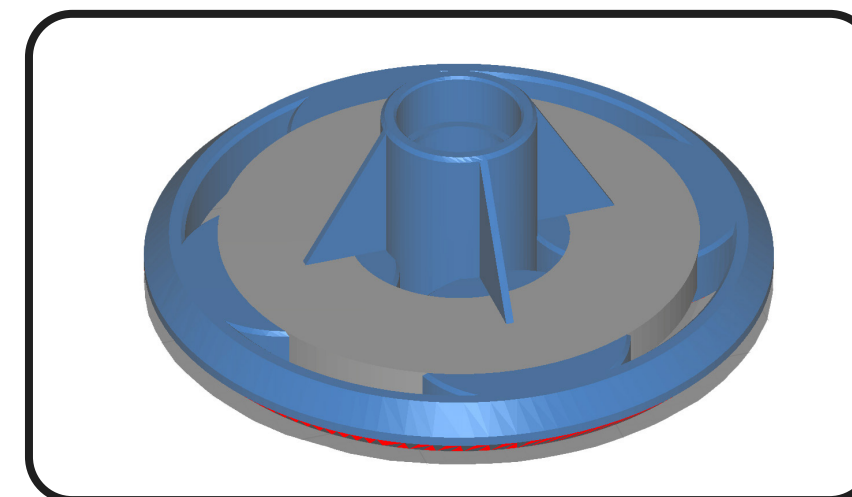
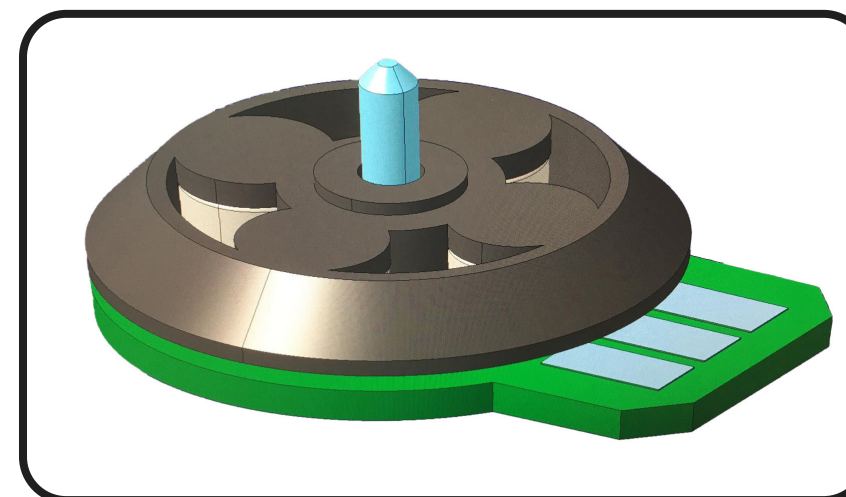
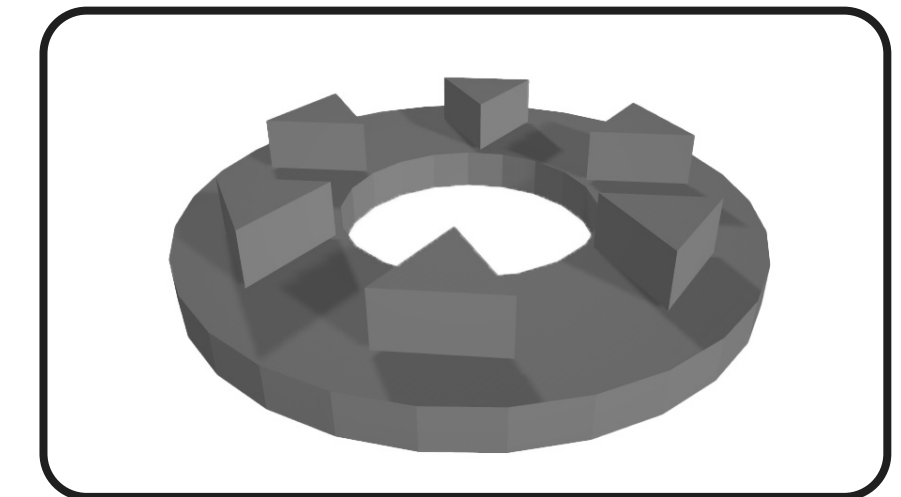
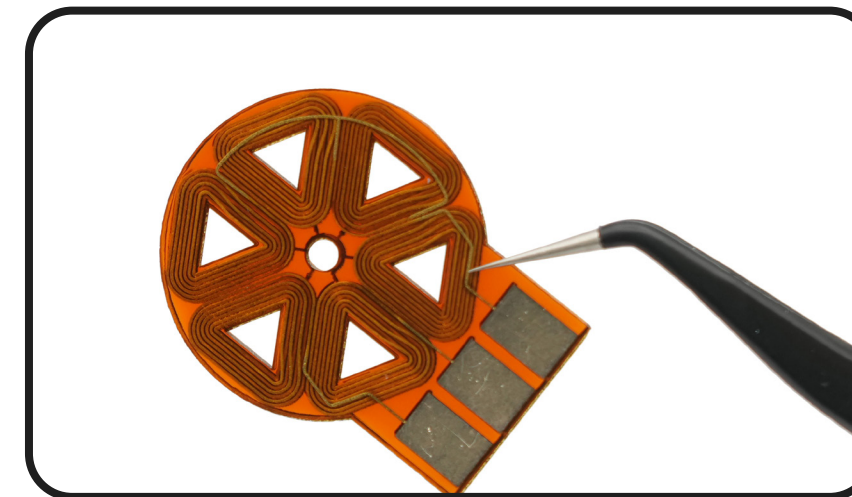
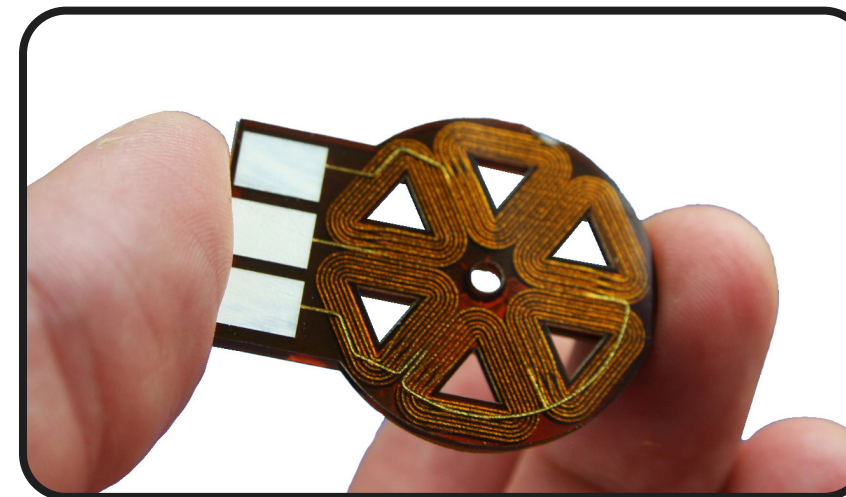
J.A.M.E.S

AME-Motor Styles

○ Axial-flux Motor



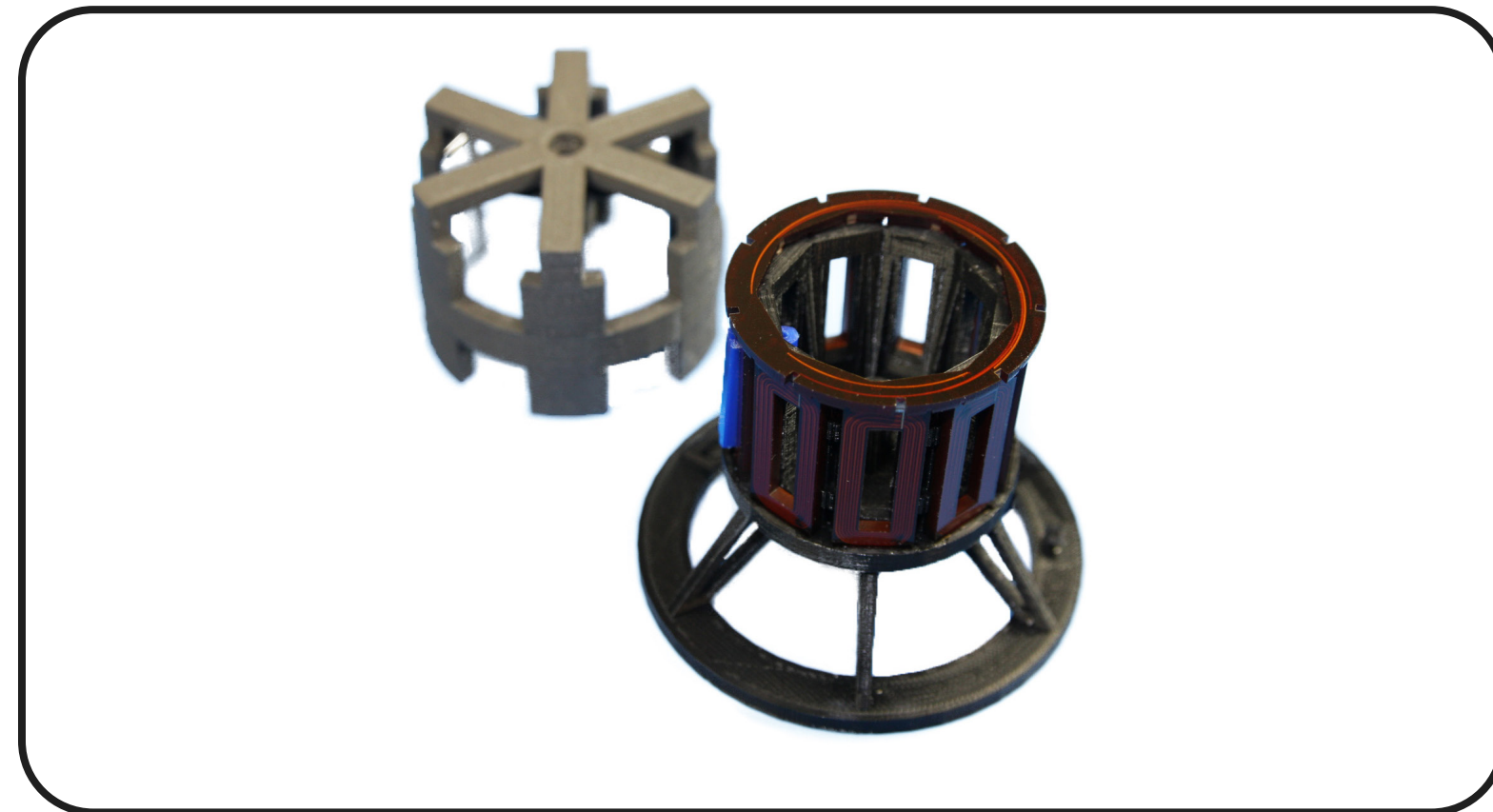
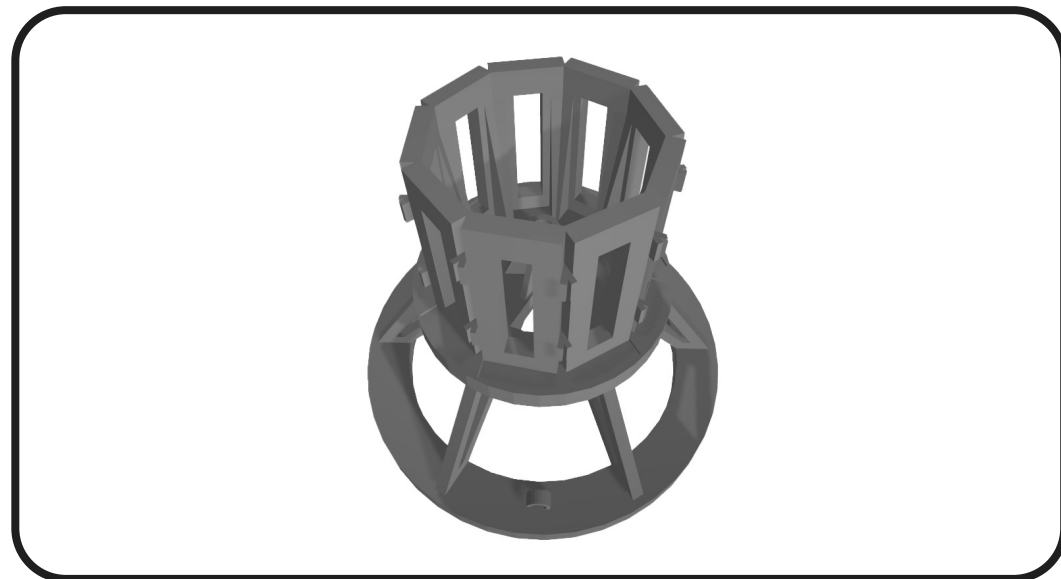
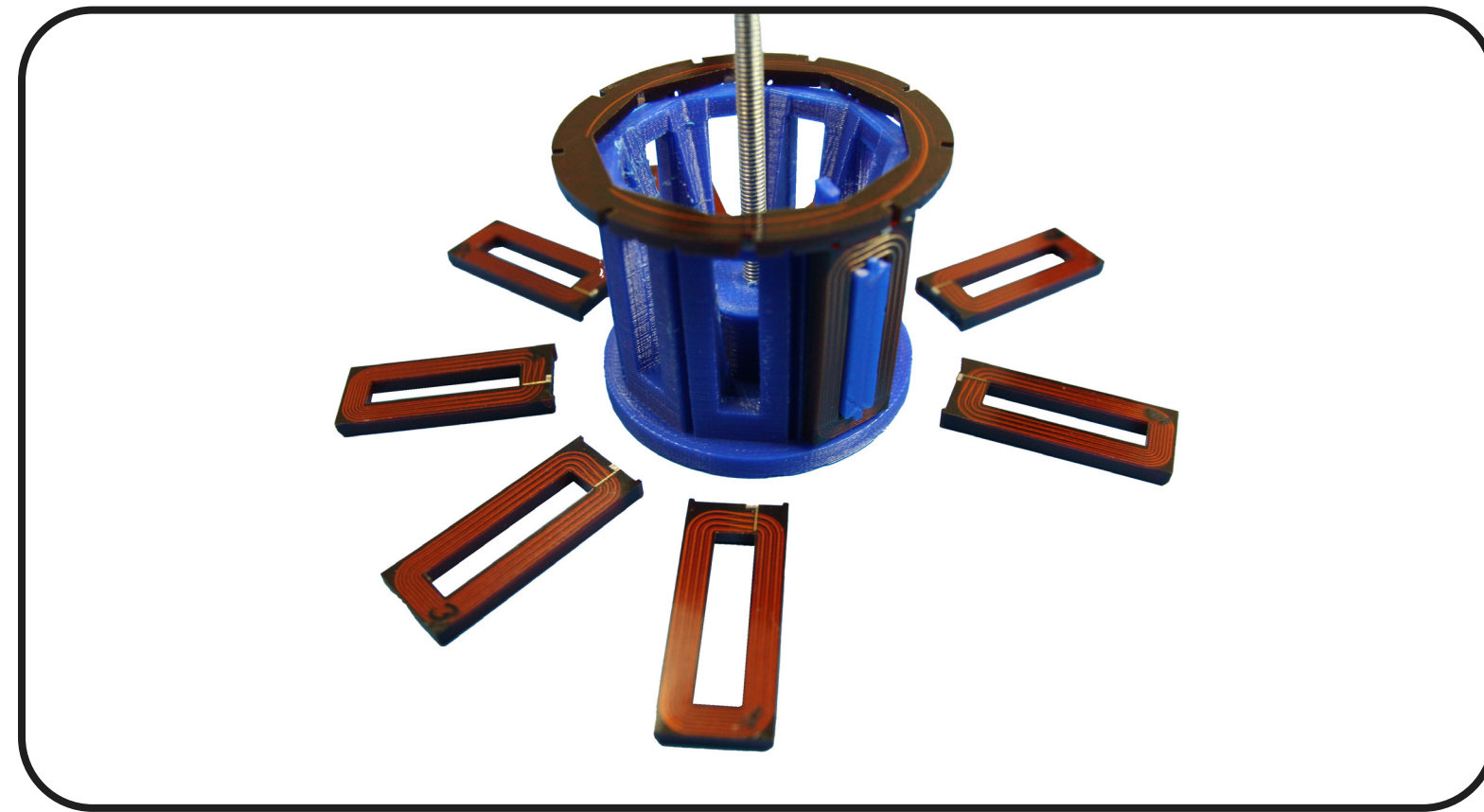
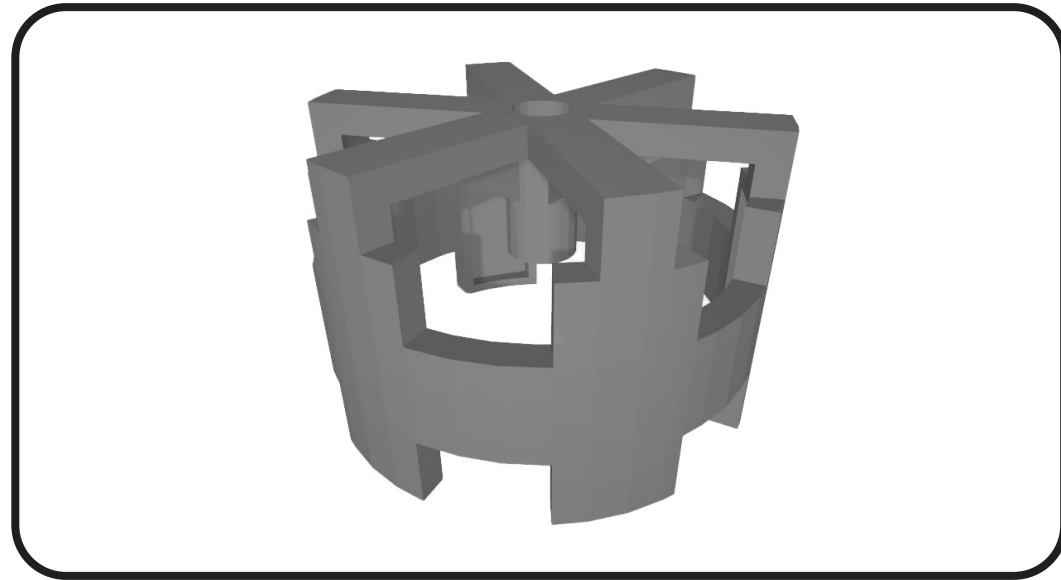
○ Triangular Coil Motor



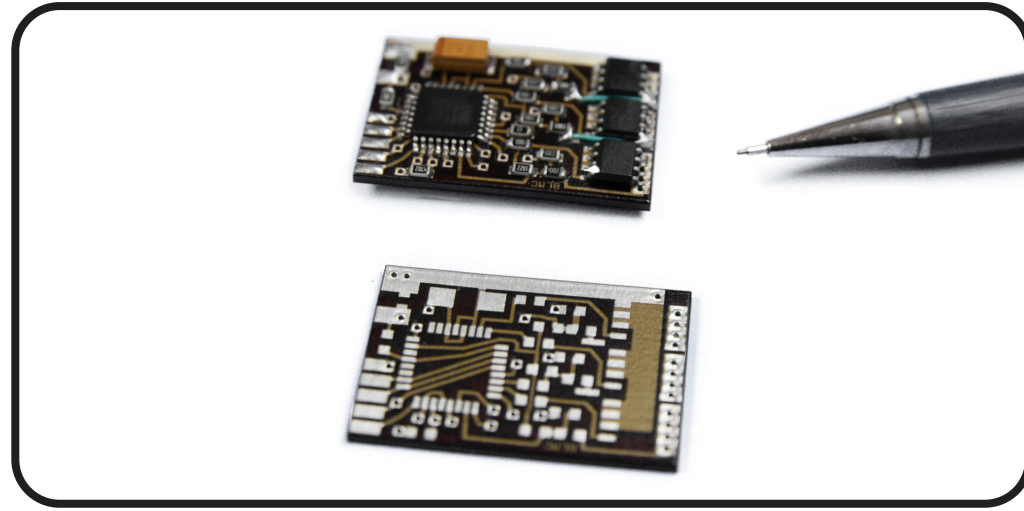
J.A.M.E.S

AME-Motor Styles

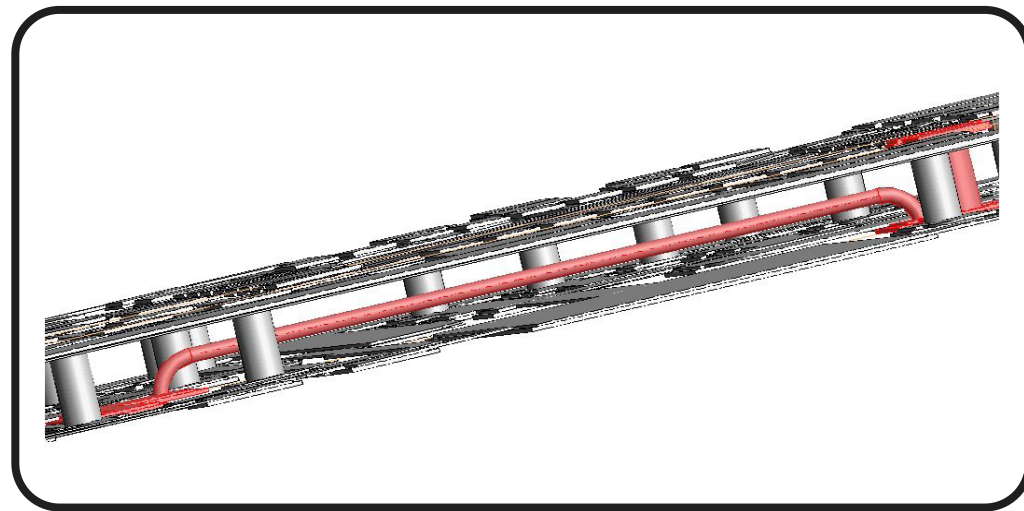
○ Outrunner Motor



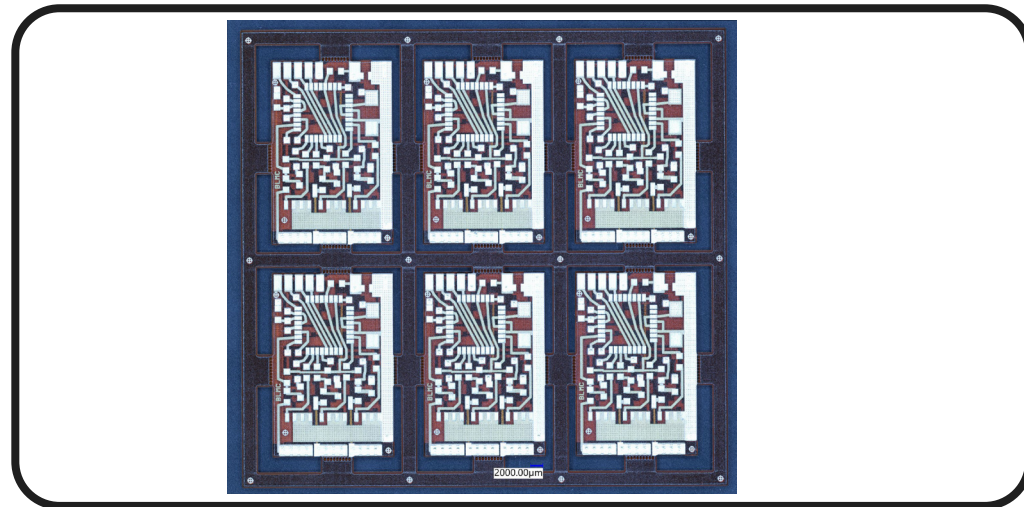
AME-Motor Controller Design Iterations



○ Brushless Motor Controller - PCB



○ Brushless Motor Controller - 3D Wires



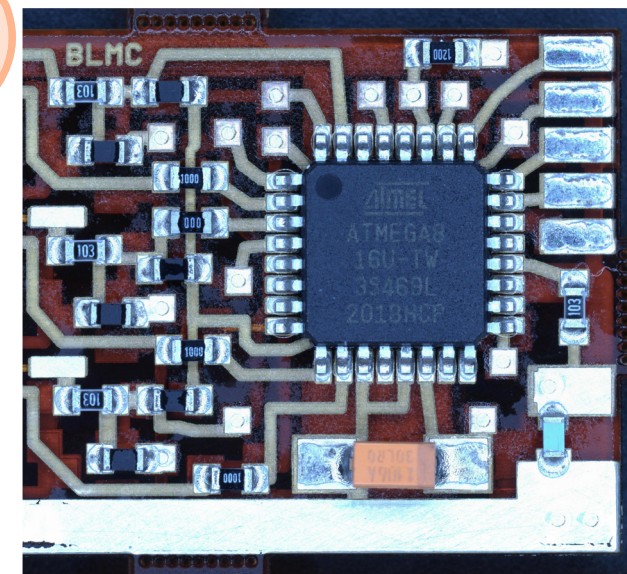
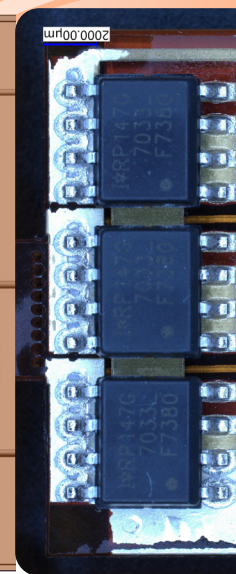
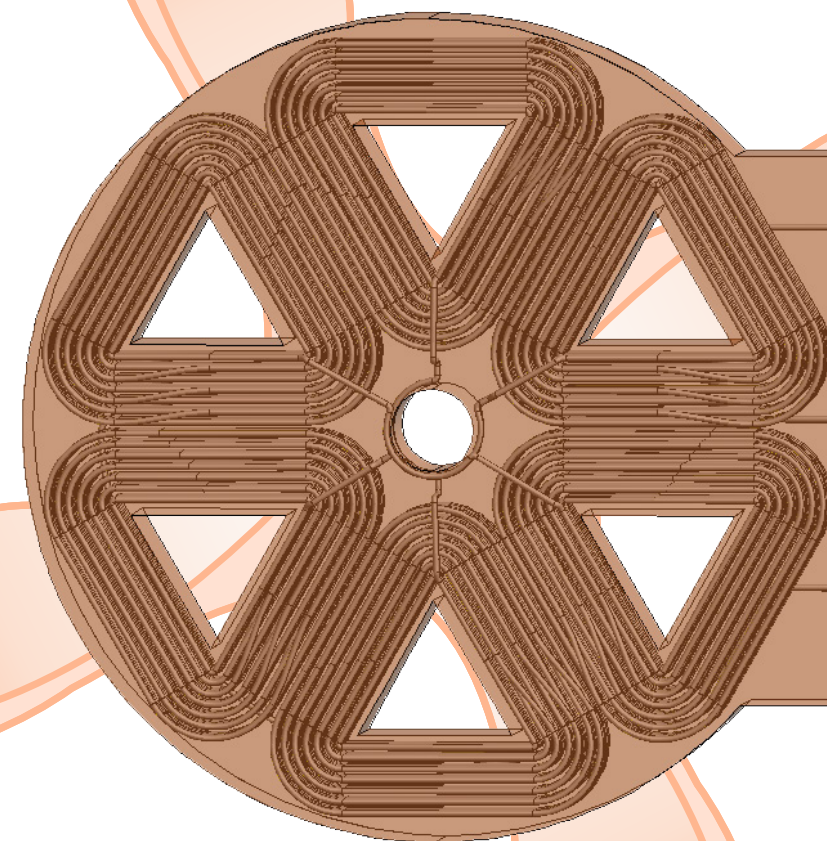
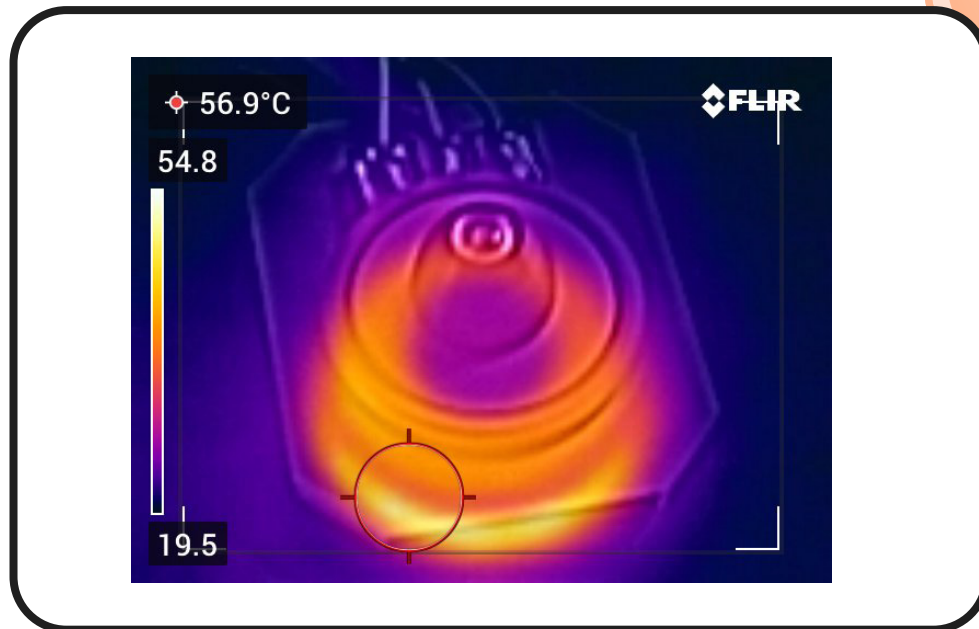
○ Brushless Motor Controller - Optimized for Pick and Place

AME Material Handling

○ New perspectives by example

○ Hotspot/highcurrent separation

- Choose 3D ceramics material



Design interface

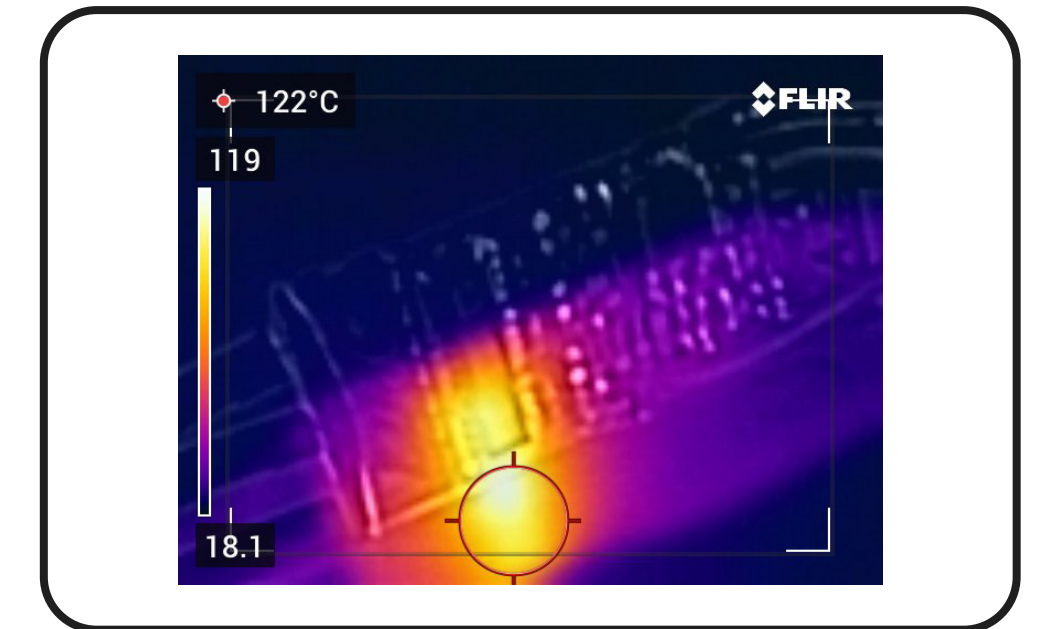
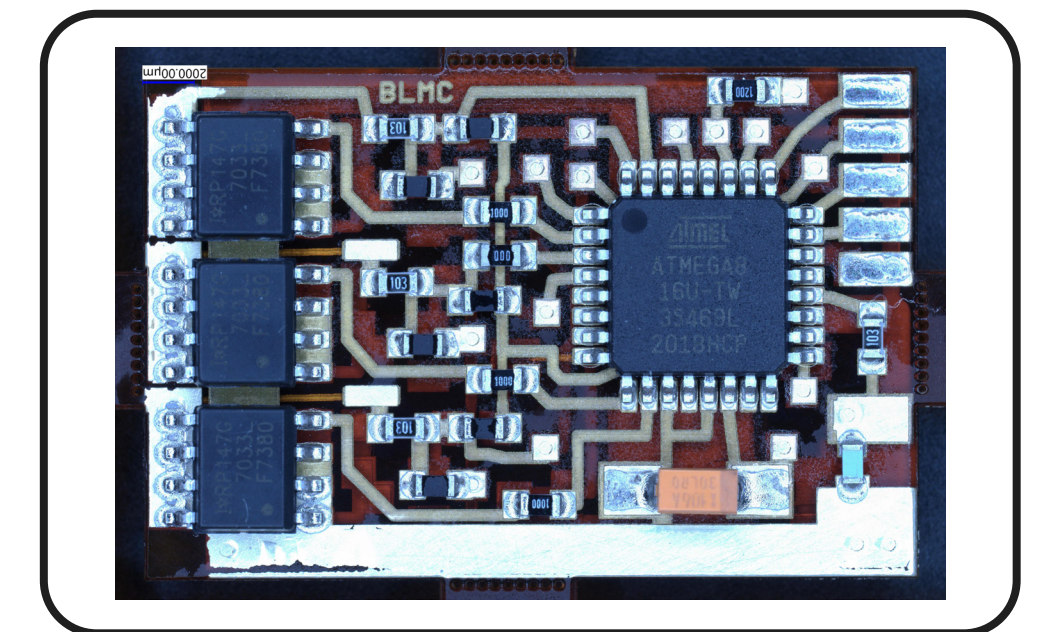
- Motor Hotspot Area
 - High current
 - Cooling
 - Material selection

Material selection

- Controller - Signal Integrity Area
 - Low current
 - Effective shielding
 - Miniaturisation potential

○ Motor controller hotspot area

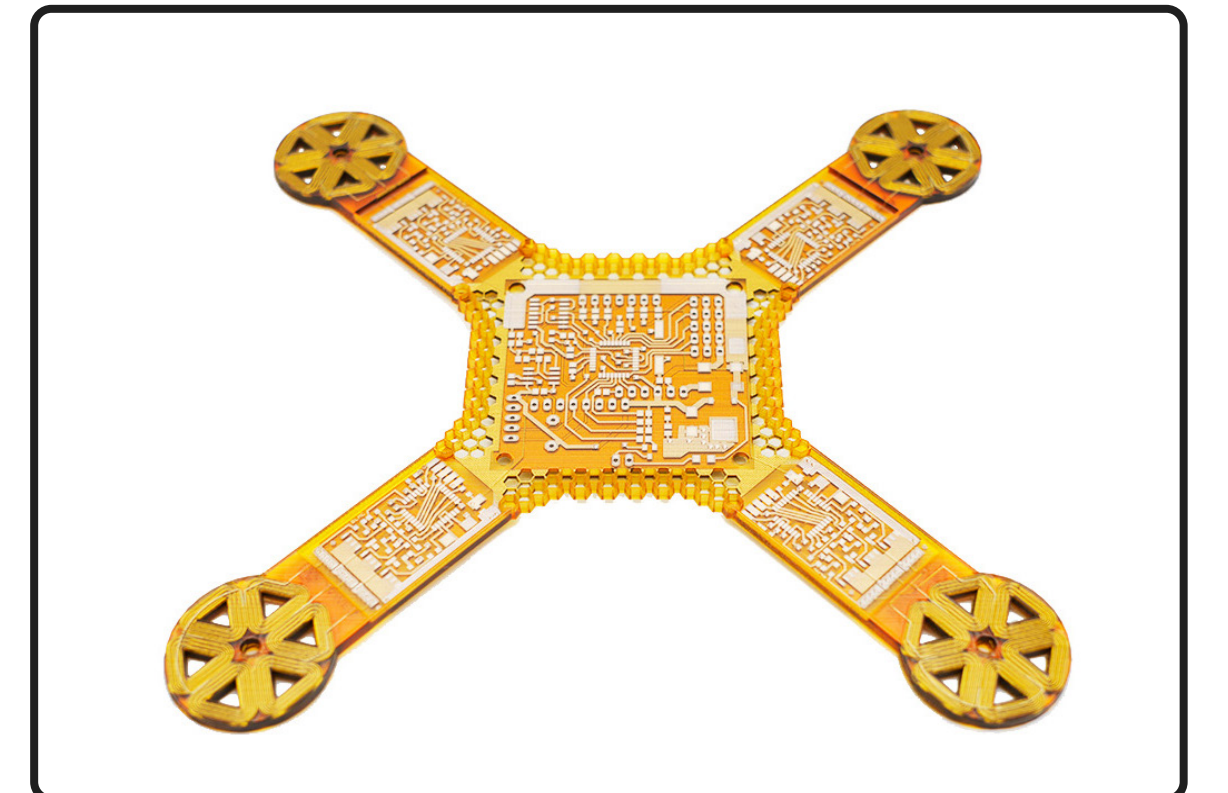
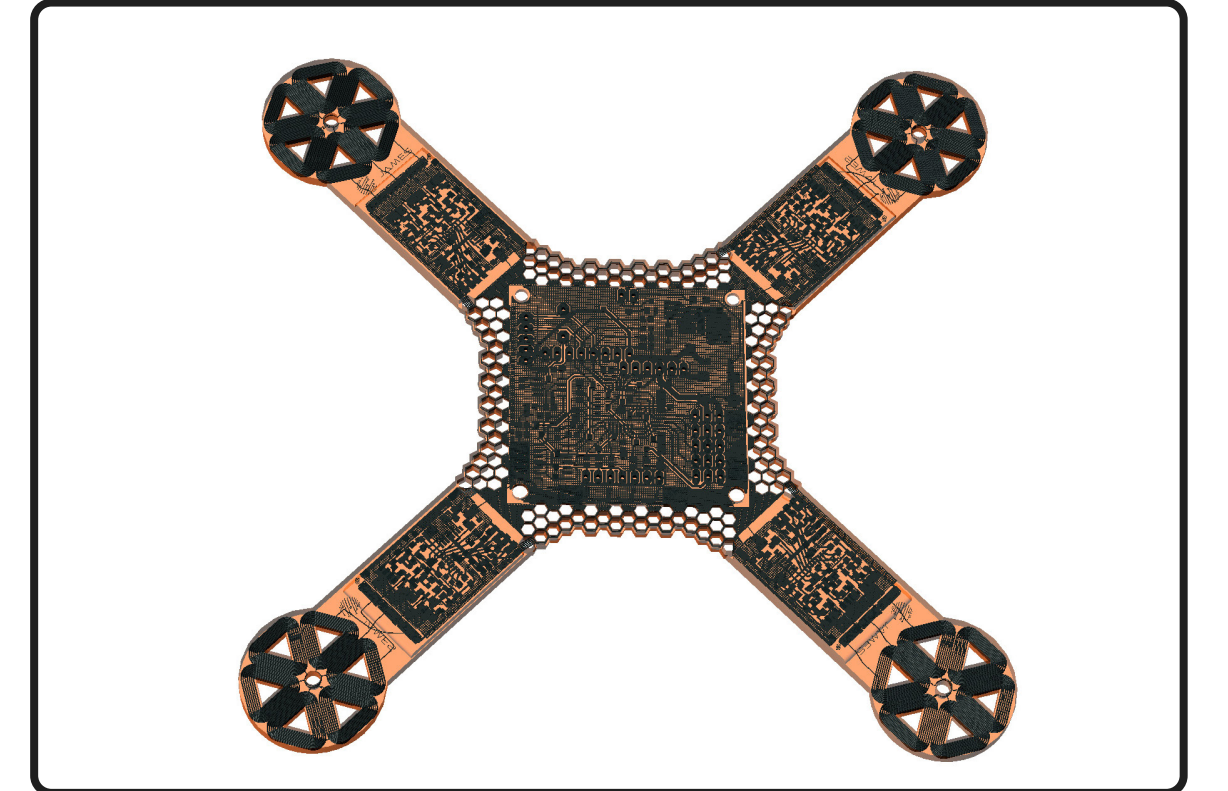
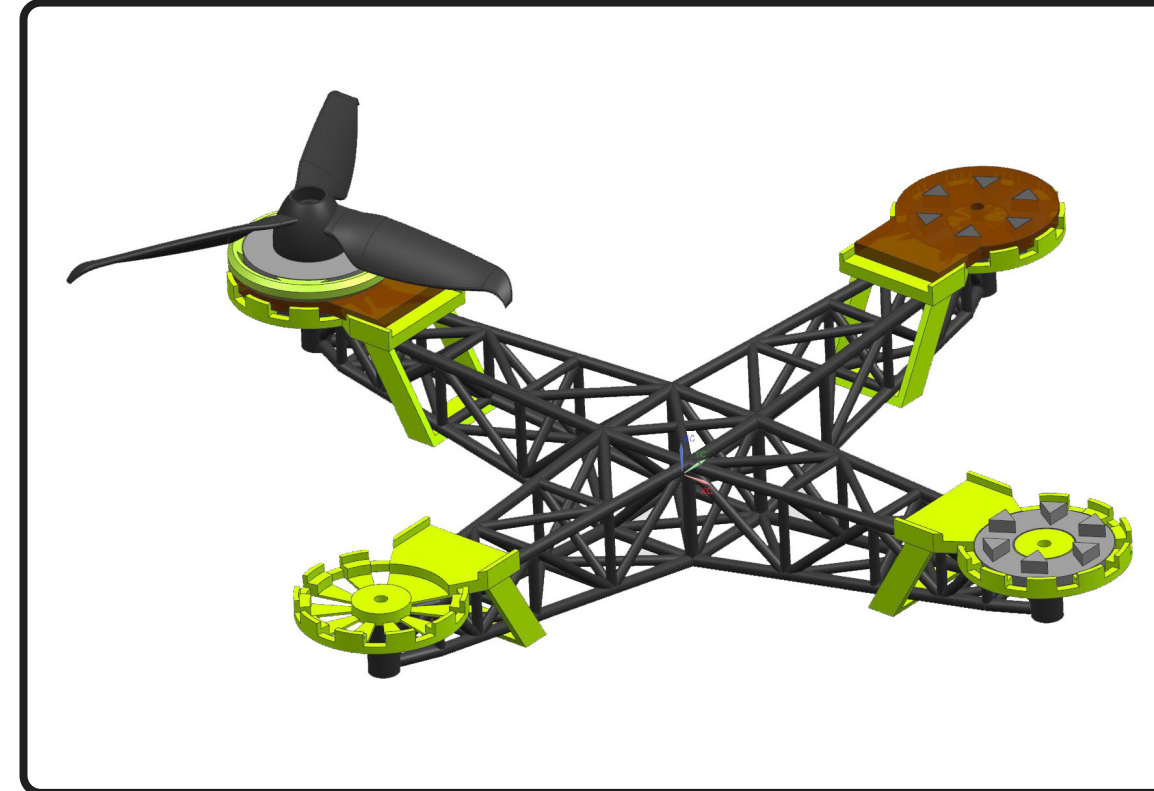
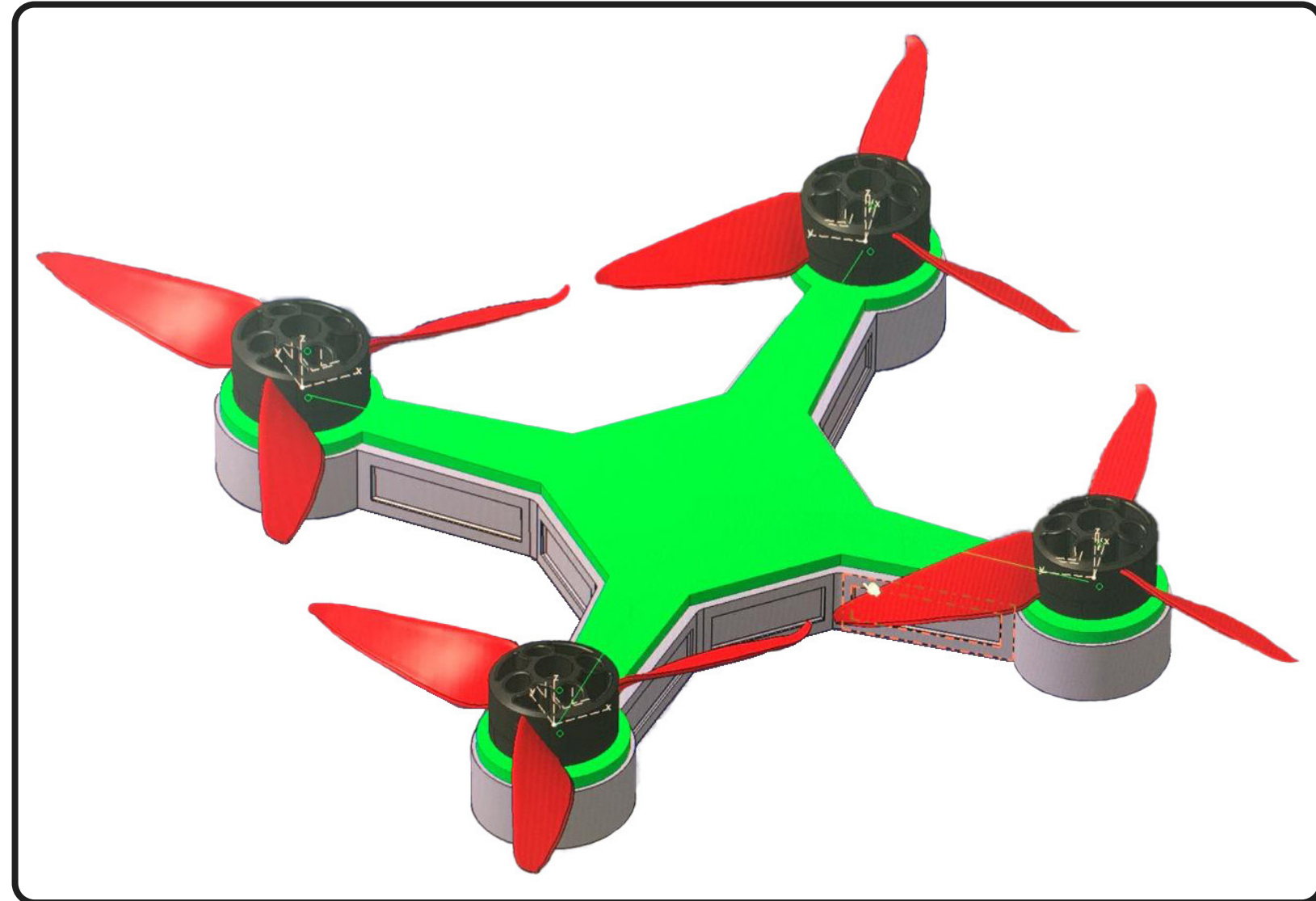
- Choose 3D ceramics material



J.A.M.E.S

Go Ahead with AME

○ start tiny - THINK BIG

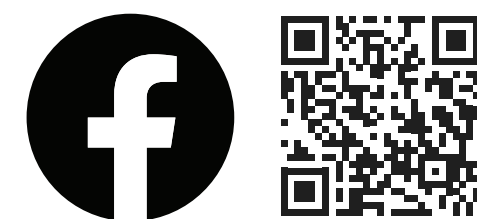


J.A.M.E.S

Be Part of the AME Revolution!

www.j-ames.com

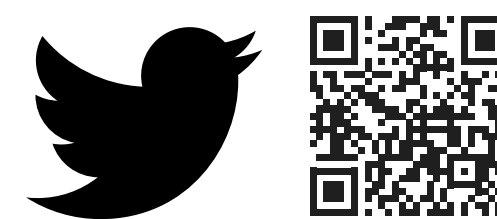
FOLLOW US ON



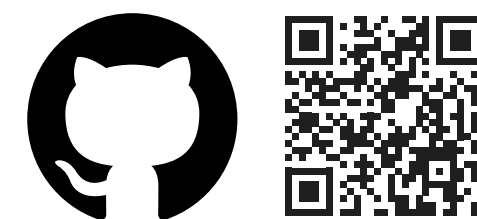
JAMES_GmbH



J.A.M.E.S GmbH



JAMES_GmbH



J.A.M.E.S



r/AMElectronics



J.A.M.E.S

J.A.M.E.S GmbH
Willy-Messerschmitt-Straße 3
82024 Taufkirchen
Germany