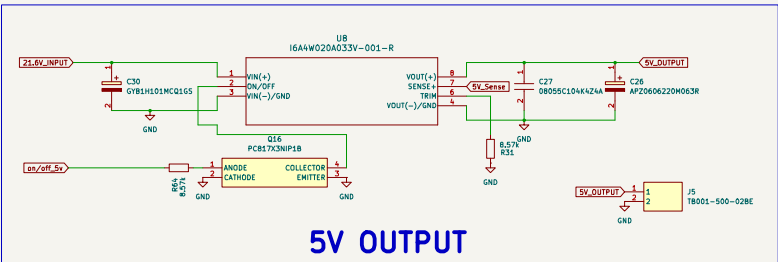
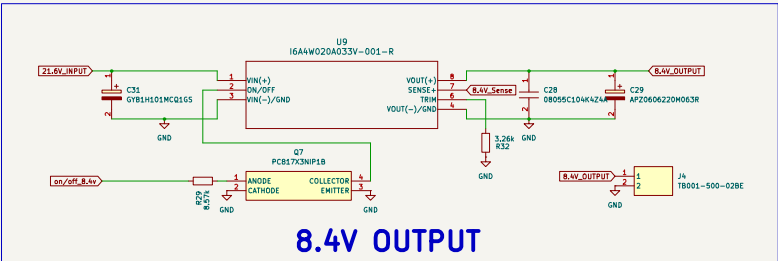


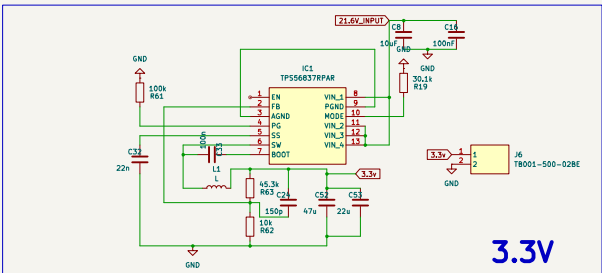
POWER



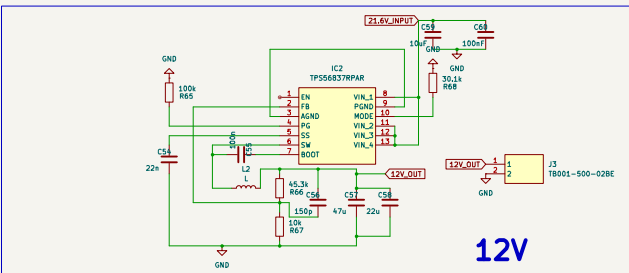
5V OUTPUT



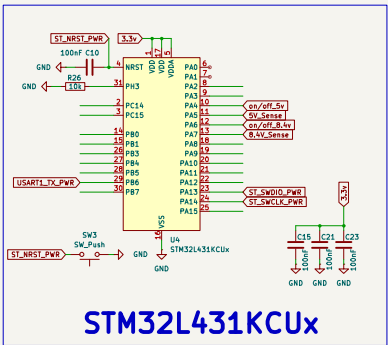
8.4V OUTPUT



3.3V

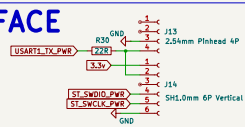


12V



STM32L431KCUX

DEBUG INTERFACE



NOTES

FD6288 DRIVE

Function: Drives the MOSFETs for motor control.
Purpose: Ensures efficient power delivery to the motor phases.
Use: Vital for managing motor speed and direction in ESC applications.

STM32L431KCUX

Function: Acts as the microcontroller for system control and computation.
Purpose: Handles signal processing, control algorithms, and communication.
Use: The core of the ESC's functionality, running firmware for precise motor control.

BATTERY PAD

Function: Connects the ESC to the power source (battery).
Purpose: Supplies power to the ESC and motor system.
Use: Ensures stable and reliable power input for the entire ESC circuit.

MOTOR PAD

Function: Connects the ESC to the motor phases.
Purpose: Transfers power signals to the motor for operation.
Use: Links the ESC control to the physical motor.

SENSE CIRCUIT

Function: Monitors current and voltage parameters in the system.
Purpose: Provides feedback for protection and optimization of motor performance.
Use: Enhances reliability and efficiency by preventing overcurrent or under/overvoltage conditions.

VOLTAGE & CURRENT

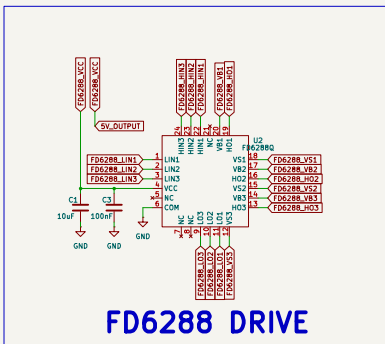
Function: Measures and conditions voltage and current signals.
Purpose: Feeds accurate data to the microcontroller for decision-making.
Use: Critical for implementing closed-loop control and safety features.

DEBUG INTERFACE

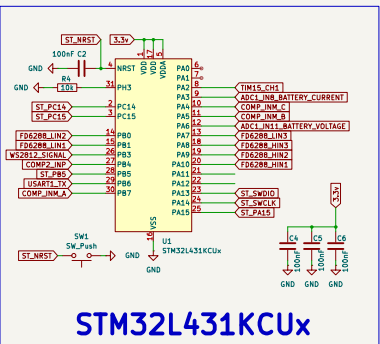
Function: Enables programming and debugging of the microcontroller.
Purpose: Allows developers to upload firmware and troubleshoot the system.
Use: Essential for system testing, calibration, and iterative development.

PHASE A / PHASE B / PHASE C

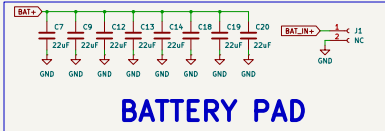
Function: Controls the respective motor phase through PWM signals.
Purpose: Drives each motor coil to generate rotational motion.
Use: Coordinates motor phases to ensure smooth and efficient operation.



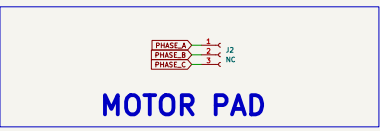
FD6288 DRIVE



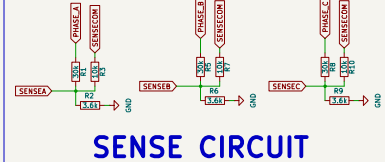
STM32L431KCUX



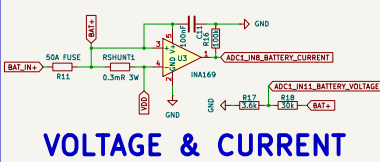
BATTERY PAD



MOTOR PAD



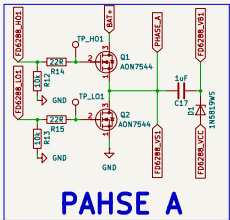
SENSE CIRCUIT



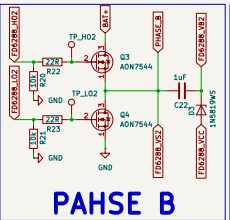
VOLTAGE & CURRENT



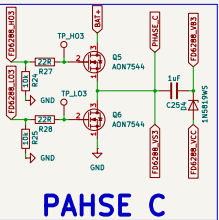
DEBUG INTERFACE



PAHSE A

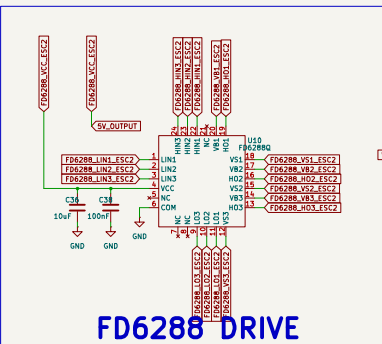


PAHSE B

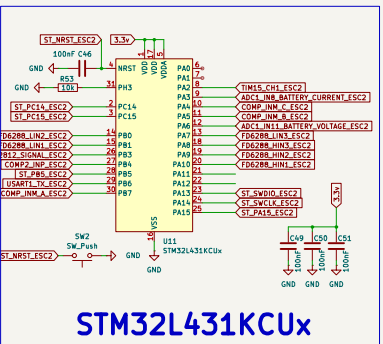


PAHSE C

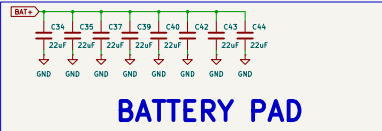
ESC 1



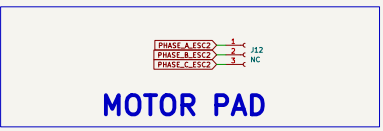
FD6288 DRIVE



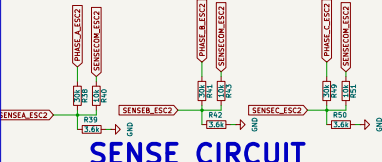
STM32L431KCUX



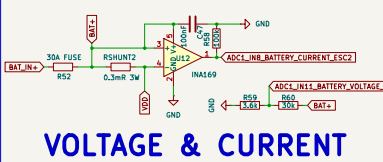
BATTERY PAD



MOTOR PAD



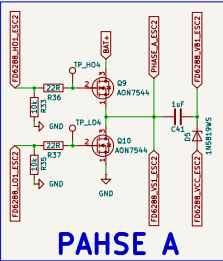
SENSE CIRCUIT



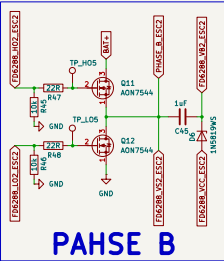
VOLTAGE & CURRENT



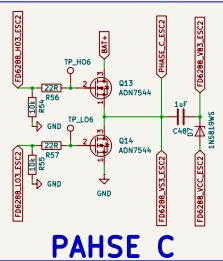
DEBUG INTERFACE



PAHSE A



PAHSE B



PAHSE C

ESC 2