

STM32H743 Drone Controller Board

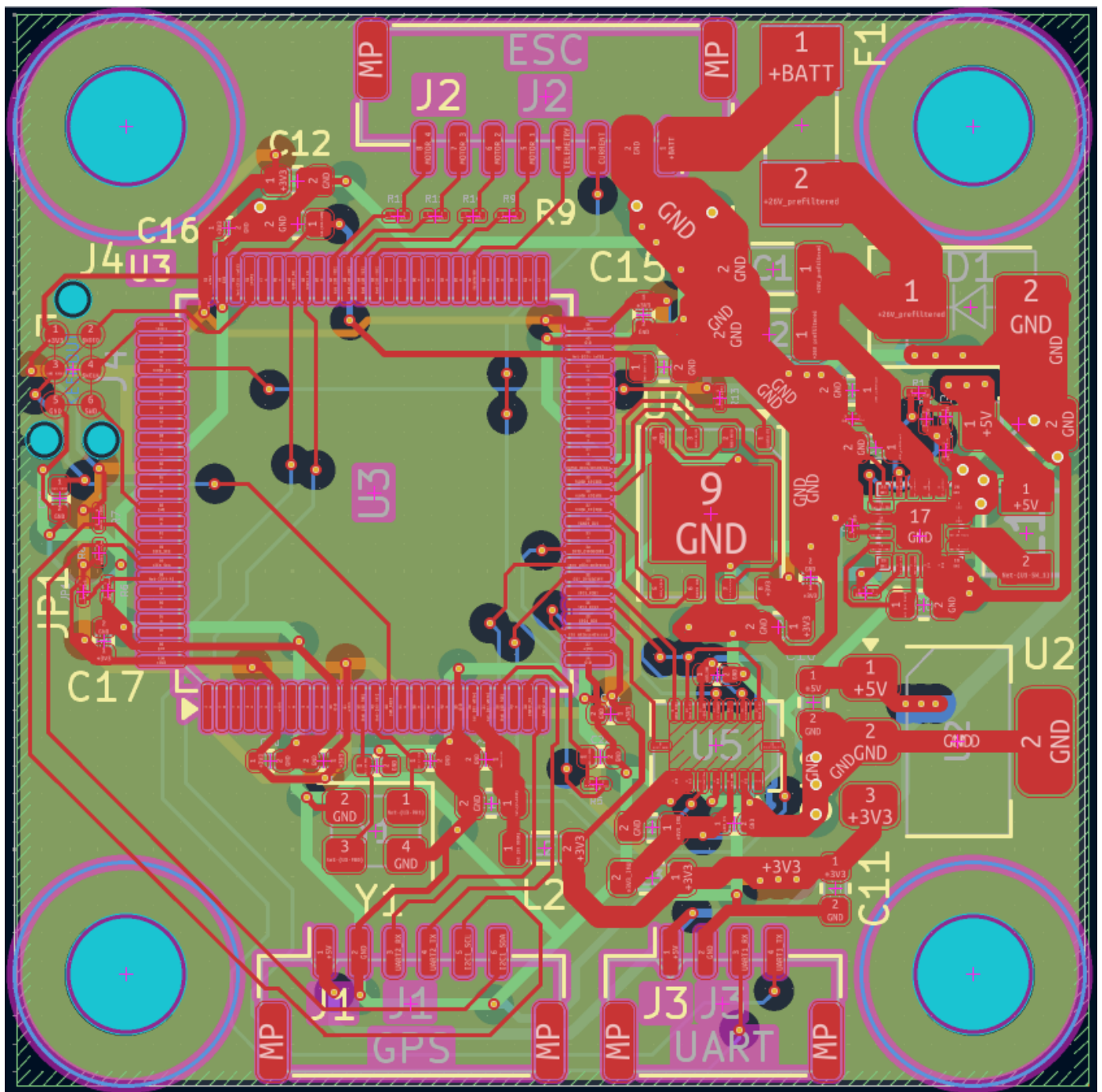
This board was designed including component selection, schematic capture and PCB layout during one weekend.

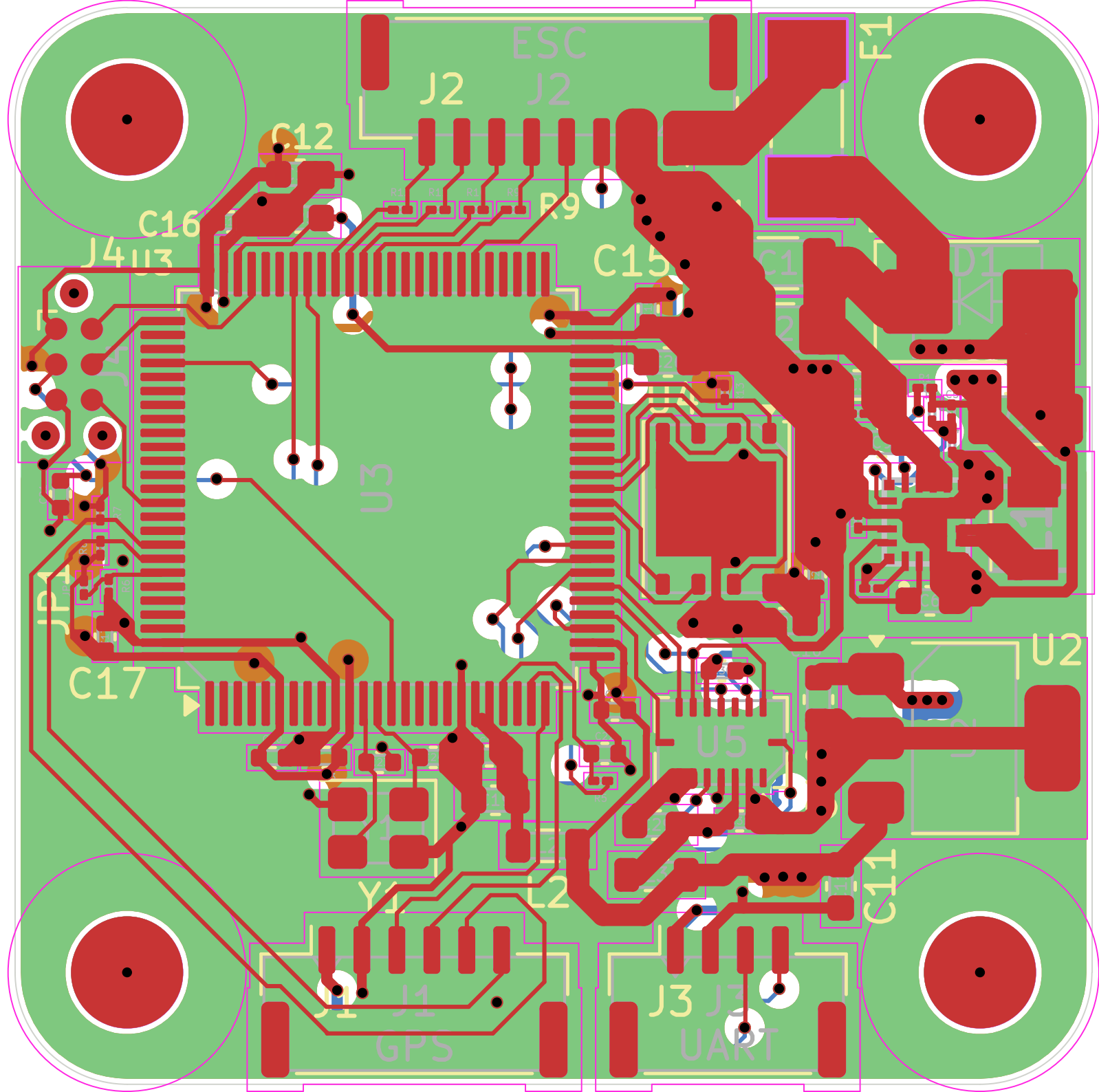
The board is based on the **STM32H743VIT6** and contains a DC/DC power supply based on the **LT8609SEV#PBF ultra-low-EMI SMPS**, with optimized component placement, short high-current paths and a minimized switching hot loop to improve EMC performance, reduce parasitic inductance and maintain high power efficiency.

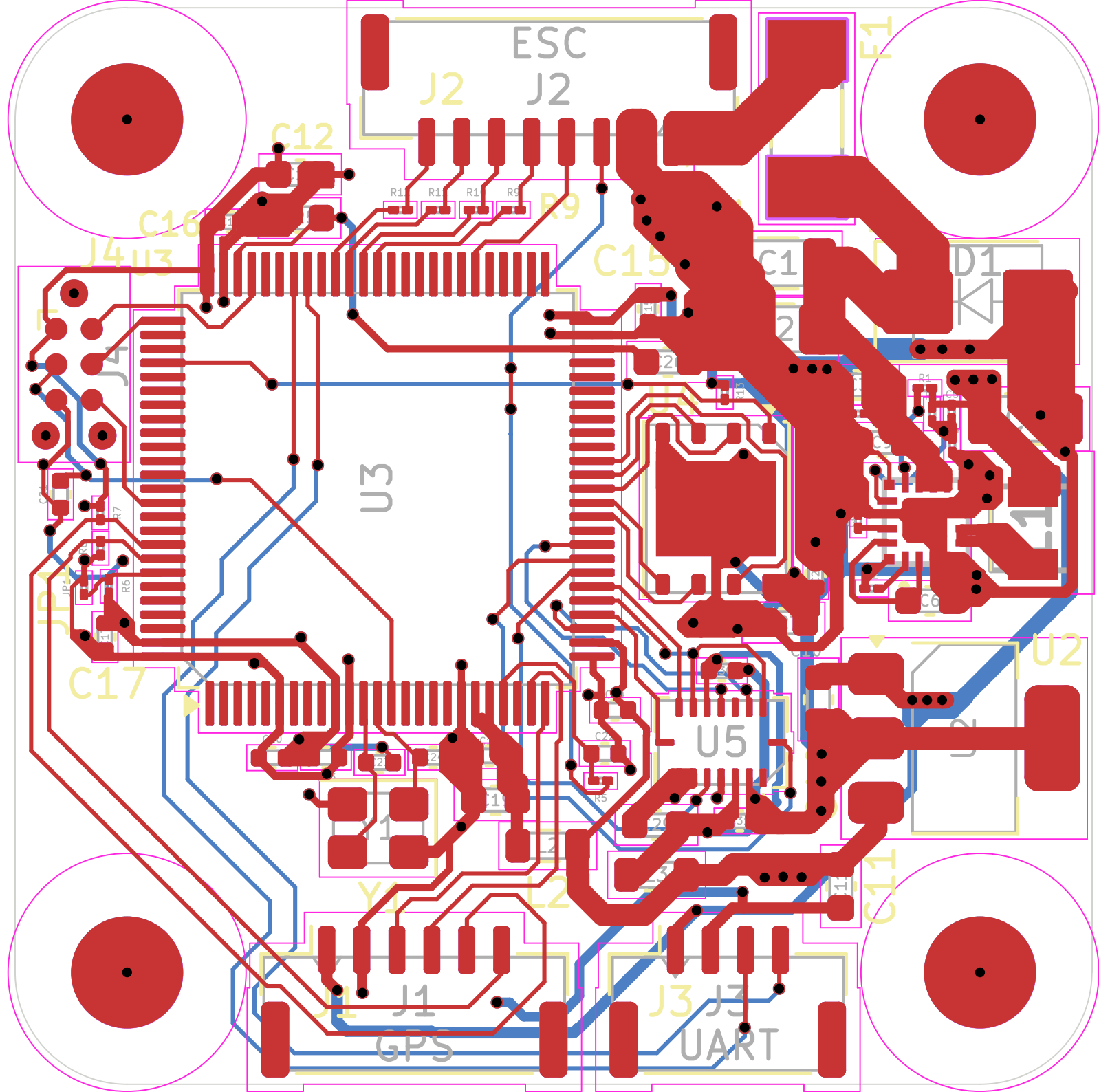
It also contains a **W25Q512JVEIQ Flash memory** with short high-speed routing, and a **Bosch BMI088 IMU** for inertial sensing using an integrated accelerometer and gyroscope.

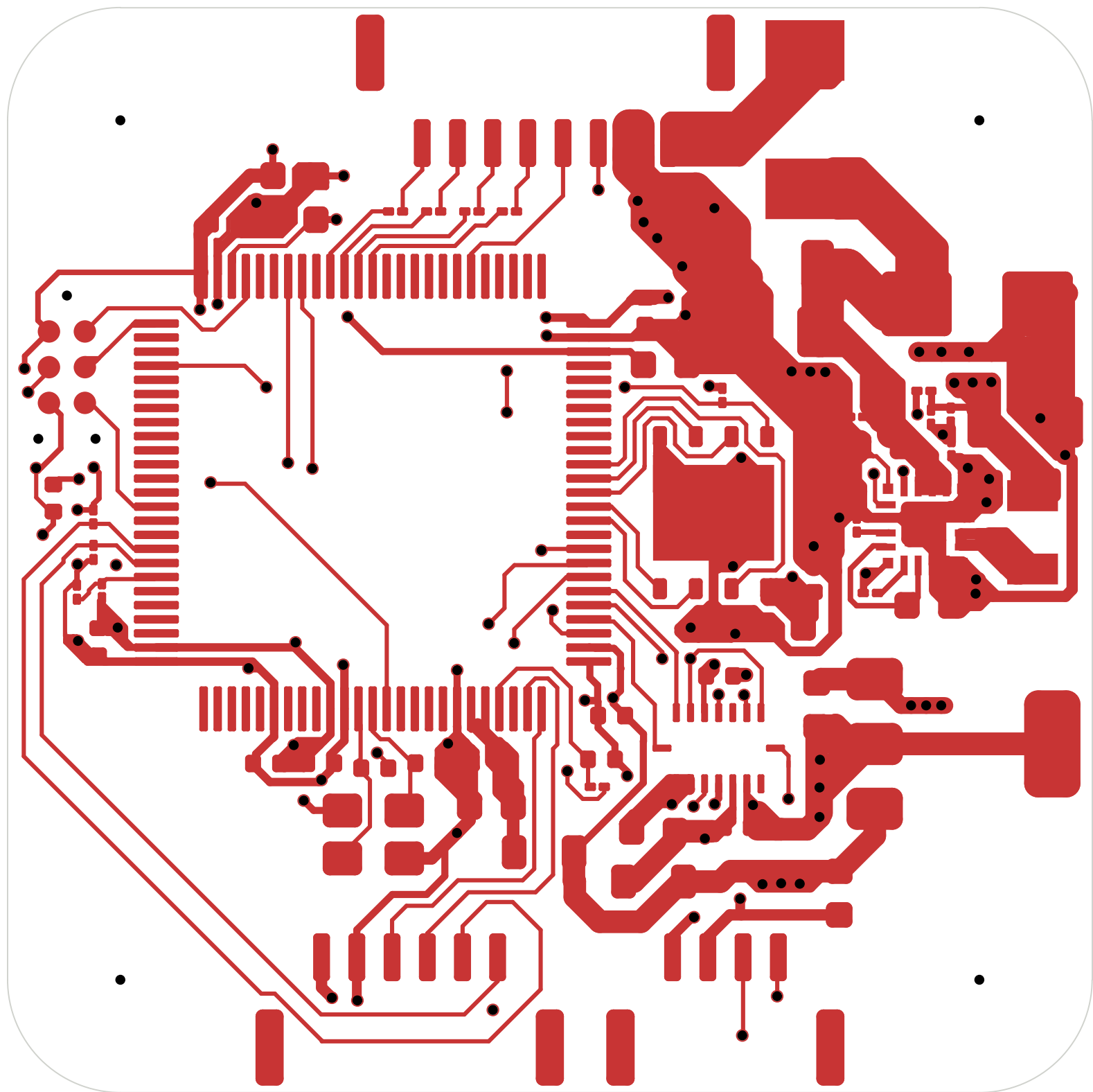
The board uses a **4-layer stackup**, where:

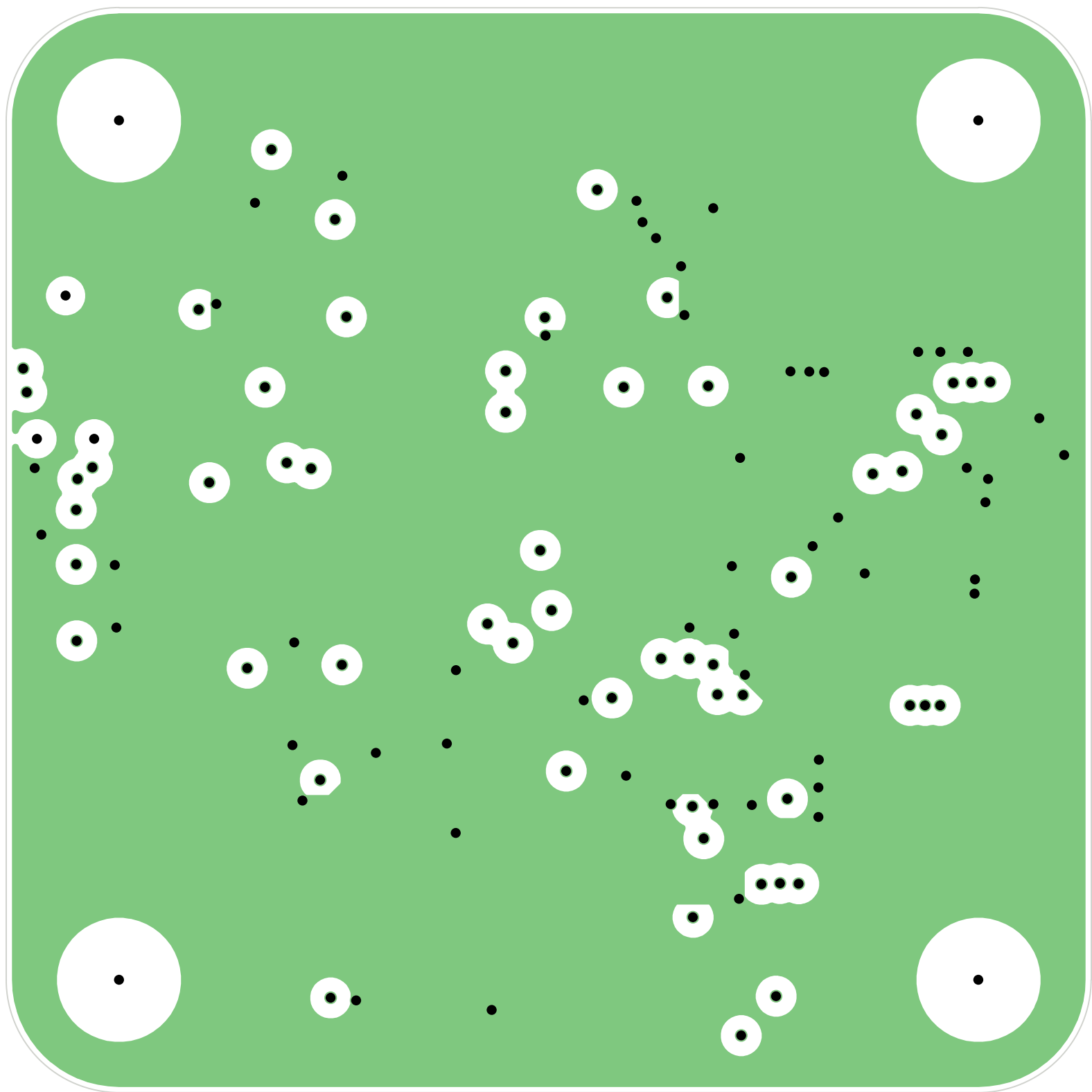
- 1 – TOP:** signals, components, local GND copper and power routing
- 2 – GND PLANE:** solid ground plane providing low-inductance return current paths, good signal reference and improved EMC performance
- 3 – POWER PLANE:** low-impedance power distribution plane
- 4 – BOTTOM:** secondary signal routing mixed with GND copper

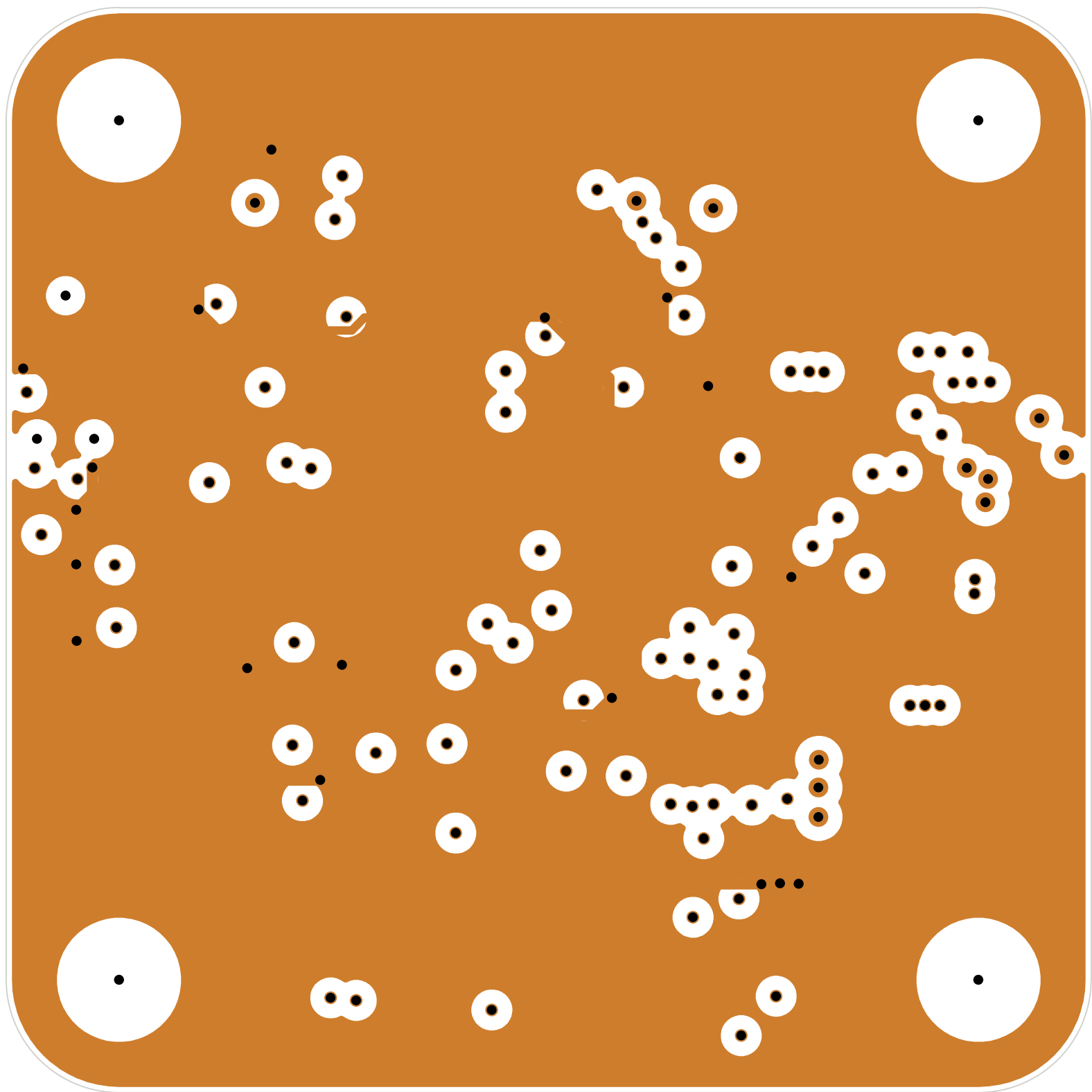


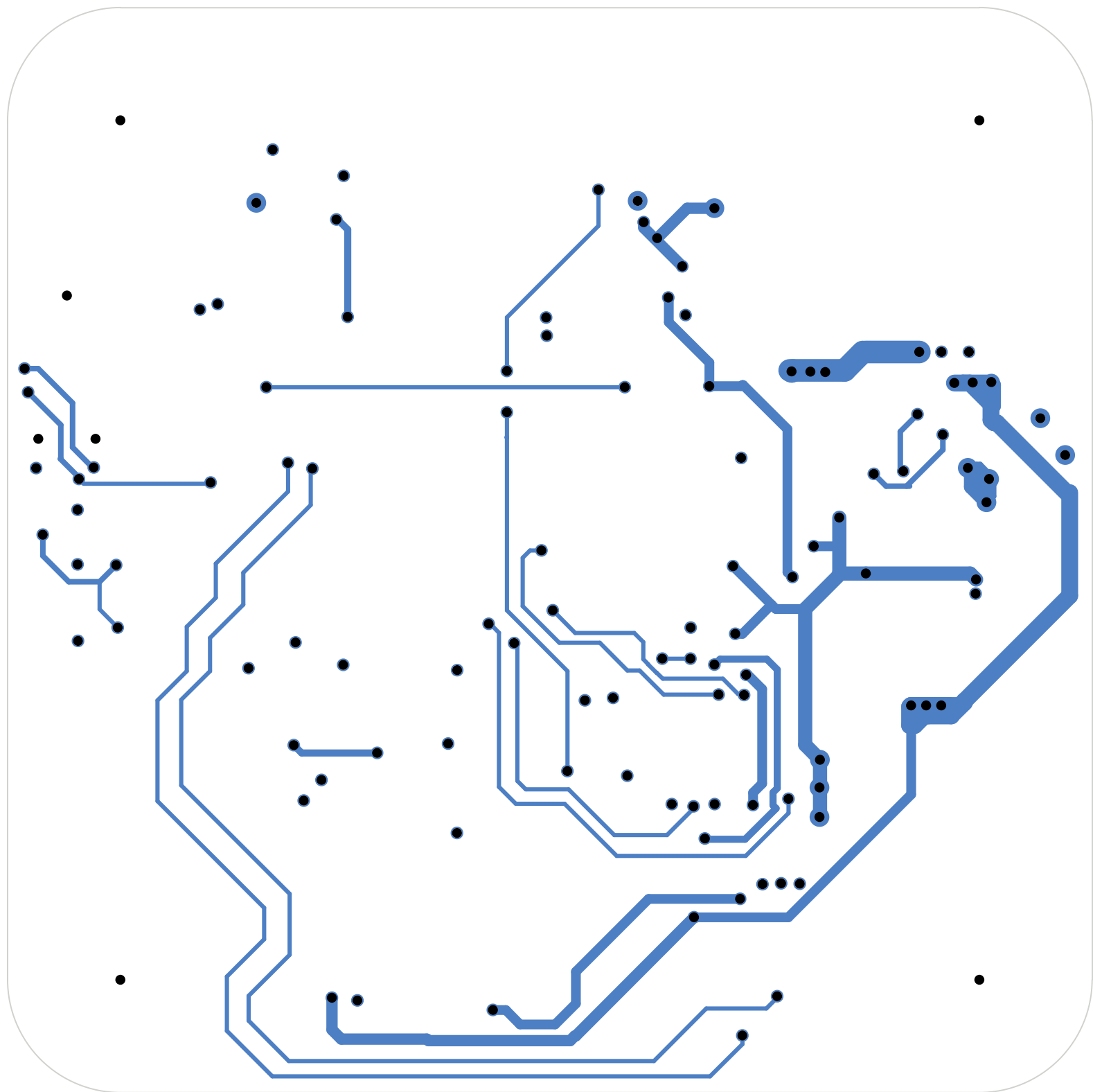


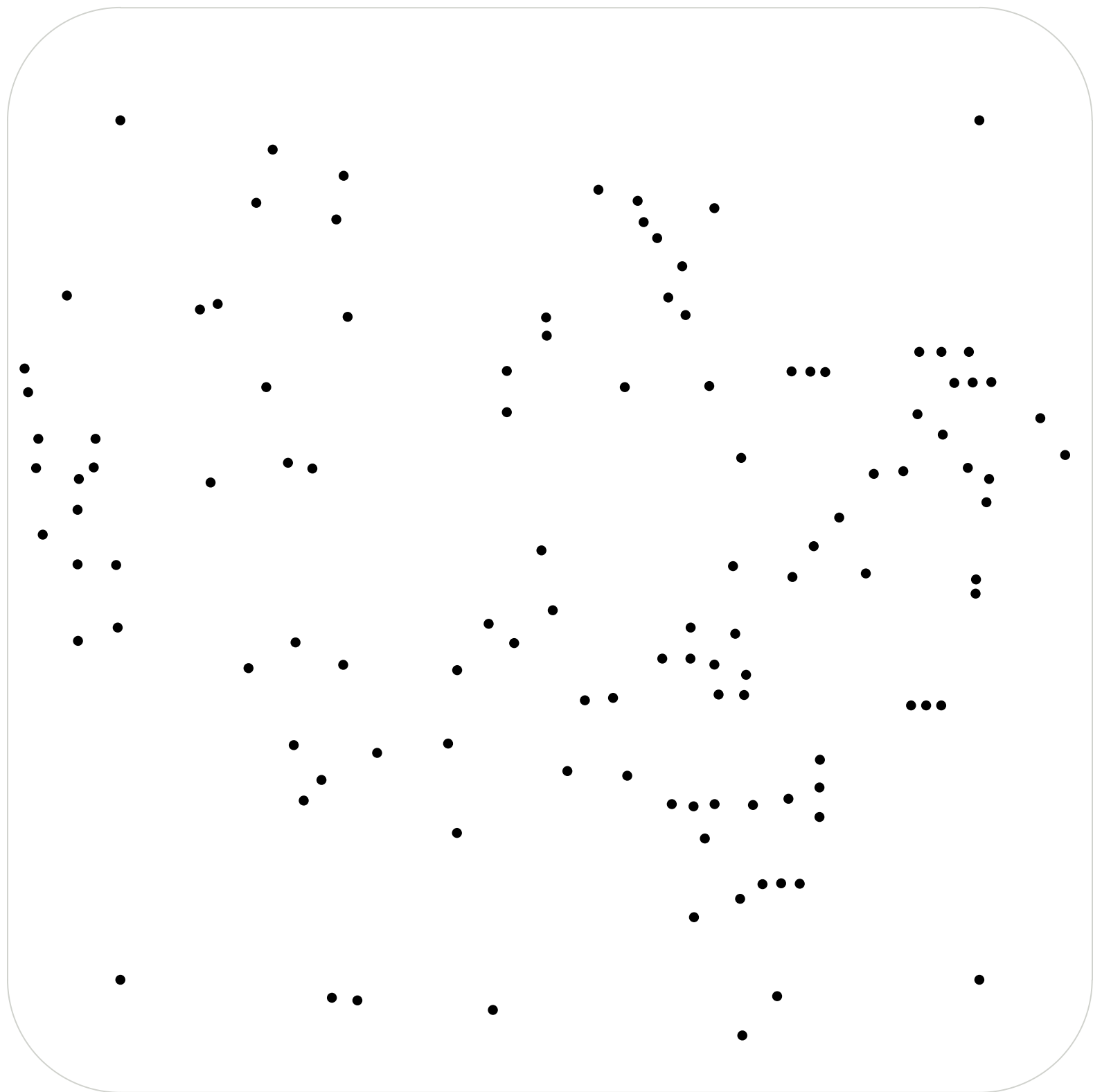


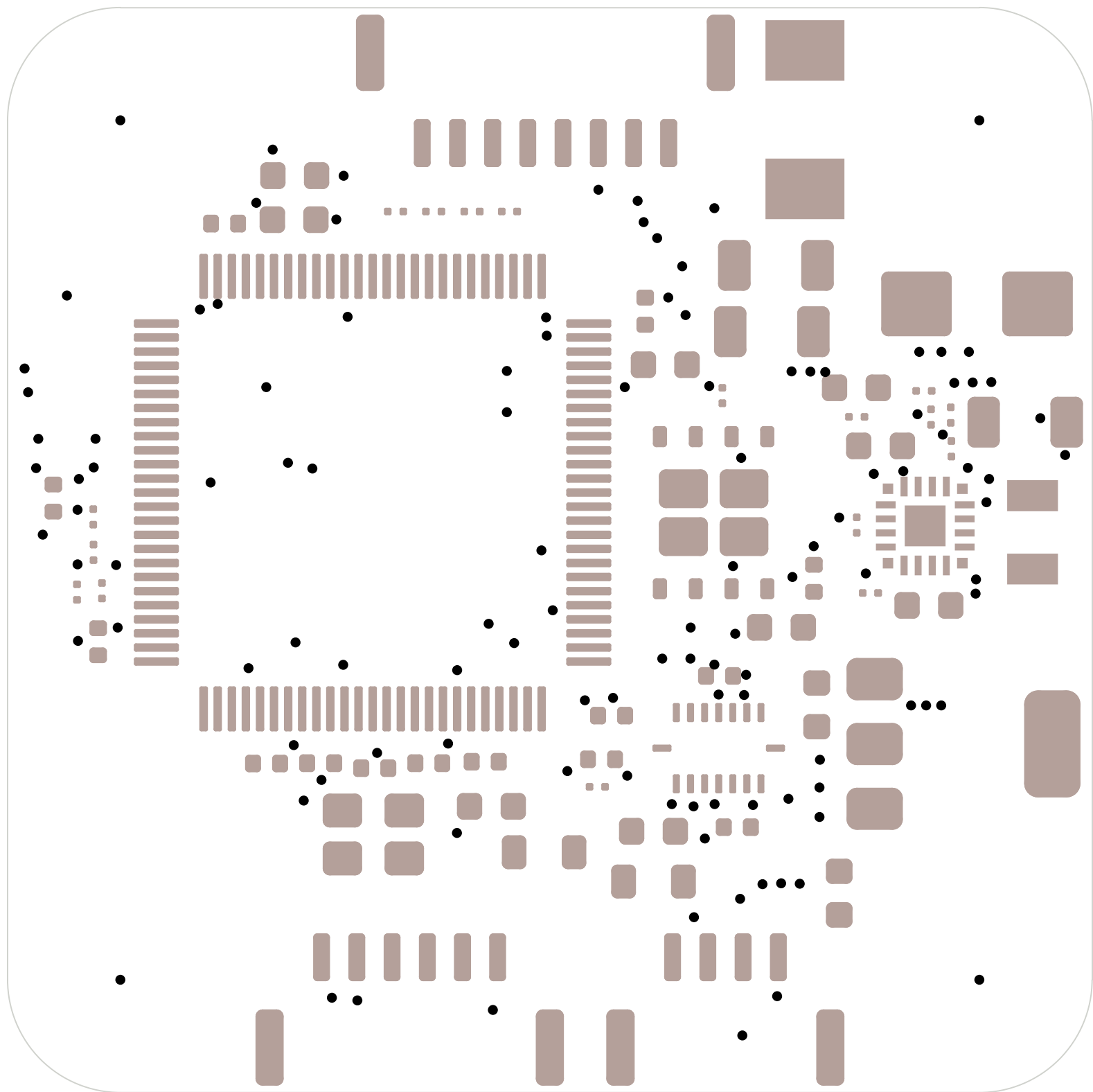


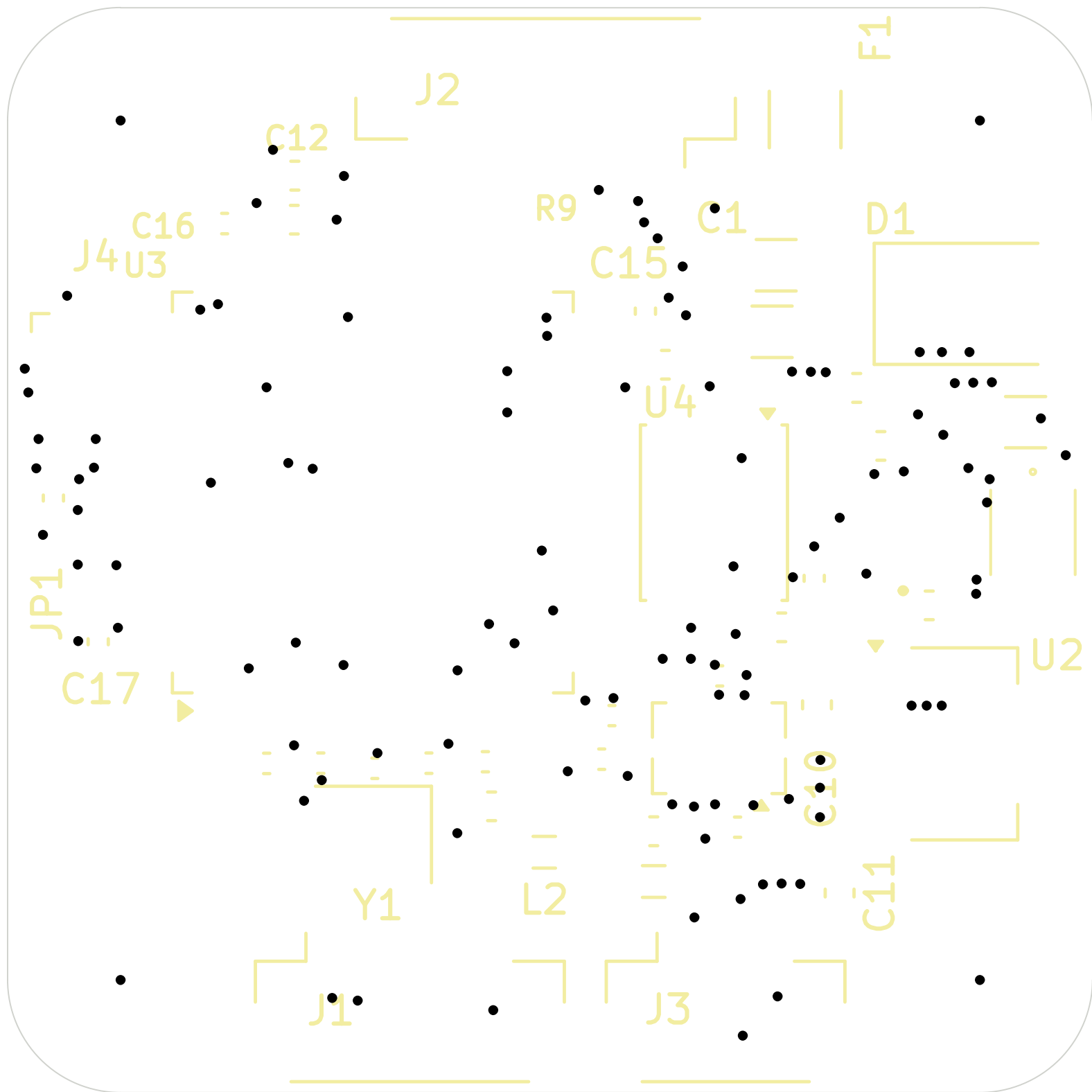


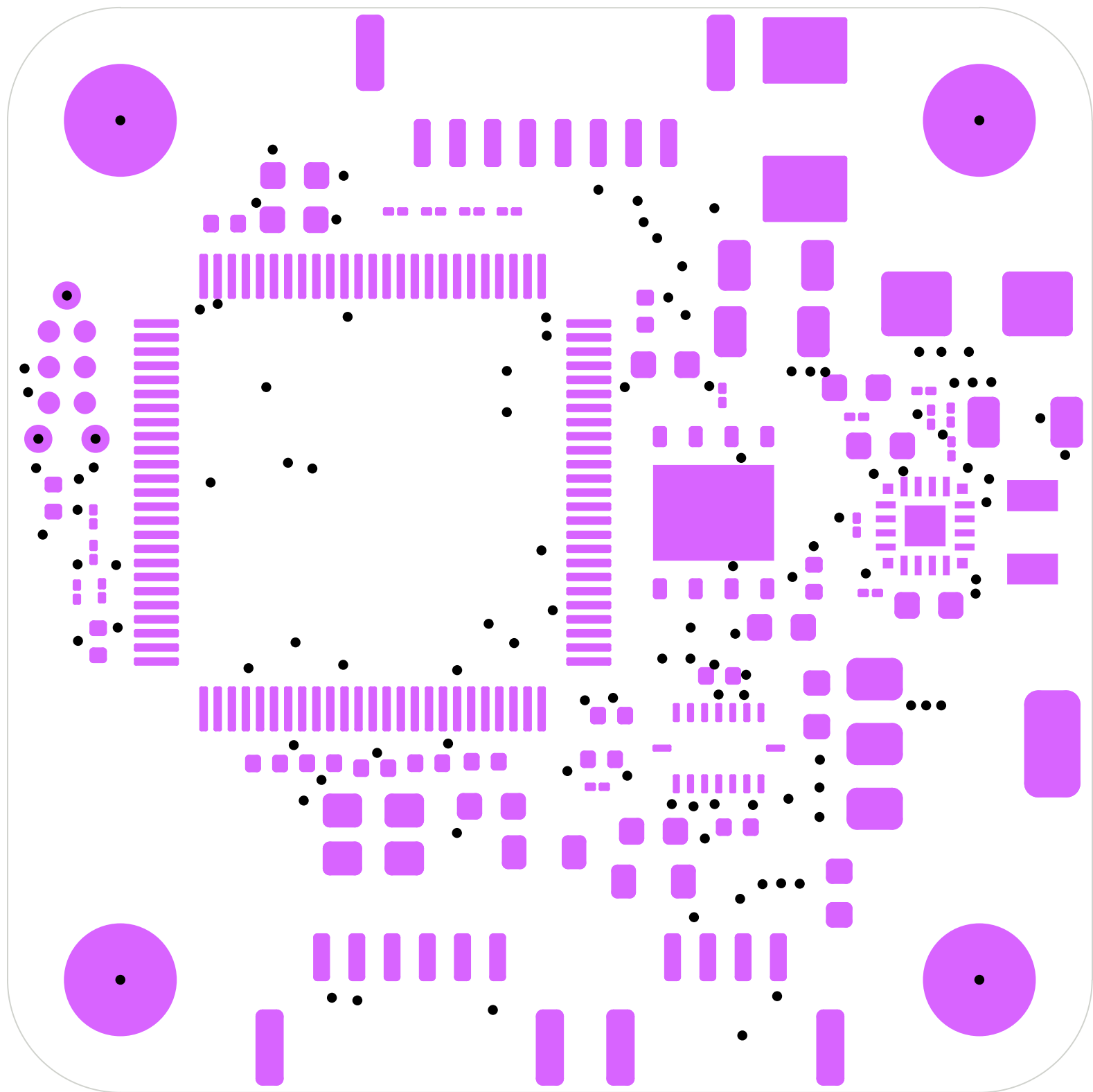


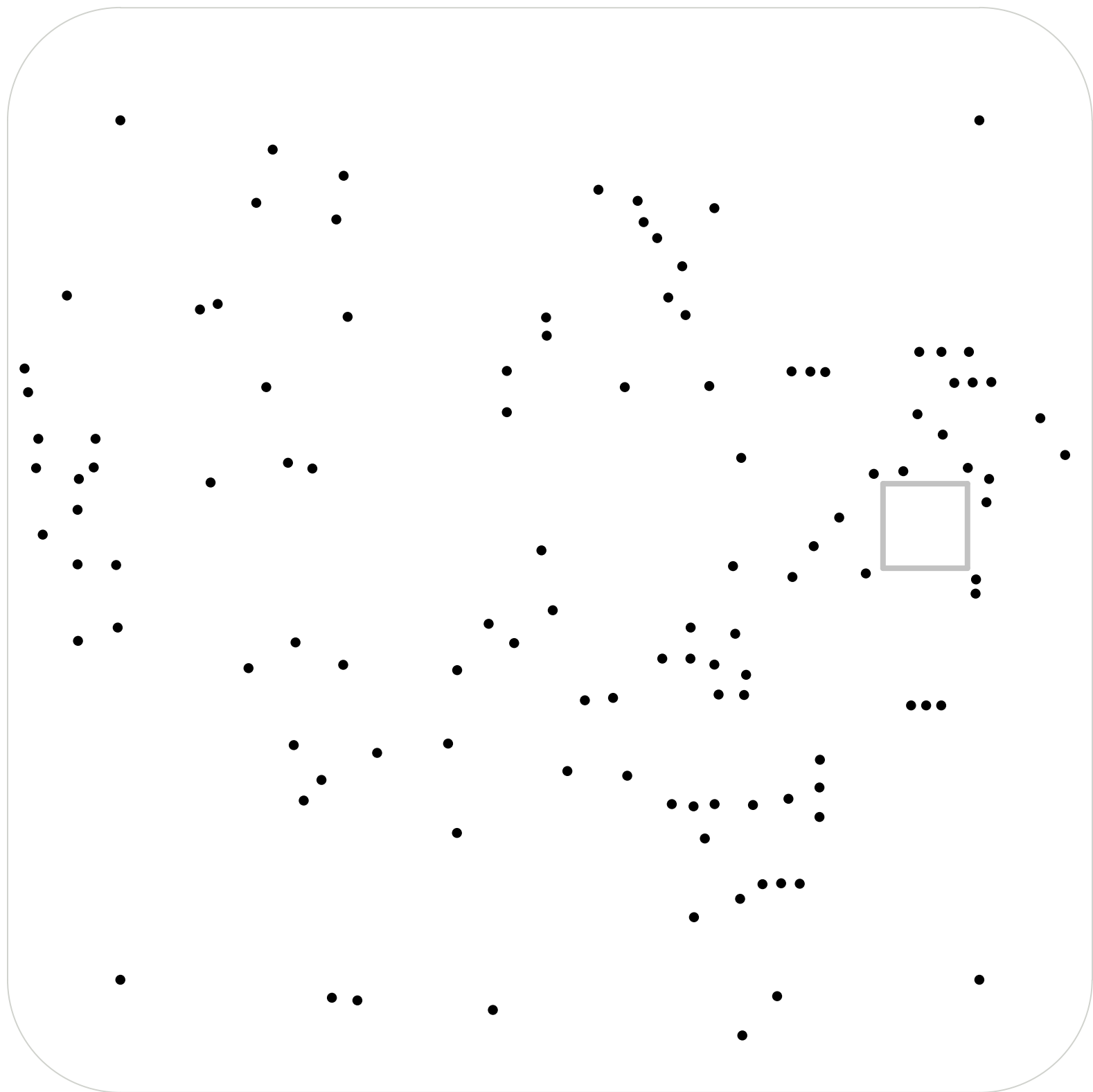


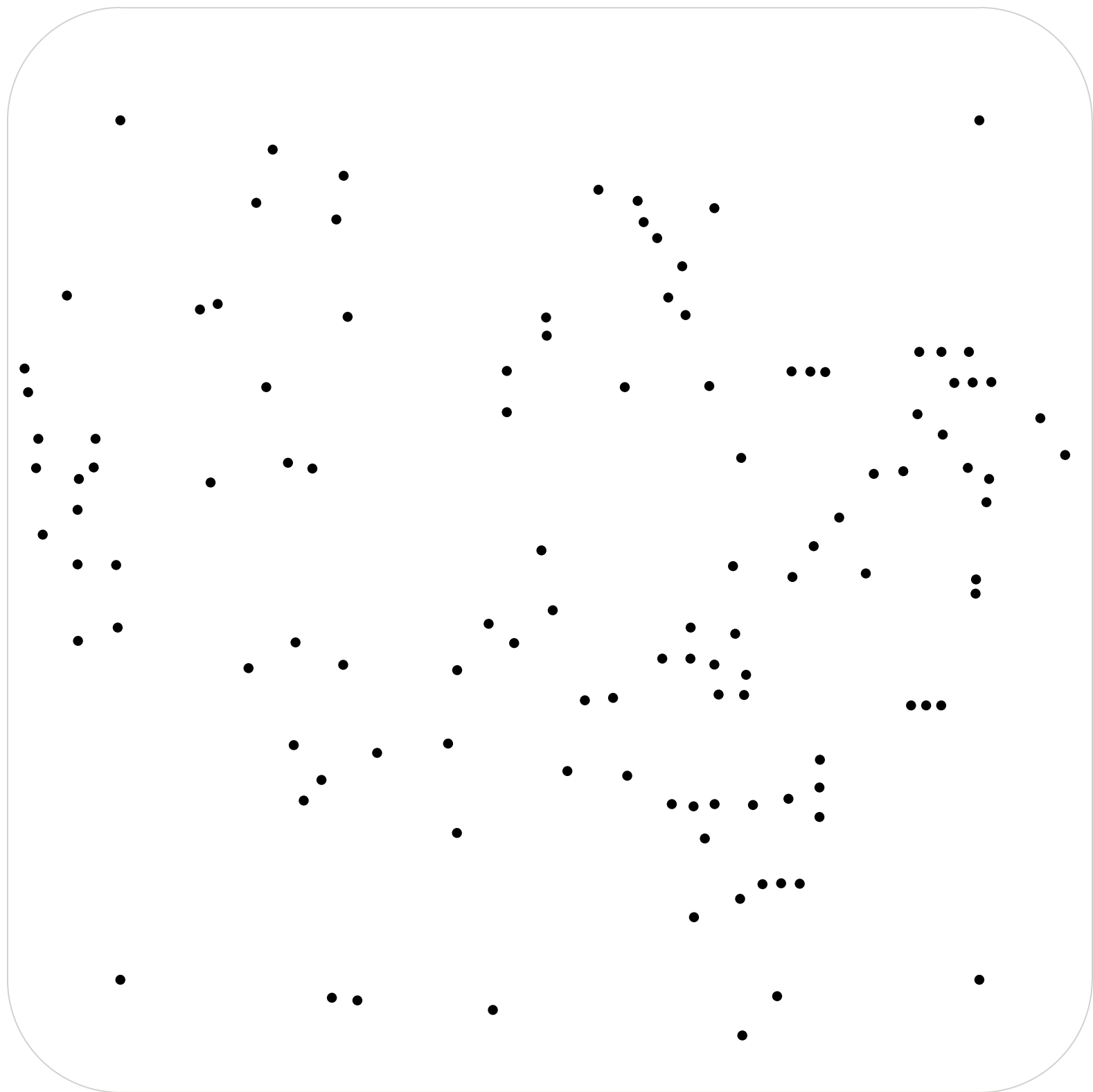


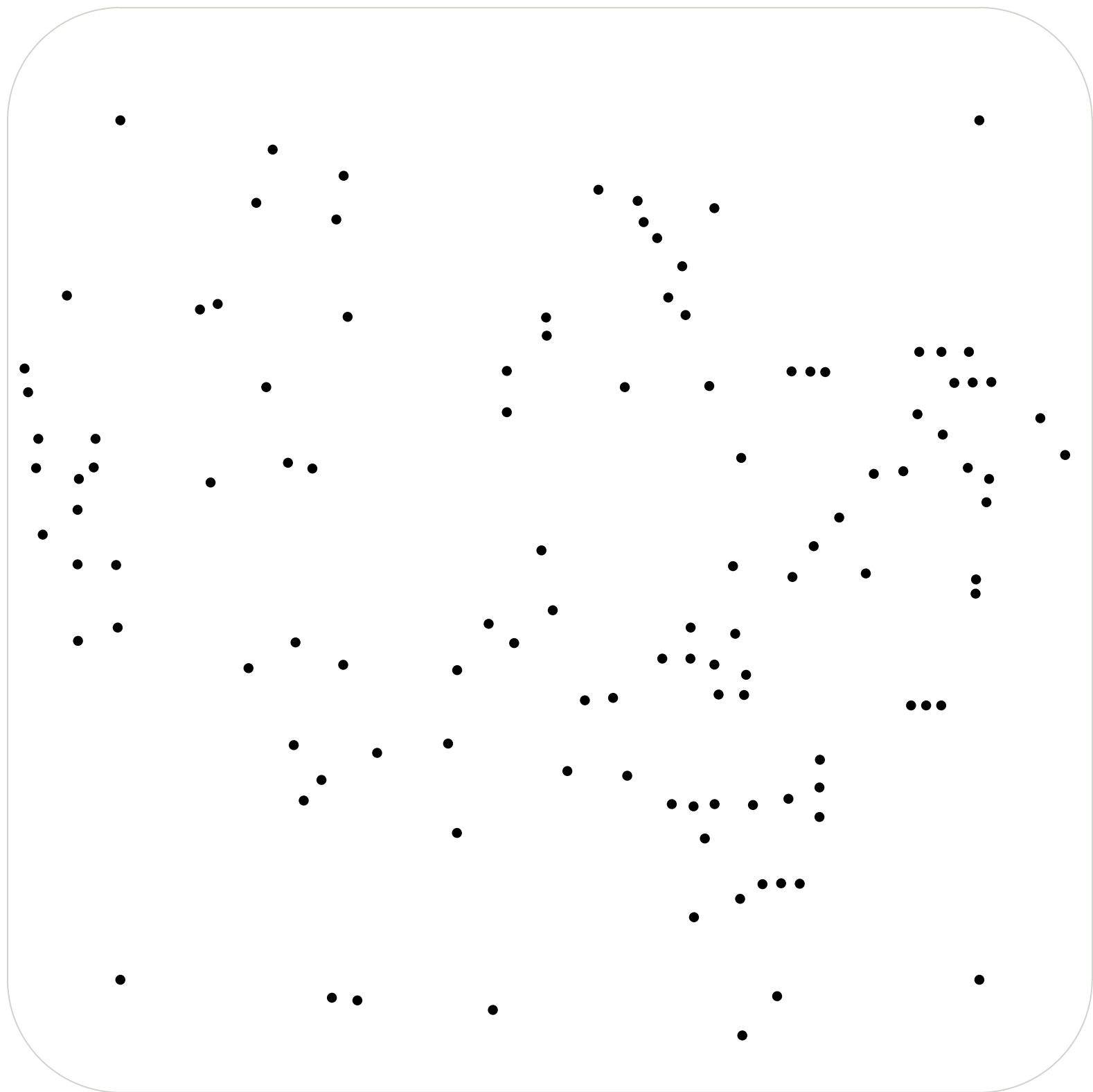




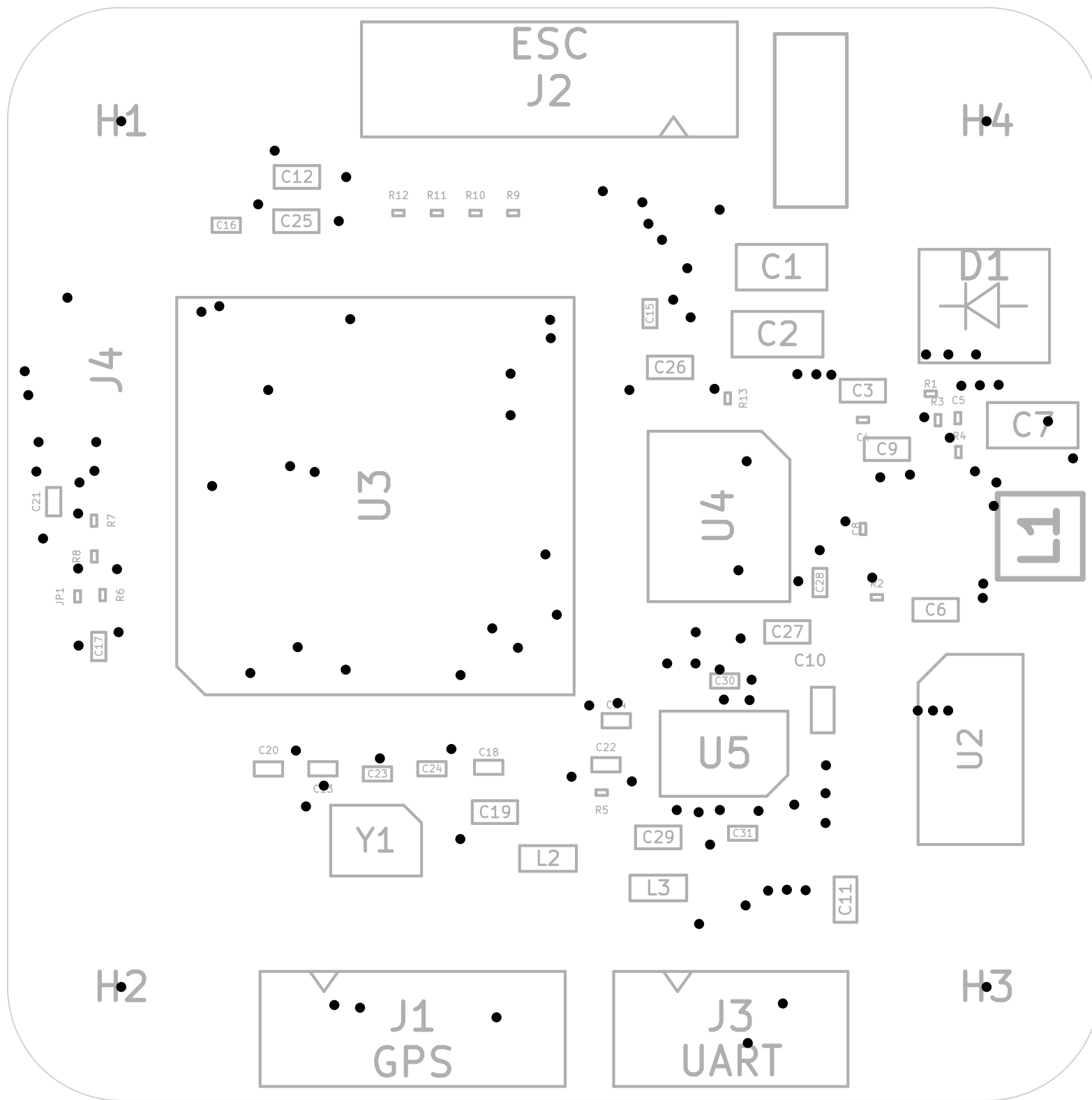










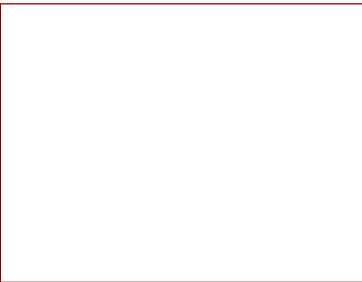




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Plik: 02_power_regulation.kicad_sch



Plik: 03_stm32h743_sch.kicad_sch



Plik: 04_bmi088_imu_sensor.kicad_sch

- H4
MountingHole
- H3
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Sheet: /

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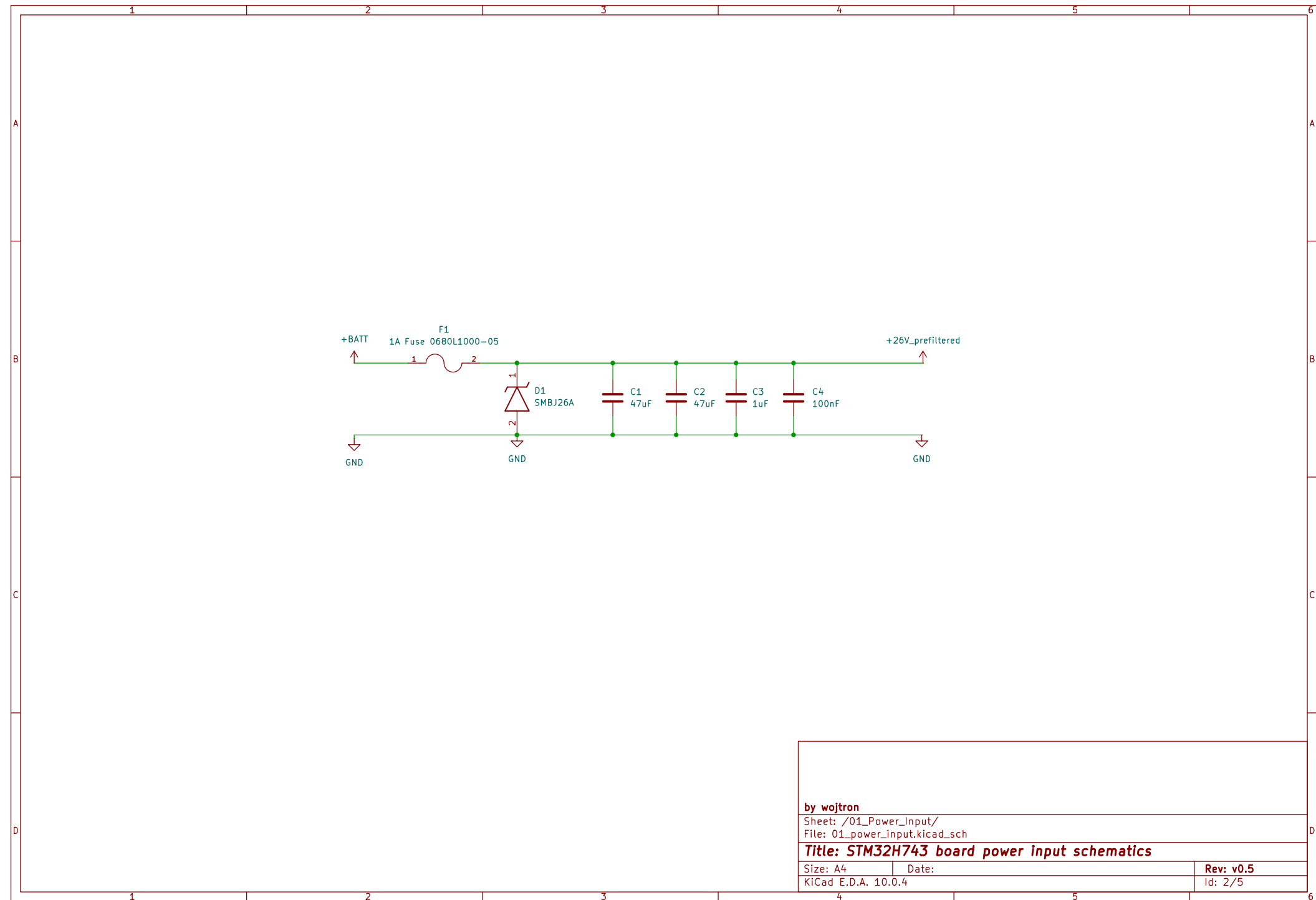
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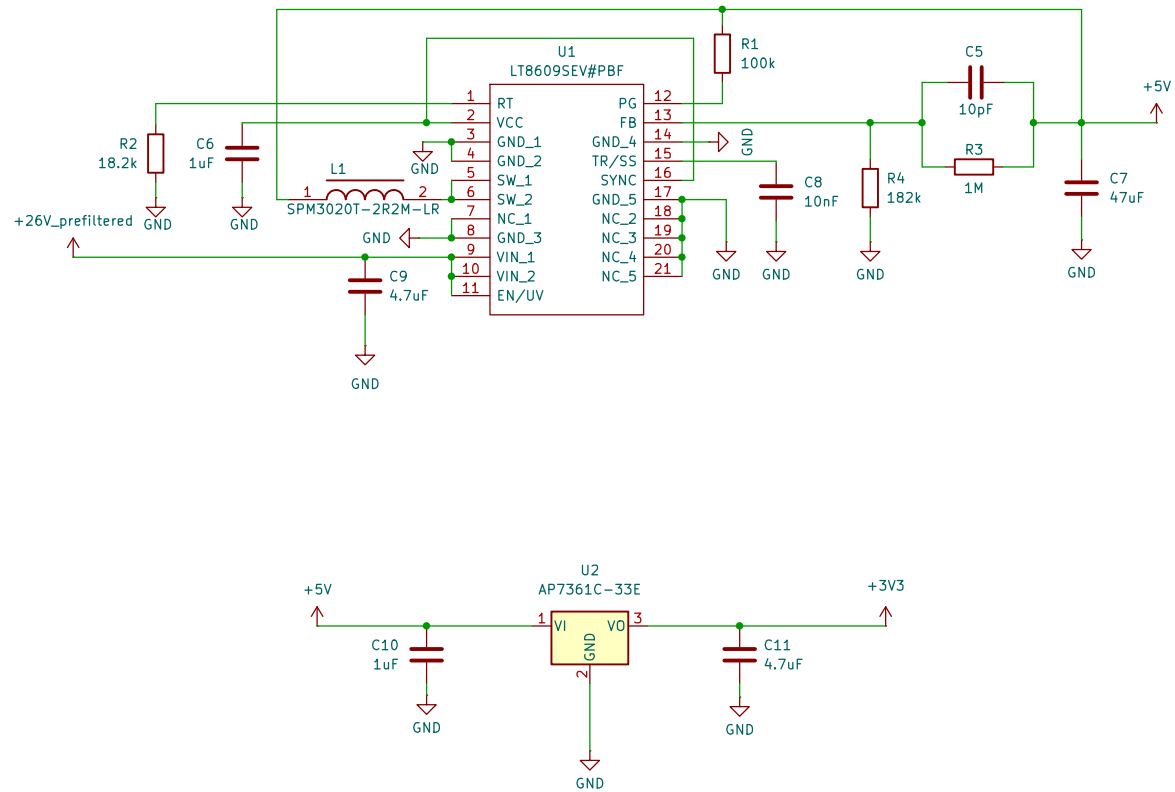
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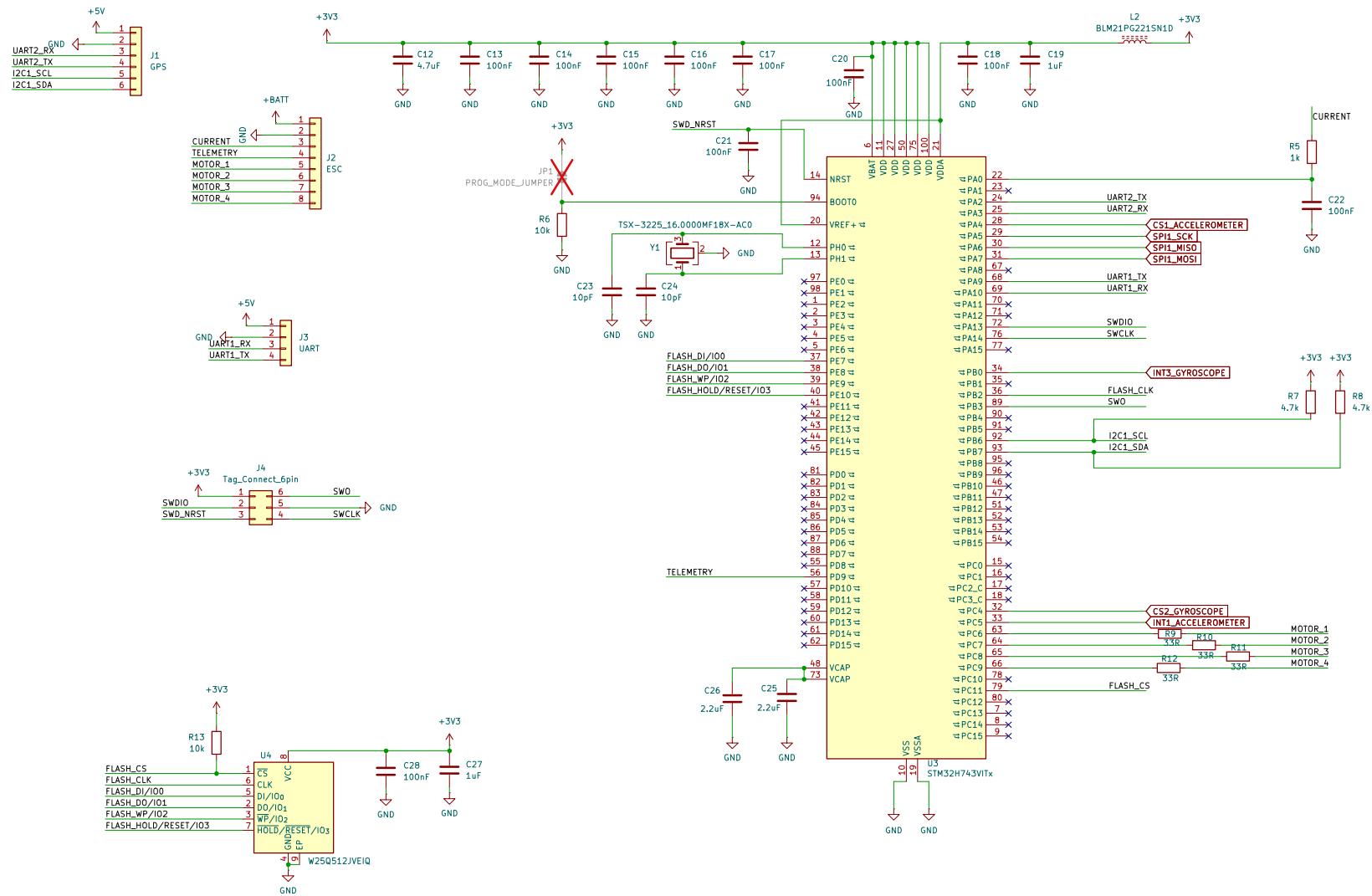
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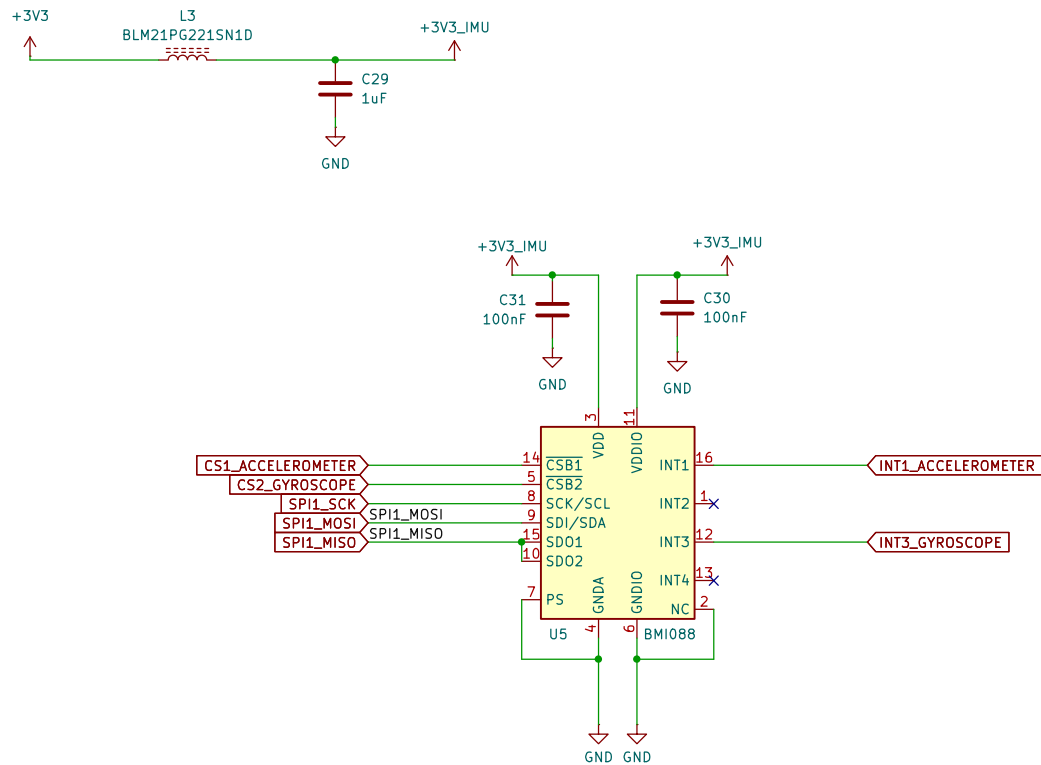
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Title: STM32H743 board IMU BMI088 schematics

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