

The schematic diagram illustrates the electrical connections for the STM32F411CEU6 microcontroller. Key components and their connections include:

- J3 (SM06B-GHS-TB)**: A 6-pin connector providing power (+3V3) and ground to the MCU PA4 through PA7 pins.
- J2**: A 5-pin connector for SWDIO/TMS, SWCLK/TCK, SWO/TDO, NRST, and VCC/GND.
- J1**: A 15-pin connector for USB D+, USB D-, MCU SWDIO, MCU SWCLK, and MCU SWO.
- X1**: A 24MHz crystal oscillator connected to XTAL_IN and XTAL_OUT pins, with 10pF capacitors (C5, C6).
- R2**: A 0R resistor used as a jumper between XTAL_IN and the MCU OSC_IN pin.
- C7-C12**: Decoupling capacitors (2uF, 100nF) connected to the VBAT, VDD, and GND pins.
- R3, R4**: 2k2 resistors connected to the IMU_SCL, IMU_SDA, and IMU_INT pins.
- R5**: A 1k resistor connected to the MCU_LED_A pin.
- R6**: A 10K resistor connected to the VCAP1 pin.
- R7**: A 10K resistor connected to the NRST pin.
- C13**: A 2uF capacitor connected to the VCAP1 pin.
- D2**: An LED connected to the MCU_LED_A pin.
- U2**: The STM32F411CEU6 microcontroller chip, showing its internal pinout and external connections.

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