

Second Board Documentation

This document is written to record the configurations of the **Second BluePill Board (partial communication and partial control)** for any future references if no new designs for the hardware are available.

GPIO Configurations:

Output Pins are used as Push-Pull.

PIN Name	PIN Label
PA9	BRAKE_LIGHT_RELAY
PA10	FAN_RELAY
PA11	PUMP_RELAY
PA12	EVMS_RELAY

Input Pins are used as No Pull.

PIN Name	PIN Label
PA8	BMS_FB
PB12	BSPD_FB
PB13	BSPD_RELAY_FB
PB14	IMD_FB
PB15	IMD_RELAY_FB

CAN Configurations: (Check again for configs)

CAN is remapped to pins **PB9** and **PB8**

- Pre-scaler: 16
- Time Segment 1: 4
- Time Segment 2: 4
- SJW: 1
- Baud Rate: 250 Kbit/s

ADC Configurations:

PIN mode is analog. ADC1 is used for both PINs **PA0 (IN0)** and **PA1 (IN1)**.

- **Scan Conversion Mode: DISABLE**
- **Continuous Conversion Mode: DISABLE**
- **Discontinuous Conversion Mode: DISABLE**
- **External Trigger Conversion: Software Start**
- **Data Alignment: Right**
- **Number of Conversions: 1**

PIN Name	PIN Label
PA0	BRAKE_ANGLE
PA1	BRAKE_PRESSURE_SENSE

RCC Configurations:

The RCC parameters are set as follows:

- **HSE is used as Crystal or Oscillator with 8 MHz frequency.**
- **PLL MUX Source: HSE**
- **PLL MUL: 9**
- **System Clock: PLL**
- **AHB Pre-scaler: 1**
- **APB1 Pre-scaler: 2**
- **APB2 Pre-scaler: 8**
- **ADC Pre-scaler: 8**
- **ADC Clock: 1.125 MHz**