**Notes**

1. SPI1 (IMU) SCK set to 10 MHz. Datasheets says max is 20 MHz.
2. First three values in SD card are always the same for each variable.
3. 2nd order Butterworth filter for load cell has an initial “ring” at the beginning of data collection. It happens so fast that it doesn’t seem to be an issue.
4. Speed to execute EPOS4 torque command:
   1. HAL = ~300 us
   2. LL = ~115 us
5. Coordinates are x = forward, y = up, z = right.
6. TIM6 used for delays.

**Improvements**

1. IMU sensitivities can probably be better than 8g and 1000 dps. They were adopted from previous firmware.
2. Nominal current for motor is most likely not accurate. This was adopted from previous firmware. Should probably ask a forum to help out.
3. Error handler…
4. Encoder Init() error checks.
5. Separate state machine file, handles various configurations of state machines.