Initialization functions of other gyro sensors

tdk_sensors.pdf

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MPU6000

```
void mpu6000_setup(void) {
  mpu6500_spi1_write(PWR_MGMT_1, 0x80); //1000 0000
  LL_mDelay(100);
  mpu6500_spi1_write(SIGNAL_PATH_RESET, 0x07);
  LL_mDelay(100);
  mpu6500_spi1_write(PWR_MGMT_1, 0x00);
  LL_mDelay(10); mpu6500_spi1_write(CONFIG, 0x03);
  LL_mDelay(10);
  mpu6500_spi1_write(GYRO_CONFIG, 0x08); //=>±500dps
  LL_mDelay(10);
  mpu6500_spi1_write(ACCEL_CONFIG, 0x10); //=>±8g
  LL_mDelay(10);
  mpu6500_spi1_write(SMPLRT_DIV,   0x00);
}
```

MPU6500

```
void mpu6500_setup(void) {
  mpu6500_spi1_write(PWR_MGMT_1, 0x80); //=>1000 0000
  LL_mDelay(100);
  mpu6500_spi1_write(SIGNAL_PATH_RESET, 0x07);
  LL_mDelay(100);
  mpu6500_spi1_write(PWR_MGMT_1, 0x01); //PLL circuit enabled.
  LL_mDelay(10);
  mpu6500_spi1_write(PWR_MGMT_2, 0x00);
  LL_mDelay(10);
  mpu6500_spi1_write(CONFIG, 0x03);//LPF(~43Hz)
  LL_mDelay(10);
  mpu6500_spi1_write(GYRO_CONFIG, 0x08); //=>±500dps
  LL_mDelay(10);
  mpu6500_spi1_write(ACCEL_CONFIG, 0x10); //=>±8g
```

```
    LL_mDelay(10);
    mpu6500_spi1_write(ACCEL_CONFIG2, 0x03);
    LL_mDelay(10);
    mpu6500_spi1_write(SMPLRT_DIV,   0x00);
}
```

ICM20948

```
uint8_t delay_ = 10;
void icm20948_setup(void) {
    icm20948_select_bank(USER_BANK_0);
    LL_mDelay(delay_);
    uint8_t test = icm20948_whoami();
    printf("0x%X\n", test);//0xEA ---> OK
    spi1_write(PWR_MGMT_1, 0x80);//reset
    LL_mDelay(delay_);
    spi1_write(PWR_MGMT_1, 0x01);//clock:20MHz(with PLL)
    LL_mDelay(delay_);
    spi1_write(PWR_MGMT_2, 0x00);//gyro_accel_on
    LL_mDelay(delay_);
    spi1_write(0x03, 0x10);//SPI only
    LL_mDelay(delay_);
    //printf("0x%02X\n", spi1_read(0x03));//0xEA ---> OK
    icm20948_select_bank(USER_BANK_2);
    LL_mDelay(delay_);
    spi1_write(GYRO_CONFIG_1, 0x1B);//1.1kHz, +-500dps, DLPF:73(51)Hz
    LL_mDelay(delay_);
    spi1_write(GYRO_SMPLRT_DIV, 0x00);//No change in sampling rate
    LL_mDelay(delay_);
    spi1_write(ACCEL_CONFIG, 0x1D);//1.1kHz, +-8g, DLPF:69(50)Hz
    LL_mDelay(delay_);
    spi1_write(ACCEL_SMPLRT_DIV_1, 0x00);//No change in sampling rate
    LL_mDelay(delay_);
    //printf("0x%02X\n", spi1_read(GYRO_CONFIG_1));//0xEA ---> OK
    icm20948_select_bank(USER_BANK_0);
}

#define USER_BANK_SEL                0x7F
```

```
#define USER_BANK_0                0x00
#define USER_BANK_1                0x10
#define USER_BANK_2                0x20
#define USER_BANK_3                0x30
#define PWR_MGMT_1                 0x06
#define PWR_MGMT_2                 0x07
#define GYRO_CONFIG_1              0x01
#define ACCEL_CONFIG               0x14
#define GYRO_SMPLRT_DIV            0x00
#define ACCEL_SMPLRT_DIV_1         0x10

void icm20948_select_bank(uint8_t bank) {
  spi1_write(USER_BANK_SEL, bank);
}

uint8_t icm20948_whoami(void) {
  uint8_t val;
  val = spi1_read(0x00);
  return val;
}
```