BH1790GLC-EVK-001
Software document

Feb/07/2017
Sensor Application G
Optical Sensor for Heart Rate Monitor (BH1790GLC)

- Sketch file (BH1790GLC.ino)
  - setup function
    - Setup serial function (115200 bps) to output log data on Serial Monitor
    - Initialize I2C (Wire.begin function) and setup I2C clock (400 kHz)
    - Initialize BH1790GLC
    - Setup 32 Hz timer and start
  
  - loop function
    - Check the flag about 32 Hz period
    - Get the values Optical Sensor Data with LED ON/OFF and display them
  
  - timer_isr function
    - Function to execute @ 32 Hz interval
Optical Sensor for Heart Rate Monitor (BH1790GLC)

Library files (BH1790GLC.h, BH1790GLC.cpp)

- constructor
  - do nothing
- init function
  1. Read and check PART_ID, PID and MANUFACTURER_ID register value
  2. Write to MEAS_CONTROL1 register (RDY=1, LED_LIGHTING_FREQ=128Hz, RCYCLE=32Hz)
  3. Write to MEAS_CONTROL2 register (LED_EN[1:0] = 00, LED_ON_TIME=0.3ms, LED_CURRENT=10mA)
  4. Write to MEAS_START register (MEAS_ST=1)
- get_rawval function
  - Get the 4bytes raw value from register address 0x54
- get_val function
  - Execute get_rawval function
  - Create Optical Sensor Data with LED ON/OFF
- write function
  - General write function for BH1790GLC
- read function
  - General read function for BH1790GLC
Notes

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