Freescale MQX Example Guide
MAG3110 example

This document describes the MAG3110 component example application. It shows how to work with the component and how to use API functions.

Running the example

Start a terminal application on your PC and set the serial connection for 115200 baud, 8 data bits, 1 stop bit, no parity and no flow control.

Start the MAG3110 example on the target platform. For instructions about how to do that in different IDEs and for different debuggers, see the MQX documentation (<MQX installation folder>/doc/tools).

After starting the application, you will see the printed message as the following:

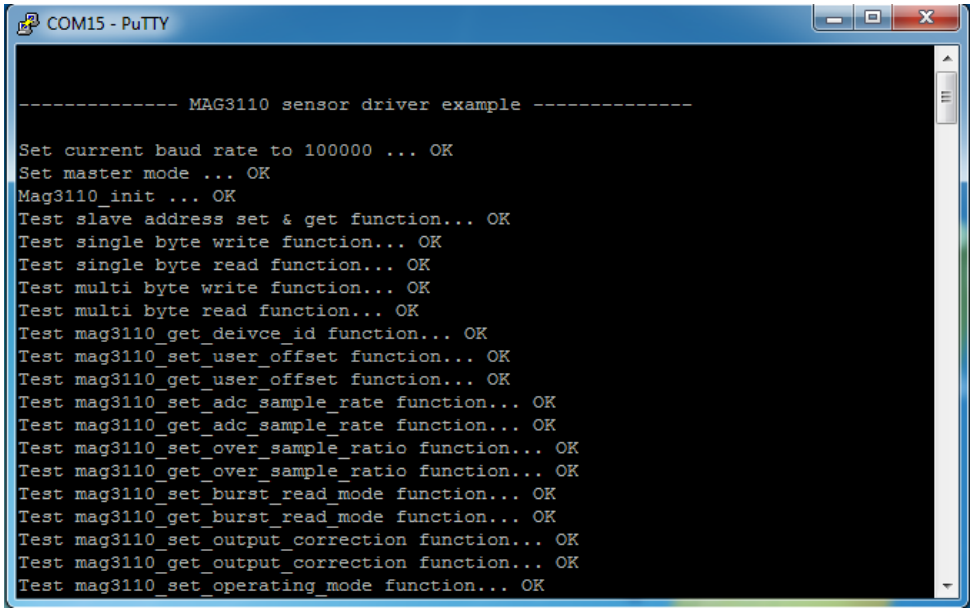

Figure1. Example runtime output

Explanation of the example

The example code consist of just one task (main_task)only.
main_task:

- Allocate buffer for received data;
- Open i2c bus, initialize its working mode and frequency;
- Initialize the MAG3110 with the parameters set in mag3110_init_str structure;
- Test configuration APIs:
  1. mag3110_set_slave_address & mag3110_get_slave_address
  2. mag3110_write_single_reg & mag3110_read_single_reg
  3. mag3110_write_reg & mag3110_read_reg
  4. mag3110_get_deivce_id

5. mag3110_set_user_offset & mag3110_get_user_offset
6. mag3110_set_adc_sample_rate & mag3110_get_adc_sample_rate
7. mag3110_set_over_sample_ratio & mag3110_get_over_sample_ratio
8. mag3110_set_burst_read_mode & mag3110_get_burst_read_mode
9. mag3110_set_output_correction & mag3110_get_output_correction

- Switch the sensor to active mode;
- Test mag3110_get_system_mode function;
- Test Data Acquisition;
- Switch the sensor to standby mode;
- Test Trigger Data Acquisition function;
- Test reset sensor function;
- Deinit mag3110;
- Close i2c bus;
- Example finish.