

Description

The STEVAL-IME010V1 infrared forehead thermometer evaluation board is an electronic thermometer which utilizes STMicroelectronics' STM8L052C6 microcontroller and M24LR04E-R 4-Kbit Dynamic NFC/RFID tag with an infrared sensor to measure human body temperature.

Unlike traditional oral or rectal thermometers, this design enables accurate, gentle and non-invasive temperature readings.

Features

- Low power STM8L MCU-based reference design for non-invasive body temperature measurement
- Designed to function in environmental temperatures between $-40\text{ }^{\circ}\text{C}$ and $+80\text{ }^{\circ}\text{C}$
- Capable of measuring body temperature within a range of $20\text{ }^{\circ}\text{C}$ ($68\text{ }^{\circ}\text{F}$) to $42.2\text{ }^{\circ}\text{C}$ ($108\text{ }^{\circ}\text{F}$), with $\pm 0.5\text{ }^{\circ}\text{C}$ accuracy
- Glass LCD with 6 alphanumeric characters for information display
- Able to provide temperature data in degrees Celsius or Fahrenheit
- The same PCB can be used for IR sensors MLX90614 and MLX90615
- Low battery-level indicator
- Can store up to 60 temperature readings
- Android application for data logging with RF EEPROM over NFC interface
- Current consumption of only $1.2\text{ }\mu\text{A}$ in sleep mode
- RoHS compliant

1 Schematic diagram

Figure 1. STEVAL-IME010V1 microcontroller section

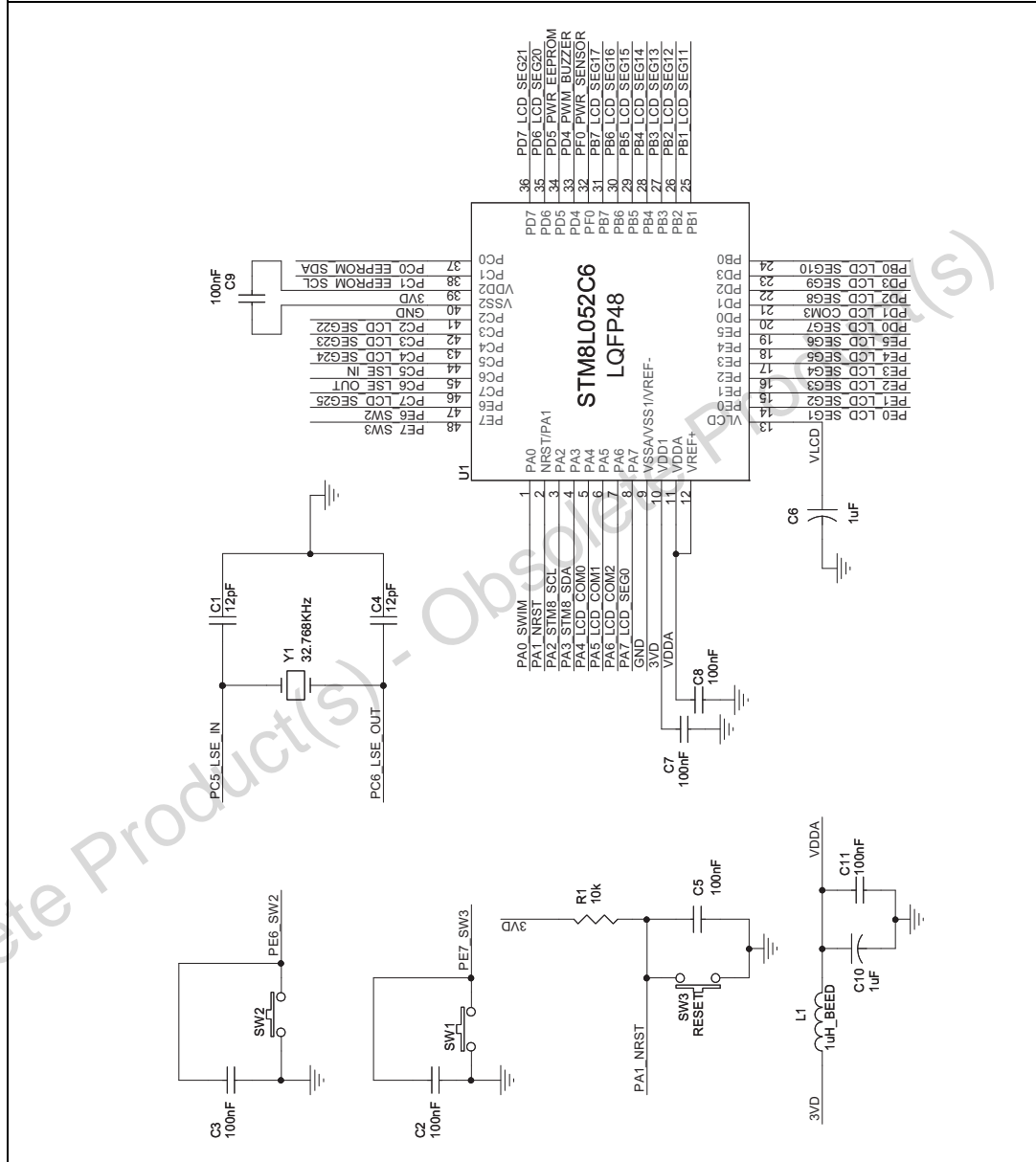


Figure 2. STEVAL-IME010V1 LCD section

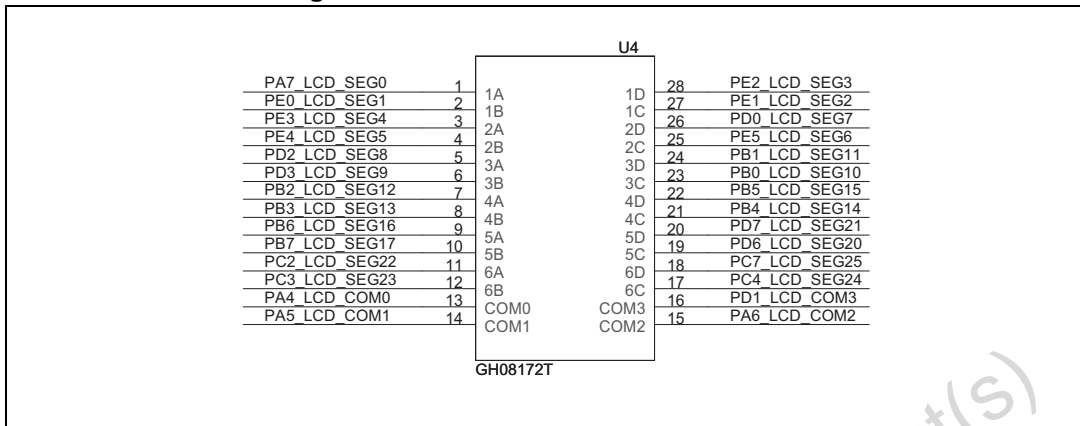


Figure 3. STEVAL-IME010V1 buzzer section

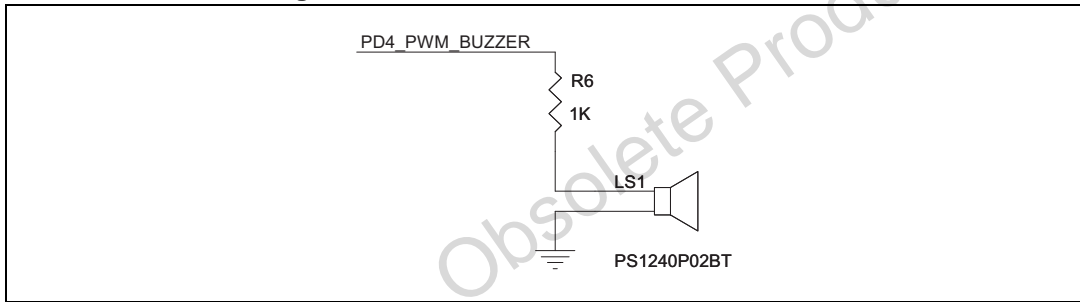


Figure 4. STEVAL-IME010V1 battery section

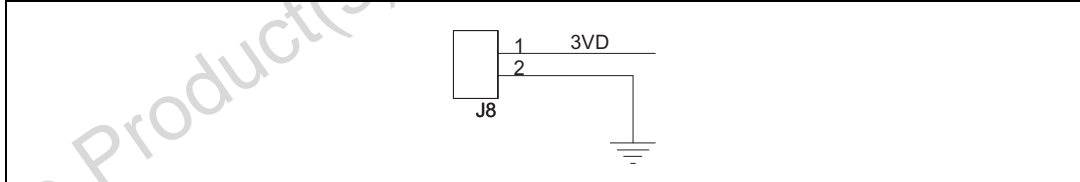


Figure 5. STEVAL-IME010V1 eeprom section

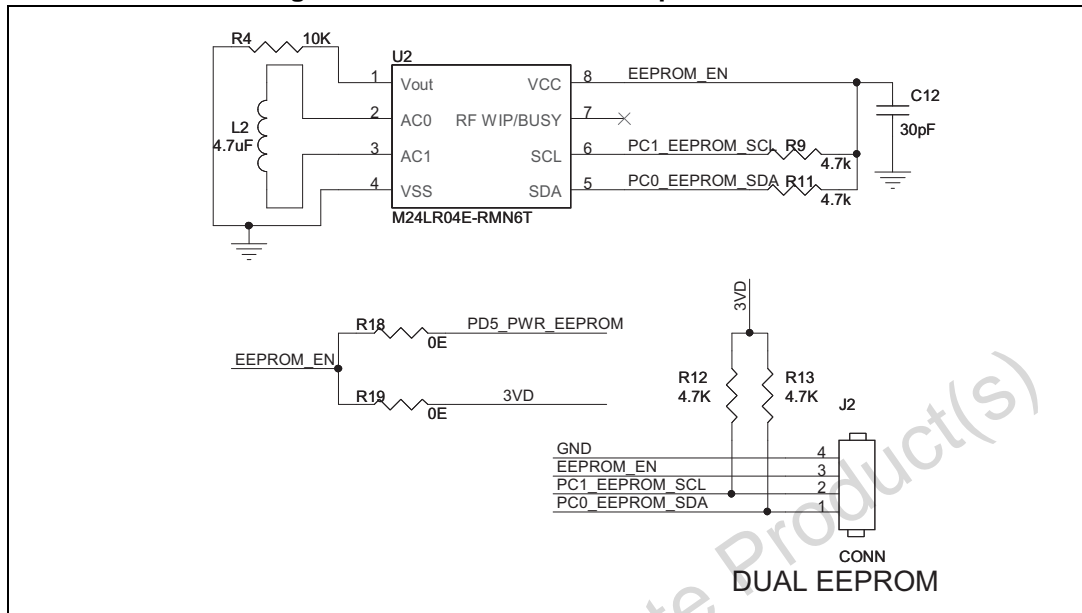


Figure 6. STEVAL-IME010V1 temperature sensor section

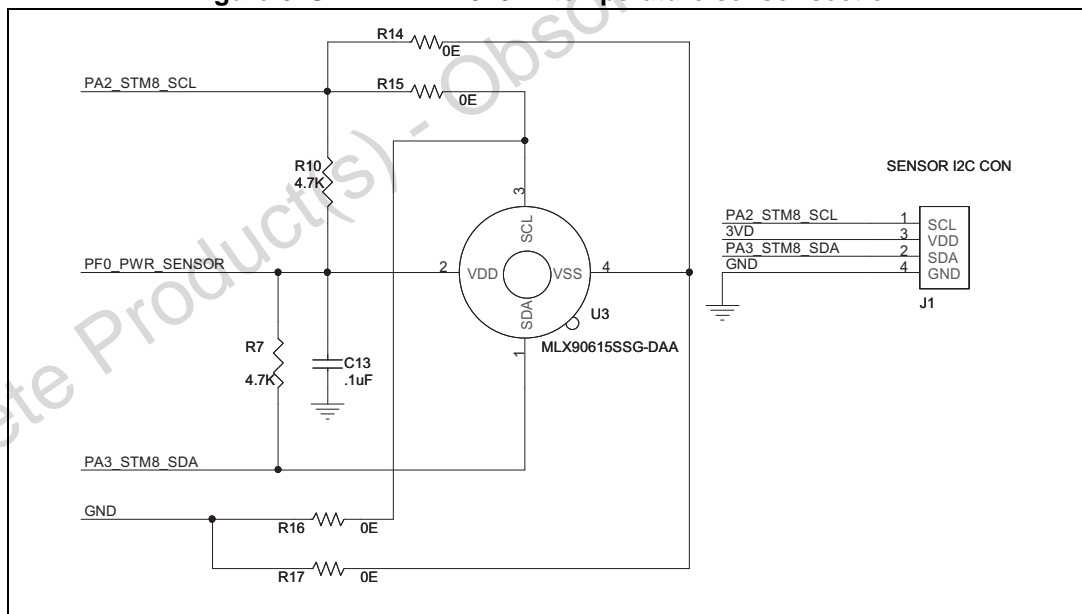
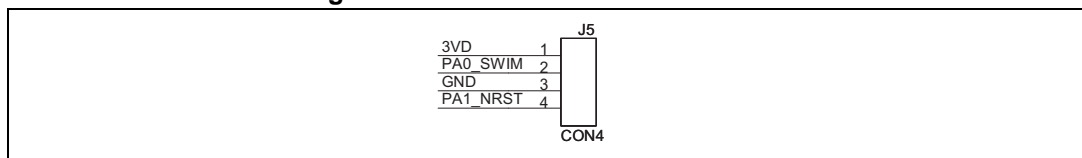


Figure 7. STEVAL-IME010V1 swim con



2 Revision history

Table 1. Document revision history

Date	Revision	Changes
21-May-2014	1	Initial release.

Obsolete Product(s) - Obsolete Product(s)

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