



# ROBOT-M24LR16E-A

## Evaluation board for the M24LR16E-R dual interface EEPROM

Data brief

### Features

- 20 mm x 40 mm 13.56 MHz inductive antenna etched on PCB
- M24LR16E-R dual interface EEPROM
- I<sup>2</sup>C connector
- Energy harvesting output ( $V_{OUT}$ ) with a capacitance filtering circuit
- RF WIP/BUSY output with 20 k $\Omega$  pull-up resistor, to indicate that an RF operation is ongoing

### Description

The ROBOT-M24LR16E-A is a ready-to-use PCB that features an M24LR16-R dual interface EEPROM IC connected to an I<sup>2</sup>C bus and a 20 mm x 40 mm 13.56 MHz etched RF antenna. It also features two LEDs, powered by the M24LR16E-R  $V_{OUT}$  pin and an output connector.

The ROBOT-M24LR16E-A has three functions:

**Switch in the “LED” position:** the robot demonstrates energy harvesting by powering the LED when a sufficient magnetic field is captured.

**Switch in the “ $V_{OUT}$ ” position:** the energy captured from the electromagnetic field is used to power an external application through the  $V_{OUT}$  pin.

**RF WIP/BUSY function:** for the RF WIP/BUSY pin of M24LR16E-R, please refer to the M24LR16E-R datasheet for further details.

To demonstrate the energy harvesting function, the ROBOT-M24LR16E-A can be used in conjunction with ST DEMO-CR95HF-A demonstration board.

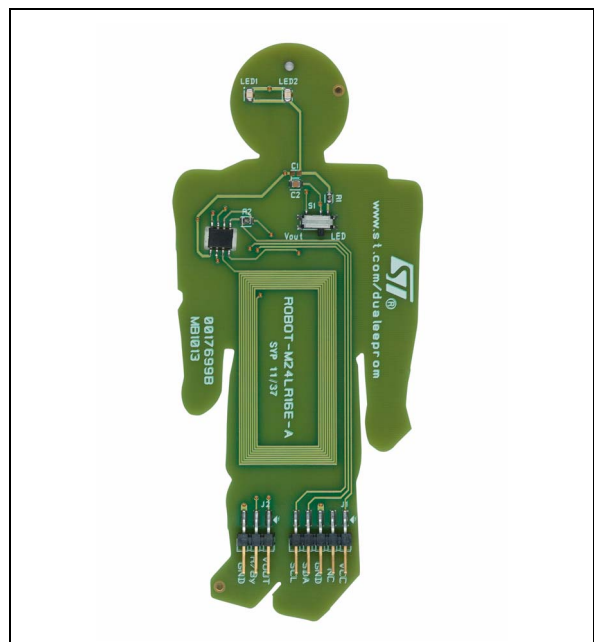
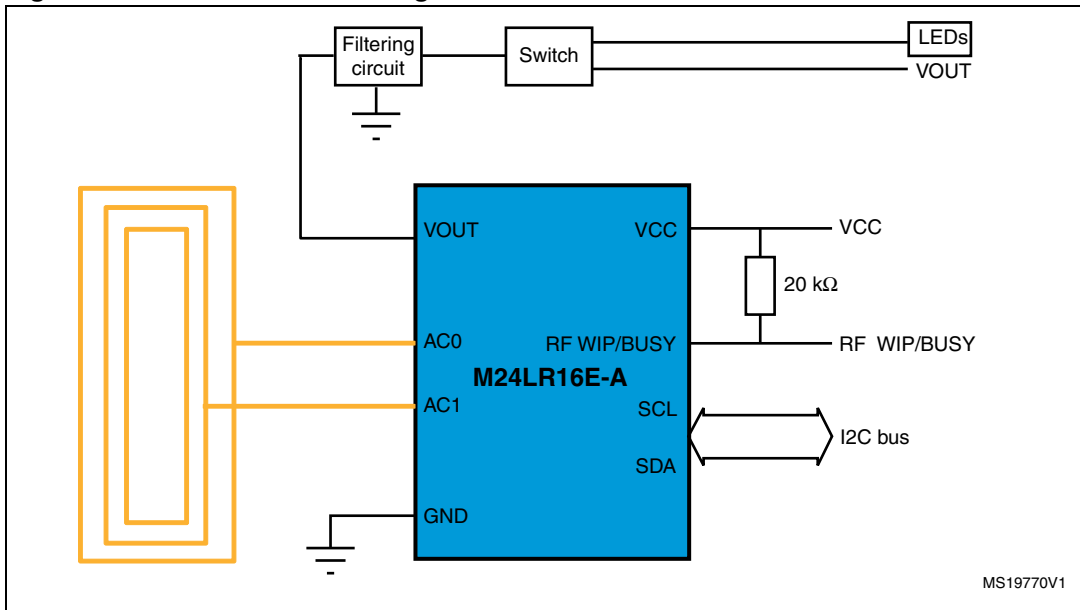


Figure 1. Functional block diagram



## 1 Associated firmware and PC software

The ROBOT-M24LR16E-A is supported by a PC software, the Dual Interface EEPROM tool software, that allows to configure and control the energy harvesting. This software is available from <http://www.st.com>.

Refer to application note AN3954 "*Developing your own Visual Basic or C/C++ application on a DEMO-CR95HF-A demonstration board*", for how to adapt the PC software for your application.

## 2 Ordering information

Table 1. Device summary

Order code	Reference
ROBOT-M24LR16E-A	ROBOT-M24LR16E-A evaluation board

### 3 Revision history

Table 2. Document revision history

Date	Revision	Changes
27-Sep-2011	1	Initial release.

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