M24SR-DISCOVERY

Discovery kit for the M24SR series Dynamic NFC/RFID tag

Data brief

Features

- Ready-to-use printed circuit board (PCB) including:
  - M24SR64-Y Dynamic NFC/RFID tag
  - 31 mm x 30 mm 13.56 MHz double layer inductive antenna etched on the PCB (ANT14)
  - STM32F103RGT6 64LQFP 32-bit microcontroller, with 1Mbytes of Flash memory
  - LCD Color Screen (320*200 pixels)
  - Different color LEDs
  - USB microB connector for board powering
  - JTAG connector for microcontroller firmware upgrade and debug
  - Joystick for menu selection
- M24SR-DISCO-PREM specific features:
  - Bluetooth module with audio outputs connected to Jack 3.5
  - Headset

Table 1. Device summary

Reference	Order code
M24SR-DISCOVERY	M24SR-DISCO-STD M24SR-DISCO-PREM

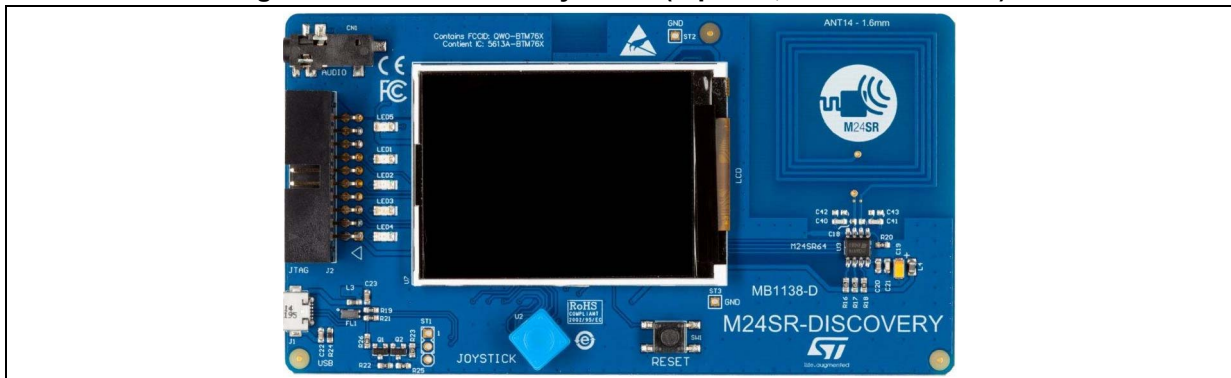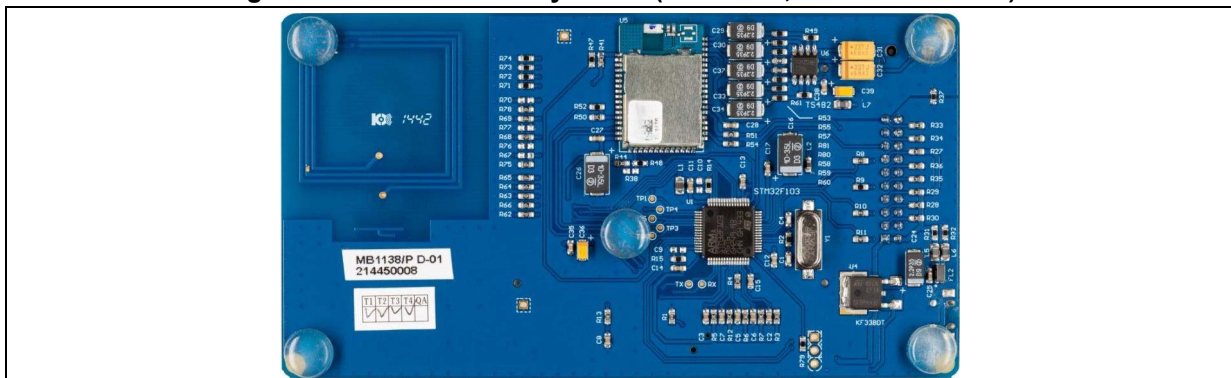**Figure 1. M24SR Discovery board (top side, Premium edition)**

Figure 2. M24SR Discovery board (back side, Premium edition)

For further information contact your local STMicroelectronics sales office.

www.st.com

Description

The M24SR-DISCOVERY is a demonstration kit to evaluate the features and capabilities of the M24SR series and is based on the M24SR64 device. Two versions of this kit are available: the Standard Edition and the Premium Edition.

The Premium Edition includes all of the Standard edition features, plus a headset and a Bluetooth module to demonstrate the convenience to pair it with a smartphone via NFC.

The M24SR64 device is a dynamic NFC/RFID tag IC with a dual interface. It embeds a 64 Kbits EEPROM memory. It can be operated from an I^2C interface or by a 13.56 MHz RFID reader or an NFC phone.

The I^2C interface uses a two-wire serial interface, consisting of a bidirectional data line and a clock line. It behaves as a slave with respect to the I^2C protocol.

The RF protocol is compatible with ISO/IEC 14443 Type A and NFC Forum Type 4 Tag.

The board is powered through the USB bus. It also includes a microcontroller STM32F103 to drive the EEPROM via I^2C and the LCD screen via SPI bus.

The M24SR-DISCOVERY (MB1138) schematics, BOM, gerber files, drivers and firmware can be downloaded from *www.st.com*.

Figure 3. Block diagram
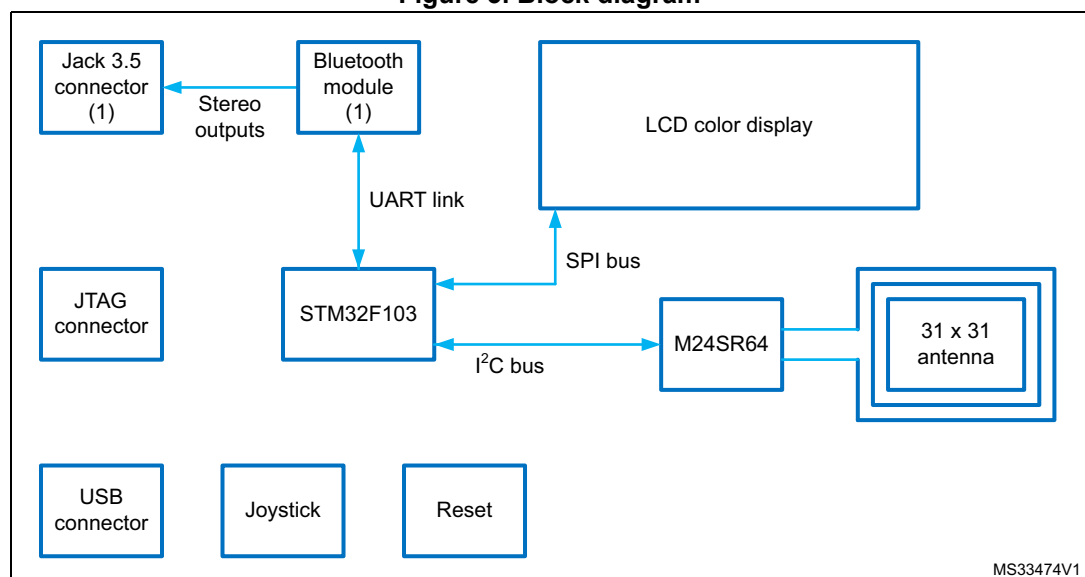
1. Available only on premium edition.

1   Revision history

Table 2. Document revision history

Date	Revision	Changes
06-Jan-2014	1	Initial release.
11-Feb-2014	2	Introduced M24SR-DISCO-PREM features with specific bullet in *Section : Features*.
08-May-2015	3	Updated *Figure 1: M24SR Discovery board (top side, Premium edition)* Updated *Figure 2: M24SR Discovery board (back side, Premium edition)*

IMPORTANT NOTICE – PLEASE READ CAREFULLY