STM32L4R9I-EVAL

Evaluation board with STM32L4R9AI MCU

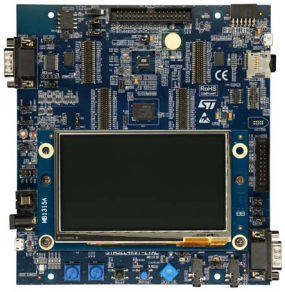
Data brief

Features

- STM32L4R9AII6 microcontroller with 2-Mbytes of Flash memory and 640-Kbytes of RAM in a UFBGA169 package
- 1.2” 390x390 pixel MIPI® DSI round LCD
- 4.3” 480x272 pixel TFT LCD with RGB mode
- Two ST-MEMS digital microphones
- 8-Gbyte microSD™ card bundled
- 16-Mbit (1 M x16 bit) SRAM device
- 128-Mbit (8 M x16 bit) NOR Flash memory
- 512-Mbit Octo-SPI Flash memory with double transfer rate (DTR) support
- 64-Mbit Octo-SPI SRAM memory with HyperBus interface support
- EEPROM supporting 1 MHz I²C-bus communication speed
- Reset and wakeup / tamper buttons
- Joystick with four-way controller and selector
- Touch-sensing button
- Light-dependent resistor (LDR)
- Potentiometer
- Coin battery cell for power backup
- Board connectors:
  - Two jack outputs for stereo audio headphone with independent content
  - Slot for microSD card supporting SD and SDHC
  - TFT LCD standard connector
  - MIPI DSI LCD standard connector
  - EXT_I2C connector supports I²C bus
  - RS-232 port configurable for communication or MCU flashing
  - USB OTG FS Micro-AB port
  - CAN 2.0A/B-compliant port
  - Connector for ADC input and DAC output
  - JTAG/SWD connector
  - ETM trace debug connector

STM32L4R9I-EVAL board (top view) with round DSI LCD MB1314 daughterboard(1)

STM32L4R9I-EVAL board (top view) with TFT LCD MB1315 daughterboard(1)



1. Picture is not contractual.

  - User interface through USB virtual COM port
  - Embedded ST-LINK/V2-1 debug and flashing facility TAG connector
  - STDC14 connector
  - PMOD connector
- Board expansion connectors:
  - motor-control module connector
  - extension connector for daughterboard
- Flexible power-supply options: power jack, ST-LINK/V2-1 USB connector, USB OTG FS connector, daughterboard
- On-board ST-LINK/V2-1 debugger/programmer with USB re-enumeration capability: mass storage, virtual COM port and debug port
- Microcontroller supply voltage: fixed 3.3 V or adjustable range from 1.71 V to 3.6 V
- MCU current consumption measurement circuit
- Access to comparator and operational amplifier of STM32L4R9AII6
- Comprehensive free software libraries and examples available with the STM32Cube package
- Support of a wide choice of integrated development environments (IDEs) including IAR™, Keil® and GCC-based IDEs

Description

The STM32L4R9I-EVAL evaluation board is designed as a complete demonstration and development platform for STMicroelectronics' Arm® Cortex®-M4 core-based STM32L4R9AI microcontroller with: four I²C buses, three SPI and six USART ports, CAN port, two SAI ports, 12-bit ADC, 12-bit DAC, internal 640-Kbyte SRAM and 2-Mbyte Flash memory, two Octo-SPI memory interfaces, touch-sensing capability, USB OTG FS port,
LCD-TFT controller, MIPI DSI host controller, flexible memory controller (FMC), 8- to 14-bit camera interface, and JTAG debugging support.

The full range of on-board hardware features helps the user to evaluate all the peripherals (USB, USART, digital microphones, ADC and DAC, TFT LCD, MIPI DSI LCD, LDR, SRAM, NOR Flash memory device, Octo-SPI Flash memory device, microSD card, sigma-delta modulators, CAN transceiver, EEPROM) and to develop applications. Extension headers allow easy connection of a daughterboard or wrapping board for a specific application.

An ST-LINK/V2-1 is integrated on the board, as an embedded in-circuit debugger and programmer for the STM32 MCU and the USB virtual COM port bridge.

System requirements

- Windows® OS (XP, 7, 8, 10) or Linux® or macOS®
- USB Type-A to Micro-B cable

Development toolchains

- Arm® Keil®: MDK-ARM™ (a)
- IAR™: EWARM (a)
- GCC-based IDEs (free AC6: SW4STM32, Atollic® TrueSTUDIO® (a) and others)

Demonstration software

The demonstration software, included in the STM32Cube package corresponding to the on-board MCU, is preloaded in the STM32 Flash memory for easy demonstration of the device peripherals in standalone mode.The latest versions of the demonstration source code and associated documentation can be downloaded from the *www.st.com* web page.

a. On Windows® only.

Ordering information

To order the STM32L4R9I -EVAL board with the STM32L4R9AII6 MCU, refer to *Table 1*

Table 1. Ordering information

Order code	Target STM32
STM32L4R9I -EVAL	STM32L4R9AII6

Technology partners

MACRONIX: 512-Mbit Octo-SPI Flash memory, part number MX25LM51245GXDI00.

Revision history

Table 2. Document revision history

Date	Revision	Changes
11-Oct-2017	1	Initial release.

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