

## OVERVIEW

With the **M13-RA8D1-EK** evaluation board, users will be able to develop and evaluate applications by using the on-board rich features such as camera input, LCD display, ethernet connection any many more with Renesas RA8D1 MCU device.

## FEATURE

### MCU

- R7FA8D1BHECFMCU (LQFP176 Package)
- 400MHz, Arm Cortex®-M85
- 2MB Code Flash, 1MB SRAM

### MEMORY/STORAGE

- 32 MByte SDRAM
- 32 MByte OctaFlash
- 8 MByte OctaRAM
- 128 Kbit I2C EEPROM
- microSD Interface

### DEBUG

- On board debugger JLink-OB™ (SWD/JTAG)
- Virtual COM

### GRAPHICS

- On board 5.0" TFT (800x480px), MIPI-2 Lane Interface
- 8bit Camera Interface (20-pin connector)

### OTHER FEATURES

- Ethernet (RMII and PHY)
- **Embedded Wi-Fi module**
- 2 x USB connector (Host/Device)
- 3-axis Accelerometer

### EXPANSION

- 1 x Digilent PMOD™ Interface
- 1 x Mikrobus™ Interface

### PCB LAYOUT

- **Cost effective layout design**
- **LQFP MCU package**
- **4-layer PCB configuration**

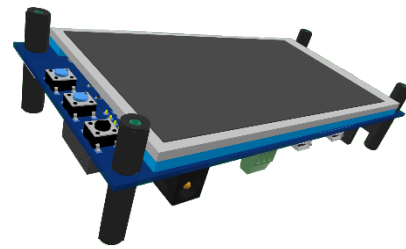
## KIT CONTENT

- M13-RA8D1-EK board

## DEMO SOFTWARE

- **HTTPS server with automatic certificate generation using ACME & Let's Encrypt:**  
**Let's Encrypt** is a non-profit certification authority used to secure billion of public websites free of charges. This RA8D1 demo project leverages the ACME protocol to automatically order a certificate from **Let's Encrypt** and get a green padlock in the address bar!
- **Wi-Fi / Ethernet gateway:**  
 A Mikrobus™ Wi-Fi module is used to implement a gateway with multiple network interfaces. The project demonstrates the simultaneous use of Ethernet and Wi-Fi.
- **Web Radio demo**
- **Camera network streaming demo**

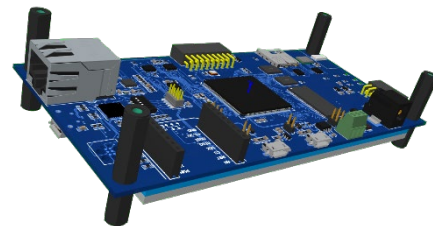
Find out more here: <https://www.m13design.fr/products/M13-RA8D1-EK.html>



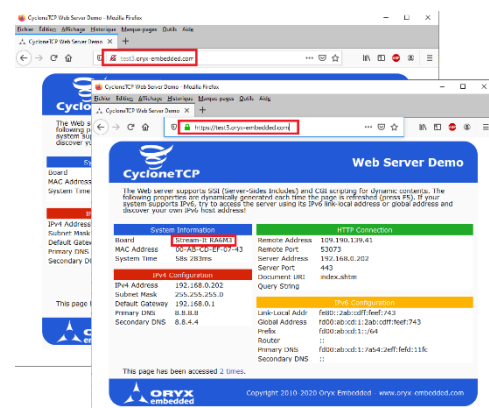
LCD side



Component side



Isometric view



HTTPS server powered by ORYX CycloneTCP / CycloneSSL / CycloneACME