

Kinkan is small but very versatile wireless LAN CPU module based on Realtek RTL8197FS SoC

Kinkan is packed with an extensive set of interfaces and robust 1GHz CPU based on MIPS 24Kc core. Module dimensions 19.5 mm x 26.7 mm. Back side of the module is component free and module is implemented in LGA (land grid array) form for compact surface mount designs. Built in 128MB RAM and 32MB FLASH lets comfortably run embedded Linux applications under OpenWRT.

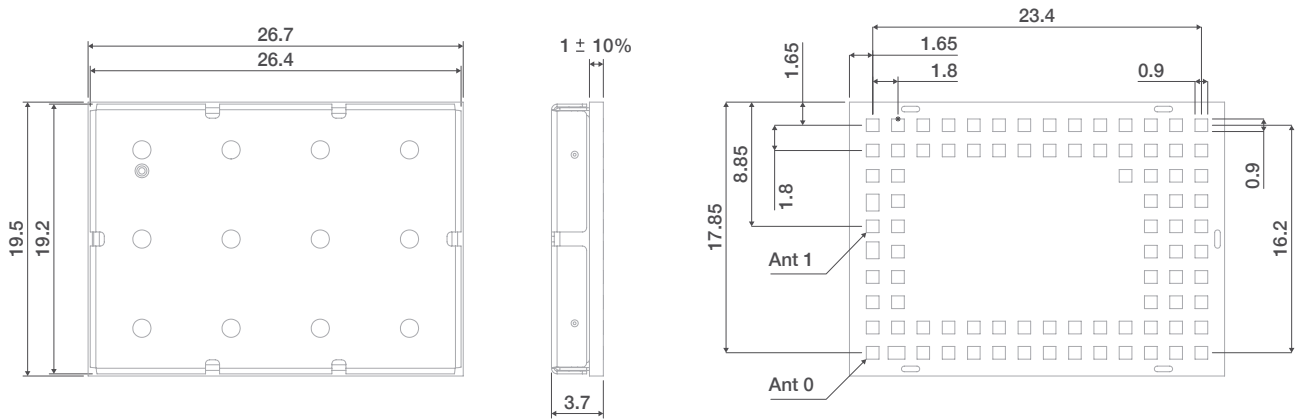
Kinkan supports GPIO, I2C, SPI, UART, I2S, PCM/SLIC, USB2.0 host, USB2.0 host, PCIe, MDIO, PWM, RGMII, 100BaseT PHY, SDXC SD Card, eMMC module, SPI NAND. Module supports secure boot option and can boot from SD card, eMMC module built in NOR or external NAND flash.

High performance is not affecting low power consumption with the load on LAN and WLAN interfaces it consumes up to 4W power.

Quick specs

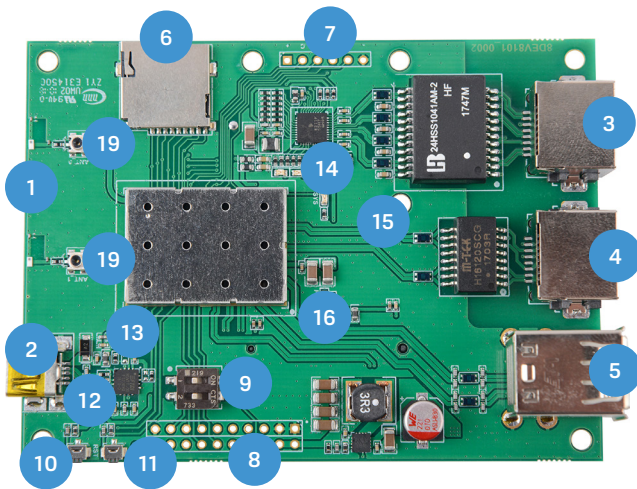
- 802.11 b/g/n 2.4 GHz, 2x2 MIMO, 300 Mbps data rate
- 32 MB FLASH, 128 MB RAM
- Linux friendly , OpenWRT flash image and source code are available for download on www.8devices.com/wiki_kinkan
- CPU – RTL8197FS (1 GHz CPU based on MIPS 24Kc core)
- 22 dBm per chain output power radio
- Small form factor - 19.5 by 26.7 mm
- Surface mountable (LGA form), single side design
- Available interfaces - GPIO, I2C, SPI, UART, I2S, PCM/SLIC, USB2.0 host, 2 x USB2.0, PCIe, MDIO, PWM, RGMII, 100BaseT PHY, SDXC SD Card, eMMC module, parallel NAND flash

Module dimensions

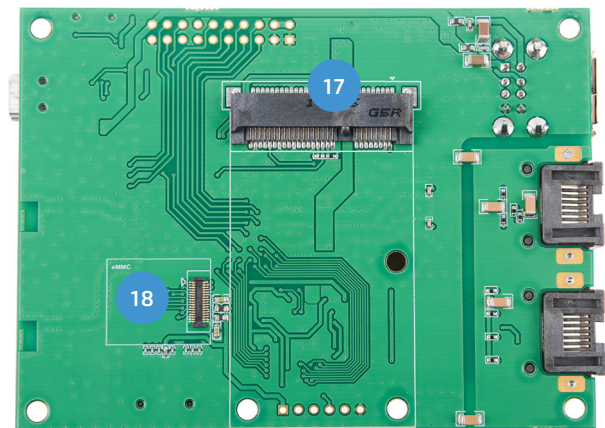


Development kit

Top view



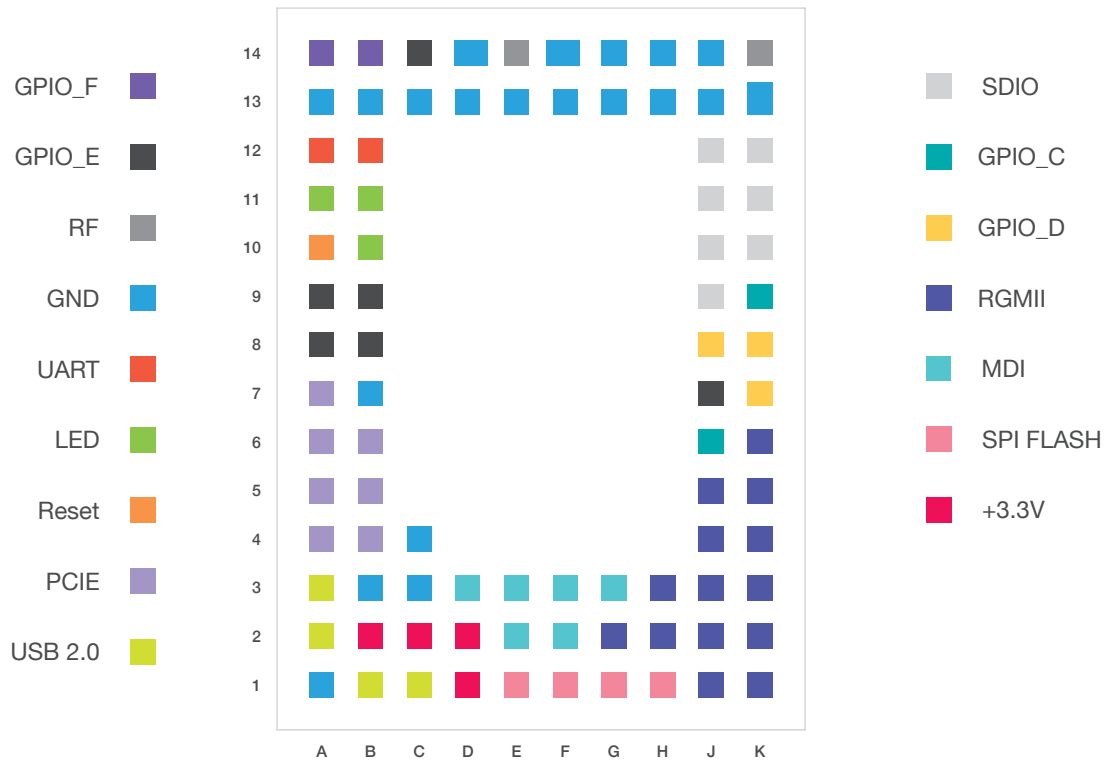
Bottom view



1. Ceramic 2.4 GHz omni-directional antennas
2. Mini USB Type B (console + power 5V)
3. 1000 Base-T LAN port
4. 100 Base-T LAN port
5. 2 x USB Type A (host interface)
6. Micro SD card slot
7. SPI/ GPIO pins
8. GPIO pins
9. Boot source selector switch (internal module flash, SD/emmc)

10. Button (reset to defaults)
11. Button (hardware reset)
12. UART RX/TX activity LEDs
13. Kinkan-DVK power LED
14. LAN activity LEDs
15. Programmable system LED
16. PCIe card activity LED
17. PCIe slot
18. eMMC module connector
19. Murata MM-8430 type connectors for RF testing

Module pinout



Block diagram

