



PRELIMINARY DATA SHEET

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RDA5981A/B/C

IEEE802.11b/g/n MCU WIFI

1. General Description

RDA5981A/B/C is a low power MCU with IEEE802.11b/g/n MAC/PHY/radio integrated into one chip. TCP/IP protocols along with SSL are included, providing improved link robustness, extended range, and increased performance. For the highest integration level, the required board space has been minimized and customer cost has been reduced. Manufacturers can easily and fast integrate RDA5981A/B/C on their product to enable a rapid time to market.

RDA5981A/B/C uses a compact 5×5mm² QFN package, 0.4mm pitch QFN-40.

1.1 WLAN Features

- CMOS single-chip fully-integrated radio, PHY and MAC
- 2.4GHz IEEE 802.11b/g/n
- Internal PA, LNA
- Data rates up to 150Mbps with 20/40 MHz bandwidth
- Dynamic TX power saving
- Low power listen mode
- Fast AGC control
- Support WPS, WMM
- Support WPA, WPA2, WEP, TKIP, CCMP
- Support STA, softAP, P2P, STA+softAp, STA+P2P
- Support A-MPDU, A-MSDU, HT-BA
- Light Weight TCP/IP protocol

1.2 MCU Features

- Integrated ARM-CM4 MCU, Maximum clock frequency 160MHz
- Integrated MPU and mbed uvisor supported to isolate security domains
- Up to 448KBytes internal sram for WIFI protocol and application developments
- SPI / UART / USB2.0 interface allows simple interfacing to host device
- UART with an AT command set
- Integrated hardware crypto accelerator AES/RSA
- Integrated true random number generator (TRNG) and CRC accelerator
- Support external psram interface
- Integrated maximum 32Mbit SPI flash in package
- Integrated a bunch of configurable GPIOs with external level/edge trigger/wakeup
- Integrated UART×2/I2S×2/I2C×1 /PWM×8/SPI×4/SDMMC×1/USB2.0×1
- Integrated 2 channels application ADC
- Integrated watchdog and low power timer
- 16×16 bits eFuse configuration
- Support freeRTOS/mbedOS5.1

1.3 Applications

- IOT devices
- Smart home
- Wi-Fi speaker/home audio
- Smart watch

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