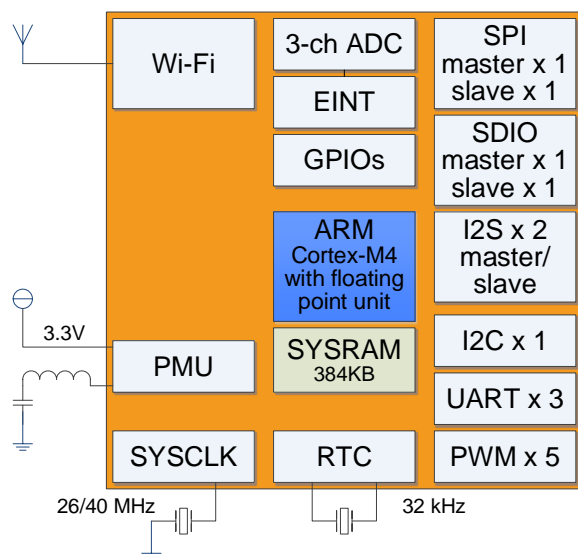


PRODUCT OVERVIEW

MediaTek MT5932 is a highly integrated chipset containing a microcontroller unit (MCU), a low power 1x1 11n single-band Wi-Fi subsystem and a power management unit (PMU). The MCU is an [ARM Cortex-M4 processor with floating point unit](#).

The Wi-Fi subsystem contains 802.11b/g/n radio, baseband and MAC designed for low power and high throughput application development. It also contains a 32-bit RISC CPU that could fully offload the application processor.

MT5932 also supports interfaces including UART, I2C, SPI, I2S, PWM, SDIO and ADC.



BENEFITS

- Highly integrated with RF, MCU and PMU
- Low power mode with RTC

TARGET APPLICATIONS

- Standalone SDIO module
- Single-cloud connectivity

FEATURES

Wi-Fi

- IEEE 802.11 b/g/n (2.4GHz, 1x1)
- Supports 20MHz, 40MHz bandwidth in 2.4GHz band
- Wi-Fi security WEP/WPA2/WPS
- Wi-Fi direct
- SoftAP, sniffer
- MediaTek Smart Connection
- Single-cloud connectivity
- Receiver antenna diversity
- Integrated Balun, PA/LNA
- Optional external LNA and PA support

Microcontroller subsystem

- 192MHz ARM® Cortex®-M4 with FPU
- 14 DMA channels
- 1 RTC timer, 1 64-bit and 5 32-bit general purpose timers
- Hardware DFS from 3MHz to 192MHz
- Development support: SWD, JTAG
- Crypto engine
 - AES 128/192/256 bits
 - DES, 3DES
 - MD5, SHA-1/224/256/384/512
- True random number generator
- JTAG password protection

Memory

- Up to 384KB SRAM, with zero-wait state and 96MHz maximum frequency
- Up to 32KB L1 cache, with high hit rate, zero-wait state and 192MHz maximum frequency

Communication interfaces

- 1 SDIO 2.0 master and 1 SDIO 2.0 slave
- 1 I2C (3.4Mbps) interface
- 3 UARTs (3Mbps, with hardware flow control)
- 1 SPI master and 1 SPI slave (both SCKs are up to 48MHz, quad mode)
- 1 SPI master for external serial flash (48MHz maximum SCK frequency, quad mode)
- 2 I2S interfaces

- 1 16/24-bit, master/slave mode;
- 1 16-bit, master/slave mode with TDM
- 2 TX/RX channels with 16/24/48/96/192 kHz and 11.025kHz, 22.05kHz, 44.1kHz frequencies.
- 5 PWM channels
- 14 GPIOs (fast IOs, 5V-tolerant)
- 3 channel 12-bit AUXADC

Power management

- Integrated DC-DC
- Power input
 - V_{RTC} : from 1.62V to 3.63V
 - V_{PMU} / V_{RF} : 3.3V (+/-10%)
 - V_{IO*} : 1.8V/2.8V/3.3V (+/-10%)
- Off mode: <0.5uA
- Retention mode (with RTC)
 - <2uA (RTC only)
 - ~4.4uA with 8KB RAM sleep mode
- Deep sleep mode (with external 32kHz clock)
 - 58uA with 0KB RAM sleep mode
 - 90uA with 384KB RAM sleep mode
- G-band RX power: 59 mA
- G-band TX power
 - FPA: 268 mA at 19 dBm CCK
 - HPA: 203 mA at 16.5 dBm OFDM
- DTIM interval with 32kHz external clock source and 384KB SRAM
 - DTIM=1: 0.74mA
 - DTIM=3: 0.33mA
- Ambient temperature from -40°C to 85°C

Clock source

- 26MHz or 40MHz crystal oscillator
- 32kHz crystal oscillator or internal 32kHz RC for RTC

Package

- 3.15-mm x 3.15-mm x 0.53-mm 56-ball WLCSP with 0.4-mm ball pitch

Note:

- The power consumption data is measured at 25°C.