

OPERATIONAL DESCRIPTION

Main Parts:

The circuitry mainly consists of two ICs:

1. Microprocessor---- A23

- Dual CortexTM-A7 processor is a high-performance, low-power, cached application processor
- Full implementation of the ARM architecture v7-A instruction set, ARM Neon Advanced SIMD (single instruction, multiple data) support for accelerated media and signal processing computation
- Superscalar, variable length, out-of-order pipeline with dynamic branch prediction 8-stage pipeline
- Include VFPv3 hardware to support single and double-precision add, subtract, divide multiply and accumulate, and square root operations
- Integrated timer and watchdog timer in CPU
- Integrated 128KB L1 instruction cache , 128KB L1 data cache, 4-way set associative
- 256KB unified L2 Cache
- Core sight debug solution
- One isolated voltage domain to support DVFS
- Maximum frequency can be up to 1.0GHz @1.08v,125C and 1.5GHz@1.2v,25C

2. Power Management Unit---- AXP223

The AXP223 is a complete, cost effective, highly-efficient Active PMU power management solution, optimized for the unique power, voltage-sequencing, and control requirements of the Allwinner A23 processor. It is ideal for a wide range of high performance portable handheld applications such as tablet or pad devices. This device integrates the Active Path complete battery charging and management system with seven power supply channels.

This device features three step-down DC/DC converters and four low-noise, low-dropout linear regulators, along with a complete battery charging solution featuring the advanced Active Path system-power selection function.

The three DC/DC converters utilize a high-efficiency, fixed-frequency (2MHz),

current-mode PWM control architecture that requires a minimum number of external components. Two DC/DCs are capable of supplying up to 1100mA of output current, while the third supports up to 1200mA. All four low-dropout linear regulators are high-performance, low-noise regulators that supply up to 320mA of output current.

The A23 is available in a compact, Pb-Free and RoHS-compliant BGA280 package.

Connectivity Parts:

WIFI Specification

AP6210 is a WLAN IC supporting IEEE 802.11 b/g/n standards with PH connector supporting USB 2.0 signaling. This is a low cost compact WLAN module designed in the product with embedded system for the wireless connectivity. AP6210 support AP6210, MCU AP6210 needs a 26MHz reference clock.

AP6210 WLAN Module is designed to operate in 2.4GHz ISM frequency band. This Module complies with IEEE 802.11b/g/n standards. And the EUT only supports up to 11n HT40.

Channel and Transmitting frequency

IEEE 802.11b/g/n HT20: 2412-2462MHz

IEEE802.11n HT40: 2422-2452MHz

IEEE 802.11b/g/n HT20: 11 Channels

IEEE802.11n HT40: 9 Channels

Modulation:

802.11b: DSSS

802.11g/n: OFDM