2008 Core Arch proposal version 1

microUSB

USB<->JTAG

JTAG

Motion Sensors

SPI

MSP430 MPU

Battery

HDQ

Buttons

LEDs

Charging

I2C

Touchscreen

I2C

PMU

Codec/ Mixer/ AMP

Multi Colour LEDs

Power

Backlight

LCM

Analogue Audio in/out

SPI CPU <-> MPU bus

USB2 OTG micro

Video

S3C64x0 CPU + RAM + NAND

I2S

JTAG

WLAN

UART

microSD

UART

USB

UART? USB?

GPS

BT

GSM

Notable features

- MPU always-on
- MPU runs all user IO
- MPU runs PMU, charging, bat status
- MPU runs codec
- CPU talks to MPU over SPI using abstracted API ("power WLAN")
- CPU expected to be in suspend a LOT -- no backlight, no CPU
- CPU can set up a phone call and then suspend with backlight of during call (20-30% increase in talk time)
- MPU makes phone act consistently even if CPU / Linux is suspended with no delays / dead-time