Changes from GTA02 to gta02-core

Werner Almesberger

werner@openmoko.org

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Overview

- Glamectomy
- Modem change
- Audio fixes
- NOR removal
- Other cleanup

Glamectomy

- Changes:
  - Remove Glamo video decelerator
  - Move WLAN from CPU SDIO to SPI
  - Move microSD from Glamo MMC to CPU SD/SDIO/MMC
  - Connect LCM to CPU
- Effects:
  - Reduced capacitative bus load
  - Much higher bandwidth between CPU and frame buffer
  - No 2D acceleration
  - Display refresh eats memory bandwidth

Modem Change

- Motivation:
  - Unlikely to get TI to allow open design
  - Calypso is complex and obsolete
  - Considered Option (3G), but expected difficult negotiations
- Change:
  - Remove Calypso entirely
  - Use Telit GE865 quad-band GSM BGA module

Audio Fixes

GTA02 had a large number of audio flaws:

- EMI filters (buzz fix)
- Increase capacitors (bass fix)
- Remove audio amplifier
- Other, smaller changes

NOR Removal

- Motivation:
  - NOR is an exotic component
  - NOR takes up space and loads the bus
  - Future designs can use IROM or IDBG for debricking
- Change:
  - Remove NOR
  - Rely on Debug Board for debricking (for now), like in GTA01

More Departures

- GPS antenna removal:
  - External antenna doubles complexity of RF circuit
  - Almost nobody uses it
  - At least one known and non-trival to resolve bug in GTA02 (Incorrect voltage at antenna switch)
- Removal of second accelerometer:
  - Nobody uses it
  - Takes up precious space
  - SPI bus multiplexing precarious at best

Other Cleanup

- Bluetooth to main PCB:
  - There is now space for it (like in GTA01Bv2)
  - Greatly simplifies manufacturing
- WLAN to main PCB:
  - There is now space for it
  - Greatly simplifies manufacturing