Next Phone Ideas

Werner Almesberger

werner@openmoko.org

September 15, 2009

Overview

TROG, "The Return/Revenge Of the Geeks"

- Based roughly on gta02-core
- Update subsystems
- Consider going 3G
- New case and LCM
- Kill Debug Board

Update CPU

E.g., Samsung 2450

- 2D acceleration
- High-Speed USB
- 2$\times$SD/SDIO/MMC
- IROM
- Probably available in higher-capacity MCPs

Maybe Update Modem

Vendor/Model	**GSM**	**Next**	**Extra**	**Size (mm^3)**
TI Calypso	Tri	—	—	$30 \times 40 \times 2 = 2400$
Telit GE865	Quad	—	—	$22 \times 22 \times 3 = 1452$
Cinterion EES3	Quad	EDGE	—	$33.8 \times 29.6 \times 3.2 = 3211$
Telit UC865-E	Quad	3G	—	$36.2 \times 30 \times 4.8 = 5213$
Telit UC865-G	Quad	3G	GPS	$45 \times 30 \times 4.8 = 6480$
Option GTM501	Quad	3G	HSUPA	$25 \times 30 \times 2.3 = 1725$

"Size" is above main PCB.

New Case

- Less “Embedded Air”
- Flat bezel
- Features drive design, not the other way around
- E.g., room for 3.5 mm jack

More Modest LCM

- Fewer pixels
  - Less work when drawing
  - Lower display refresh bandwidth
  - No need to compete with laser printers (280 dpi)
- Perhaps larger size

Note: sourcing LCMs seems to be hard.

Debug Board

- Eliminate fragile and anti-portable FPC, use IDBG
  - Serial console useful for diagnostics
  - Delegate control tasks to MCU (e.g., PMU, HDQ)
  - Can be made a BOM option
- Add debug taps
  - For experiments and tinkerers
  - NC FPC connectors
  - E.g., under LCM, where space is cheap
  - Use standard 1:1 cable

Miscellaneous

- GPS update: ublox5
- WLAN: Marvell 8686 or maybe radically different Atheros (or other)
- Optional camera