openmoko

FreeRunner Overview

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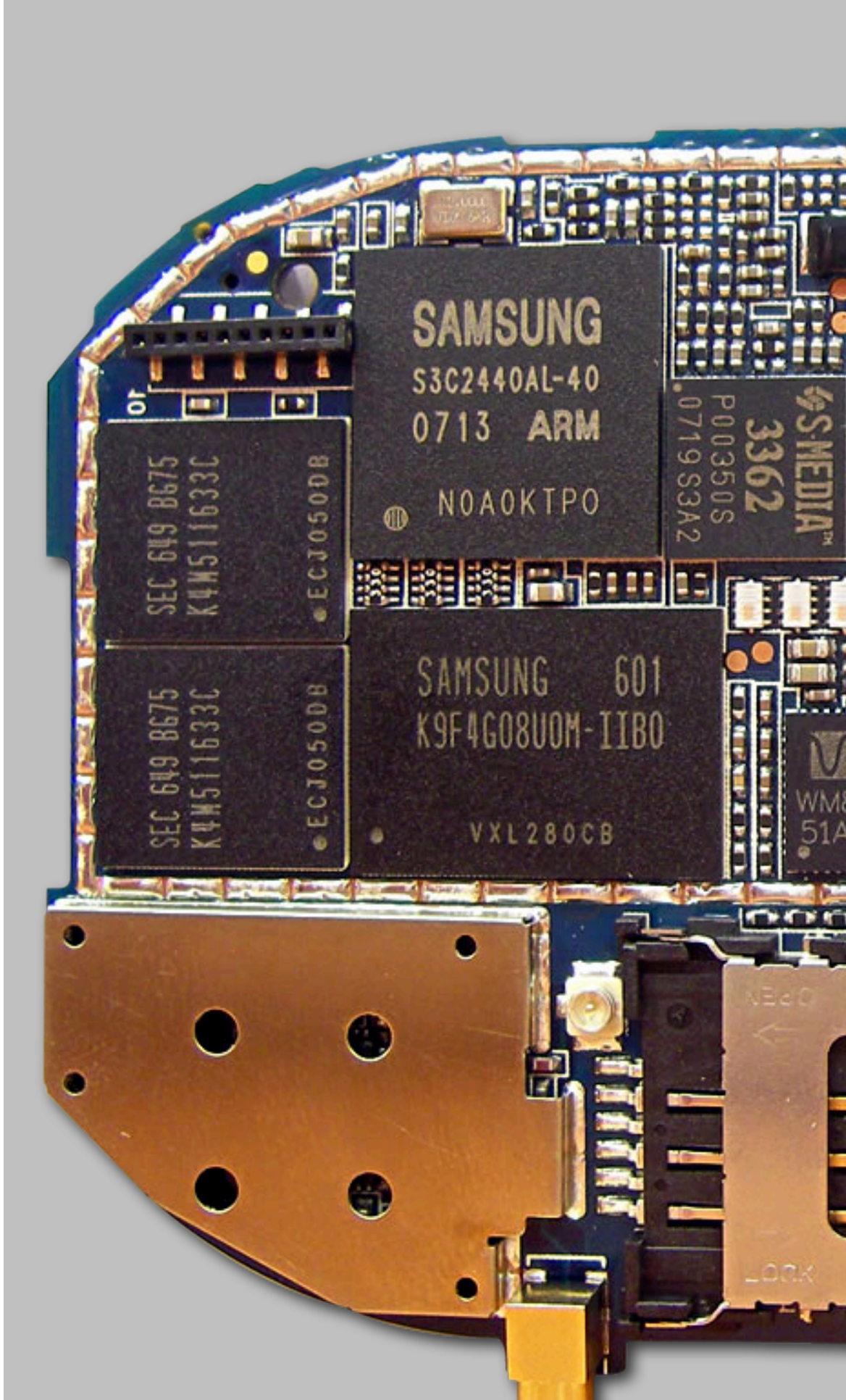
FreeRunner by Openmoko

Overview

At a glance

- An embedded portable device
  - GSM + GPRS, GPS, Motion Sensors (2), 802.11 b/g, Bluetooth, USB, touchscreen
- Completely open development environment
  - GNU Toolchain, Linux Kernel + Middleware, Debian, Android, Qtopia, more...



Low-Level Debug Support

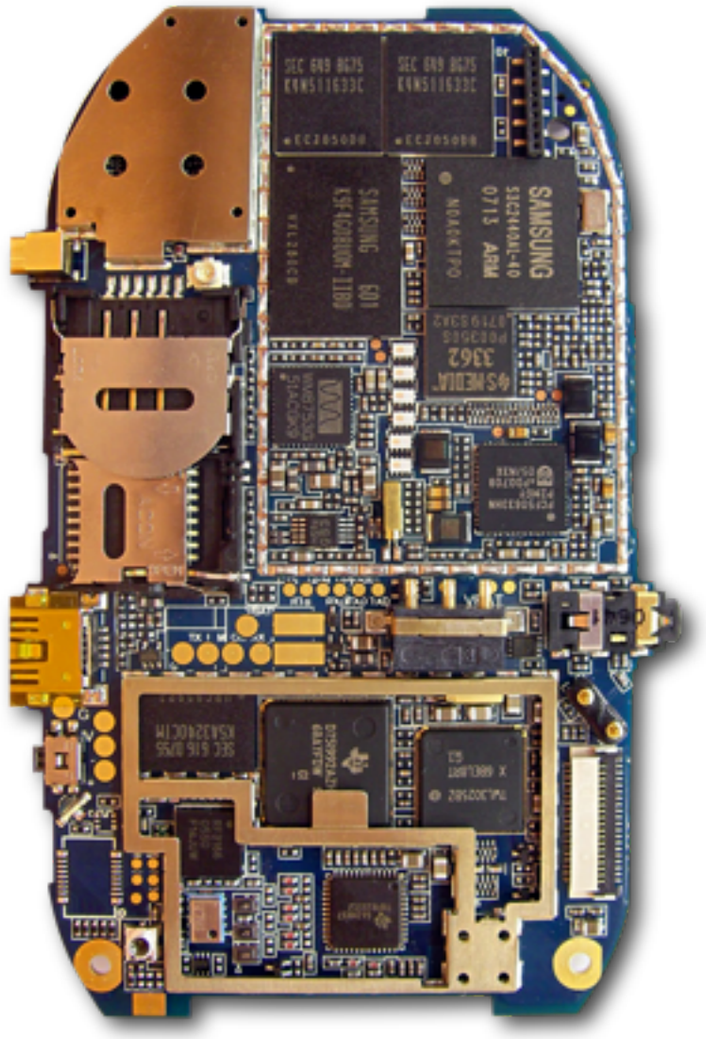
FreeRunner with DBoard and JTAG connection

Thousands of Tools and Applications

- Android OS, Debian GNU/ Linux, Qtopia, more...
- Installable packages from www.opkg.org

All Major Certifications

- **For Americas (FCC)**
  - **850/1800/1900 Band, FCC ID: EUNGTA02**
  - **900/1800/1900 Band, FCC ID: EUNGTA02E**
- **For Europe (CE)**
  - **Registration number: M528583V-EO**
- **For Taiwan (NCC)**
  - **NCC certification number: CCAF08DG0080T0**



FreeRunner PCBA

Hardware

Technical Specification

Size and Weight

120.7 x 62 x 18.5 mm

133 grams

Display

Touch Screen

2.8" VGA (480x640) VGA Screen

Speed

ARM9 @ 400 MHz

2D/3D Graphics Acceleration

GSM

Tri band 850/1800/1900 MHz

Tri band 900/1800/1900 MHz

Power

Removable 1200 mAh battery

Memory

128MB SDRAM

256MB NAND Flash

microSD Slot

Input and Output

Input and Output

2.5 mm audio jack

GPS external connector

Hardware Highlights

Wi-Fi (802.1 1b/g)

AGPS

GPRS (2.5G not EDGE)

Bluetooth 2.0

3axis Motion Sensors (2)

Software Highlights

Openmoko GNU/Linux-based

100% FOSS on CPU GNU/Linux development tools

...More Details

1. Display- Topply o2.8, 480 x 640 pixels, VGA, 200 NIT minimum, resistance type touch

2. User Interface Navigation- Touch screen on LCD, 2 control “buttons”, 1 Power button, 1 Aux for 911 emergency call

3. Built-in 802.11b/g Radio (Atheros chipset AR6001 Flash version)

4. Built-in Bluetooth 2.0 + EDR (CSR and support PCM audio , BC4 firmware version)

5. Built-in 2D/3D graphics acceleration chip (S-Media 3362)

6. 2 built-in Tri-Axis sensors (ST accelerometer LIS302DL)

7. Built-in GPS Radio – -130 dBm with internal antenna, -157 dBm tracking on chipset specification, TTFF under 40 seconds with -130 dBm signal strength, and tracking (u-Blox)

8. Antenna – Specialized antenna for best in hand hold GPS, GPRS and Wi-Fi/Bluetooth performance are required, -105dBm on receiving, Tx 30dbm+2 on GSM

9. External Antennae – MMCX GPS connector

10. GPRS Radio –GSM/GPRS radio. A Pre-PTCRB certified module will be preferred

11. Linux – Linux kernel 2.6.xx Openmoko kernel

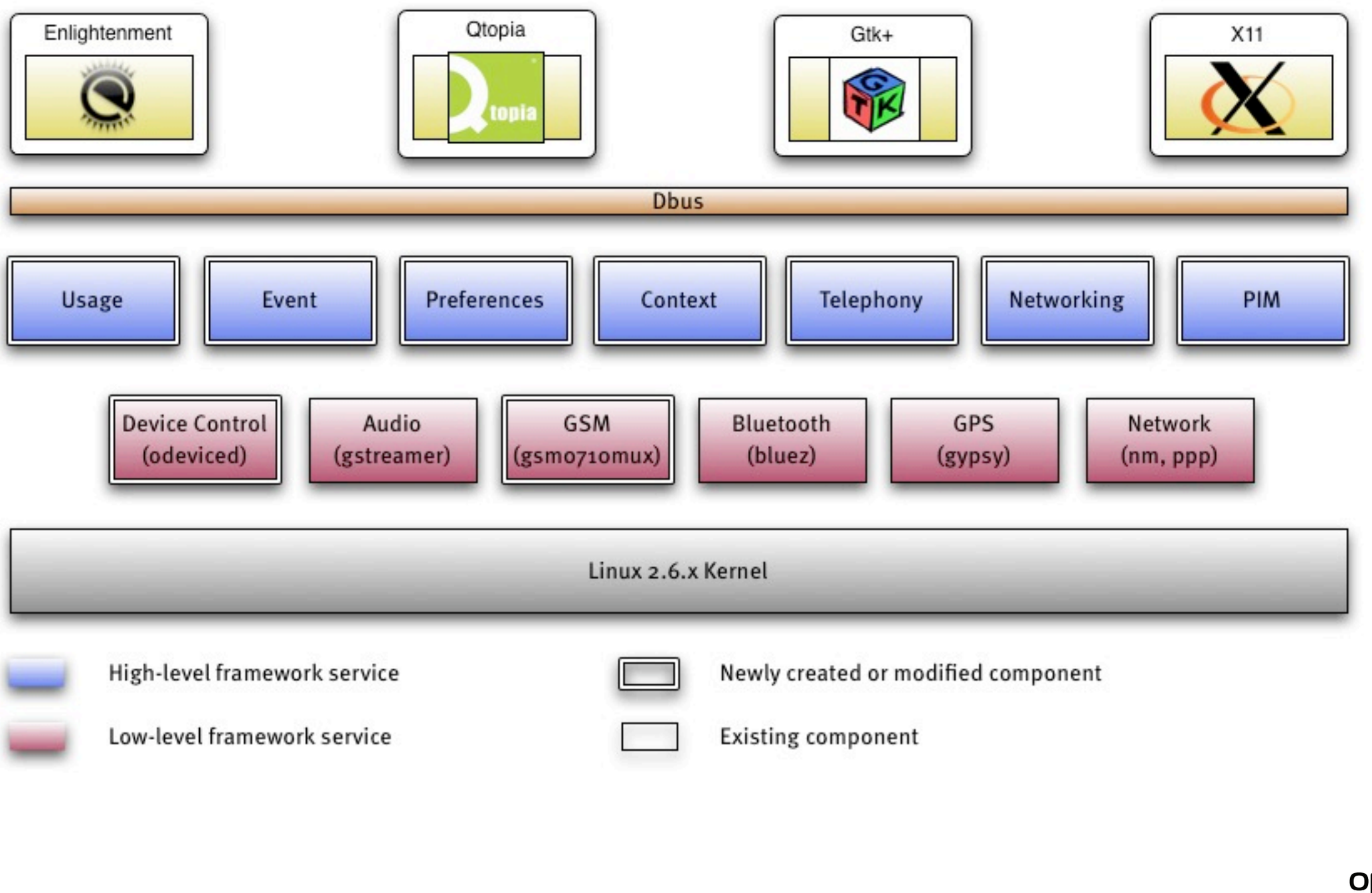
12. USB - Client and Host-mode switchable (to be used for software downloading), provide host 5V power

13. Power- Normal mode power will be via 1200 mAh battery with built-in coulomb counter, could charge via specialized charger. Internal Lithium Ion or Lithium Polymer battery will keep device in standby mode. Battery life (Approximation/Ideal Target) Standby time 70h Hrs (GSM) Talk time (Backlight off) Up to 3-4 hrs(GSM)

14. LED- LED indicator under Aux/Power button key

Software

Om 2009 Software



Open for Advanced Development

- Choose your software development OS
  - Andriod, Debian, Om 2009, and more...
- Coding and compiling with GNU Tools
- QEMU based Emulator
- OPKG Online repository
  - Programs, scripts, applications, and more...
- Dual boot support : microSD card, NAND flash, with recovery NOR memory
- Openmoko Community
- Project hosting (for code)
- Support Mailing Lists
- *And a lot more...*

Case Study

Oxford Archaeology

Oxford Archaeology is replacing the current paper-based method of documenting digs with the FreeRunner.

Thanks!

Contact sales@openmoko.com for more Information.