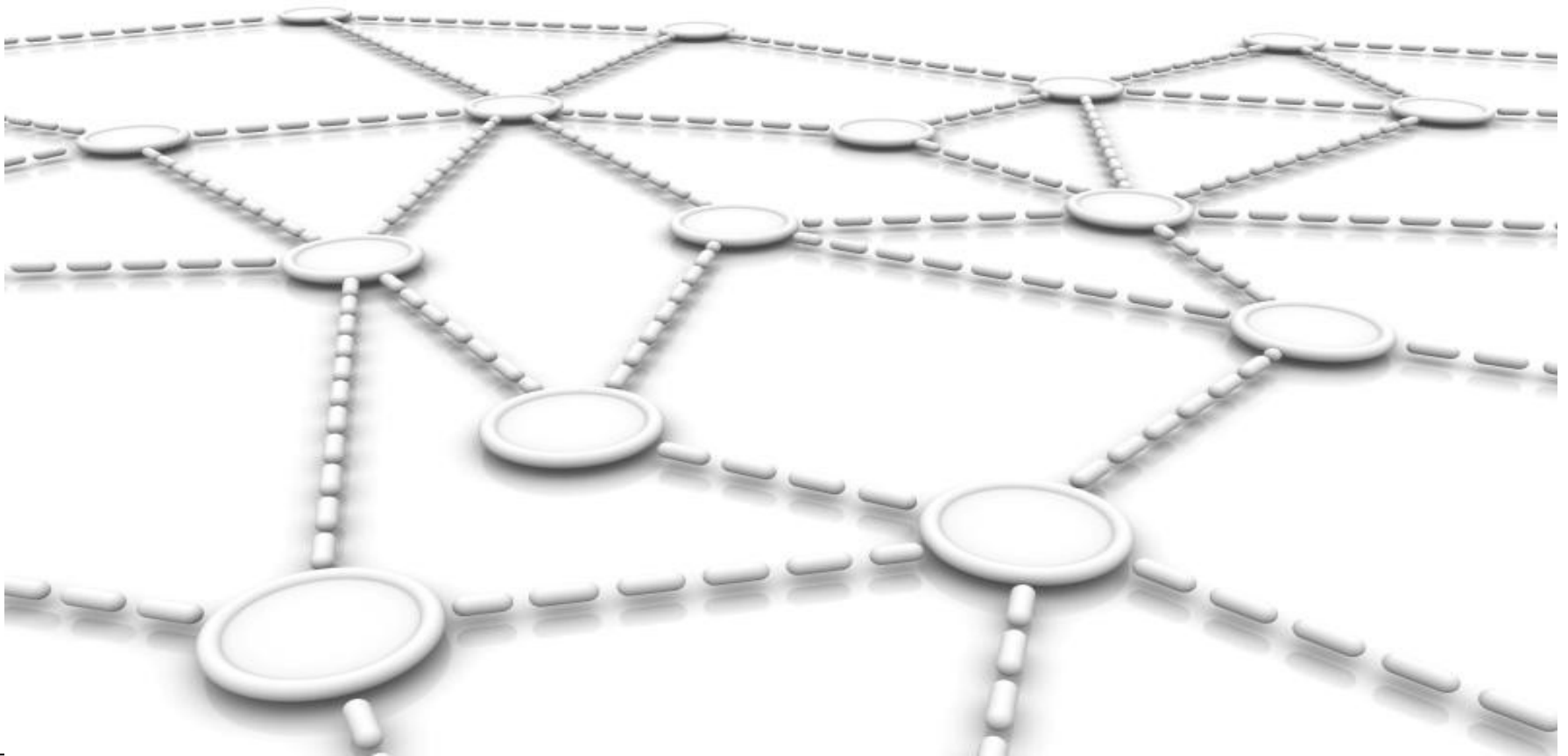# 1 GHz AM37x Sitara™ ARM® MPUs from Texas Instruments offer design flexibility and compatibility driving a variety of low-power, high-performance applications

TEXAS INSTRUMENTS

New AM37x Sitara™ ARM® MPUs for low power, high-performance applications

AM3703

AM3715

1GHz ARM Cortex™-A8

- **38 percent increase in ARM performance**
  - **Increased boot times**
  - **Multiple applications**
- **Up to 30 percent less power consumption**

Code compatible with OMAP 35x & Sitara AM35x

- **TI-provided Linux and WinCE baseports with demos and more**
- **Scalable silicon platform for multiple product possibilities**
- **Large third party & open source developer network**

Double the graphics performance

- **Perfect for portable data terminals, medical equipment, industry HMIs & navigation which require rich graphical interfaces**
- **Code compatible with future devices and Open GL graphics SDKs**

TEXAS INSTRUMENTS

Perfect for low-power, high-performance applications requiring rich, graphic user interfaces

Applications such as

- **Personal Data Terminals**

- **Point of Service**

- **Single Board Computers**

- **Medical**

- **Portable, low-power Devices**

- **Navigation**

- **Home/Building Automation**

- **Smart Displays**

- **Gaming**

Design requirements

- **High processing power (1GHz+)**

- **Immersive 3D Graphics Acceleration**

- **Low power consumption**

- **Device Scalability**

- **Headroom for future growth**

- **Software Compatibility**

- **Package Flexibility**

- **End to end HW solutions**

- **Multiple Operating System and GUI support**

- **Low-cost Development tools**

AM37x MPU – increased system performance with up to a 30 percent decrease in power consumption

Features

- **Cores**
  - 800MHz Cortex-A8 with NEON™ Coprocessor
  - 1GHz Cortex-A8 version also available
  - 3D Graphics Engine – up to 20 polygons/s
  - Up to 30% reduction in power consumption, compared to OMAP3

- **Memory**
  - ARM:
    - 32 kB I-Cache;
      32 kB D-Cache; 256kB L2
  - LPDDR1 and NAND interfaces
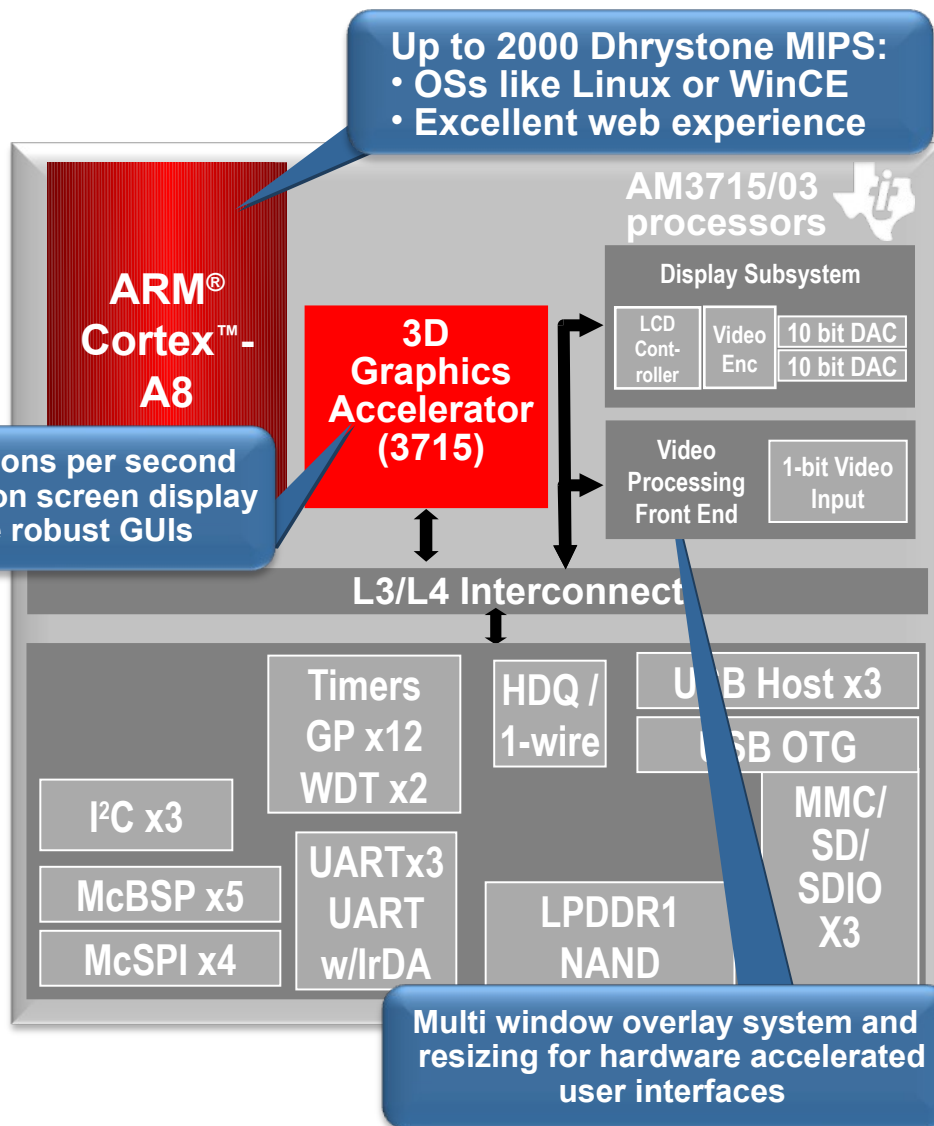
- **Peripherals**
  - USB HS Host x3
  - USB 2.0 OTG
  - MMC/SD card interface x3
  - Display subsystem with LCD controller and dual 10 bit DAC's
  - 1.8V I/O's
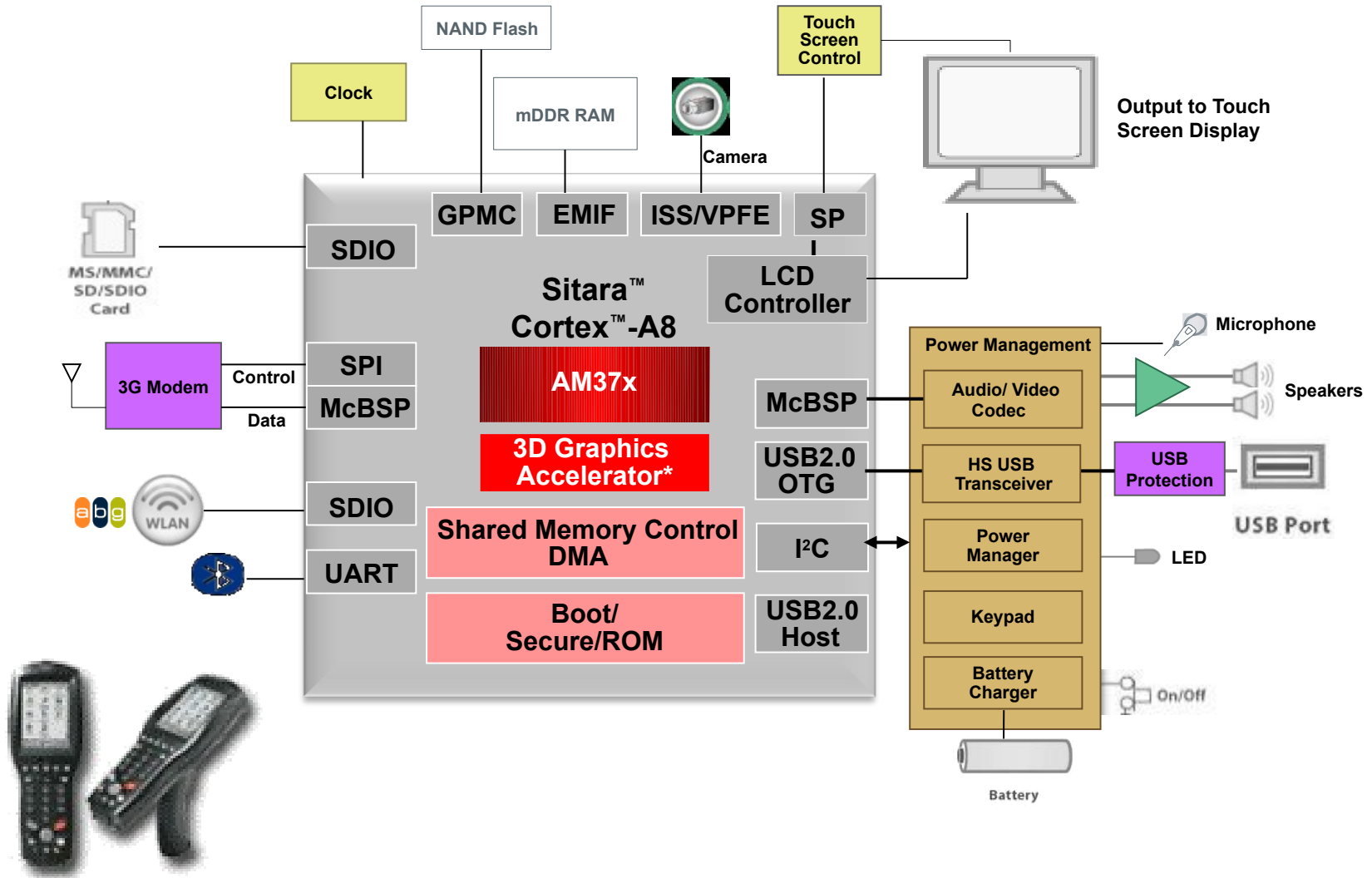
- **Power**
  - Dynamic Voltage and Frequency Scaling (DVFS)
  - Typical Power: 570 mW (600 MHz)
  - Standby Power: .1 mW (600 MHz)

- **Package**
  - CBP-12x12 mm, 0.4mm pitch, Package On Package (POP)
  - CBC-14x14, 0.5mm POP
  - CUS-16x16 mm 0.65 mm pitch. Utilizes Via Channel™ Array Technology with 0.8mm pitch plus design rules

Up to 2000 Dhrystone MIPS:
- OSs like Linux or WinCE
- Excellent web experience

AM3715/03 processors

Display Subsystem

LCD Cont-roller | Video Enc | 10 bit DAC / 10 bit DAC

ARM® Cortex™-A8

3D Graphics Accelerator (3715)

Up to 20M polygons per second Hardware based on screen display Easily create robust GUIs

Video Processing Front End | 1-bit Video Input

L3/L4 Interconnect

Timers GP x12 WDT x2 | HDQ / 1-wire | USB Host x3

I²C x3 | | USB OTG

McBSP x5 | UARTx3 UART w/IrDA | LPDDR1 NAND | MMC/ SD/ SDIO X3

McSPI x4

Multi window overlay system and resizing for hardware accelerated user interfaces

TEXAS INSTRUMENTS

4

Application example: Portable Data Terminals

Code compatible with and Sitara™ AM35x and OMAP35x processors, allowing software reuse

Sitara™ AM37x MPUs

### Innovative software – NRE- and royalty-free

- **Full software development kit including:**
  - Base port to multiple industry leading Operating Systems
    - Linux kernel 2.6.32 BSP
    - Windows® Embedded CE 6.0 BSP
    - Android™
  - Full peripheral driver library
  - Demos: QT, graphics, benchmarking, touchscreen and more
  - Flashing, pad configuration

- **These are just a few of the many features TI provides to start your application development**

Active open source community and large ecosystem of developers:

AM37x development tools make design easy!

AM37x evaluation module
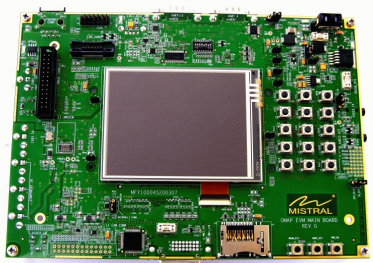
$1,495

- 1GHz Cortex-A8
- PowerVR SGX
- TPS Power Module
- WL1271 Wi-Fi/BT
- Touch screen LCD
- Peripheral Access
- Expansion
- Linux SDK w/ UI and demos

Beagleboard-xM

$179

- Community Board
- 1GHz Cortex-A8
- 4-port USB Hub
- Ethernet

beagleboard.org

AM/DM37x evaluation module

$1,495

- Same as AM37x EVM plus:
- 800MHz C64x/IVA
- Updated Linux SDK including Video Codecs and demos
- Windows Embedded CE
- Supports all AM37x iterations

Available June 2010

TEXAS INSTRUMENTS

Why Sitara™ ARM® microprocessors

- TI's Sitara family of highly-integrated ARM9 and ARM Cortex-A8 microprocessors offer various combinations of high-performance and low power levels giving customers the ability to create an array of products using a common hardware and software platform

- Customers can reduce system risks and accelerate time to market using standard and comprehensive HLOS Board support packages and ARM-based software development tools

- TI is the largest ARM core licensee supporting all major High Level Operating Systems

For more information:
- AM37x Landing page: www.ti.com/am37x (Live at Product Launch)
- Sitara home page: www.ti.com/sitara
- ARM home page: www.ti.com/arm
- TI Embedded Processor Wiki: wiki.davincidsp.com
- Forums: e2e.ti.com
- Support: support@ti.com
- Open Source Software Portal: DesignSomething.org
- Training: www.ti.com/training

TEXAS INSTRUMENTS