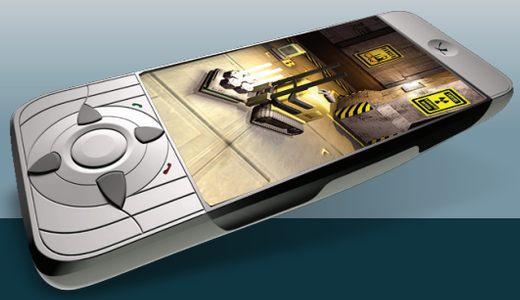
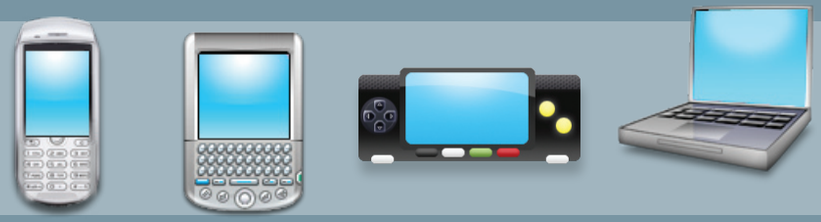
FALANX MALI200



MULTI-CORE CAPABILITIES

The unique parallel architecture of the Mali IP Core Family makes the fully programmable Mali200 pixel processor ideal for expanding the scope of its market applications to include game consoles, in-car navigation systems, and desktop PC's. Falanx' Mali200's unique architecture combines dazzling 3D graphics, full-motion video playback (decode), capture (encode) and long battery life with full programmability and seamless performance scalability.

This flexible all-in-one solution enables Falanx to adapt its cores on the premises of customer's requirements, and provide the maximized value and differentiation of a Mali graphics enabled SoC. Now, integrated graphics performance can compete with higher end dedicated systems, while meeting tight power and budget requirements.



GRAPHIC CAPABILITIES

As with all Mali IP cores, the Mali200 employs a combination of tile-based and immediate mode rendering for efficient bandwidth usage, which results in several competitive advantages over using a single approach. For instance, the Mali200 eliminates up to 80 percent of the per pixel bandwidth usage of immediate mode renderers. Additionally, data locality provides optimized memory access patterns ensuring higher performance in high-latency systems.

Compared to a traditional tile-based renderer, the Mali200 IP core offers significantly lower bandwidth/vertex, while its Falanx proprietary FLXTC™ Texture Compression method lowers per-pixel bandwidth as well. These benefits can be mapped into existing system-on-chip architecture with full support for e.g. AHB2.0 or AXI bus interface standards, a complete in-house developed and pre-verified software stack and a unique and patented hardware/software interface providing robust performance and ease of system verification.

MPEG-4 AND H.264 CODEC

With the capacity to concurrently encode and decode MPEG-4 and H.264 at an impressive 30fps, Mali200 delivers smooth video conferencing abilities and is the industry's only IP core able to provide up to 16X Full Scene Anti-Aliasing (FSAA) support with texture filtering for improved quality and increased bandwidth savings.

GEOMETRY PROCESSOR

Used in addition to the Mali200, MaliGP delivers complex transform, setup calculations and video algorithm acceleration, while offloading the main CPU. This pairing of rendering core and geometry processor enables rich 3D applications to run extremely fast while consuming minimal power.

API SUPPORT

Whether it's a cell phone, PDA or portable game console that uses one-to-two cores or it's a set-top box, laptop or desktop using four or more cores, due to its modularity, Mali200 is able to take full advantage of the new OpenGL® ES 2.0 programming standard as well as other APIs, further enhancing its programmability, enabling mobile content developers to use the 3D medium to create rich, dynamic, lifelike worlds and characters.

OpenGL ES

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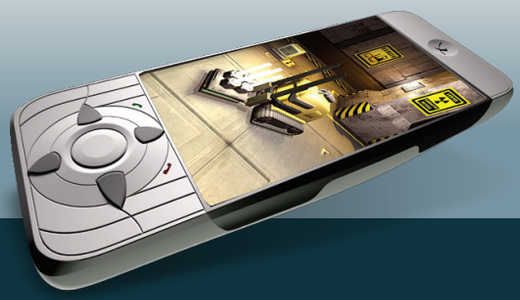

RICH FEATURE SET

Basic 3D Features	
Perspective Bi- /Tri- /Anisotropic Filtering	4-Level hierarachical Z and Stencil Tests
4X and 16X FSAA (4X Penalty Free)	Frame Buffer blend with Destination Alpha
Scalable performance with Multi-Cores	Falanx 2bpp Texture Compression (FLXTC)
Pixel Shader Model 3 Features	
Cube / 3D / Projective / Shadow Textures	Register Indirect Jumps
Unlimited Dependent Texture Reads	No Program Length Limits
Programmable LOD Bias	Virtualized Texture Samples (no texture count limit)
Multiple Render Targets	Indexable Varying, Temp and Texture Samplers
Two-sided Stencil	Fast Arctangent
Fast Dynamic Branching	Dynamic Recursion
Shader Access to Frame-Buffers	Arbitrary Memory Reads and Writes
Vista(Longhorn) Ready	Full Floating Point Arithmetic
HDR Textures and Frame Buffers	Complete Non-Power-of-2 Texture Support
Other Multimedia Feature Highlights	
H.263 / H.264 / WMA Acceleration	JPEG Compression Acceleration
FFT and Other Typical DSP / Imaging Algorithms	Audio Effect Acceleration
OpenVG /SVG Acceleration	MaliGP™ Interoperability

SPECIFICATIONS

Instructions / s	20GFlops @ 200MHz
Filtrate	300MPix @ 200MHz
Geometry Performance	10 MPoly @ 200MHz
Die Size / 90nm*	2-3mm2
Bus Interface	AHB2.0, AXI, OCP

ABOUT FALANX

Falanx Microsystems develops graphics accelerator IP cores, marketed to semiconductor system-on-chip (SoC) vendors, that deliver high quality multimedia images without compromising performance, power consumption and system cost. Unlike most graphics IP cores, Falanx's Mali Graphics Core—designed from the ground-up for mobile applications such as cell phones, PDAs and portable game platforms—is the only graphics IP core offering a complete integration of 2D, 3D and video, plus software and interoperability drivers, in an all-in-one solution. Falanx is headquartered in Trondheim, Norway, and is privately-held. For more information about Falanx and the Mali IP Core Family, visit www.falanx.com.

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