

PR873

Fujitsu graphics controller 'Jade' integrates powerful 32-bit CPU and graphics engine on one chip

Sophisticated feature set designed for embedded automotive graphics

Langen, Germany 10th April 2007: Fujitsu Microelectronics Europe (FME) has announced the MB86R01 'Jade', the first device in a new family of graphics controllers aimed at high-end embedded automotive graphics applications. Jade is the first Fujitsu System-on-Chip (SoC) to integrate the powerful 32-bit ARM926EJ-S™ CPU core with the company's successful graphics processor 'Coral PA'.

Based on Fujitsu's proprietary 90nm CMOS process technology, Jade is optimised for applications requiring high CPU performance combined with sophisticated 2D/3D graphics features. Target applications are on-board and mobile navigation systems, graphical dashboard systems, HUD (head up display) units, rear seat entertainment, point-of-sale terminals and industrial control panels. Packaged in a 484-pin BGA, the device requires a supply voltage of 3.3V (I/O), 1.8V (DDR2), 1.2V (Internal) and is designed to operate over a temperature range of -40 to +85°C.

The ARM926EJ-S is a fully synthesisable processor with a Jazelle® technology (Java™ Acceleration) enhanced 32-bit RISC CPU, 16kB instruction cache, 16kB data cache, 16kB ITCM, 16kB DTCM and a memory management unit (MMU). The CPU runs all major OSs and existing middleware including Microsoft Windows CE, QNX, Wind River VxWorks, Linux and Itron.

Further features include an ETM9 (medium) and JTAG ICE interface, 8-channel DMA and 32-bit timers. Core frequency is 320MHz (generated by on-chip PLL). On-board peripherals include a unified DDR2 memory supporting 320Mbps (up to 128MB), a parallel flash/SRAM host interface with decryption engine, parallel ATA, SD-Card, CAN, Media LB, USB 2.0 (Host and

Function), ADC, DAC, I²C, I²S, PWM, SPI, UART, GPIO and an external interrupt.

Fujitsu's Coral PA processor provides sophisticated features for embedded graphics applications, such as in-car infotainment systems, which require more display and rendering functions. These features include a rendering engine for 2D/3D graphic acceleration functions, a geometry processor supporting floating point transformations for smooth graphics animation and a dual-display capability (2 x RGB digital output) that enables independent contents to be shown on two connected screens.

Other key features include:

- A texture mapping unit (up to 4096 x 4096)
- Bit-Blt Unit (up to 4096 x 4096)
- Alpha Bit-Blt and ROP2 functions
- 6 layers of overlay display (Windows)
- Alpha plane and constant alpha value for each layer
- Dual digital video input (various formats including YUV, RGB, ITU656)
- Video scaler (up/down scaling)
- Brightness, contrast, saturation control for video
- Built-in alpha blending, anti-aliasing and chroma-keying

Display resolutions from 320 x 240 up to 1024 x 768 are supported.

Availability and Support

For application development support and functional evaluation, a number of evaluation boards are available from Fujitsu, together with a stand-alone starter-kit for all graphics controllers, which enable the evaluation of the features and application building. Source code for various application examples, application notes and the Fujitsu Graphics API is included.

Engineering samples are available now with volume production due to commence during Q3 2007.

A medium resolution picture relevant to this press release can be found by following the link: <ftp://213.166.4.46/Fujitsu/Press/MRPR873Jade.jpg>

For a high resolution download option please follow the link:

<ftp://213.166.4.46/Fujitsu/Press/HRPR873Jade.zip>

Caption: Aimed at high-end embedded automotive graphics applications, 'Jade' integrates the powerful 32-bit ARM926EJ-S™ CPU core with Fujitsu's successful graphics processor 'Coral PA'.

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Notes to Editors

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