



## Si14 - Embedded Solutions



### Mirach Intel Atom © module

#### Overview

The Intel® Atom™ processor Z5xx series delivers the benefits of Intel® architecture for small form factor, thermally constrained and fanless embedded applications.

Implemented in 45nm technology, these power-optimized processors provide robust performance-per-watt in an ultra-small 13x14 mm package. Featuring embedded lifecycle support, the Intel Atom processors are ideal for many embedded market segments such as in-vehicle infotainment, medical, interactive client (kiosks, point-of-sale terminals), gaming and industrial control. They remain software compatible with previous 32-bit Intel® architecture and complementary silicon.

These single-core processors are validated with the Intel® System Controller Hub US15W, which integrates a graphics memory controller hub, and I/O controller hub into one small 22x22 mm package. This new, two-chip platform provides more than 80% reduction in total footprint over the previous-generation three-chip solution, based on the Intel® Celeron® M processor Ultra Low Voltage 423 with Mobile Intel® 945GME Express chipset.

#### Key benefits

- Competitive prices with ARM11 and CORTEX Cores
- Scalable solution (from 800 Mhz to 1.86GHz)
- Low power consumptions (from 1 to 5 Watt)
- Smaller Modular Solution (80x60mm)
- Best performance/Watt ratio
- Boot from removable devices
- Configurable BIOS ad HW

- X86 architecture compliant solution
- Windows Xp, Xp embedded, Vista and Linux fully supported

## Key features

- Intel® Atom™ Processor family
- Up to 1GB DDR2 Ram
- Intel® Graphics Media Accelerator 500: 2D, 3D and advanced 3D graphics support
- Dual Head Video (LVDS up to 1280x1024 and SDVO up to 1080i)
- H264 hardware codec up to 1080i@30fps,
- High Profile, L4.1 (MPEG2-4, VC1, and WMV9 supported)
- HDA Audio up to 4 audio streams (up to 16 channels each), 32-bit sample depth, and sample rates to 192 KHz
- 8 USB 2.0 Host (1 client configurable)
- Interfaces: LPC, IDE, PCI-Ex 1x, GPIO, UART, IRDA
- Operating temperature: 0°...+60°C; -40°...+85°C

## Specifications

CPU	Intel Atom Z510 (1.1GHz) and Z530 (1.6 Ghz, Hyper Threading) processor for Embedded
Cache	32 KB Instruction Cache + 24 KB L1 Cache, 512 KB L2 Cache
Chipset	Intel System Controller Hub US15W
Main Memory	On board up to 1 GB DDR2 – 400/533 MHz
CPU clock	1.1 Ghz up to 1.6 GHz
Graphic adapter	US15W Integrated GMA500 Graphics accelerator
Supported standards:	OpenGL 2.0, PowerVR SGX Kern, Screen Tiling, Internal True Color Processing, Zero overhead AA, 32 Bit floating-point operations. DirectX 10.1, Shader 4.1
Hardware video decoder:	H264, MPEG2-4, VC1, and WMV9 format supported
Graphics Memory	Up to 256 MB shared
Video Output	Two independent video output: SDVO and LVDS up to FullHD (1920x1080)
USB Client	1 USB 2.0 Hi-Speed (480 Mbps)
USB Host	Up to 8 USB 2.0 Hi-Speed (480 Mbps)
Audio	Intel HDA Audio with up to 4 audio streams (up to 16 channels each), 32-bit sample depth, and sample rates to 192 KHz
PCI express support	Two PCI express x1 Lane

PATA interface	Two UDMA-133 PATA interfaces
Interface	One SDIO port interface
Legacy ports	One legacy 3.3v UART
GPIO	13 GPIO available
Power Management	ACPI 3.0 compliant
Supported OS	Windows XP SP3, Windows XP Embedded, Windows CE6, Linux 2.6.xx
Power supply	5V stabilized +/- 5%
Power consumption	Less than 5W
Temperature	Operation: 0° to 60°C - Storage: 0° to +60°C (Extended range in request)
Humidity:	Operation: 10% to 90% - Storage: 5% to 95%
Dimensions (H x W x D)	61.3 mm x 82.2 mm x 10.0 mm
Weight	110 gr (without battery)