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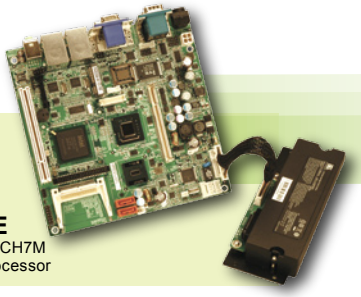

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Intel® 945GSE+ ICH7M
Intel® Atom™ Processor

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IEI and IEI Worldwide

IEI Technology Corp., a leading industrial computing service provider, integrates computing platforms and customization services. IEI supplies hundreds of industrial computer boards, systems and peripherals in thousands of customer applications, and supports OEM/ODM services thereby reducing customers' design time and accelerating product development to help customers advance beyond their market competition. IEI has an innovative R&D team, effective management system, Quality assurance and over 400 products passing through more than 100 distributors providing customers with the fastest time-to-market services all over the world.

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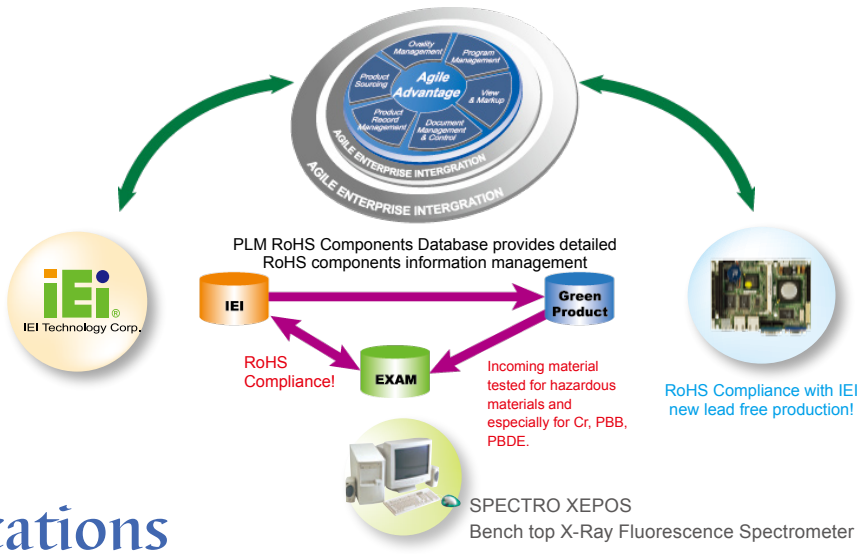
IEI Technology (Shanghai) Co., Ltd.
515, Shen Fu Rd., Xin Zuang Industrial
Develop Zone, Shanghai, 201108, China
http://www.ieiworld.com.cn

RoHS Compliance

IEI is committed to complying with applicable laws and regulations, including the European Union Restriction of Hazardous Substances (RoHS) in electrical and electronic products. IEI's goal is to exceed compliance obligations by meeting the requirements of the RoHS Directive on a worldwide basis. With IEI's new lead free production, all customers can start working on long term projects without worrying about RoHS regulations.



IEI Product Applications

Medical

- Image Processing
- Instrumentation Processors
- Database Servers
- Diagnostics

Telecommunications

- Blade Servers
- ATCA Carriers
- Network Storage
- Fabric Control Processors

Military

- Radar/Sonar
- Guidance & Control Systems
- Communications Control
- Fire Controls

Best in Class Design and Service

CUSTOM ENGINEERING

IEI has extended its system assembly line to provide solutions that best fit customers' needs. Our assembly lines and logistics services have the flexibility to fulfill a wide variety of customer specifications and requirements.
All IEI staff devote themselves to providing the highest quality service. Being the top brand in the IPC industry, IEI employees devote themselves to improving quality through global management and advanced technology.

DESIGN

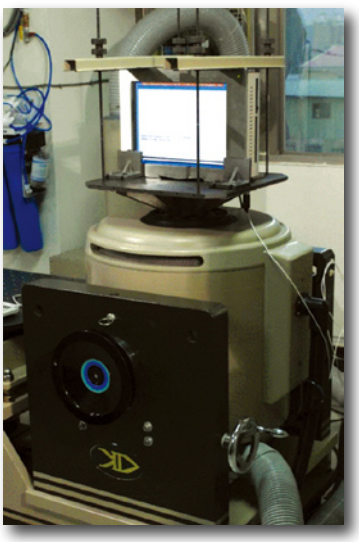
IEI's R&D team utilizes professional software, hardware, mechanized and system integration capabilities. Our extensive experience covers nearly every product line of the IPC field, providing outstanding OEM/ODM services and guaranteeing a successful and timely product development experience with our customers. With IEI's extensive production experience, research and development is focused on helping develop successful products with our clients.
Successful projects include:

- NEMA4 Panel PC and Industrial Monitor
- Mobile PC for police car video recording applications
- Networking platforms for VPN and load balance services
- Video capture for surveillance applications

GLOBAL SERVICE

As a leading IPC provide, IEI is offers prompt, localized services to our worldwide customers. To provide this kind of service, IEI uses a global network of over 100 distributors in Europe, Asia and North America to bring the fastest response time when servicing customers' needs. From new sales inquiries to ongoing technical support, this localization strategy, backed by IEI's strong technical and logistical support, gives customers the fastest possible response time. Having forged strong relationships with our distributors, their support expertise and technical knowledge of IEI products are readily accessible to IEI customers worldwide. IEI has set up warehouses in Shanghai and the USA to offer comprehensive system integration hardware, software, customer-driven service and global logistics support.

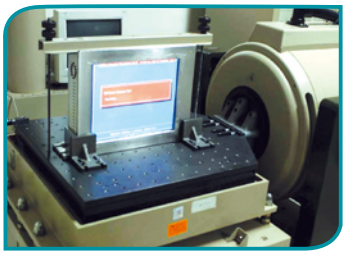
1 IEI Quality Assurance



Your IEI embedded industrial appliances have all been rigorously tested in the quality assurance and compliance laboratory at IEI headquarters. To provide you with peace of mind about the quality, durability and compliance of your IEI products, IEI has invested over two million dollars into developing rigorous quality assurance and compliance testing procedures and facilities. Ten IEI quality assurance and compliance tests ensure you receive a durable product that can withstand the harsh operational environments in which embedded industrial appliances are typically used.

Direct customer benefits of our comprehensive quality assurance and compliance testing procedures include:

- Peace of mind about the quality of the product
- Assurance that the product is durable
- Long term product reliability
- Less downtime due to failed components



2 Reliability Always Matters

Comprehensive quality assurance tests are performed on all IEI products throughout the product development cycle. Quality assurance tests are initiated in the research and development phase of a product and are continued all the way through to the manufacturing phase. Quality assurance testsing throughout the product development cycle ensure all IEI products are able to provide stable performance in the industrial environments they are used.

Temperature Testing

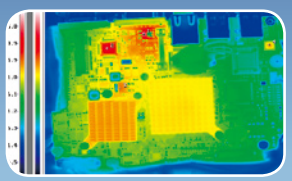
ESD Testing

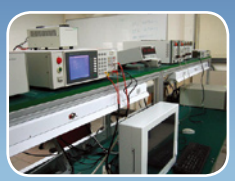
Vibration Testing

Power Consumption Testing

IP65 Testing

Drop Testing

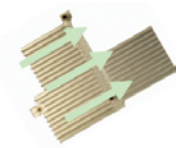

Thermal Testing


Safety Testing

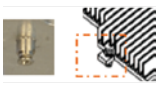
3 All New Heat Sink Design

Heat sink design and selection are critical. Heat sink performance depends on many variables including air temperature and air flow rate in the immediate vicinity of the heat sink, the strength of other heat conduction paths through components and the board, the contact resistance between the heat sink and the component it is attached to and the radiation path from the heat sink to a cooler surface, among other things. Heat sinks can also have a significant effect on electromagnetic fields. A heat sink that works well in one application may be virtually useless in another.

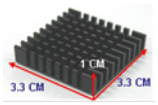
IEI Heat Sink Features



1. Good aerodynamics
IEI heat sinks allow air to easily flow rapidly through the cooler and reach all the cooling fins. This feature is important for heat sinks with many thin fins.



3. Good mounting method
For good thermal transfer, the pressure between the heat sink and the heat source must be high. IEI heat sink clips provide increased pressure at the heat sink's contact area and are easy to install.



2. Perfect flatness of the contact area with IEI new close flatness technology
A heat sink's contact area must be perfectly flat. A flat contact area allows the use of a thinner layer of thermal compound that reduces the thermal resistance between the heat sink and the heat source.

4. Good thermal transfer within the heatsink
IEI heat sinks are designed to allow good thermal transfer from the heat source to the fins.

4 Thermal Testing!

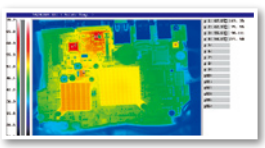
Infrared thermography detects infrared energy emitted from an object, converts it to temperature,and displays an image of the temperature distribution.

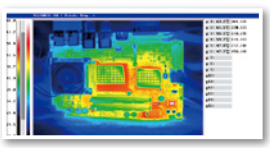
Testing Results

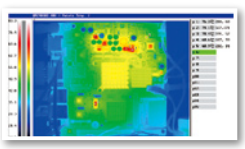
IEI SBCs operate with minimum difference in surface temperatures on separate sections of the board. Better temperature control guarantees more reliable long term system operation.

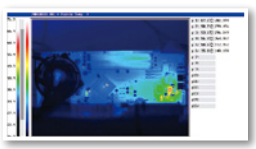
NIPPON
Neo Thermo TVS-700

Better temperature control guarantees more reliable system operation in the long run.


WAFER-US15WP

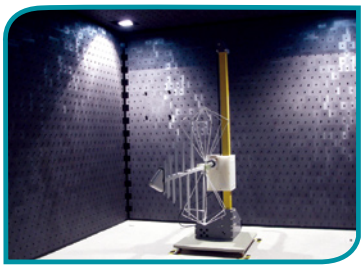

NANO-GM45A


eKINO-945GSE


PCIE-Q350

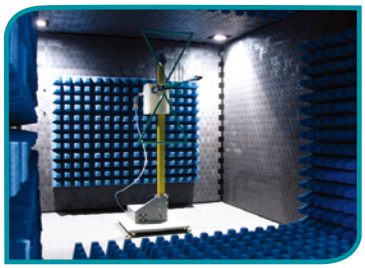
5 Product Compliance Testing

IEI has more than 400 products used in a wide variety of applications and environments worldwide. In order to develop time-to-market products that comply with safety, EMC certification and environmental directives across the globe, IEI has three certification-compliant labs including an EMI/RF chamber, EMI chamber and semi-anechoic room. IEI's new IEC 651 class 0 level semi-anechoic room can perform ISO 3745 and ISO 7779 standard acoustics experiments. These labs are essential to helping ensure the safety of our products as well as reducing costs and improving the quality of our products and services.



EMI Chamber

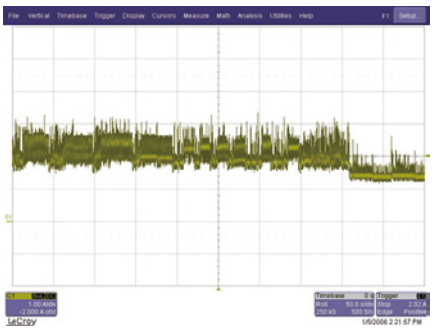
Semi-anechoic Room



EMI / RF Chamber

6 Real-Time Power Consumption Test

Meeting stringent power budgets is essential for attaining system performance and cost goals. Low power enables higher clock frequency, higher reliability, better noise margins and reduced operational costs. All IEI products have passed strict power consumption tests. Complete power consumption details are listed on product datasheets.

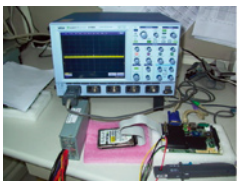


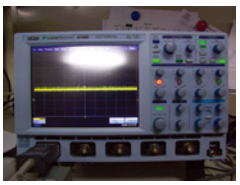
(+5V) 10minutes in 25℃

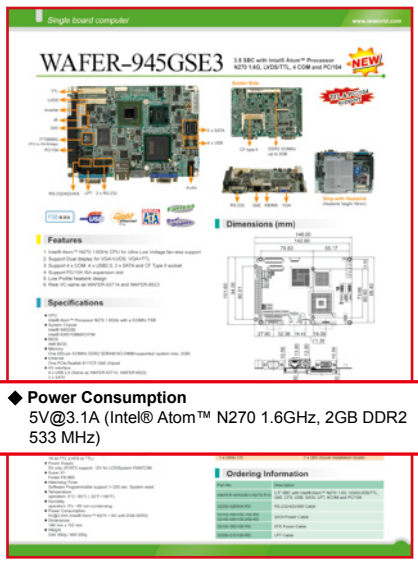
Test Sample				Unit
Ampere	2.02			A

Install OS: Windows 2000

3D Mark 2001			
VGA Type	S3-VIA Twister™ T	DirectX	9.0b
Resolution	800 X 600	Color Pixel	32
VGA Memory	8M	Score	365



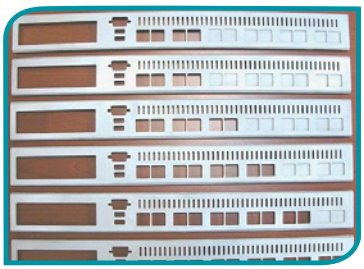




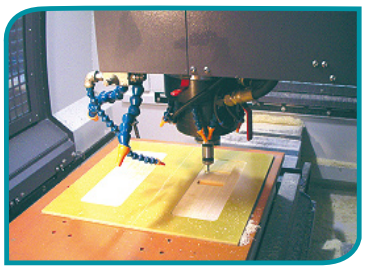
◆ **Power Consumption**
5V@3.1A (Intel® Atom™ N270 1.6GHz, 2GB DDR2 533 MHz)

7 Flexibility Customization Service

Example:
Front panel customization according to expansion adaptor selections



Front panel sample by in-house CNC in 2 days



Total Platform Solution Expert

Product Line and Naming Rule			
Product Line	**Form Factor**		**Product Name**
Full Size SBC	PICMG 1.3	PCI + PCI-e	SPCIE-xxxx (Server Grade)
			PCIE-xxxx (Graphic Grade)
	PICMG 1.0	PCI + ISA	WSB-xxxx
			ROCKY-xxxx
Half Size SBC		PCI + ISA	PCISA-xxxx
		Pure-ISA	IOWA-xxxx
		Pure-PCI	PICO-xxxx
		PCI + PCI-e	PICOe-xxxx
Motherboard	ATX		IMBA-xxxx
	Micro ATX		IMB-xxxx
	Mini-ITX		KINO-xxxx
Embedded SBC	5.25"		NOVA-xxxx
	EPIC		NANO-xxxx
	3.5"		WAFER-xxxx
	ETX	ETX 2.8 Non-SATA ETX 3.0 SATA	IEM-xxxx
	Qseven		IQ7-xxx
	Com Express		ICE-xxxx
	PC104/PCI 104		PM-xxxx

Intel® Platform

Innovation fulfils all different needs. Customers can be easily choosing products by form factor or platform even main chipset providers. Also benefit by never lost any request from market.

Chipset	Full Size	Half Size	Main Board	Mini ITX	5.25 " NOVA	EPIC NANO	3.5 " WAFER	ETX	COM Express	PC / 104	Q Seven
5100	SPCIE-5100DX SPCIE-5100P										
Q57	PCIE-Q57A										
Q45			IMBA-Q454								
G45				KINO-G45A							
G41	PCIE-G41A WSB-G41A		IMB-G41A								
QM57				KINO-QM57A		NANO-QM57A					
GM45		PICOe-GM45A		KINO-GM45A	NOVA-GM45A	NANO-GM45A			ICE-GM45A		
Q35	PCIE-Q350 WSB-Q354		IMBA-XQ354 IMB-Q354								
Q965	PCIE-9650		IMBA-X9654 IMBA-9654								
GME965 GLE960	PCIE-9652	PCISA-9652	ISP-9652 ISP-9602	KINO-9653 KINO-9652					ICE-9652 ICE-9602		
945G	PCIE-9450 WSB-9454		IMBA-9454 IMBA-9454B IMBA-9454ISA IMB-9454G	KINO-9454							
945GME	PCIE-9452 WSB-9452	PICOe-9452		KINO-9452 KINO-9453	NOVA-9452	NANO-9453 NANO-9452		IEM-9452			
D510/ICH8M N450/ICH8M		PICOe-PV-D510 PCISA-PV-D510A		KINO-PV-D510A		NANO-PV-D510A	WAFER-PV-D510A WAFER-PV-D510B			PM-PV-D510A	
945GSE	WSB-945GSE	PICOe-945GSE PCISA-945GSE		eKINO-945GSE KINO-945GSE KINO-945GSE2	eNOVA-945GSE NOVA-945GSE	NANO-945GSE NANO-945GSE2 NANO-945GSE3	WAFER-945GSE WAFER-945GSE2 WAFER-945GSE3 WAFER-945GSELVDS2	IEM-945GSE	ICE-945GSE	PM-945GSE	
915GV	WSB-9150										
865G/865GV	ROCKY-4786		IMBA-8650								
815E	ROCKY-3786										
915GME	WSB-9152				NOVA-9152				ICE-9152		
910GMLE		PCISA-9102		eKINO-9102	NOVA-9102		WAFER-9102		ICE-9102		
852GM		PICO-8522 PCISA-6770E2 IOWA-8522			NOVA-8522	NANO-8522 ENANO-8523	WAFER-8522 WAFER-8523	IEM-8522			
US15W										PM-US15W	iQ7-US15WP
US15WP							WAFER-US15WP WAFER-US15WP2				

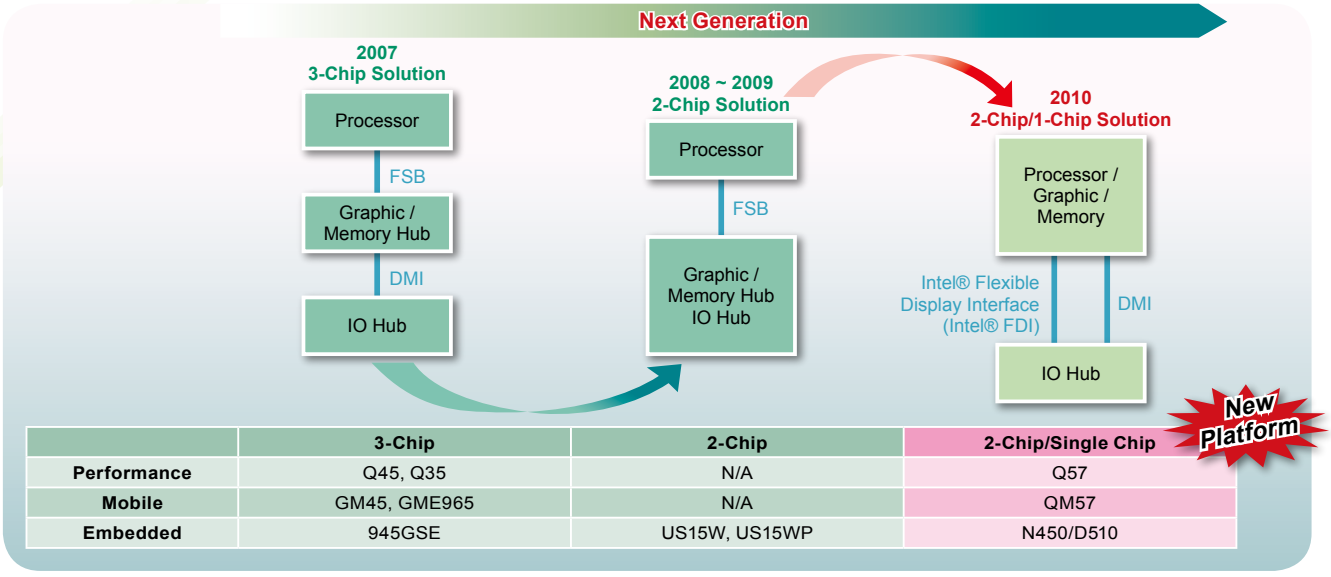
AMD Platform

Chipset	Full Size	Half Size	Main Board	Mini ITX	5.25"NOVA	EPIC NANO	3.5" WAFER	ETX	COM Express	PC/104
RS780E				KINO-780AM2 KINO-780EB						
LX					NOVA-LX	NANO-LX	WAFER-LX WAFER-LX2 WAFER-LX3	IEM-LX		PM-LX PM-LX2
GX		IOWA-GX				NANO-GX/GXTC	WAFER-GX			PM-GX

Red means New product

2010 All New Platform

2010 Intel® New Platform Trend



	3-Chip	2-Chip	2-Chip/Single Chip
Performance	Q45, Q35	N/A	Q57
Mobile	GM45, GME965	N/A	QM57
Embedded	945GSE	US15W, US15WP	N450/D510

Application Field

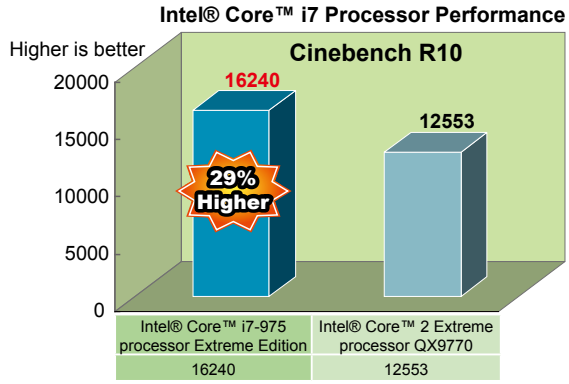
2010 Highest Performance Platform

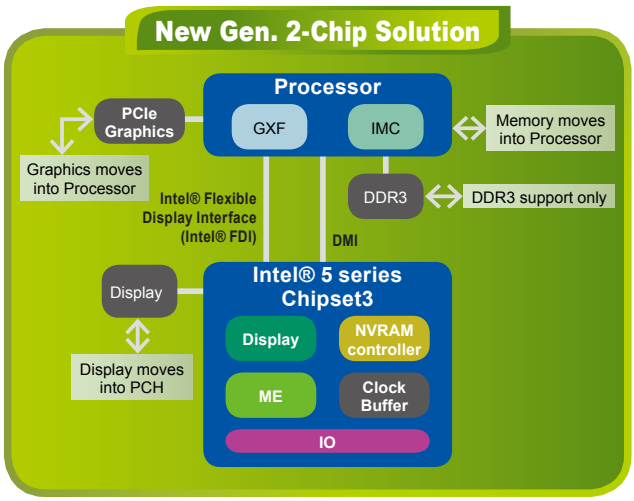
Intel® Q57 : **Highly integrated two-chip solution Integrated 2D/3D Graphics with Intel® Core i7 support**

Intel® Q45/G45/G41 : **Enhanced graphics performance with (Intel® GMA X4500HD support full 1080p high definition video playback, including Blu-ray* movies.)**

Performance Intel® Core i7 Solution (Q57 Chipset)

- Next generation 2-chip Solution
- New platform partitioning, enabling higher performance, smaller footprint, and simplified board level design
- Support DDR3 Memory
- Power saving more than 15%
- PCI Express support Graphic mode and IO mode



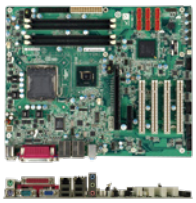


Performance Intel® Core™ i7 CPU support list

CPU Socket	Process	Core	CPU Code	CPU No.	Clock speed	L2 cache	TDP	iAMT6.0	Chipset
LGA1156	45nm	Quad Core	Lynnfield	i7-870	2.93G	8M	95W		Q57
			Lynnfield	i7-860	2.8G	8M	95W	V	
			Lynnfield	i5-750	2.66G	8M	95W		
	32nm	Dual Core	Clarkdale	i5-660	3.33G	4M	73W	V	
			Clarkdale	i3-540	3.06G	4M	73W		
			Clarkdale	G6950	2.8G	3M	73W		

Performance Intel® LGA775 Solution (G45/Q45/G41 Chipset)

Enhanced graphics performance with support for Direct X 10 and Windows* Vista* premium Logo. Multiple display configurations



IMBA-Q454

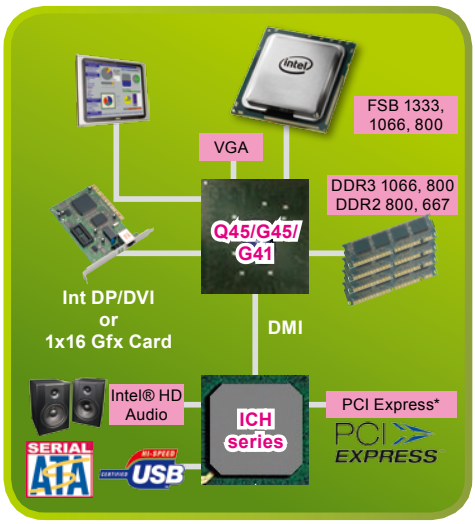
45nm Dual & Quad Core CPU Support

Danbury Technology

Dual Independent Display

Intel® TXT and VT-d

Intel® Matrix Storage Technology



Next Gen Gfx Core

Integrated DisplayPort* & DVI

Graphics upgrade:

- Integrated Next Gen Graphics Core
  - Native support for HD-DVD & Blu-Ray
  - Enhanced Decode Acceleration / Post-Processing
- DX10 and OpenGL2.1 feature set
- PCIe 2.0 PEG 1X16
- Integrated DP, DVI
- Integrated HDCP

Intel® AMT Release 5.0

Integrated TPM 1.2

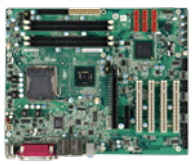
Manageability upgrade:

- Intel® Active Management Technology 5.0
- Integrated TPM 1.2

2010 Intel® Q45/G45/G41 chipset comparison table

GMCH	Intel® Q45	Intel® G45	Intel® G41
FSB	800/1066/1333 MHz		
System Memory	DDR2 (667 / 800 MHz) or DDR3 (800/1066 MHz)		
Integrated Graphics	GMA4500	GMA X4500HD Full hardware decode acceleration for MPEG2, VC1, and AVC	GMAX4500
External Display	PCIe x16 Gen2	PCIe x16 Gen2	PCIe x16 Gen1
Platform Technologies	TXT,VTd iTPM 1.2, AMT 5.0	NA	NA
Memory channels/ DIMMs per channel	2/2	2/2	2/1
ICH Support	ICH10DO	ICH10/R	ICH7/R
RAID support	0,1,10,5	0,1,10,5 (by ICH10R)	0,1,10,5 (by ICH7R)

IEI Solution



IMBA-Q454
(RAID SUPPORT)

KINO-G45A

PCIE-G41A
(RAID SUPPORT)

IMB-G41A

Desktop CPU support list

Yellow means long-term support

CPU Socket	Process	Brand Name	CPU Code	CPU No.	Clock speed	FSB	L2 cache	TDP	Chipset
LGA1156	45nm		Lynnfield	i7-870	2.93G	NA	8M	95W	Q57
				i7-860	2.8G		8M	95W	
				i5-750	2.66G		8M	95W	
	32nm		Clarkdale	i5-660	3.33G		4M	73W	
				i3-540	3.06G		4M	73W	
				G6950	2.8G		3M	73W	
LGA775	45nm	Core 2 Extreme	Yorkfield	QX9770	3.2G	1600	12M	136W	X48
				QX9650	3.0G	1333	12M	130W	Q45/Q35/G45/G41
		Core 2 Quad	Yorkfield	Q9650	3.0G	1333	12M	95W	Q45/Q35/G45/G41
				Q9550	2.83G		12M	95W	
				Q9450	2.66G		12M	95W	
				Q9400	2.66G		6M	95W	
				Q9300	2.5G		6M	95W	
				Q8300	2.5G		4M	95W	
				Q8200	2.33G		4M	95W	
		Core 2 Duo	Wolfdale	E8600	3.33G	1333	6M	65W	Q45/G45/G41/Q35
				E8500	3.16G		6M	65W	
				E8400	3.0G		6M	65W	
				E8300	2.83G		6M	65W	
				E8200	2.66G		6M	65W	
				E8190	2.66G		6M	65W	
				E7500	2.93G	1066	3M	65W	Q45/Q35/G45/G41
				E7400	2.8G		3M	65W	iEi 945G/Q965 Prodcut with special BIOS to support E7400
				E7300	2.66G		3M	65W	
				E7200	2.53G		3M	65W	
		Pentium D Dual Core	Wolfdale	E6500	2.93G	1066	2M	65W	Q45/G45/G41/Q35
				E6300	2.8G	1066	2M	65W	
				E5300	2.6G	800	2M	65W	
				E5200	2.5G		2M	65W	
		Celeron Dual Core	Wolfdale	E3400	2.6G	800	1M	65W	Q45/G45/G41/Q35
				E3300	2.5G		1M	65W	
				E3200	2.4G		1M	65W	
LGA775	65nm	Core 2 Extreme	Kenthfield	QX6850	3.0G	1333	8M	130W	Q45/Q35
				X6800	2.93G	1066	8M	130W	Q45/G45/G41/Q35/Q965
				QX6700	2.66G		8M	130W	
		Core 2 Quad	Kenthfield	Q6700	2.66G	1066	8M	95W	
				Q6600	2.4G		8M	95W/130W	
		Core 2 Duo	Conroe	E6850	3.0G	1333	4M	65W	Q45/G45/G41/Q35
				E6750	2.66G		4M	65W	
				E6650	2.33G		4M	65W	
				E6550	2.33G				
				E6540	2.33G		4M	65W	
				E6700	2.66G	1066	4M	65W	Q45/G45/G41/Q35/Q9/945G
				E6600	2.4G		4M	65W	
				E6420	2.13G		4M	65W	
				E6400	2.13G		2M	65W	
				E6320	1.86G		4M	65W	
				E6300	1.86G		2M	65W	
				E4700	2.6G	800	2M	65W	Q45/G45/G41/Q35/Q9/945G
				E4600	2.4G		2M	65W	
				E4500	2.2G		2M	65W	
				E4400	2G		2M	65W	
				E4300	1.8G		2M	65W	
LGA775	65nm	Pentium D Dual Core	Conroe	E2220	2.4G	800	1M	65W	Q45/G45/G41/Q35/Q9/945G
				E2200	2.2G		1M	65W	
				E2180	2.0G		1M	65W	
				E2160	1.8G		1M	65W	
				E2140	1.6G		1M	65W	
		Celeron Dual Core	Conroe	E1600	2.4G	800	512K	65W	
				E1500	2.2G		512K	65W	
				E1400	2.0G		512K	65W	
				E1200	1.6G		512K	65W	
		Celeron	Conroe L	450	2.20G	800	512K	35W	
				440	2.00G			35W	
				430	1.8G			35W	
				420	1.6G			35W	
	65nm	Pentium D	Presler	960	3.6G	800	4M	95W/130W	Q965/945G
				950	3.4G			95W	
				945	3.4G			95W	
				940	3.2G			95W/130W	
				935	3.2G			95W	
				930	3G			95W/130W	
				925	3G			95W	
				920	2.8G			95W/130W	
				915	2.8G			95W	

CPU Socket	Process	Brand Name	CPU Code	CPU No.	Clock speed	FSB	L2 cache	TDP	Chipset
LGA775	90nm	Pentium D	Smithfield	840	3.2G	800	2X1M	130W	Q965/945G
				830	3G			130W	
				820	2.8G			95W	
				805	2.66G	533	2X1M	95W	
	65nm	Pentium 4	Cedar Mill	661	3.6G	800	2M	86W	Q965/945G/915GV
				651	3.4G			65W/86W	
				641	3.2G			65W/86W	
				631	3G			65W/86W	
	90nm		Prescott2M	EX	3.73G	1066	2M	115W	945G
				672	3.8G	800		115W	945G/915GV
				670	3.8G			115W	
				662	3.6G			84W/115W	
				660	3.6G			115W	
				650	3.4G			84W	
				640	3.2G				
				630	3G				
				620	2.8G				
			Prescott	571	3.8G		1M	115W	945G/915GV/865G
				570				115W	
				561	3.6G			84W	
				560				115W	
				551	3.4G			84W	
				550				115W	
				541	3.2G			84W	
				540				84W	
				531	3G			84W	
				530				84W	
				521				84W	
				520	2.8G			84W	
				505				84W	
				524	3.0G	533		84W	
				519				84W	
				517	2.9G			84W	
				516				84W	
				515				84W	
				511	2.8G			84W	
LGA775	65nm	Celeron	Cedar Mill	550	2.00G	533	1MB	NA	945G/3010/915GV
				540	1.86G			27W-31W	
				530	1.73G			NA	
		Celeron D		365	3.6G	533	512K	65W	
				360	3.46G			65W	
				356	3.33G			86W	
				352	3.2G			65W/86W	
				347	3.06G			65W/86W	
LGA775	90nm	Celeron D	Prescott	355	3.33G	533	256K	84W	945G/915GV/865G
LGA775				351	3.2G			73W/84W	
Socket478				350	3.2G			73W	
LGA775				346	3.06G			84W	
Socket478				345				73W	
LGA775				341	2.93G			84W	
Socket478 LGA775				340				73W	
LGA775				336	2.8G			84W	845GV/852GME/865G
Socket478				335				73W	
LGA775				331	2.66G			84W	945G/915GV/865G
Socket478 LGA775				330/330J				73W/84W	
LGA775				326	2.53G			84W	
Socket478 LGA775				325/325J				73W/84W	
Socket478 LGA775				320	2.4G			73W/84W	
Socket478				315	2.26G			73W	
Socket478				310	2.13G			73W	
Socket478	90nm	Pentium 4	Prescott	NA	3.0G	800	1M	89W	852GME/845GV/865G/915GV
	130nm		Northwood	NA	2.8G	533	512K	68.4W	
				NA	2.6G	400		62.6W	
				NA	2.4G	533		59.8W	
				NA	2A	400		54.3W	
Socket478	90nm	Pentium 4	Prescott	NA	3.0G	800	1M	89W	852GME/845GV/865G/915GV
	130nm		Northwood	NA	2.8G	533	512K	68.4W	
				NA	2.6G	400		62.6W	
				NA	2.4G	533		59.8W	
				NA	2A	400		54.3W	

2010 Mobile Performance Platform

Intel® QM57 : Highly integrated two-chip solution with Intel® Core i7 support

Mobile Performance Intel® Core i7 Solution (QM57 Chipset)

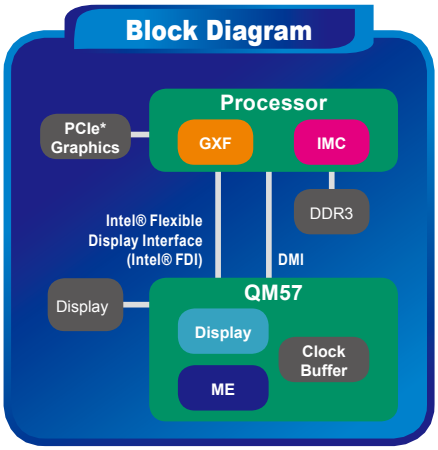
Introduction QM57 Block Diagram

- ~30% CPU performance increase
- ~2x 3D Graphics performance increase
- CPU Turbo & Power Sharing
- Power Saving 20%
- Integrated GFX
- Integrated Memory Controller
- Full HD HW Acceleration
- Dedicated Digital Display Interfaces

Digital Signage

Information

Point of Sale



2010 Intel® Mobile Platform Transition

Feature	2009 GM45	2010 Core i7 Processor
CPU Package	SV: Socket P PGA& BGA SV/LV/ULV: SFF BGA (HDI)	SV: Socket G (rPGA989) SV/LV/ULV: ECC BGA (Non-HDI)
FSB / Intel® QuickPath Interconnect (Intel® QPI)	FSB 800MT/s~1066MT/s:Half-Duplex	Intel® QPI 4.8GT/s~6.4GT/s:Full-Duplex
TDP	17.5W~47W (CPU + GM45/GS45)	15~37W
Supported Memory	DDR2(667/800MHz) DDR3(800/1066MHz) Non-ECC Only	DDR3(800/1066MHz) Only rPGA989: Non-ECC Only BGA: ECC & Non-ECC
PCI-Express	PCI-Express Base Specification 1.1 Gen1 (2.5GT/s) frequency	PCI-Express Base Specification 2.0 Gen1 (2.5GT/s) frequency
PCI-Express Width Support	x1/x2/x4/x8/x16 widths SDVO/HDMI/DP + PCI Express: x1	x1/x2/x4/x8/x16 widths Bifurcation: 1 x16 ➔ 2 x8s eDP + PCI Express: x1
Graphics Cores	Gen 5.5 with 10 Execution Units DirectX10, Open GL 2.0	Gen 5.7 with 12 Execution Units DirectX10, Open GL 2.1
Feature	**ICH9M**	**QM57**
PCI-Express	6 ports PCI Express 1.1	8 ports PCI Express 2.0 - 2.5Gb/s Transfer rate only Ports 1-4 & 5-8 can be configured as 8 x1s, 2 x4s or one x4 and 4x1s
PCI	PCI Rev 2.3 @ 33MHz up to 4 Bus Masters	PCI Rev 2.3 @ 33MHz up to 4 Bus Masters
TDP	2.1~2.4W	3.2~3.5W
Intel Active Management Technology (Intel® AMT)	4.0	6.0 (integrated KVM)
USB 2.0 Ports	12 ports	14 ports

Mobile Intel® Core™ i7 CPU support list

CPU Socket	Process	Brand	CPU Code	CPU No.	Clock speed	L2 cache	TDP	iAMT6.0	Chipset
PGA Socket G	32nm	Core™ i7	Arrandale	i7-620M	2.66G	4M	35W	V	QM57
		Core™ i5		i5-520M	2.4G	4M	35W	V	
		Celeron®		P4500	1.86G	2M	35W		
BGA (not pin compatible with PGA Type)		Core™ i7	Arrandale+ECC	i7-610E	2.53G	4M	35W	V	
				i7-620LE	2.0G	4M	25W	V	
				i7-620UE	1.06G	4M	18W	V	
		Core™ i5		i5-520E	2.4G	4M	35W	V	
		Celeron®		P4505	1.86G	2M	35W		

2010 Intel® Mobile Platform Transition

Yellow means long-term support

Note: 45nm Penryn Core 2 Extreme/Core 2 Quad core CPU support by project.

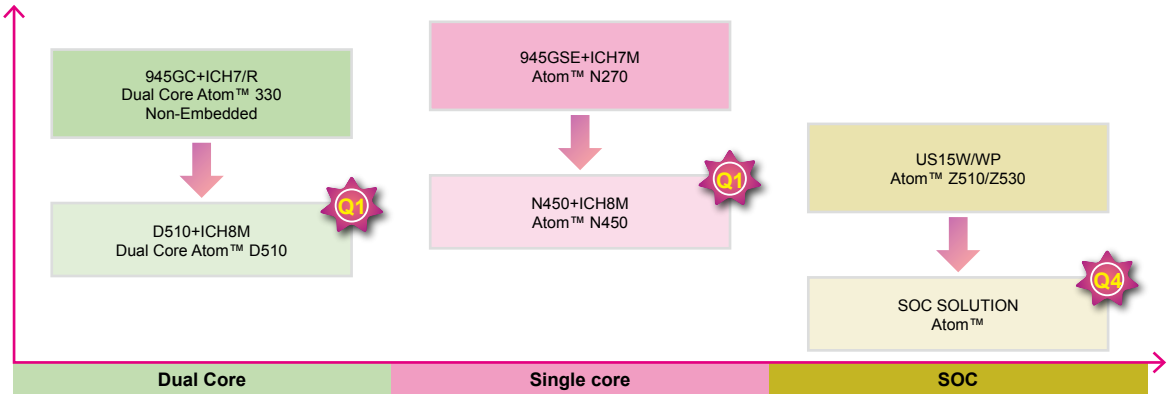
Package Type		Brand Name	Code Name	Package Size	CPU No.	Clock Speed	FSB (MHz)	L2	TDP	Chipset
Socket G	32nm	Core™ i7	Arrandale	37.5x37.5 mm	i7-620M	2.66G	N/A	4M	35W	QM57
		Core™ i5			i5-520M	2.4G		4M	35W	
		Celeron			P4500	1.86G		2M	35W	
		Core™ i7	Arrandale+ECC	BGA (not pin compatible with PGA Type)	i7-610E	2.53G		4M	35W	
					i7-620LE	2.0G		4M	25W	
					i7-620UE	1.06G		4M	18W	
		Core™ i5			i5-520E	2.4G		4M	35W	
		Celeron			P4505	1.86		2M	35W	
Socket P	45nm	Core 2 Extreme	Penryn (Montevina)	35x35 mm	QX9300	2.53G	1066	12M	45W	GM45
					X9100	3.06G		6M	44W	
		Core 2 Quad			Q9100	2.26G		12M	45W	
					Q9000	2.0G		6M	45W	
		Core 2 Duo	Penryn (Montevina)		T9900 (PGA/BGA)	3.06G	1066	6M	35W	GM45/ 5100
					T9800 (PGA/BGA)	2.93G		6M	35W	
					T9600 (PGA/BGA)	2.8G		6M	35W	
					T9550 (PGA/BGA)	2.66G		6M	35W	
					T9400 (PGA/BGA)	2.53G		6M	35W	
					P9700	2.8G		6M	28W	
					P9600	2.66G		6M	25W	
					P9500 (PGA/BGA)	2.53G		6M	25W	
					P8800 (PGA/BGA)	2.66G		3M	25W	
					P8700 (PGA/BGA)	2.53G		3M	25W	
					P8600 (PGA/BGA)	2.4G		3M	25W	
					P8400 (PGA/BGA)	2.26G		3M	25W	
					P7570	2.26G		3M	25W	
					P7550	2.26G		3M	25W	
					P7450	2.13G		3M	25W	
					P7375	2.0G		3M	25W	
					P7370 (BGA)	2.0G		3M	25W	
					T6670	2.2G	800	2M	N/A	GM45/ GL40
					T6600	2.2G		2M	35W	
					T6500	2.1G		2M	35W	
					T6400	2.0G		2M	35W	
					T4400	2.2G	800	1M	35W	
		Celeron Mobile	Penryn (Montevina)	35x35 mm	900	2.2G	800	1M	35W	
					T3300	2G		1M	35W	
					T3100 (PGA/BGA)	1.9G		1M	35W	
		Pentium Dual Core Mobile			T4300	2.1G	800	1M	35W	
					T4200	2.0G		1M	35W	
		Core 2 Extreme	Penryn (Santa Rosa Reflash)	35x35 mm	X9000	2.8G	800	6M	44W	GM45/ GL40/ GME965
		Core 2 Duo			T9500 (PGA/BGA)	2.6G		6M	35W	
					T9300 (PGA/BGA)	2.5G		6M	35W	
					T8300 (PGA/BGA)	2.4G		3M	35W	
					T8100 (PGA/BGA)	2.1G		3M	35W	
Socket P (HDI-956pin)	45nm	Core 2 Duo	Penryn (Montevina)	22 x 22 mm BGA	SP9600	2.53G	1066	6M	25W	GS45
					SP9400	2.4G		6M	25W	
					SP9300	2.26G		6M	25W	
					SL9600	2.13G		6M	17W	
					SL9400	1.86G		6M	17W	
					SL9300	1.6G		6M	17W	
					SL9380	1.8G	800	6M	17W	
					SU9600	1.6G		3M	10W	
					SU9400	1.4G		3M	10W	
					SU9300	1.2G		3M	10W	
		Core 2 Solo	Penryn (Montevina)	22 x 22mm BGA	SU3500	1.3G	800	3M	5.5W	
					SU3300	1.2G		3M	5.5W	
		Celeron M	Penryn (Montevina)	22 x 22 mm BGA	SU2300	1.2G		1M	10W	
					ULV 743	1.3G		1M	10W	
					ULV 723	1.2G		1M	10W	
					ULV 722	1.2G		1M	5.5W	
Socket P	65nm	Core 2 Extreme	Merom Santa Rosa)	35x35 mm	X7900	2.8G	800	4M	44W	GM45/ GL40/ GME965
					X7800	2.6G		4M	44W	
		Core 2 Duo	Merom (Santa Rosa)	35x35 mm	T7800	2.6G		4M	35W	
					T7700	2.4G		4M	35W	
					T7500 (PGA/BGA)	2.2G		4M	35W	
					T7300	2.0G		4M	35W	
					T7250	2.0G		2M	35W	
					T7100	1.8G		2M	35W	
					T5870	2.0G		2M	N/A	
					T5800	2.0G		2M	35W	
					T5670	1.8G		2M	35W	
					T5470	1.6G		2M	35W	
					T5270	1.4G		2M	35W	
			Merom (Santa Rosa Reflash)	35x35 mm	T5750	2.0G	667	2M	35W	GME965/ GLE960
					T5550	1.83G		2M	35W	
					T5450	1.66G		2M	35W	
					T5250	1.5G		2M	35W	
			Merom (Santa Rosa Reflash)	35x35 mm	L7700 (BGA)	1.8G	800	4M	17W	
					L7500 (BGA)	1.6G		4M	17W	
					L7300 (BGA)	1.4G		4M	17W	
					U7700 (BGA)	1.33G	533	2M	10W	
					U7600 (BGA)	1.2G		2M	10W	
					U7500 (BGA)	1.06G		2M	10W	
		Pentium Dual Core Mobile	Merom	35x35 mm	T3200	2.0G	667	1M	35W	
					T3400	2.16G		1M	35W	
		Celeron Mobile	Merom (Montevina)	35x35 mm	T1700	1.83G	667	1M	35W	GM45
					T1600	1.66G		1M	35W	
					585	2.16G		1M	31W	
					575	2.0G		1M	31W	
			Merom (Santa Rosa)	35x35 mm	573	1.0G	533	512K	10W	GME965/ GLE960
					570	2.26G		1M	31W	
					560	2.13G		1M	31W	
					550 (PGA/BGA)	2.00G		1M	31W	
					540	1.86G		1M	30W	
					530 (PGA/BGA)	1.73G		1M	27W	
		Pentium Dual Core Mobile	Merom	35x35 mm	T2390	1.86G	533	1M	31W	
					T2370	1.73G		1M	35W	
					T2330	1.6G		1M	35W	
					T2310	1.46G		1M	35W	

Package Type		Brand Name	Code Name	Package Size	CPU No.	Clock Speed	FSB (MHz)	L2	TDP	Chipset
Socket M	65nm	Core 2 Duo	Meron (Napa Refresh)	35x35 mm	T7600	2.33G	667	4M	34W	945GME
					T7400 (PGA/BGA)	2.16G		4M	34W	
					T7200	2.0G		4M	34W	
					T5600	1.83G		2M	34W	
					T5500	1.66G		2M	34W	
					L7400 (BGA)	1.5G		4M	17W	
					L7200	1.33G		4M	17W	
					T2450	2.0G	533	2M	31W	
					T5300	1.73G		2M	34W	
					T5200	1.6G		2M	34W	
			Merom (Santa Rosa Reflash)	35x35 mm	U7700 (BGA)	1.33G	533	2M	10W	
					U7600 (BGA)	1.2G		2M	10W	
					U7500 (BGA)	1.06G		2M	10W	
Socket M	65nm	Celeron M	Merom (Santa Rosa Reflash)	35x35 mm	ULV 530 (PGA/BGA)	1.73G	533	1M	30W	
					520	1.6G		1M	30W	
					ULV 523 (BGA)	930MHz		1M	5.5W	
Socket M	65nm	Core Duo	Yonah	35x35 mm	T2700	2.33G	667	2M	31W	945GME
					T2600	2.16G		2M	31W	
					T2500 (PGA/BGA)	2G		2M	31W	
					T2400	1.83G		2M	31W	
					T2300E	1.66G		2M	31W	
					T2300	1.66G		2M	31W	
					L2500 (BGA)	1.83G		2M	15W	
					L2400 (BGA)	1.66G		2M	17W	
					L2300 (BGA)	1.5G		2M	15W	
					T2450	2.0G	533	2M	31W	
					T2350	1.86G		2M	31W	
					T2250	1.73G		2M	31W	
					T2050	1.6G		2M	31W	
					U2500 (BGA)	1.2G		2M	9W	
					U2400 (BGA)	1.06G		2M	9W	
		Core 2 Solo	Merom (Napa Reflash)	35x35 mm	U2200 (BGA)	1.2G	533	1M	5.5W	
					U2100 (BGA)	1.06G		1M	5.5W	
		Core Solo	Yonah	35x35 mm	T1400	1.83G	667	2M	27W	
					T1300	1.66G		2M	27W	
					U1500	1.33G	533	2M	6W	
					U1400	1.2G		2M	6W	
					U1300	1.06G		2M	6W	
					T1350	1.86G		2M	31W	
					T1250	1.73G		2M	31W	
		Pentium Dual Core Mobile	Yonah	35x35 mm	T2130	1.86G		1M	31W	
					T2080	1.73G		1M	31W	
					T2060	1.6G		1M	31W	
Socket M	65nm	Celeron M	Yonah	35x35 mm	450	2.0G	533	1M	27W	
					440 (PGA/BGA)	1.86G		1M	27W	
					430	1.73G		1M	27W	
					420	1.6G		1M	27W	
					410	1.46G		1M	27W	
					ULV 443 (BGA)	1.2G		1M	5.5W	
					ULV 423 (BGA)	1.06G		1M	5.5W	
Socket 479	90nm	Pentium M	Dothan	35x35 mm	780 (PGA/BGA)	2.26G	533	2M	27W	915GME
					770 (PGA/BGA)	2.13G		2M	27W	
					760 (PGA/BGA)	2G		2M	27W	
					750 PGA/BGA)	1.86G		2M	27W	
					740 (PGA/BGA)	1.73G		2M	27W	
					730 (PGA/BGA)	1.6G		2M	27W	
					765 (PGA/BGA)	2.1G	400	2M	21W	915GME/ 855GME/ 852GME
					778 (BGA)	1.6G		2M	7.5W	
					773 (BGA)	1.3G		2M	5.5W	
					758 (BGA)	1.5G		2M	7.5W	
					753 (BGA)	1.2G		2M	5.5W	
					755 (PGA/BGA)	2.0G		2M	21W	
					745A	1.8G		2MB	NA	
					745 (PGA/BGA)	1.8G		2M	21W	
					725	1.6G		2M	21W	
					723 (BGA)	1.0G		2M	5W	
					715	1.5G		2M	21W	
					LV 738 (BGA)	1.4G		2M	10W	
					735	1.7G		2M	21W	
					733 (BGA)	1.1G		2M	5W	
		Celeron M			390 (PGA/BGA)	1.7G	400	1M	27W	
					380 (PGA/BGA)	1.6G		1M	21W	
					370 (PGA/BGA)	1.5G		1M	21W	
					360 (PGA/BGA)	1.4G		1M	21W	
					350 (PGA/BGA)	1.3G		1M	21W	
					ULV 383 (BGA)	1G		1M	5.5W	
					ULV 373 (BGA)	1G		512K	5.5W	
					ULV 353 (BGA)	900MhZ		512K	5W	
	130nm	Pentium M	Banias	35x35 mm	NA	1.6G	400	1M	24W	915GME/ 855GME/ 852GME
					705 (PGA/BGA)	1.5G		1M	24.5W	
					LV 718	1.3G		1M	12W	
					713 (BGA)	1.1G		1M	7W	
					NA	1.7G		1M	24.5W	
					NA	1.6G		1M	24.5W	
					NA	1.5G		1M	24.5W	
					NA	1.4G		1M	10W	
					NA	1.3G		1M	22W	
					NA (BGA)	1.2G		1M	12W	
					NA (BGA)	1.1G		1M	12W	
					NA (BGA)	1.0G		1M	7W	
					NA (BGA)	900MhZ		1M	7W	
		Celeron M			340	1.5G		512K	24.5W	
					ULV 333	900MhZ		512K	7W	
					330	1.4G		512K	24.5W	
					320 (PGA/BGA)	1.3G		512K	24.5W	
					310	1.2G		512K	24.5W	
					NA (BGA)	800Mhz		512K	7W	
					NA (BGA)	600MHz		512K	7W	

2010 Low Power Fanless Platform

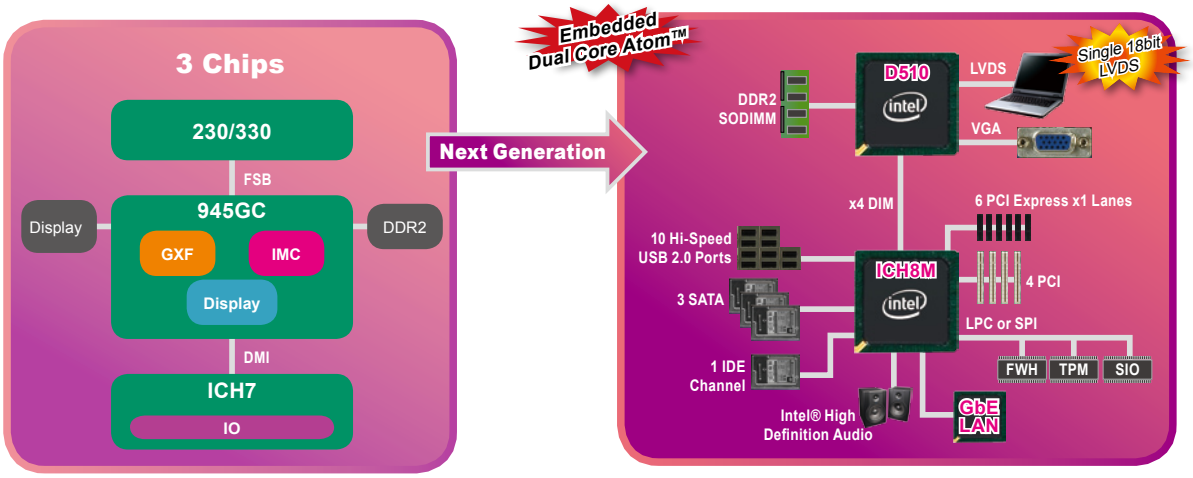
N450/D510 : Next Generation Atom™ Processor, Intel® 2-Chip solution

New Generation for Intel® Atom™ Family



Embedded Intel® Dual Core Atom™ Solution Block diagram

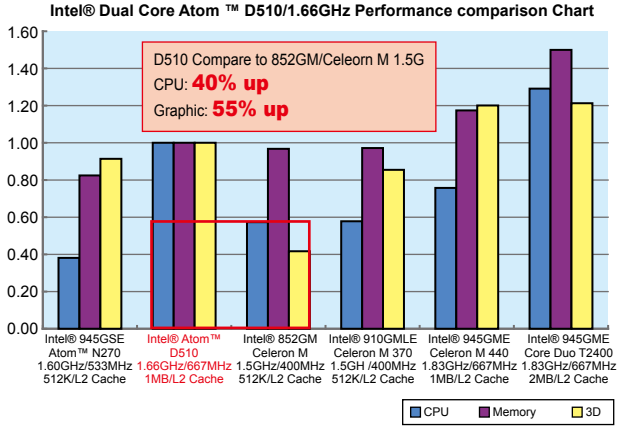
- One single chip integrated CPU and GFX/Memory controller
- Embedded Dual Core Atom
- 15-20% graphic performance improvement
- 50% TDP reduction



Embedded Intel® Dual Core Atom™ Solution

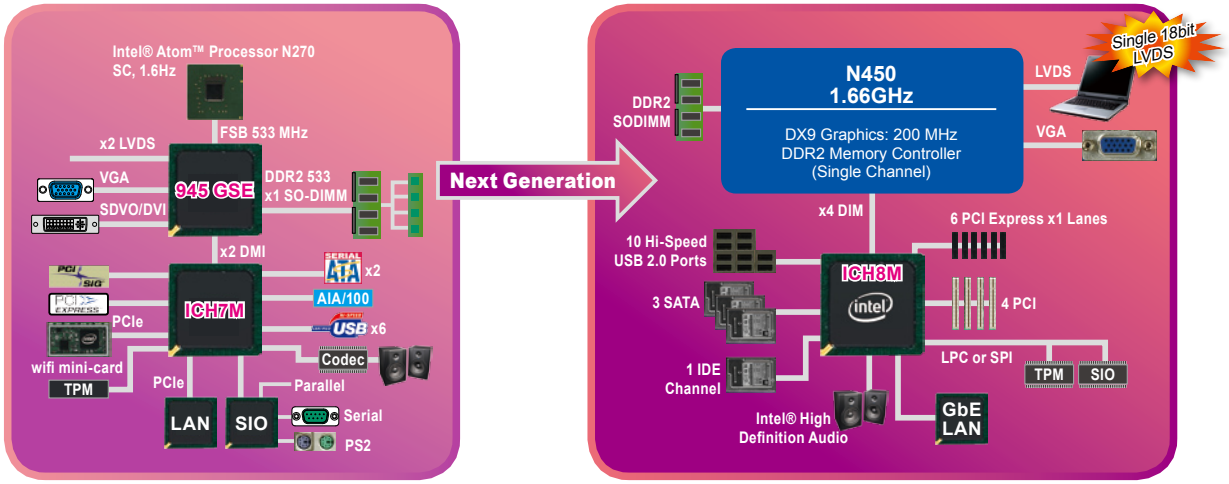
Platform	Atom™ 330	Atom™ D510
CPU/Chipset	Atom™ 330 1.6GHz Dual Core/ Intel® 945GC	Atom™ D510 1.66GHz Dual Core
FSB	533Mhz	N/A
TDP	32W (8W Atom™ + 24W 945GC)	14.6W
L2 Cache	512KB	1024KB
Supported Memory	DDR2 (400/533MHz) up to 2GB	DDR2 (667/800MHz) up to 4GB
Graphic output	VGA, 2x SDVO	VGA, Single 18 bits LVDS
Graphics Cores	GMA950	GMA3150
South Bridge	ICH7/R	ICH8M
PCI-Express	4 Lanes (4x1 or 1x4), PCI Express 1.1	6 Lanes (1x4+ 2x1), PCI Express 1.1
PCI	PCI Rev 2.3 @ 33MHz up to 4 Bus Masters	PCI Rev 2.3 @ 33MHz up to 2 Bus Masters
I/O	8 x USB2.0, 2 x SATA, 1 x IDE, AC'97, HD Audio	10 x USB2.0, 3 x SATAII, 1 x IDE, HD Audio
TDP	1.7W	2.4W

Intel® Dual Core Atom ™ D510/1.66GHz Performance comparison Chart



Embedded Intel® Atom™ Solution

- One single chip integrated CPU and GFX/Memory controller
- 64% footprint reduction
- 15-20% graphic performance improvement
- 12% TDP reduction

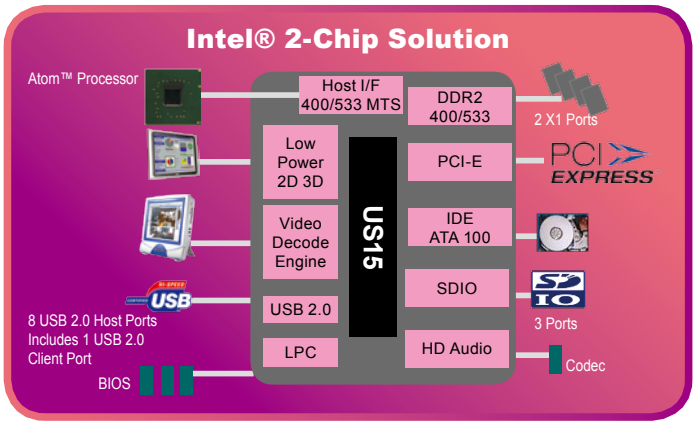


Embedded Intel® Atom™ Solution

Platform	Atom™ N270	Atom™ N450
CPU/Chipset	Atom™ N270 1.6GHz/ Intel® 945GSE	Atom™ N450 1.66GHz
FSB	533Mhz	N/A
TDP	6.5W (2.5W Atom™ + 4W 945GSE)	5.5W
Supported Memory	DDR2 (400/533MHz) up to 2GB	DDR2 (667MHz) up to 2GB
Graphic output	VGA, HDTV, Dual 18bit LVDS (36bit), SDVO	VGA, Single 18bit LVDS
Graphics Cores	Gen3.5, 133Mhz, DirectX9c, OpenGL 1.5	Gen 3.5, 200Mhz, DirectX9c, OpenGL 1.5
South Bridge	**ICH7M**	**ICH8M**
PCI-Express	4 Lanes, PCI Express 1.1	6 Lanes, PCI Express 1.1
PCI	PCI Rev 2.3 @ 33MHzup to 4 Bus Masters	PCI Rev 2.3 @ 33MHzup to 2 Bus Masters
I/O	8 x USB2.0, 2 x SATA, 1 x IDE, AC'97, HD Audio	10 x USB2.0, 3 x SATAII, 1 x IDE, HD Audio
TDP	1.7W	2.4W

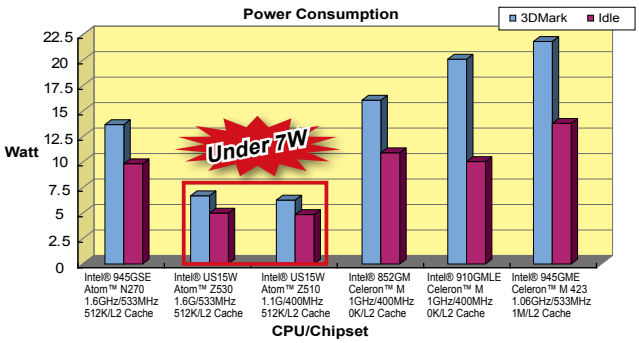
Embedded Intel® Ultra Low Power Solution

- Highly integrated Single Chipset
- PCIe 4 Lanes for flexible I/O interface
- Integrated HD Video Decoder & Encoder
  - ♦ Encode format: MPEG4, H.263, H.264
  - ♦ Decode format: MPEG2, MPEG4, VC1,WMV9, H.264

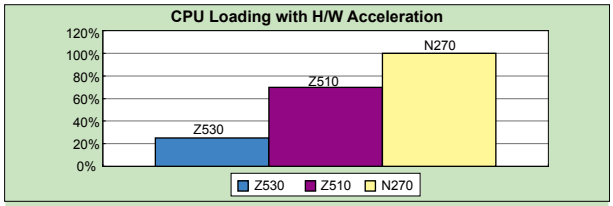


Platform	Atom™ Z510/Z530
CPU/Chipset	Z5xxx 1.1GHz~ 1.6GHz
FSB	400/533MHz
TDP	2.2W
L2 Cache	512KB
Supported Memory	DDR2 400 (CPU @ 1.1 GHz) DDR2 533 (CPU @ 1.6 GHz) Up to 2GB
Graphic output	Single 24bit LVDS, 1 x SDVO
Graphics Cores	GMA500, 200MHz, DirectX* 9.0 and OpenGL* 2.0
Chipset	**US15W/US15WP(T)**
PCI-Express	2 Lanes (1x2), PCI Express 1.1
PCI	N/A
I/O	8 x USB2.0, 1 x IDE, 3 x SIO/MMC, HD Audio
Decoder & Encoder	Integrated HD Video Decode » H.264, MPEG1/2/4, VC1/WMV9
TDP	2W

Embedded Atom™ Processor Power consumption comparison



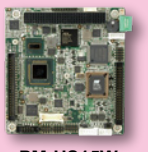
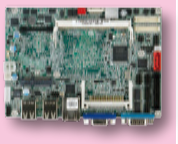
H.264 Graphic Performance



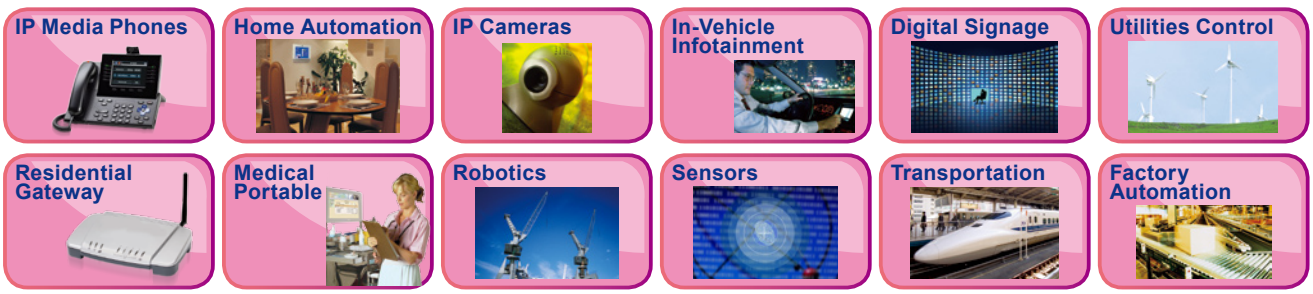
SW: Power DVD V8.0 / Video type: H.264 DVD 1080P video file

CPU	Z530/1.6G	Z510/1.1G	N270/1.6G
CPU Loading (With H/W acceleration)	20%~30% smoothly	60%~80% Laggard	Not Support

IEI solution for Intel® Z510/Z530 Platform

Embedded Board					Embedded System	Panel PC
CPU	Chipset	3.5"	PC/104	Q7		
Atom™	US15W/P	WAFER-US15WP	 PM-US15W	iQ7-WS15W	uIBX-200-US15WP	AFL-057-US15W
		 WAFER-US15WP2			WSTRIDER-200A	

Application Field



Total Intel® Embedded Atom™ platform

Pink means Industrial Temp -40°C to +85°C *Yellow means long-term support*

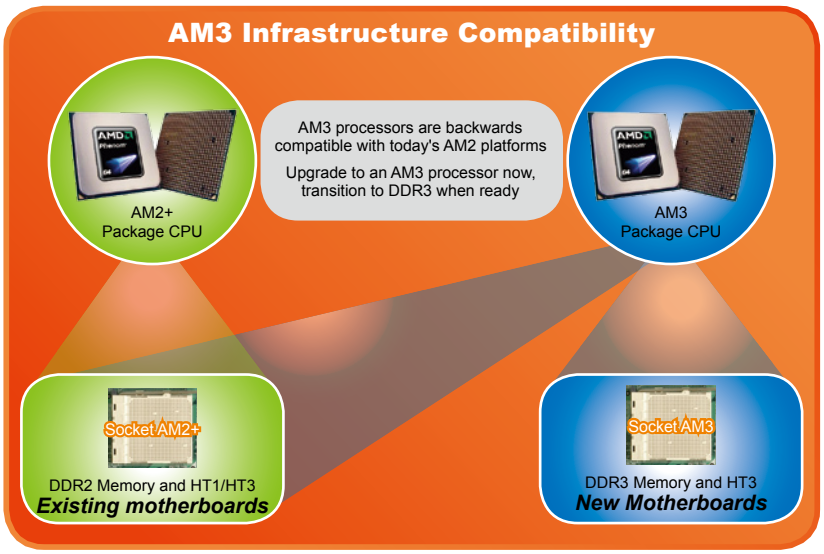
Brand	Processor Number	Process	Clock speed	FSB	L2 cache	TDP	Chipset
Intel® Atom™ Processor	N270	45nm	1.6G	533	512K	~2.5W	945GSE+ICH7M
	N450		1.66G	NA	512K	~5.5W	N450+ICH8M
	D510		1.66G	NA	1M	13W	D510/D410+ICH8M
	D410		1.66G	NA	512K	10W	
	Z540		1.86G	533	512K	2.4W	US15W
	Z530		1.6G	533	512K	2.2W	
	Z520		1.33G	533	512K	2.0W	
	Z510		1.1G	400	512K	2.0W	
	Z500		800MHz	400	512K	0.65W	
	Z530P		1.6G	533	512K	2.0W	US15WP
	Z510P		1.1G	400	512K	2.0W	
	Z520PT		1.33G	533	512K	2.0W	US15WPT
	Z510PT		1.1G	400	512K	2.0W	

2010 Best Medical / Gaming Platform

AM3 CPU : AM3 CPU is backward compatible with AM2 platform

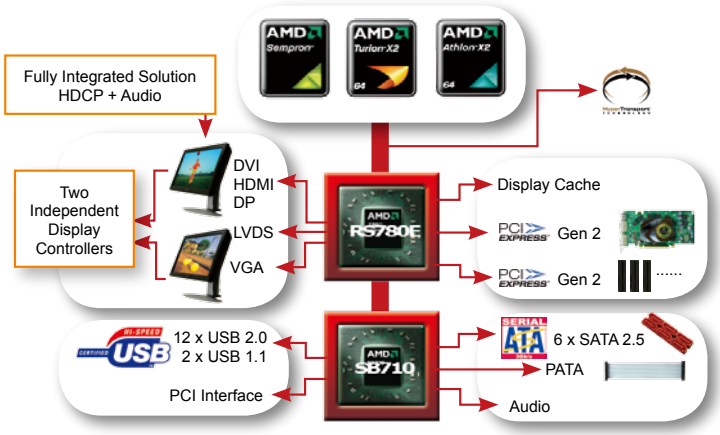
AMD RS780E : High Media Performance with AMD HD3200 support H.264, Mpeg4 Decode support, ultra-high resolution up to 2560x1600 @60Hz

Total AMD Embedded platform



Socket	AM3
Processor Support	AMD Phenom X4 64, AMD Athlon 64, AMD Athlon X2 64
Core Scalability	Single to Quad
Integrated Memory Controller	Yes –DDR3
ECC Memory Interface	Yes
AMD PowerNow!™ Technology	Yes
TDP Options (W)	25W, 45W, 65W
Device Size	40mm x 40mm, 940-pin
Processor Package	PGA
HyperTransport™ Interface	1.6 GHz-2.0 GHz

RS780E/SB710 Introduce

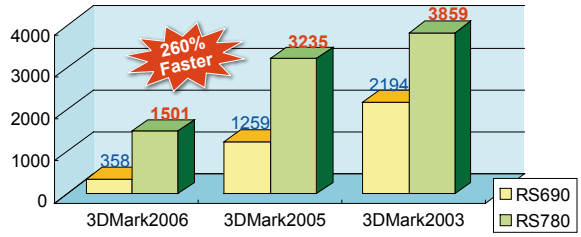


RS780E key advantage over M690E/T		
Feature	**RS780E/T+ SB710**	**M690E/T+ SB600**
HyperTransport™ Interface	HT3	HT1
Graphic Core	Radeon 3200	Radeon 1250
DirectX® Support	DX10	DX9
Video Decode	**UVD – VC-1, MPEG2, and H.264/ AVC Full HD Decode *Note**	**MPEG2 Decode Only**
Side-port Memory Interface	DDR2-800, DDR3-1066	DDR2-667
HDMI/DVI	1080p	1080i
PCIe® Graphics	1 x16 or 2 x8 Gen 2	1 x8 Gen 1
Display Port	up to 2	NA
Max Resolution VGA	2560x1600@32bpp	2048x1536@32bpp
SATA	SATA 2.5	SATA 2.0

Note:
Hardware acceleration for video playback must be enabled through the configuration options in the included CyberlLink PowerDVD software.

The Best Graphic Core

AMD RS780E integrated Radeon HD3200 graphic core supports UVD – VC-1, MPEG2, and H.264/AVC Full HD decoder is 260% faster than AMD RS690 series in Benchmark performance testing



The Best Graphic Core

Optional 128MB DDR3 Sideport memory

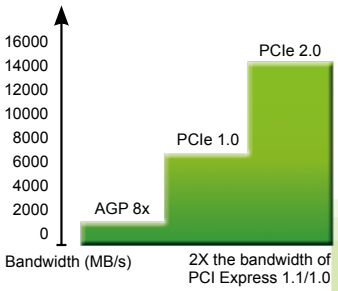
Optional 128MB DDR3 Sideport memory enhance 10~15% graphic performance

Resolution	Benchmark	RS690	RS780
1280x1024x32	3DMark2006	358	1501
1024x768x32	3DMark2005	1259	3235
1024x768x32	3DMark2003	2194	3859

Test configuration:
AMD Phenom 9500 2.2GHz CPU, 2GB DDR2-800, WD 320GB HDD

Next Generation PCIe Gen2.0 Support

PCI Express Gen. 2.0 Benefits	
2X the bandwidth of PCI Express 1.1/1.0	Maximum bandwidth of 5.0GT/s vs. 2.5GT/s of PCI Express
Greater flexibility & reliability in design	Backwards Compatible with 1.0 & 1.1 Power and performance dynamically manage
Headroom	Large bandwidth accessible for game developers
Transition	Graphics vendors transitioning in 2007Expect across all segments in 2008



Value-added Display output

Dual link DVI interface

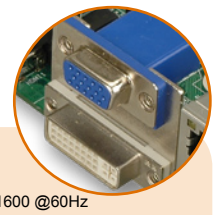
RS780E supports Dual link DVI interface which support resolution up to 2560x1600 @60Hz, video performance is equal to high-end video cards.

The 30-inch widescreen monitor offers a massive viewing area that supports multi-window

2x 17-inch Flat-Panel Monitors

30-inch Widescreen Digital Flat-Panel

30" 4 megapixel monitor 2560x1600



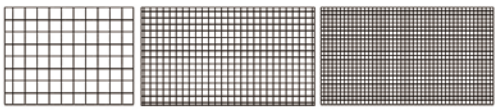
Dual link DVI benefit

- Support WQXGA display
- Support ultra-high resolution up to 2560x1600 @60Hz
- Single-link DVI: 1600x1200 @60Hz with standard timings, and 1920x1200 @60Hz with reduced blanking timings.
- Dual-link DVI: 2560x1600 @60Hz

New Multimedia Interface

Full HD 1080p

RS780E supports High-Definition Multimedia Interface (HDMI) which is a compact audio/video interface for transmitting uncompressed digital data delivering high-definition video support 1080p resolution which equates to 1,920x1,080 pixels, it also supports industry standard EIA-861B video modes including 480p, 720p, 1080i, and 1080p



480i 640x480 307,200 pixels

720p 1280x720 921,600 pixels

1080p 1920x1080 2,073,600 pixels

MMD-4300C

VWBOX-133

Compliant with IEI MMD-4300CX 30-inch 4MP widescreen digital flat panel

Application Field

Medical

Gaming

Industrial PC

AMD Embedded CPU support list

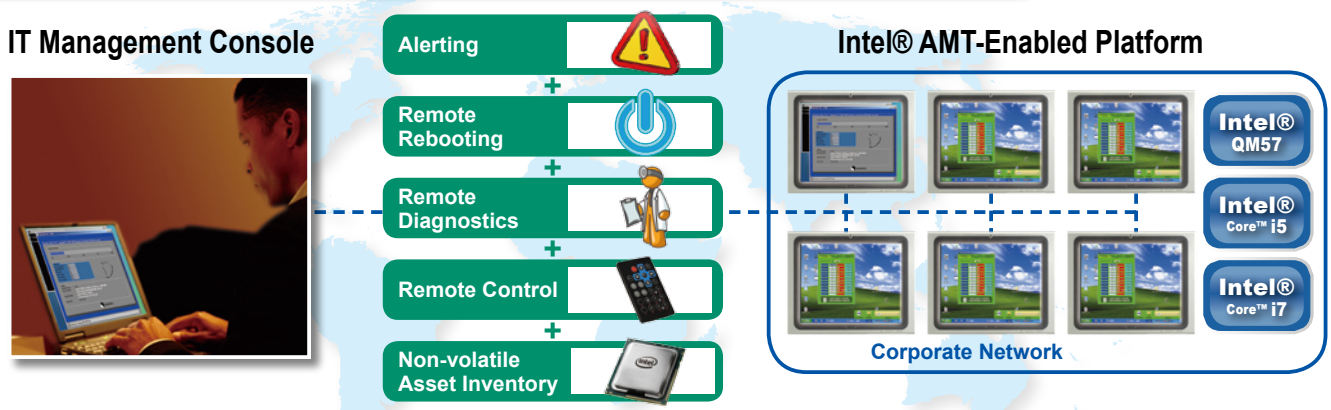
Package Type		Model	OPN	Processor	Clock Speed	HT Freq (Hz)	TDP	L1/Core	L2/Core
S1g1	65nm	TL62	TMDTL62HAX5DME	Turion X2	2.1G	800M	35W	128Kx2	512Kx2
	65nm	TL56	TMDTL56HAX5DME	Turion X2	1.8G	800M	31W	128Kx2	512Kx2
	65nm	3700+	SMS3700HAX4DQE	Mobile Sempron	2.0G	800M	25W	128K	512K
	65nm	2100+	SMF2100HAX3DQE	Mobile Sempron	1.0G	800M	8W	128K	512K
BGA	65nm	L625	TMZL625OAX5DYE	Turion X2 Neo	1.6G	800M	18W	128K	512Kx2
	65nm	L325	AMZL325OAX5DYE	Turion X2 Neo	1.5G	800M	18W	128K	512Kx2
	65nm	210U	SMG210UOAX3DVE	Mobile Sempron	1.5G	800M	15W	128K	256K
	65nm	208U	SML208UOAX3DVE	Mobile Sempron	1.4G	800M	12W	128K	256K
	65nm	200U	SMF200UOAX3DVE	Mobile Sempron	1.0G	800M	8W	128K	256K
AM2	65nm	4200+	ADD4200IAA5DOE	Athlon X2	2.2G	1G	35W	128Kx2	512Kx2
	65nm	3600+	ADD3600IAA5DOE	Athlon X2	1.9G	1G	35W	128Kx2	512Kx2
	65nm	3400e	ADJ3400IAA5DOE	Athlon X2	1.8G	1G	22W	128Kx2	512Kx2
	90nm	3400+	ADD3400IAA5CUE	Athlon X2	1.8G	1G	35W	128Kx2	512Kx2
	65nm	3100+	ADS3100IAR4DRE	Athlon	2.0G	1G	25W	128K	512K
	90nm	3000+	ADD3000IAA4CNE	Athlon	1.8G	1G	35W	128K	512K
	65nm	2600+	ADG2600IAV4DRE	Athlon	1.6G	800M	15W	128K	512K
	65nm	2000+	ADF2000IAV4DRE	Athlon	1.0G	1G	8W	128K	512K
AM3	45nm	Q54L	HEQ54LOEK4DGME	Phenom™ II XLT	2.2G	1.8GHz HT3	65W	128K	512Kx4
	45nm	600E	AD600EHDK42GMS	Athlon™ II X4	2.2G	2.0GHz HT3	45W	128K	512Kx4
	45nm	V66C	AEV66CHDK23GME	Athlon™ II XL	2.8G	2.0GHz HT3	45W	128K	1Mx2
	45nm	V64L	AEV64LHFK23GME	Athlon™ II XLT	2.7G	2.0GHz HT3	45W	128K	1Mx2
	45nm	V50L	AEV50LSCK23GME	Athlon™ II XLT	2.0G	1.8GHz HT3	25W	128K	1Mx2

Intel® Active Management Technology 6.0

All IEI products based-on the Intel® Q57/QM57 platform feature Intel® Active Management Technology. Intel® AMT is for remote management, allowing IT staff to better discover and protect networked computing assets. Benefits include better asset management, reduced downtime and fewer deskside visits.

iAMT 6.0

Active Management Tool improves IT Efficiency



ATM Machine | POS System | KIOSK | Medical | Gaming Machine

Remotely discover, heal and protect networked systems

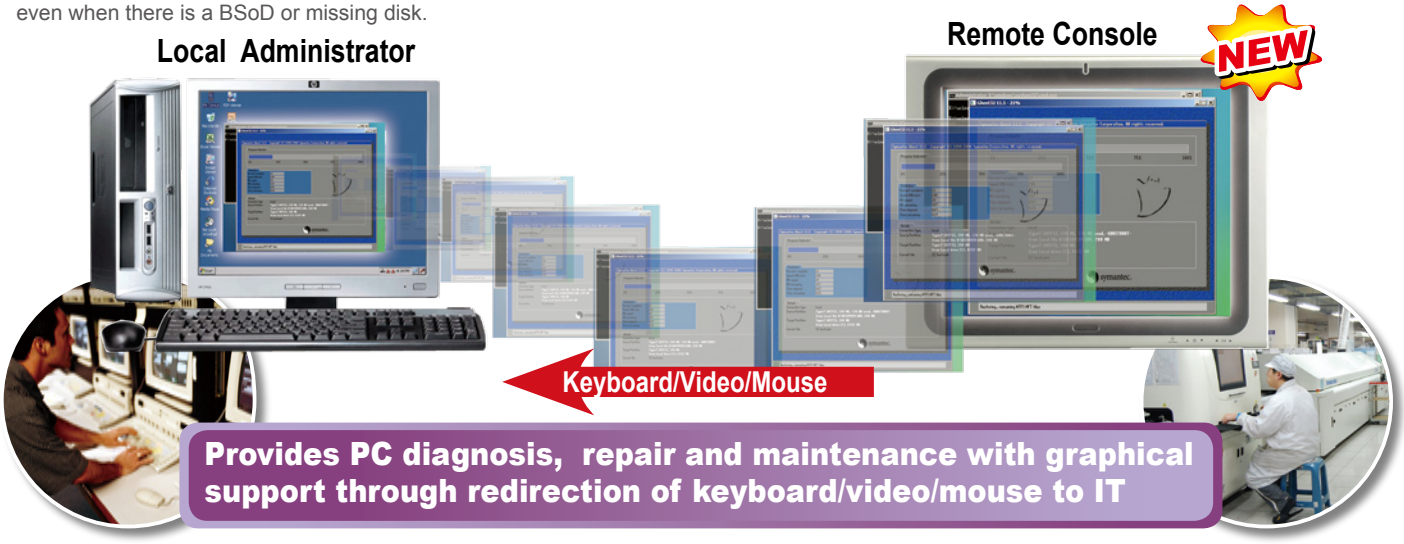
Advantages

1. Accurately track assets regardless of power state
2. Save energy costs with scheduled power management
3. Proactive alerts reduce system downtime by speeding dianostics
4. Power Management
5. Reduce on-site visits and system downtime with remote diagnosis and hardware information acquisition
6. Replace the traditional KVM and save on expensive hardware
7. Diagnose the problem and for local repairs

Intel® AMT 6.0 New Features

Out of Band KVM

Intel® Active Management Technology provides out of band KVM function allowing full control of the keyboard and mouse, and viewing of the video output on the remote system. Because Intel® AMT 6.0 is hardware-based, the video output on the remote system is always viewable, even when there is a BSoD or missing disk.

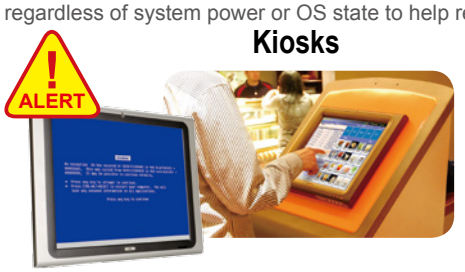


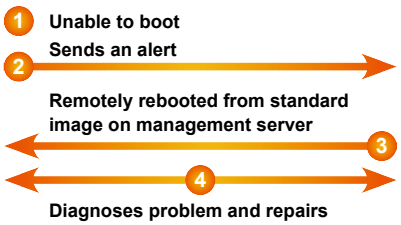
Provides PC diagnosis, repair and maintenance with graphical support through redirection of keyboard/video/mouse to IT

Benefits

Decrease TCO

Provides IT departments with remote client manageability, out-of-Band (OOB) diagnostics and assets tracking which remotely Manage platforms regardless of system power or OS state to help reduce TCO and improve productivity.





iEZman

IEI Easy Manager

IEI Easy Manager application program allows a remote user, such as a support person, to remotely control and perform administrative tasks through a graphical user interface in Windows. You can manage all functions through this single interface.

Power Management

Power the remote system(s) on and off, or reset the system(s)

Schedule Power Management

Schedule the system(s) to wake from a sleep state or turn off at a particular time

Remote Access

Boot the remote PC from a local CD-ROM, floppy drive or ISO image. Or boot into the BIOS

Group Management

Sort remote PCs into groups for easy monitoring and control

Patch Management

Apply patches to the remote PC

Alert and Events

Issues and alert when system problems are encountered

KVM Remote Control

Let you control the keyboard, video and mouse of a remote station with a secure password

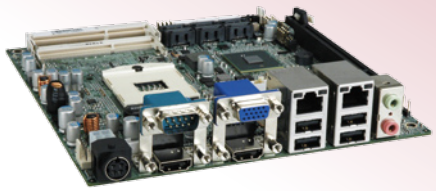
IEI Products with Intel® AMT 6.0

Intel® QM57 | Intel® Core™ i5 | Intel® Core™ i7

Mini-ITX Motherboard

Model: KINO-QM57A

- Mini-ITX SBC with Socket G for Intel® 32nm mobile Arrandale processor
- DDR3 800/1066HMz dual channel SDRAM supported up to 4GB
- Dual HDMI output support resolution up to 1080p for digital Signage application



IEI One Key Recovery Solution

IEI unique one key recovery solution includes exclusive technology to recover and backup your operating system by just one click without any complicated settings. IEI freely bundled recovery CD is shipped with every IEI SBC, embedded system and all-in-one panel PC products.

F3 One Key Recovery

iEi symantec

Recovery Tool for IEI Products Only

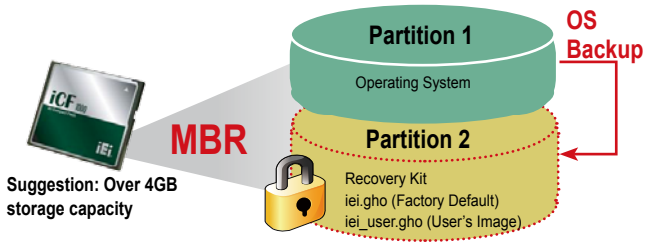
The IEI recovery CD includes a system recovery software developed by IEI with the Windows PE 2.0. The recovery CD helps to create full system backup and restore from system failures. Users don't need to spend additional cost for other system backup and recovery tools.

System Recovery

System Backup

Recovery Partition

Hidden partition is a logical section of a disk which is not accessible to the operating system. You can use a partition tool such as SPFDISK to create a hidden partition first. It may be used to protect confidential data or store backup of the system.



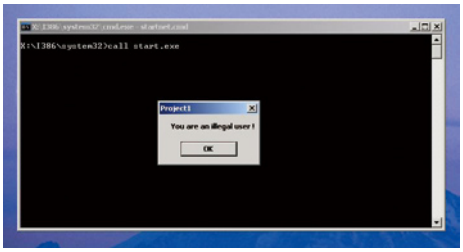
IEI Recovery Solution Advantages:

- No need to make recovery discs by yourself nor follow the trivial imaging procedures
- Simple steps to backup or restore the system. No IT personnel are required.
- Backup/Restore system easily through unique multi-menu
- One key to make recovery disc
- One key to restore system

IEI Products Only

☑ IEI Certified Sticker

The IEI recovery CD is only for IEI products. A message will show to warn "you are an illegal user" if using the CD for non-IEI products. This protection is detected through the BIOS of the IEI boards.



Support OS List	
Windows® XP	Windows® Vista
Windows® 7	Windows® CE 5.0
Windows® CE 6.0	Windows® XP Embedded

Linux OS
1.Red Hat RHEL- 5.4
2.Fedora Core 7, 8, 10, 11, 12
3.Ubuntu 6.10, 7.10 , 8.10
4.Debien 4.0, 5.0
5. SuSe 11.2

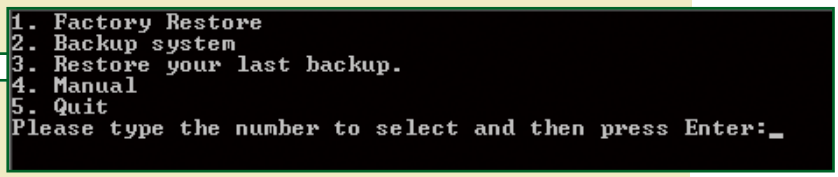
Rapid Imaging/ Migration through One Touch Hot Key

Neither specialized IT staff nor consultants are required in order to implement the system imaging and data migration. Just press the F3 key to get access to the recovery menu. The one key operation simplifies the imaging or migration process to help IT staff up and running quickly.

EASY WAY

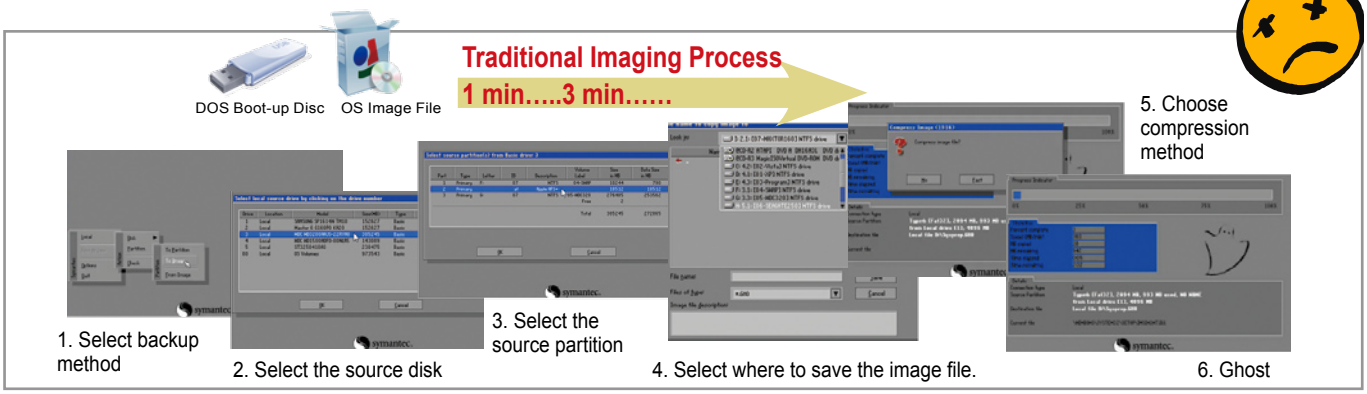
• One-Key Recovery

- Factory restore: restore your system to default setting (iei.gho)
- Restore your last backup: recover the last system configuration (iei_user.gho)



• One-Key Backup

Backup your operating system to the secure hidden partition. You can create your own ghost image as "iei_user.gho" including your application programs set-ups.

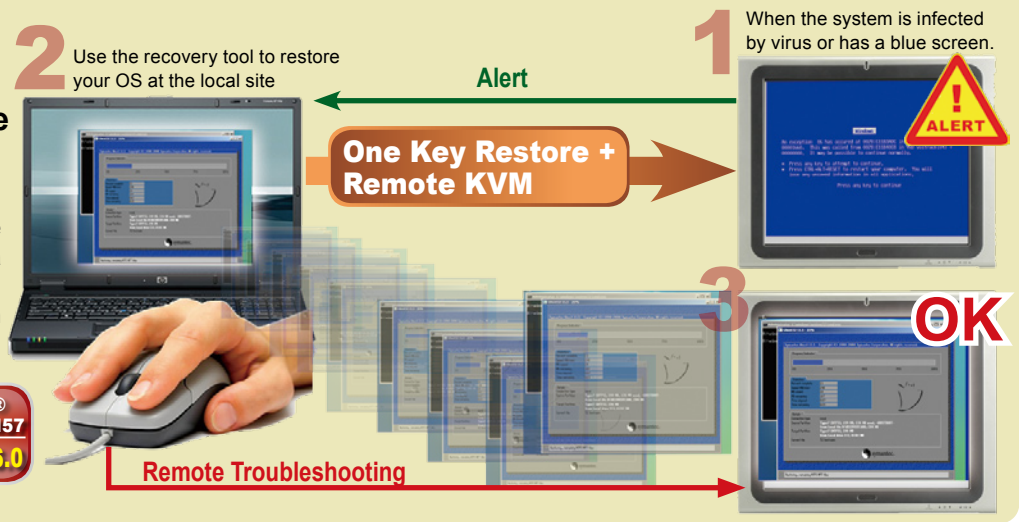


Benefits

Remote Maintenance Reduces the Cost of IT Infrastructure

All migration tasks can be performed remotely from a central management console. It will save a lot of cost from reducing physical visits.

Intel® Q57/QM57 iAMT 6.0



IEI Intelligent System Management Module

What is the IEI Intelligent System Management Module (iSMM) ?

iSMM

IEI iSMM is a system health supervision API which utilizes sensor chips on IEI motherboards to track system and CPU temperatures, voltages, cooling fan speed., WDT and Digital I/O set up status. By quickly capturing and reporting system health data, users can prevent disasters such as system instability or damage.

Features

- External and on-chip voltages data feedback
- CPU and system temperature data feedback
- Cooling fan speed data feedback
- Cooling fan speed controlled by PWM/ On-Off/ Automatic Mode
- Warning signals by beeper and sound effect
- WDT Test
- Programmable Digital I/O
- System health configurations save and load

Available Models

iSMM support below super I/O:

a. Winbond W83627
b. ITE IT8712
c. ITE IT8718
d. Fintek F81216D

Available Operation System

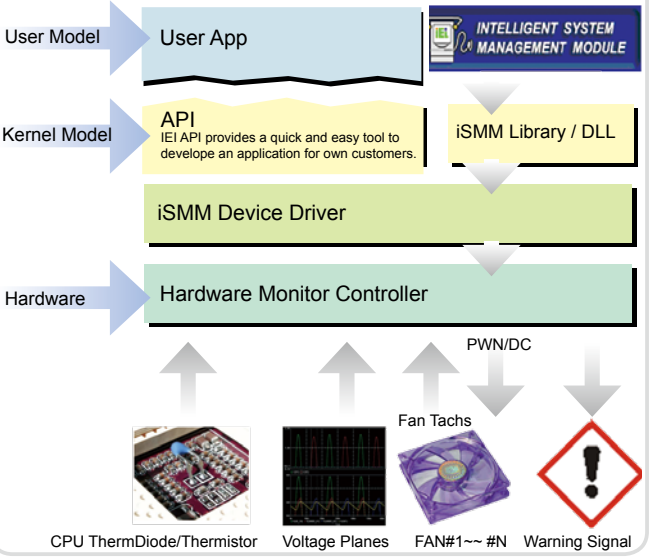
a. Windows XP
b. Windows Vista
c. Windows 7

Note: Please disable UAC function before install iSMM software under Windows Vista and Windows 7.

Advantages

Know that your system is running within safe limits !!
Prevent disasters such as sysem unstability or damage.

Architecture



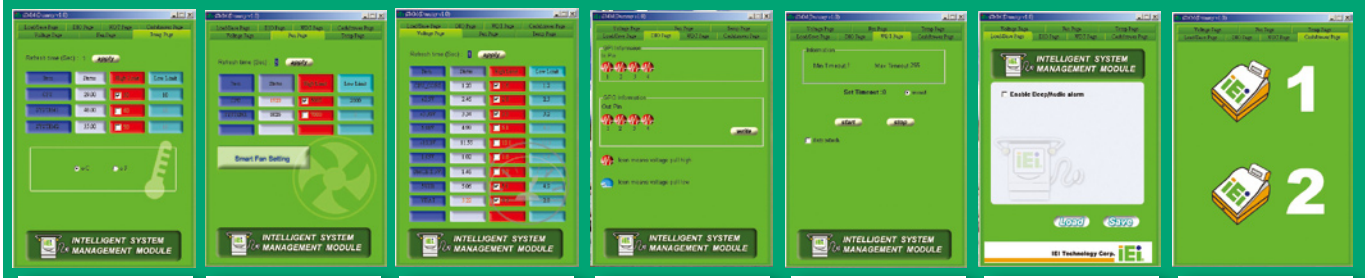
IEI Exclusive Diagnosis Software

Full Graphic Interface, Real-time, 6 in 1 Modules !!

INTELLIGENT SYSTEM MANAGEMENT MODULE

IEI Solutions Compliance Only

Functions



Temp.
CPU + System temperature monitoring

Fan
Dynamic fan speed controlling

Voltage.
Real time voltage alarm

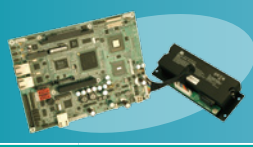
DIO
Easy Digital I/O configuriation

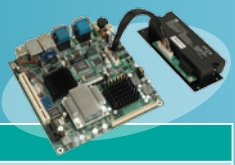
WDT
Trouble free watch dog timer testing

Save/Load
Flexibility user profile recover

Cash drawer
Cash drawer status monitoring

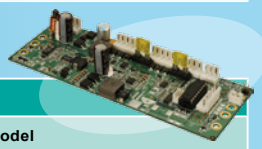
IEI UPS Battery Solution





1. On board DC Charger UPS System	
	Solution Model
Embedded Board	eKINO-9102/eKINO-945GSE/eNOVA-945GSE
Embedded System	IBX-600-9102/N270
Industrial Panel PC	UPC-12AH/910/GM45

2. VESA mount UPS module	
	Solution Model
Single Input UPS	AUPS-A10/AUPS-B10
Wide Range Input UPS	AUPS-A20/AUPS-B20



3. DC-DC UPS Power Module	
	Solution Model
UPS PC/104 Power Module	PM-P006UPS
UPS Power Module	IDDUPS-6364120A/636260A/6301100A

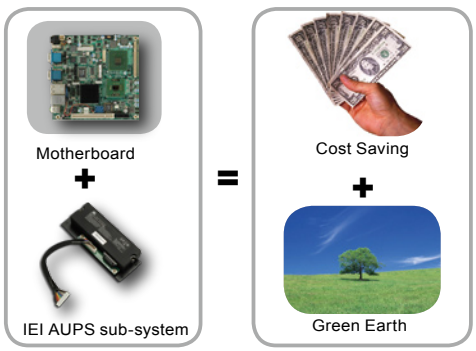
AUPS Sub-system Benefit

Economy
Slim and compact AUPS sub-system is cost-effective and green Earth

Efficiency
AUPS sub-system has higher power efficiency than traditional UPS

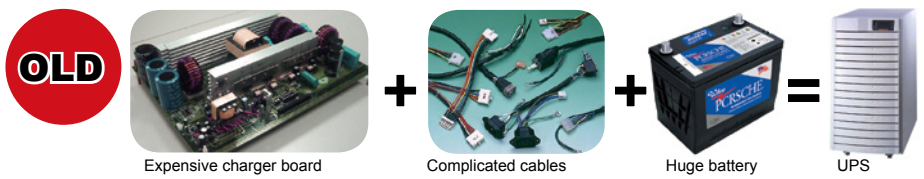
Easy Management
Provides software utility for users to easily manage and monitor system via web access

Emergency power backup
Provides power immediately and maintains power for a certain period of time



Economy

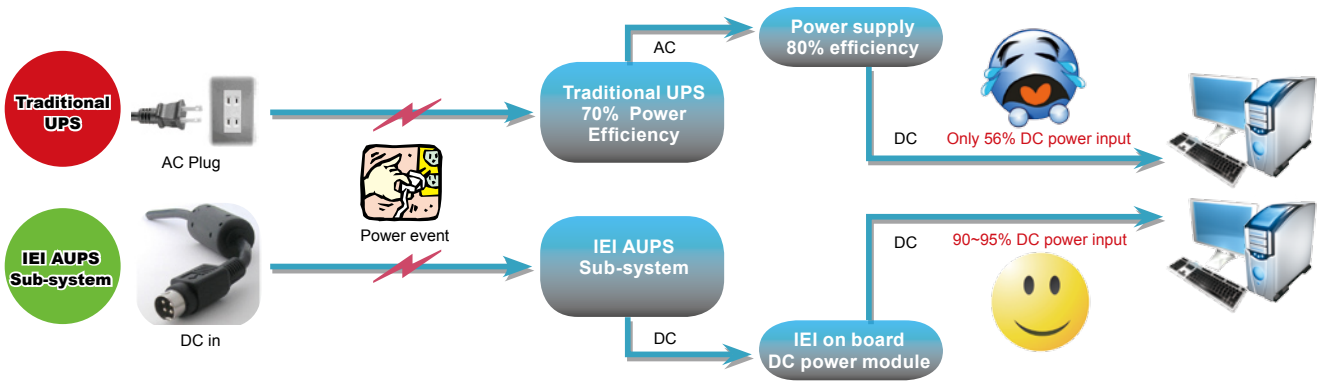
Traditional UPS system is combined by expensive charger circuit, huge battery and many complicated cables.



The IEI motherboard integrated with on-board battery charger circuit and a smart battery kit can act as a compact and simple UPS system. It is the best choice for those who are looking for a highly reliable industrial system with UPS function.

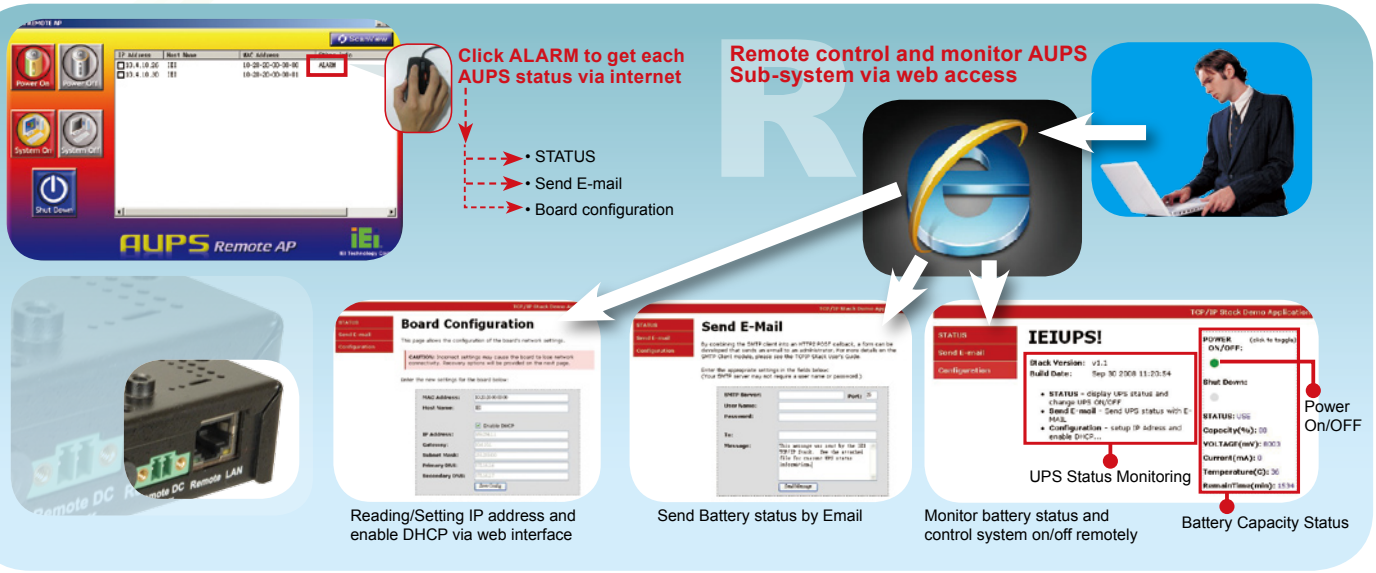
Efficiency

All IEI motherboards embedded with wide range DC power module on board can provide high efficiency power for the system.

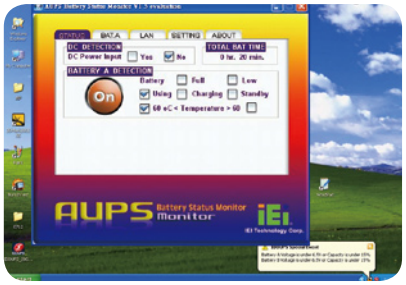


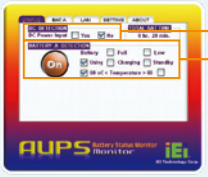
Easy Management

Network Remote Management Software



Battery Monitoring Utility



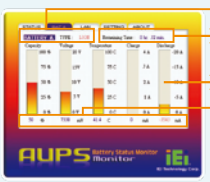


STATUS

• STATUS shows DC / Battery power input

SETTING

• SETTING shows detected port connection



BAT.A

• BAT.A shows real time battery status

LAN

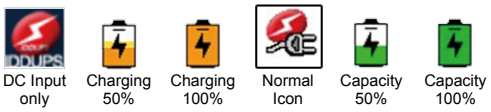
• LAN shows system IP address information

ABOUT

• ABOUT shows AUPS utility information

Icon indicator and Features

- Battery detection
- Battery capacity status
- Battery charge
- DC input indicator
- Battery indicator
- Over temperature indicator
- Low battery alarm
- Connected port detection



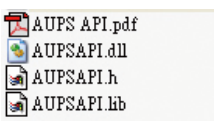
AUPS API SDK/Content

IEI also provides AUPS API SDK and command list for customer to program under DOS or Linux system.

AUPS API Content

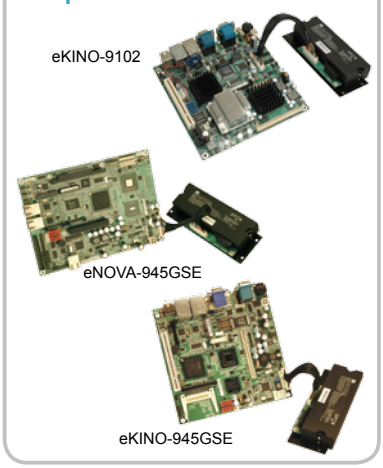
Inti()
AUPS Close()
WriteCommand()
ReadCommand()
Error Code Definition()

AUPS API SDK



IEI AUPS Motherboard

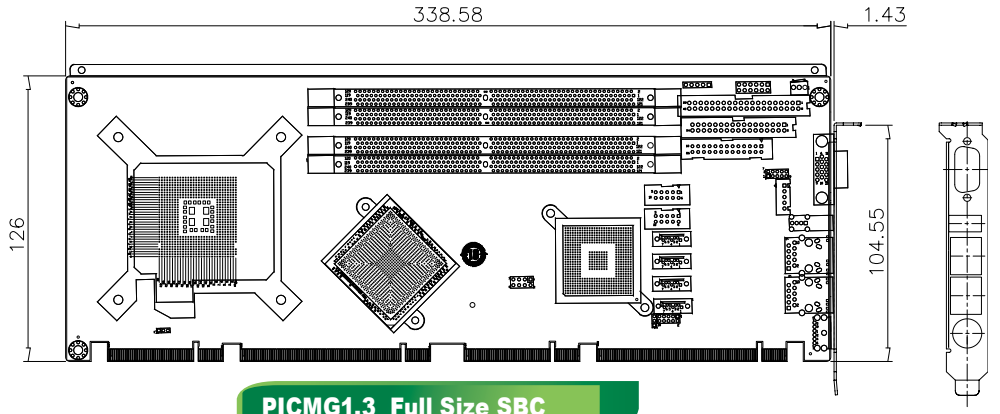
Complete AUPS Motherboards



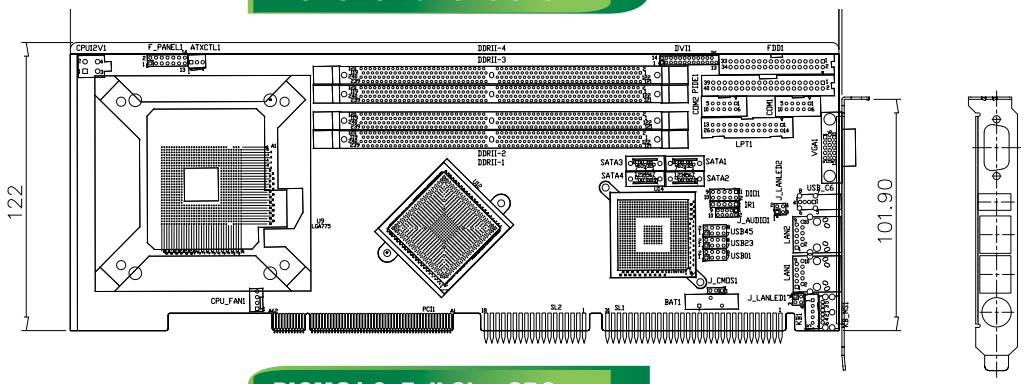
eKINO Peripheral Solution

IBX-600 series embedded system for eKINO series motherboard

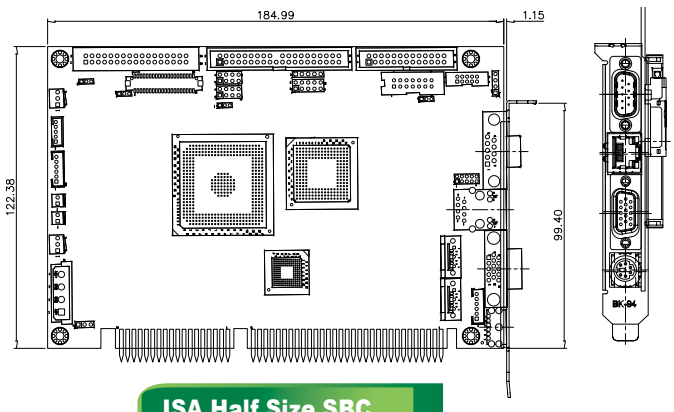
IEI SBC Dimensions Drawing (mm)



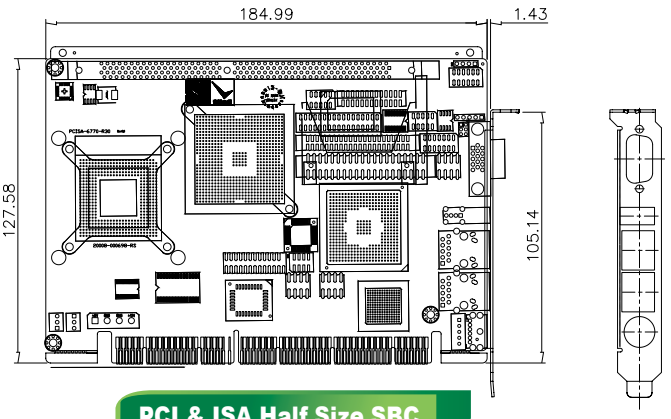
PICMG1.3 Full Size SBC



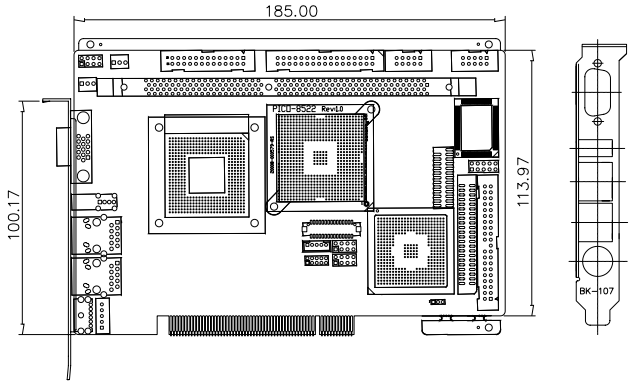
PICMG1.0 Full Size SBC



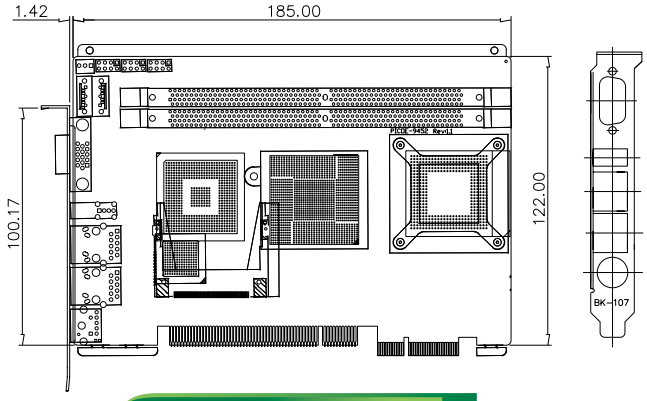
ISA Half Size SBC



PCI & ISA Half Size SBC



PCI Half Size SBC



PCI + PCIe Half Size SBC