

# ***AMD C- AND E-SERIES APU UPDATE***

## ***2011 Essential Platform***

**Confidential – Embargoed until August 22, 2011 at 12:01am Eastern Time**



# PEOPLE PREFER VISUAL COMMUNICATIONS



## Verbal Perception

Words are processed  
at only 150 words  
per minute



## Visual Perception

Pictures and video  
are processed 400 to  
2000 times faster



**AMD Fusion APUs**  
signify the  
**biggest shift**  
in PC technology since  
**x86 processors**  
were first invented  
more than  
**40 years** ago



## **AMD FUSION APU INDUSTRY MOMENTUM**

**50 percent increase** in total notebook design wins over the previous generation of AMD platforms

**300+ design wins** (notebook, desktop, embedded) based on the AMD Fusion Family of APUs

**11 of the world's top 12 notebook OEMs** are shipping AMD Fusion APU-based products.

**Won more than 35 industry awards** for silicon innovation, APU performance and OEM designs using AMD Fusion APUs

**Shipped nearly 12 million** APUs to date

**Sold more than 5 million C- and E-Series APUs** in Q2 2011 alone

Source: AMD internal research



# AMD FUSION FAMILY OF APUS



## G-Series

Embedded



## C-Series & Z-Series

Netbooks  
Tablets



## E-Series

Ultra-mobile and  
thin-and-light  
notebooks  
Small form factor  
desktops



## A-Series

Mainstream  
notebooks  
All-in-ones  
Desktops



# ESSENTIAL SEGMENT PLATFORM ENHANCEMENTS

Feature		Function	End-user Benefit	Available On
APU	<b>DDR3 1333</b>	Modern DRAM with a higher 1333 MT/s data rate	Amazing speed and bandwidth for snappier performance and video playback	AMD E-450 APU
	<b>HDMI 1.4a</b>	Frame-packed support for 3D monitors	Enables customers to view 3D pictures and home video on 3D-enabled TVs <sup>1</sup>	AMD E-Series APUs
Software	<b>MPEG-4 Part 2 Video Decoder as a Media Foundation Transform (MFT)</b>	Support for MPEG-4 compression standard for video on Windows Media Player	Watch DivX® Movies using Windows Media Player or on your TV with Windows Media Center®	All OPNs
	<b>DisplayPort ++</b>	Enables multiple signal types through the DisplayPort connector so that OEMs can reduce the number of connectors for display	Connect to any HDMI or DisplayPort-enabled monitor or TV from the same port.	All Refresh OPNs



# AMD ALLDAY™ POWER

- Power-gating shuts off components not in use
- APU architecture designed to optimize power and performance for a better user experience






**Get 12 hours of resting battery life<sup>2</sup>**

See footnotes and configurations for details.



# 2011 VISION TECHNOLOGY FROM AMD

Tier	Family Message	Series Benefits	AMD Multi-Core CPU	AMD Radeon™ discrete-level Graphics	AMD Multi-GPU Enabled Radeon™ Dual Graphics	DirectX®11 Capable	AMD AllDay™ Power†	AMD Accelerated Internet	AMD Video Accelerator for smooth 1080p	AMD Perfect Picture HD Technology <sup>3</sup>	AMD Steady Video Technology <sup>4</sup>	AMD Turbo Core Technology	AMD Wireless Display <sup>5</sup>	Enhanced Blu-ray	Enhanced Blu-ray 3D
	<b>Brilliant HD Performance</b>	Premium performance and immersive gaming with AMD's fastest accelerated processor	4	400 Radeon™ Cores	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	<b>Brilliant HD Entertainment</b>	Fast video editing and multi-tasking with quad-core performance	4	320 Radeon™ Cores	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	<b>Brilliant HD Everyday</b>	Easy photo editing with AMD Turbo Core technology and premium HD graphics	2	240 Radeon™ Cores		✓	✓	✓	✓	✓	✓	✓	✓		
	<b>Smart HD</b>	Smooth 1080p HD video playback with the AMD Video Accelerator	2	80 Radeon™ Cores		✓	✓	✓	✓	✓					
	<b>HD Internet</b>	Vivid and smooth HD Internet video playback and fast Internet browsing	2			✓	✓	✓	✓	✓					

†AMD defines "all day" battery life as 8+ hours of continuous use as measured in the Windows Idle test

Additional hardware (e.g. Blu-ray drive, HD or 10-bit monitor, TV tuner, wirelessly enabled HDTV) and/or software (e.g. multimedia applications) are required for the full enablement of some features. HD Video display requires an HD video source. Not all features may be supported on all components or systems - check with your component or system manufacturer for specific model capabilities and supported technologies





# THE AMD FUSION APU PROMISE

## Notebooks

*Brilliant HD*

*Personal Supercomputing*

*AMD AllDay™ Power*

## Desktops

*Brilliant HD*

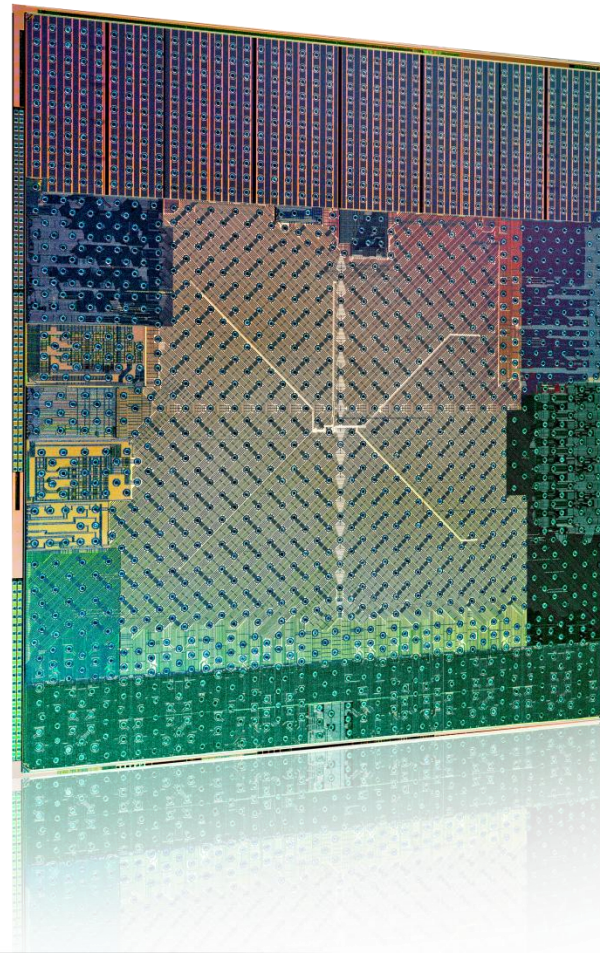
*Personal Supercomputing*

*AMD App Acceleration*



## IN SUMMARY

- AMD **FUSION IS A GAME CHANGER**
- ENTRY-LEVEL PRODUCTS WITH **TOP-OF-THE-LINE FEATURES**
- **BRILLIANT HD** CREATES AN IMMERSIVE EXPERIENCE
- **AMD ALLDAY™ POWER** ENABLES MOBILITY WITHOUT COMPROMISE
- **SUPERCOMPUTER-LIKE PERFORMANCE** FOR A SUPERIOR USER EXPERIENCE



***BACK UP***



# 2011 ESSENTIAL PLATFORM

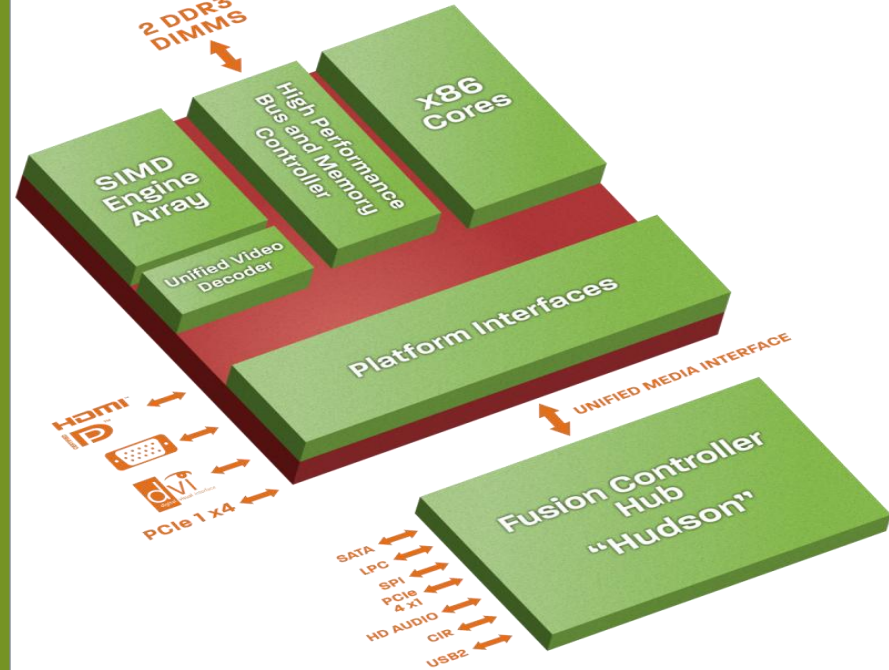
## TECHNICAL DETAILS

### “Zacate” and “Ontario” APUs

- > 2 x86 CPU Cores (40nm “Bobcat” core – 1 MB L2, 64-bit FPU)
  - Very low power design
  - Complete ISA support
    - SSE1-3 and virtualization
- > 80 Radeon™ Cores
  - DirectX® 11 graphics performance
  - OpenCL™ 1.1 enabled
- > AMD VISION Engine
- > 3rd generation Unified Video Decoder
- > DDR3 1066-1333, 2 DIMMs
- > BGA package

### Display and I/O

- > Two dedicated digital display interfaces
  - Configurable as HDMI, DVI, and/or Display Port
  - Also supports single link LVDS for internal panels
- > VGA
- > 8 PCIe Gen 2 GPPs
- > A50M “Hudson” Fusion Controller Hub



# 2011 ESSENTIAL SEGMENT NOTEBOOK PLATFORM FEATURES AND BENEFITS

## Smart HD

- **Web acceleration** on Adobe Flash and Microsoft Silverlight<sup>6</sup>
- **AMD VISION Engine**
  - Enables **vivid, rich, life-like colors** for your favorite Blu-ray movies with full **1080p HD playback capability with DVD upscaling**<sup>3</sup>
  - Acceleration of latest codecs up to 1080p for **smooth streaming HD**<sup>7</sup>
  - AMD Perfect Picture<sup>2</sup> for **superior video quality!**

## Computing Evolution

- **Responsive, smoother enhanced Web experience** with Internet Explore 9 and Firefox 4.0 using Direct2D speedups for up to 3X faster page draws, and better webmail<sup>7</sup>
- **Accelerated applications** for smoother running PC experience, with up to 2.4x speed up on Microsoft Office® 2010 with hardware acceleration activated<sup>8</sup>
- **Great multi-tasking** with two cores and GPU compute capability for balanced platform approach to today's computing experience

## AMD AllDay™ Power

- **Best battery life at OPP** from AMD with over 12 hours for greater mobility and value and for more efficient, cooler, quieter performance<sup>4</sup>

See footnotes and configurations for details.



# KEY FEATURES AND BENEFITS

FOR 2011 ENTRY DESKTOP PLATFORM (OEM / Channel)

## Brilliant HD

- Acceleration of latest codecs up to **1080p for smooth streaming HDs**<sup>6</sup>
- **AMD VISION Engine**
  - Enables **vivid, rich, life-like colors** for your favorite Blu-ray movies with full **1080p HD playback capability with DVD upscaling**<sup>3</sup>
  - Acceleration of latest codecs up to 1080p for **smooth streaming HD**<sup>6</sup>
  - **AMD Image Enhance** with AMD Perfect Picture HD<sup>3</sup> for real time image processing with auto color and contrast adjustment and edge sharpening for rich, sharp and lifelike HD video playback
  - **Monthly AMD Vision Engine driver updates for amazing performance and compatibility**



## Accelerated Internet

- Quick and responsive **hardware acceleration** for Microsoft IE9, Firefox9, and Chrome 10<sup>7</sup>
- Accelerate the latest web **HD media standards** (Adobe Flash and Microsoft Silverlight) for smooth online video playback<sup>6</sup>
- **Accelerated** applications for smoother running PC experience, with to **2.4x speed** up on MS Office 2010 with HW acceleration activated<sup>8</sup>
- Great multi-tasking with two cores and GPU compute capability for balanced platform approach to today's computing experience

AMD VISION Engine

AMD VISION Engine

## Energy Efficient HDPC

- **Enable HD class small form factors and All In One designs**
- **Energy Efficiency** helps to reduce the total cost of ownership
- Cool and Quiet designs **featuring All-On-Board platforms for Mini ITX, ITX, and uATX HDPCs**



See footnotes and configurations for details.



# ESSENTIAL SEGMENT PLATFORM UPDATES – NOTEBOOK

## JUST KEEPS GETTING BETTER AND BETTER

### 2C to 3C E-Series and C-Series APU Refresh

- E-350 → E-450 AMD E-450 APUs show up to a 36% 3DMark Vantage Performance improvement over E-350<sup>9</sup>
- E-240 → E-300 AMD E-300 APUs show up to a 42% 3DMark Vantage E score improvement over E-240<sup>10</sup>
- C-50 → C-60 AMD C-60 APUs show up to a 10% 3DMark Vantage E score improvement over C-50<sup>11</sup>

	Model	AMD Radeon™ Brand Graphics	X86 CPU Clock Speed (Max/ Base)	GPU Clock Speed (Max/ Base)	Cores	TDP	3DMark Vantage Entry/ Performance†	PC Mark Vantage†	GFLOPs†	Resting Battery Life††	
<b>AMD E-Series APUs “Zacate”</b>											
<b>Essential</b>	<b>Refresh</b>	<b>E-450</b>	HD 6320	1.65GHz	600MHz/ 508MHz	2	18W	4079/913	2718	100	10.58 hours
		<b>E-350</b>	HD 6310	1.6GHz	492MHz	2	18W	3294/670	2598	94	10.65 hours
	<b>Refresh</b>	<b>E-300</b>	HD 6310	1.3GHz	488MHz	2	18W	3236/675	2248	90	9.5 hours
		<b>E-240</b>	HD 6310	1.5GHz	500MHz	1	18W	2274/612	1541	86	10 hours
<b>AMD C-Series APUs “Ontario”</b>											
<b>Netbooks</b>	<b>Refresh</b>	<b>C-60</b>	HD 6290	1.33GHz/ 1.0GHz	400MHz/ 276MHz	2	9W	2354/500	2122	65	12 hours
		<b>C-50</b>	HD 6250	1.0GHz	276MHz	2	9W	2138/424	1914	53	12 hours
		<b>C-30</b>	HD 6250	1.2GHz	277MHz	1	9W			50	12 hours

† Benchmark results available in "AMD "Brazos" Platform Performance and Power Optimization Guide", PID#48109, Rev 2.04 May 2011

†† Results estimated for battery life based on a configuration similar to that used in "AMD "Brazos" Platform Performance and Power Optimization Guide" PID#48109. Rev 2.04 May 2011



# ESSENTIAL SEGMENT PLATFORM UPDATES – DESKTOP

## JUST KEEPS GETTING BETTER AND BETTER

### 2C to 3C E-Series and C-Series APU Refresh

- E-350 → E-450 AMD E-450 APUs show a 36% 3DMark Vantage Performance improvement over E-350<sup>12</sup>
- E-240 → E-300 AMD E-300 APUs show a 42% 3DMark Vantage E score improvement over E-240<sup>13</sup>

	Model	AMD Radeon™ Brand Graphics	X86 CPU Clock Speed (Max/ Base)	GPU Clock Speed (Max/ Base)	Cores	TDP	3DMark Vantage Entry/ Performance†	PC Mark Vantage†	GFLOPs†	
<b>AMD E-Series APUs “Zacate”</b>										
<b>Essential</b>	<b>Refresh</b>	<b>E-450</b>	HD 6320	1.65GHz	600MHz/ 508MHz	2	18W	4079/913	2718	100
		<b>E-350</b>	HD 6310	1.6GHz	492MHz	2	18W	3294/670	2598	94
	<b>Refresh</b>	<b>E-300</b>	HD 6310	1.3GHz	488MHz	2	18W	3236/675	2248	90
		<b>E-240</b>	HD 6310	1.5GHz	500MHz	1	18W	2274/612	1541	86

† Benchmark results available in "AMD "Brazos" Platform Performance and Power Optimization Guide", PID#48109, Rev 2.04 May 2011





# AMD DUAL-CORE E-SERIES APU

## NOTEBOOK PERFORMANCE COMPARISONS



### AMD AllDay™ Power!²

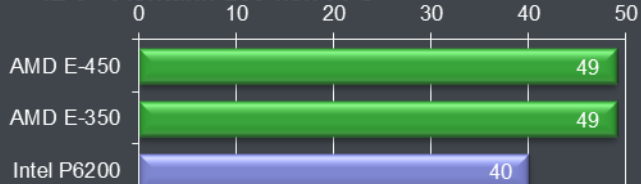


### HD 2.0

– Visual Performance

Up to  
23%<sup>14</sup>

#### IE 9 - Fishtank 250 fish FPS

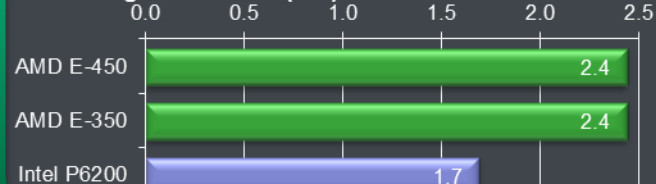


### Performance

– Efficient and powerful

Up to  
41%<sup>15</sup>

#### Average FPS/Watt (IE9)

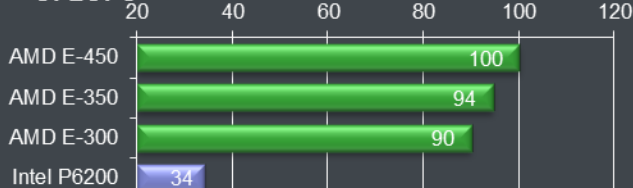


### Computing Capacity

– Power to do more

Up to  
194%<sup>17</sup>

#### GFLOPS<sup>16</sup>

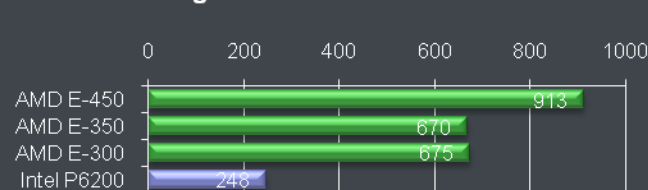


### Gaming

– More life like gaming

Up to  
268%<sup>18</sup>

#### 3DMark Vantage P Scores



Rounded to the nearest tenth.

See footnotes and configurations for details.

†AMD defines “all day” battery life as 8+ hours of continuous use as measured on the Windows Idle test

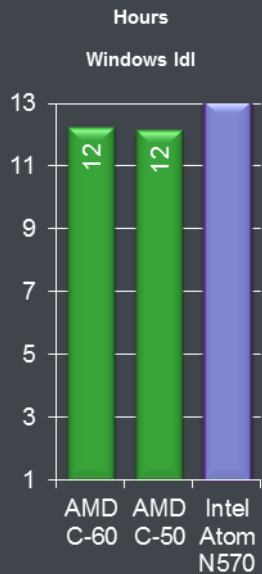


# AMD DUAL-CORE C-SERIES APU

## NETBOOK PERFORMANCE COMPARISONS



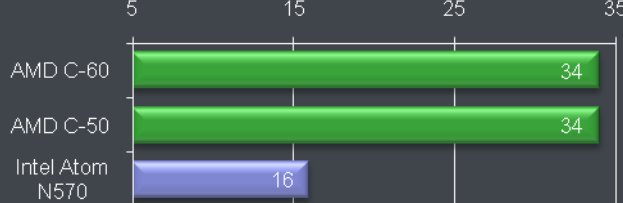
### AMD AllDay™ Power<sup>2</sup>



### Better Web Experience than any netbook on the market

Up to  
113%<sup>19</sup>

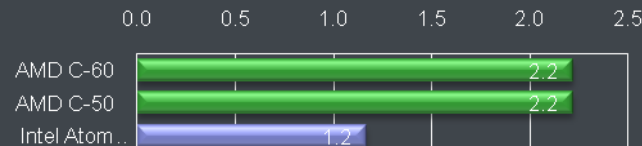
IE9 - Fishtank 250 fish FPS



### Performance – Efficient and powerful

Up to  
83%<sup>20</sup>

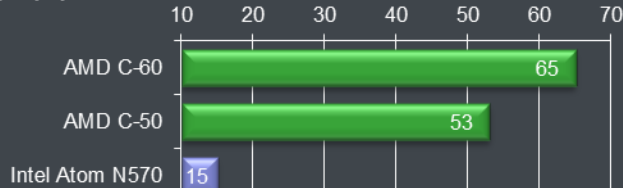
Average FPS/Watt (Flash)



### Compute Capacity – Power to do more

Up to  
333%<sup>21</sup>

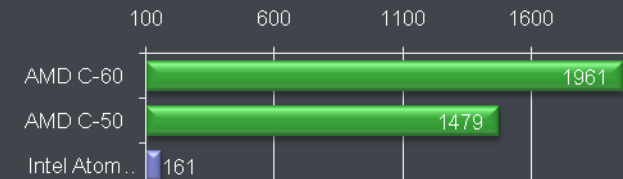
GFLOPS<sup>16</sup>



### Better Visual Performance Crushing any netbook on the market

Up to  
12X<sup>22</sup>

3DMark '06



Rounded to the nearest tenth.  
See footnotes and configurations for details.

†AMD defines “all day” battery life as 8+ hours of continuous use as measured on the Windows Idle test.



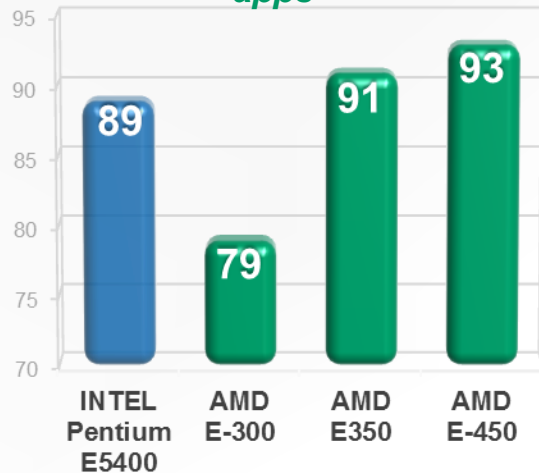
# SUPERIOR DESKTOP PERFORMANCE, ENERGY EFFICIENT

The new AMD E-450 APU Delivers even Better Performance per Watt

## Productivity

PCMark Vantage/Watt†

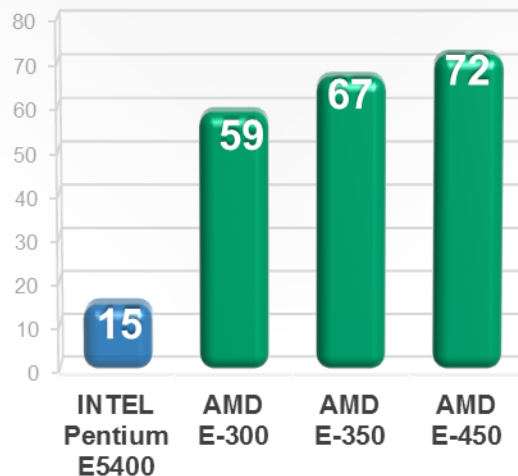
More than 4% on productivity apps<sup>23</sup>



## Entertainment

3D Mark 06/Watt†

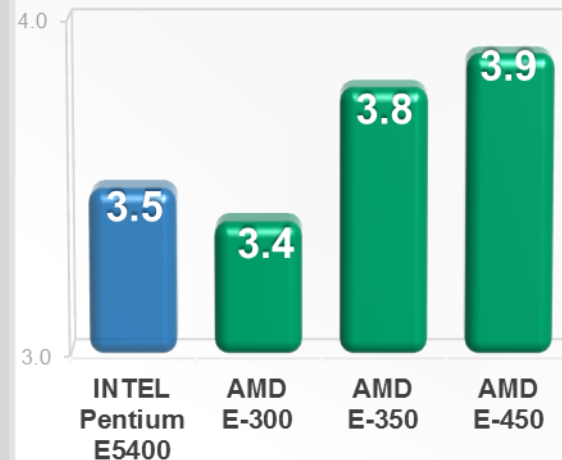
Nearly 5x better 3D<sup>24</sup>



## Windows 7 Experience

WinSAT System

Better Windows® 7 Experience<sup>25</sup>



†Overall Performance per watt scores  
See footnotes and configurations for details.

# ENDNOTES

1. AMD HD3D is a technology designed to enable stereoscopic 3D support in games, movies and/or photos. Requires 3D stereo drivers, glasses, and display. Not all features may be supported on all components or systems – check with your component or system manufacturer for specific model capabilities and supported technologies. A list of supported stereoscopic 3D hardware is available at <http://www.amd.com/HD3D>.
2. In testing conducted by AMD performance labs the 2010 Ultrathin AMD V-105-based platform demonstrated battery life up to 499 minutes or 8.3 hours using Windows Idle as “resting” metric and up to 218 minutes or 3:38 hours as an “active” metric using 3DMark '06. The 2011 value segment platform reference design “Iguana” with the AMD C-60 APU-based netbook demonstrated “all-day” battery life up to 735 minutes or 12.25 hours using Windows Idle as “resting” metric and up to 267 minutes or 4:27 hours as an “active” metric using 3DMark '06. Battery life calculations are based on using a 6-cell Li-Ion 62.16Whr battery pack at 98% utilization. AMD defines “all-day” battery life as 8+ hours of continuous use as measured with the Windows Idle test. The 2010 Ultrathin platform consisted of an AMD V-Series V-105 Processor with ATI Radeon™ HD 4225 Graphics, 1Ghz, 2GB (2x1GB) DDR3-800 system memory, 1366x768 display resolution, Windows Vista Home, 64-bit, 62Whr Li-Ion battery. The 2011 AMD “Inagua” reference design consisted of an AMD Dual-Core C-60 APU with AMD Radeon™ HD 6290 Graphics, 1Ghz, 4GB (2x2GB) DDR3-1066 system memory, 1366x768 display resolution, Windows 7 Ultimate, 64-bit, 62Whr Li-Ion battery. BRNeB-I9
3. The AMD VISION Engine with Image Enhance technology features hardware and software that enable image, video processing through advanced de-interlacing, dynamic contrast adjustment, color vibrancy, noise reduction and edge enhancement that provides brilliant colors and sharp images for smooth playback of Blu-ray and other content on your PC. Additional hardware may be required. AMD Perfect Picture HD is a an image, video processing and display technology that features advanced de-interlacing, dynamic contrast adjustment, color vibrancy, noise reduction and edge enhancement that provides brilliant colors and sharp images for smooth playback of Blu-ray and other HD content on your PC. (CP-06)
4. AMD Steady Video is a technology designed to eliminate shakes and jitters during the playback of home video. Users may turn on this technology via the AMD Catalyst Control Center™ or the VISION Engine Control Center application. AMD Steady Video will work with content that can run on Adobe® Flash® Player 10.2 (and later versions) or on any player which has been programmed to use AMD’s decode acceleration (DXVA) engine. AMD Steady Video is not designed to (a) isolate overlays, logos or captions, or (b) improve the playback of letter boxed, premium/commercial, or interlaced content. AMD Steady Video is only recommended for use with videos that contain unwanted shakes and jitters. (CP-07)
5. AMD Wireless Display technology provides the ability to wirelessly display local screen content onto a remote screen in real time. Compliant receiver equipment required. AMD Wireless Display Technology may be downloaded via [www.amd.com](http://www.amd.com) or provided as an OEM system preload. NOTE: Distribution of AMD Wireless Display technology as an OEM system preload may require OEM payment of third-party royalties.
6. Internet Explorer 9, Microsoft Silverlight and Adobe Flash Player 10.1 feature support for hardware-accelerated H.264 decoding. H.264 video is decoded in Flash Player 10.1 by a GPU or media accelerator whenever capable hardware is available, which greatly improves playback performance and battery life. [http://www.adobe.com/devnet/flashplayer/articles/fplayer10.1\\_hardware\\_acceleration\\_02.html](http://www.adobe.com/devnet/flashplayer/articles/fplayer10.1_hardware_acceleration_02.html) **BR-I3**
7. Test conducted by AMD performance labs. The AMD Processor E-350 demonstrated up to three times faster performance (with hardware acceleration on) with Microsoft Internet Explorer 9 (29 FPS vs. 7) and Firefox 4 (29 FPS vs. 7) using DirectX 9 and Direct2D as compared to hardware acceleration off. **BR-I1**
8. In testing conducted by AMD performance labs the AMD Processor E-350 demonstrated 2.4 times faster performance when using Microsoft PowerPoint 2 which demonstrated (22 FPS vs. 9) with hardware acceleration on. **BR-I2**

# ENDNOTES

9. In testing conducted by AMD Performance Labs using the benchmark 3DMark Vantage performance score (1280x1024), the AMD E-450 APU-based notebook scored 913 while the AMD E-350 APU-based notebook scored 670. All scores rounded to the nearest whole number.
10. In testing conducted by AMD Performance Labs using the benchmark 3DMark Vantage Entry score, the AMD E-300 APU-based system scored 3236 while the AMD E-240 APU-based system scored 2274. All scores rounded to the nearest whole number.
11. In testing conducted by AMD Performance Labs using 3DMark Vantage Entry score (1024x768), the AMD C-60 APU-based netbook scored 2354 while the AMD C-50 APU-based- netbook scored 2138. All scores rounded to the nearest whole number. (submitted for legal approval). In testing conducted by AMD Performance Labs, the 2011 AMD Dual-Core E-450 APU-based notebook demonstrated up to 635 minutes/10.58 hours of resting battery life. Testing performed using a 6-cell Li-Ion, 62 Whr battery, discharged at 98% on a 1366x768 panel. AMD defines “all day” battery life as 8+ hours of continuous use as measured on the Windows idle test.
12. In testing conducted by AMD Performance Labs using the benchmark 3DMark Vantage performance score (1280x1024), the AMD E-450 APU-based System scored a 913 while the AMD E-350 APU-based system scored 670. All scores rounded to the nearest whole number.
13. In testing conducted by AMD Performance Labs using the benchmark 3DMark Vantage entry score (1024x738) the AMD E-350 APU-based system scored a 3236 while the AMD E-240 APU-based system scored 2274. All scores rounded to the nearest whole number.
14. In testing conducted by AMD Performance Labs running the Microsoft Fish Tank test with 250 fish (<http://ie.microsoft.com/testdrive/performance/fishietank/>) using Internet Explorer 9 , the AMD E-450 APU-based notebook PC averaged 49 frames per second while the Intel P6200-based notebook PC averaged 40 frames per second. Test results rounded to the nearest whole number.
15. In testing conducted by AMD Performance Labs running the Microsoft Fish Tank test with 250 fish (<http://ie.microsoft.com/testdrive/performance/fishietank/>) using Internet Explorer 9, the AMD E-450 APU-based notebook PC averaged 2.4 frames per second per watt while the Intel P6200-based notebook PC averaged 1.7 frames per second per watt. Test results rounded to the nearest tenth.
16. Gigaflops are calculated to reflect the “Total Compute Capacity” of a processor architecture. This is a metric based on a calculation of the peak capacity of processor architecture, or calculated CTP SP GFLOPs, when using both x86 and GPU cores to perform a task.
17. 2011 AMD E-450 APU-based platform compute capacity scored 100 GFLOPs while the comparable Intel Pentium P6200-based system scored 34 GFLOPs. Calculations reflect the “Total Compute Capacity” of a processor architecture. This is a metric based on a calculation of the peak capacity of processor architecture, or calculated CTP SP GFLOPs, when using both x86 and GPU cores to perform a task.
18. In testing conducted by AMD Performance Labs using the benchmark 3DMark Vantage performance score (1280x1024), the AMD E-450 APU-based notebook scored 913 while the AMD E-350 APU-based notebook scored 670. All scores rounded to the nearest whole number.
19. In testing conducted by AMD Performance Labs the AMD C-60 APU-based netbook running the Microsoft Fish Tank test with 250 fish (<http://ie.microsoft.com/testdrive/performance/fishietank/>) using Internet Explorer 9 the AMD C-60 APU-based netbook PC averaged 34 frames per second while the Intel Atom N570-based netbook PC averaged 16 frames per second. Test results rounded to the nearest whole number.

# ENDNOTES

20. In testing conducted by AMD Performance Labs the AMD C-60 APU-based netbook running the Microsoft Fish Tank test with 250 fish (<http://ie.microsoft.com/testdrive/performance/fishietank/>) using Internet Explorer 9 averaged 2.2 frames per second per watt while the comparable Intel Atom N570-based netbook averaged 1.2 frames per second per watt running the same Fish Tank test. Test results rounded to the nearest tenth.
21. 2011 AMD C-60 APU-based platform compute capacity scored 65 GFLOPs while the comparable Intel Atom N570 scored 15 GFLOPs. Calculations reflect the “Total Compute Capacity” of a processor architecture. This is a metric based on a calculation of the peak capacity of processor architecture, or calculated CTP SP GFLOPs, when using both x86 and GPU cores to perform a task.
22. In testing conducted by AMD Performance Labs using the 3DMark '06 benchmark (1024X768), the AMD C-60 APU-based netbook scored a 1961 while the Intel Atom N570-based netbook scored 161 on the same test. All scores rounded to the nearest whole number.
23. Test conducted in AMD Performance Labs measuring the performance per watt using FutureMark PCMark Vantage. The 2011 AMD VISION Basic platform with E-450 achieved a score of 2664 at 28.67 watts for a total value of 92.92 performance per watt ( $2664/28.67=92.92$ ) while the Intel value desktop platform achieved a score of 4671 at 52.44 watts for a total value of 89.07 performance per watt ( $4671/52.44=89.07$ ) AMD platform has more than 4% better performance per watt. Wattage and scores are rounded to the nearest whole number. Also, test conducted in AMD Performance Labs measuring the performance per watt using FutureMark PCMark Vantage. The 2011 AMD VISION Basic platform with E-300 achieved a score of 2242 at 28.33 watts for a total value of 79.14 performance per watt ( $2242/28.33=79.14$ ). . Also, test conducted in AMD Performance Labs measuring the performance per watt using FutureMark PCMark Vantage. The 2011 AMD VISION Basic platform with E-350 achieved a score of 2682 at 29.55 watts for a total value of 90.76 performance per watt ( $2682/29.55=90.76$ )
24. Test conducted in AMD Performance Labs measuring the performance per watt using FutureMark 3DMark 06 (1280X1024). The 2011 AMD VISION Basic platform with E-450 achieved a score of 2402 at 33.61 watts for a total value of 71.44 performance per watt ( $2402/33.61=71.44$ ) while the Intel value desktop platform achieved a score of 865 at 58.98 watts for a total value of 14.66 performance per watt ( $865/58.98=14.66$ ). AMD platform has almost 5 times the performance/watt. Wattage and scores are rounded to the nearest whole number. Also, test conducted in AMD Performance Labs measuring the performance per watt using FutureMark 3DMark 06 (1024X768). The 2011 AMD VISION Basic platform with E-300 achieved a score of 1968 at 33.47 watts for a total value of 58.8 performance per watt ( $1968/33.47=58.8$ ). Also, test conducted in AMD Performance Labs measuring the performance per watt using FutureMark 3DMark 06 (1024X768). The 2011 AMD VISION Basic platform with E-350 achieved a score of 2237 at 33.51 watts for a total value of 66.75 performance per watt ( $2237/33.51=66.75$ )
25. Test conducted in AMD Performance Labs measuring the overall system performance of a Microsoft Windows 7 PC based on the WinSAT benchmark. The 2011 AMD VISION Basic platform with E-450 achieved a total system rating of 3.9 while the Intel value desktop platform achieved a total system rating of 3.5. Scores are rounded to the nearest whole number. The 2011 AMD VISION Basic platform with E-300 achieved a total system rating of 3.4. The 2011 AMD VISION Basic platform with E-350 achieved a total system rating of 3.8



# NOTEBOOK CONFIGURATIONS

## AMD System Configurations

- The 2011 AMD “Inagua” reference design consisted of an AMD Dual-Core E-450 APU with AMD Radeon™ HD6310 Graphics, 1.65Ghz, 4GB (2x2GB) DDR3-1333 system memory, 1366x768, Windows 7 Ultimate, 64-bit, 62Whr Li-Ion battery
- The 2010 AMD VISION system consisted of the AMD Dual-Core E-350 APU with AMD Radeon™ HD 6310 graphics 1.6Ghz, 4GB (2x2GB) DDR3-1066 system memory, 1366x768, Windows 7 Ultimate, 64-bit, 62Whr Li-Ion battery
- The 2010 AMD VISION system consisted of the AMD Dual-Core E-300 APU with AMD Radeon™ HD 6310 graphics 1.3Ghz, 4GB (2x2GB) DDR3-1066 system memory, 1366x768, Windows 7 Ultimate, 64-bit, 62Whr Li-Ion battery
- The 2010 VISION technology notebook PC is based on AMD Dual-Core E-240 APU with AMD Radeon™ HD 6310 graphics, 1.5Ghz, 4GB (2x2GB) DDR3-1066 system memory, 1366x768, Windows 7 Ultimate, 64-bit, 62Whr Li-Ion battery
- The 2011 VISION technology netbook PC is based on AMD Dual-Core C-60 APU with AMD Radeon™ HD 6250 graphics , 1Ghz, 4GB (2x2GB) DDR3-1066 system memory, 1366x768, Windows 7 Ultimate, 64-bit, 62Whr Li-Ion battery
- The 2010 VISION technology netbook PC is based on AMD Dual-Core C-50 APU with AMD Radeon™ HD 6250 2GB DDR3-1066 system memory, 1366x768, Windows 7 Ultimate, 64-bit, 62Whr Li-Ion battery

## Intel Configurations

- Intel Atom dual core N570 processor with GMA 3150-256MB graphics, 1.66Ghz, 4GB (2x2GB) DDR3-1066 system memory, 1024x600 display resolution, Windows 7 Starter, 64-bit, 62Whr Li-Ion battery.
- Intel Pentium P6200 with Integrated Intel HD graphics, 1.6 Ghz, 4GB (2x2GB) DDR3-1366 system memory, 1366x768 display resolution, Windows 7 Ultimate 64-bit, 62 Whr Li-Ion battery.



# DESKTOP CONFIGURATIONS

## AMD System Configurations

- The 2011 AMD “Inagua” reference design consisted of an AMD Dual-Core E-450 APU with AMD Radeon™ HD6320 Graphics, 1.65Ghz, 4GB (2x2GB) DDR3-1333 system memory, Windows 7 Professional 64-bit SP1
- The 2010 AMD VISION system consisted of the AMD Dual-Core E-350 APU with AMD Radeon™ HD 6310 graphics 1.6Ghz, 4GB (2x2GB) DDR3-1066 system memory, Windows 7 Professional 64-bit SP1
- The 2011 AMD VISION system consisted of the AMD Dual-Core E-300 APU with AMD Radeon™ HD 6310 graphics 1.3Ghz, 4GB (2x2GB) DDR3-1066 system memory, Windows 7 Professional 64-bit SP1

## Intel Configurations

- Intel Pentium E5400, 2.7Ghz, Intel Q45 Express Chipset, 4GB (2x2GB) DDR3-1333 system memory, Windows 7 Professional 64-bit SP1





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