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Next-Generation Mobile APUs Extend AMD Performance Leadership, Add Cutting-Edge Features and Enhanced Security

2014 Mainstream and Low-Power Processors Deliver First-of-Its-Kind Security Solution and Double-Digit Increases in Performance-per-Watt

SUNNYVALE, CA -- (Marketwired) -- 04/29/14 -- Designed to enable the best user experience on today's most popular and innovative PCs, [AMD](#) (NYSE: AMD) today announced its [3rd-generation Mainstream and Low-Power Mobile Accelerated Processing Units](#) (APUs). Combining category-leading compute performance^{1,2} with unique features and rich user interactions, the 2014 AMD Mainstream and Low-Power Mobile APUs (formerly codenamed "Beema" and "Mullins," respectively) are the ideal choice for consumer and commercial client devices alike. These new mobile APUs feature up to four newly-designed x86 CPU cores with updated, industry-leading AMD Radeon™ graphics and a hardware-level data security solution [based on the ARM® Cortex®-A5](#), all on a single, power-sipping system-on-chip (SoC). Products based on these new APUs are already announced by Lenovo and Samsung, with many more expected on-shelf in time for the 2014 back-to-school shopping season.

"When designing our 2014 Mainstream and Low-Power APUs, we were determined to once again set the standard in graphics and total compute performance in fanless form factor categories -- and we've done just that," said Bernd Lienhard, AMD corporate vice president and general manager, Client Products. "These processors combine the latest core technologies -- including the first-ever ARM-based security solution on an x86 processor -- with user experiences that will delight consumer and commercial buyers alike in a package that's impressively energy efficient."

The new accelerated processors come equipped with the latest hardware features, impressive performance increases, and enable differentiated software experiences for more natural user interaction, a best-in-class video streaming experience, and a full Android experience on Windows-based PCs using BlueStacks software optimized for AMD.

Unmatched Feature Set

The 2014 AMD Mainstream and Low-Power Mobile APUs are designed for consumer and commercial mobile devices of all shapes and sizes, from fanless tablets to 2-in-1s like detachable and convertible notebooks, to small-screen and ultrathin laptops. They feature up to four x86 "Puma+" CPU cores and AMD Radeon™ R Series graphics based on [Graphics Core Next \(GCN\) architecture](#), which enables fast performance, outstanding image quality and low power consumption. Additional power management features integrated into the APUs include:

- [AMD Enduro™ technology](#)³ that enables longer battery life;

- [AMD Start Now technology](#)³ for quick boot-up and resume from sleep mode;
- [AMD Turbo Core technology](#)³ that senses when a computing task requires more performance.

Enhanced Security

And, marking AMD's first implementation of ARM-based technology into processors designed for consumer and commercial client devices, the 2014 AMD Mainstream and Low-Power APUs feature an AMD-developed platform security processor (PSP) based on the ARM Cortex-A5 featuring ARM TrustZone® technology for enhanced data security. These are the first and only x86 processors available to integrate an ARM core for security. The integrated PSP taps into the open standards-based ARM TrustZone ecosystem and partitions the new processors into two "virtual CPUs" -- a "secure world" and a "normal world" based on the type of data being processed -- and ensures secure storage and processing of sensitive data and trusted apps including online payments, digital rights management and enterprise- and web-based services.

Category-leading Performance

The 2014 AMD Mainstream and Low-Power APUs deliver category-leading compute power and a best-in-class gaming experience. Through the robust feature set of these new APUs and engineering prowess, they exhibit impressive performance improvements when compared to the previous generations and to the competition.

2014 AMD Mainstream APUs:

- Up to 100% better graphics performance over the previous generation ("Kabini")⁴
- Up to 20% power reduction versus the previous generation ("Kabini")⁵
- Increased memory support from the previous generation to DDR3-1866
- Up to 50% better graphics performance⁶ and up to 7x the compute performance¹ versus Intel® Pentium® ("Haswell U")
- Up to 3x the graphics performance⁷ and over 35% better system performance⁸ than Intel® Pentium® ("Bay Trail M")

2014 AMD Low-Power APUs:

- Over 2x the graphics performance-per-watt⁹ and nearly 2x the productivity performance-per-watt¹⁰ versus the previous generation (formerly codenamed "Temash")
- Better graphics performance than Intel® Core™ i3¹¹
- Three times the compute performance of Intel's Atom™ processor²

Differentiated User Experiences

Along with the array of hardware features and performance enhancements, these new processors also have several unique software capabilities to help consumers and business users get more out of their PCs:

- [AMD Gesture Control](#)³ - enables touch-free control of popular apps using hand gestures
- [AMD Face Login](#)³ - uses facial recognition for logging into popular websites

- [Premium BlueStacks optimized for AMD](#) - brings a full, seamless Android experience to Windows PCs
- [AMD Quick Stream Technology](#)³ - delivers virtually uninterrupted streaming video
- AMD Perfect Picture⁵ - boosts image quality automatically for enhanced color, contrast and resolution
- AMD Steady Video technology³ - helps smooth shaky, jittery videos with a single click

These new mobile APUs will be joined by the top-of-the-line "Kaveri" APU, which is expected to be in market mid-2014.

Supporting Resources

- [AMD 2014 Mobile APU Landing Page](#)
- AMD Blog: [The First 2014 Mobile APUs are Here!](#)
- [ARM TrustZone](#)
- Lenovo [FLEX 2](#), [B50 and G50](#) Laptop Announcements

About AMD

AMD (NYSE: AMD) designs and integrates technology that powers millions of intelligent devices, including personal computers, tablets, game consoles and cloud servers that define the new era of surround computing. AMD solutions enable people everywhere to realize the full potential of their favorite devices and applications to push the boundaries of what is possible. For more information, visit www.amd.com.

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FOOTNOTES:

1. Testing conducted by AMD Performance Labs on optimized AMD reference systems. PC manufacturers may vary configuration yielding different results. Basemark CL is used to simulate compute performance; AMD A6-6310 APU scored 21 while the "Haswell U" Pentium part scored 3. AMD "Larne" reference platform system using AMD A6-6310 APU with AMD Radeon™ R4 Graphics, 2x2048 MBytes of DDR3-1600 RAM, Microsoft Windows 8.1 Single Language, and 13.300.0.0 - 13-Jan-2014 driver. Intel® Pentium® 3556U @ 1.70GHz with Intel® HD Graphics, 2x2048 MBytes of DDR3-1600 RAM, Microsoft Windows 8.1 Single Language, 10.18.10.3412 - 28-Jan-2014 driver. BMN-11
2. Testing conducted by AMD Performance Labs on optimized AMD reference systems. PC manufacturers may vary configuration yielding different results. Basemark CL is used to simulate compute performance; A4 Micro-6400T APU scored 13 while the "Bay Trail T" platform scored 4. AMD "Discovery" reference platform system using AMD A4 Micro-6400T APU with Radeon™ R6 Graphics, 2048 MBytes of DDR3-1333 RAM, Microsoft Windows 8.1 Single Language, 13.302.1101.0 - 12-Feb-2014 driver. Intel® "Bay Trail T" Atom™ CPU Z3770 @ 1.46GHz with Intel® HD Graphics, 2x1024 MBytes of DDR3-1066 RAM, 1920x1200x32, Microsoft Windows 8.1 Single Language, 10.18.10.3348 - 30-Oct-2013 driver. MUN-20
3. Additional hardware (e.g. HD or 4K monitor, USB, 3.0 ports, wirelessly enabled HDTV) and/or software (e.g., multimedia applications and/or Wi-Fi access) are required for the full enablement of some features. HD/4K Video display requires an HD/4K 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. For more

information on features www.amd.com/featuredetails

4. Testing conducted by AMD Performance Labs on optimized AMD reference systems. PC manufacturers may vary configuration yielding different results. 3DMark 11 is used to simulate graphics performance; the AMD A6-6310 APU scored 778 while the AMD A6-5200 APU scored 699. AMD "Larne" reference platform system using AMD A6-6310 15W APU with AMD Radeon™ R4 Graphics, 2x2048 MBytes of DDR3-1600 RAM, Microsoft Windows 8.1 Single Language, and 13.300.0.0 - 13-Jan-2014 driver. AMD A6-5200 25W APU with Radeon™ 8400 Graphics, 2x2048 MBytes of DDR3-1600 RAM, Microsoft Windows 8.1 Single Language, 13.350.1005.0 - 22-Feb-2014 driver. BMN-9

5. Testing conducted by AMD Performance Labs on optimized AMD reference systems. PC manufacturers may vary configuration yielding different results. AMD A6-6310 APU will draw 0.62W power when running an e-reader compared to AMD A6-5200 0.81W APU draw on the same workload. Video file for power testing of video playback: Video file: Big Buck Bunny; H.264/MPEG-4 Part 10; 9783Kbps; 1920x1080@24 fps. AMD "Larne" reference platform system representing AMD A6-6310 15W APU with AMD Radeon™ R4 Graphics, 1x4096 MBytes of DDR3L-1600 RAM, Microsoft Windows 8.1, and 13.302.1401 driver. AMD A6-5200 25W APU with Radeon™ 8400 Graphics, 2x2048 MBytes of DDR3L-1600 RAM, Microsoft Windows 8, 12.101.0.0 driver. BMN-21

6. Testing conducted by AMD Performance Labs on optimized AMD reference systems. PC manufacturers may vary configuration yielding different results. 3DMark 11 is used to simulate graphics performance; the AMD A6-6310 APU scored 778 while the "Haswell U" Pentium part scored 518. AMD "Larne" reference platform system using AMD A6-6310 APU with AMD Radeon™ R4 Graphics, 2x2048 MBytes of DDR3-1600 RAM, Microsoft Windows 8.1 Single Language, and 13.300.0.0 - 13-Jan-2014 driver. Intel® Pentium® 3556U @ 1.70GHz with Intel® HD Graphics, 2x2048 MBytes of DDR3-1600 RAM, Microsoft Windows 8.1 Single Language, 10.18.10.3412 - 28-Jan-2014 driver. BMN-16

7. Testing conducted by AMD Performance Labs on optimized AMD reference systems. PC manufacturers may vary configuration yielding different results. 3DMark 11 is used to simulate graphics performance; the AMD A4-6210 APU scored 703 while the Pentium® N3510 platform scored 233. AMD "Larne" reference platform system using AMD A4-6210 APU with AMD Radeon R4 Graphics, 2x2048 MBytes of DDR3-1600 RAM, Microsoft Windows 8.1 Single Language, and 13.300.0.0 - 13-Jan-2014 driver. Intel® Pentium® CPU N3510 @ 1.99GHz with Intel® HD Graphics, 2x2048 MBytes of DDR3-1333 RAM, Microsoft Windows 8.1 Single Language, 10.18.10.3366 - 25-Nov-2013 driver. BMN-22

8. Testing conducted by AMD Performance Labs on optimized AMD reference systems. PC manufacturers may vary configuration yielding different results. PCMark 8 - Home v2 is used to simulate productivity performance; the AMD A4-6210 APU scored 1817 while the Pentium N3510 platform scored 1331. AMD "Larne" reference platform system using AMD A4-6210 APU with AMD Radeon™ R3 Graphics, 2x1024 MBytes of DDR3-1600 RAM, Microsoft Windows 8.1 Single Language, and 13.300.0.0 - 13-Jan-2014 driver. Intel Pentium CPU N3510 @ 1.99GHz with Intel HD Graphics, 2x2048 MBytes of DDR3-1333 RAM, Microsoft Windows 8.1 Single Language, 10.18.10.3366 - 25-Nov-2013 driver. BMN-23

9. Testing conducted by AMD Performance Labs on optimized AMD reference systems. PC manufacturers may vary configuration yielding different results. 3DMark 11 is used to simulate graphics performance; 4.5W AMD A10 Micro-6700T APU scored 582 while the 8W A6-1450 APU scored 478. AMD "Discovery" reference platform system using AMD A10 Micro-6700T APU with Radeon™ R6 Graphics, 2048 MBytes of DDR3-1333 RAM, Microsoft Windows 8.1 Single Language, 13.302.1301.0 - 03-Mar-2014 driver. AMD A6-1450 APU with Radeon™ HD 8250 Graphics, 2x2048 MBytes of DDR3-1600 RAM, Microsoft Windows 8.1 Single Language, 13.350.1005.0 - 22-Feb-2014 driver. MUN-14

10. Testing conducted by AMD Performance Labs on optimized AMD reference systems. PC manufacturers may vary configuration yielding different results. PCMark 8 - Home v2 is used

to simulate productivity performance; 4.5W AMD A10 Micro-6700T APU scored 1591 while the 8W A6-1450 APU scored 1487. AMD "Discovery" reference platform system using AMD A10 Micro-6700T APU with Radeon™ R6 Graphics, 2048 MBytes of DDR3-1333 RAM, Microsoft Windows 8.1 Single Language, 13.302.1301.0 - 03-Mar-2014 driver. AMD A6-1450 APU with Radeon™ HD 8250. MUN-15

11. Testing conducted by AMD Performance Labs on optimized AMD reference systems. PC manufacturers may vary configuration yielding different results. 3DMark 11 is used to simulate graphics performance; the AMD A10 Micro-6700T APU scored 582 while the "Haswell Y" Core i3 scored 571. AMD "Discovery" reference platform system using AMD A10 Micro-6700T APU with Radeon™ R6 Graphics, 2048 MBytes of DDR3-1333 RAM, Microsoft Windows 8.1 Single Language, 13.302.1301.0 - 03-Mar-2014 driver. Intel® Core™ i3-4010Y CPU @ 1.30GHz with Intel® HD Graphics Family Graphics, 4096 MBytes of DDR3-1600 RAM, Microsoft Windows 8.1 Single Language, 10.18.10.3412 - 28-Jan-2014 driver. MUN-12

Cautionary Statement:

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Contact:

Gary Silcott

AMD Public Relations

(512) 602-0889

gary.silcott@amd.com

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