

May 31, 2016



# AMD Showcases New High-Performance Solutions at COMPUTEX TAIPEI 2016

**Launches 7th Generation AMD A-Series APUs; Outlines the Market Opportunity and Announces Availability Date for New Radeon RX GPUs; Delivers First Public Demonstration of Upcoming High-Performance Desktop Processor Featuring "Zen" Processor Cores**

TAIPEI, TAIWAN -- (Marketwired) -- 05/31/16 -- **COMPUTEX TAIPEI 2016** -- Building off its legacy of innovation, [AMD](#) (NASDAQ: AMD) today highlighted multiple updates about the company's upcoming high-performance compute and graphics solutions.

"We entered 2016 with a great product lineup and growing momentum for AMD's technologies," said AMD President and CEO Dr. Lisa Su. "Today's launch of our 7<sup>th</sup> Generation A-Series mobile APUs, to be followed closely by new Radeon™ RX Series GPUs and then our next-generation 'Summit Ridge' desktop processor powered by our 'Zen' core represent key proof points of our strategy to firmly re-establish AMD as a high-performance design leader."

Key disclosures include:

- Unveiling of the strategy for the upcoming [Polaris architecture](#)-based Radeon™ RX Series graphics cards, which will provide an exciting selection of future-proof<sup>1</sup> gaming technologies and impressively smooth VR entertainment starting at only \$199 SEP set to formally launch on June 29.
- Launch of the new 7<sup>th</sup> Generation AMD A-Series mobile Accelerated Processing Units (APUs) which show major improvements in performance compared to the previous generation, including double-digit gains in gaming, video rendering, and file compression performance<sup>2</sup>.
- First public demonstration of AMD's high-performance x86 processor core (codenamed "Zen"), powering a "Summit Ridge" desktop processor that features eight cores and sixteen threads.

## **AMD Radeon Polaris Architecture**

Set to formally launch on June 29th, the Radeon™ RX Series will deliver the world's most affordable solution for premium PC VR experiences, including a model that is both HTC Vive™-Ready and Oculus™ Rift™ compatible. This significant technical achievement will provide VR experiences common to \$500 GPUs in graphics cards that are less than half the cost.

The Radeon™ RX Series will be disruptive technology that will add rocket fuel to the growth of the VR ecosystem, bringing a relevant and transformational technology into the hands of

consumers. AMD expects that its aggressive pricing of select models starting at just \$199 SEP can effectively grow the addressable market for PC VR and accelerate economies of scale in the VR ecosystem.

### **7<sup>th</sup> Generation AMD A-Series APUs**

Notebooks powered by 7<sup>th</sup> Generation AMD A-Series Processors allow users to work faster and play longer<sup>3</sup>, as up to four cores deliver powerful performance and superior energy efficiency for all day battery life<sup>4</sup>. Shipping in volume to OEM customers, the full line of 7<sup>th</sup> Gen AMD A-Series processors feature mobile-optimized "Excavator" x86 CPU cores for high-speed computing plus built-in Radeon™ graphics -- with some models offering up to Radeon™ R7 graphics -- for smooth eSports gaming and enhanced HD streaming capabilities. The "Bristol Ridge" lineup consists of 35- and 15-watt versions of AMD FX, A12, and A10 processors, while "Stoney Ridge" processors include 15-watt A9, A6 and E2 configurations.

- AMD delivers graphics and compute superiority versus the competition, with up to 53% higher graphics performance<sup>5</sup> and up to 51% higher compute performance when the 7<sup>th</sup> Generation AMD FX processor is compared to the Intel Core i7<sup>6</sup>.
- "Stoney Ridge" APUs deliver up to 50% faster CPU core performance over the previous generation<sup>7</sup> "Carrizo" APUs.
- The new AMD A9 APU, designed to bring the "wow" to entry-level systems, provides up to 27% faster graphics performance than the Intel Pentium-4405U<sup>8</sup> and even rivals the Intel i3-6100U with competitive graphics<sup>9</sup> and system performance<sup>10</sup>, with a rated 1.2 GHz faster CPU speed<sup>11</sup>.

### **"Zen" High-performance x86 Core**

AMD debuted the world's first live public demonstration of its revolutionary x86 "Zen" processor core architecture in the next-generation AM4 desktop processor (codenamed "Summit Ridge") which features eight cores and sixteen threads. AMD's "Zen" core is designed to scale across multiple markets including high-performance desktops, servers, notebooks and embedded solutions with first availability planned in our high-performance desktop "Summit Ridge" processor.

### **Supporting Resources**

- Learn more about the [7th Generation AMD A-Series APUs](#)
- Discover the [Polaris architecture](#)
- See how [AMD powers the products you love](#)
- Get more information on [AMD Investor Relations](#)
- Become a fan of AMD on [Facebook](#)
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### **About AMD**

For more than 45 years, AMD has driven innovation in high-performance computing, graphics, and visualization technologies -- the building blocks for gaming, immersive platforms, and the datacenter. Hundreds of millions of consumers, leading Fortune 500

businesses, and cutting-edge scientific research facilities around the world rely on AMD technology daily to improve how they live, work, and play. AMD employees around the world are focused on building great products that push the boundaries of what is possible. For more information about how AMD is enabling today and inspiring tomorrow, visit the AMD (NASDAQ: AMD) [website](#), [blog](#), [Facebook](#) and [Twitter](#) pages.

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### **Cautionary Statement**

This press release contains forward-looking statements concerning Advanced Micro Devices, Inc. ("AMD") including, among other things, the ability of AMD to re-establish itself as a high-performance design leader through its multi-year product roadmap; the features, functionality, benefits, timing and availability, as applicable, of AMD's 7<sup>th</sup> Generation A-Series mobile APUs, AMD Radeon™ RX series graphic cards the next-generation 'Summit Ridge' desktop processor and AMD's high-performance x86 "Zen" processor core; the market opportunity and strategy for AMD's upcoming Polaris architecture-based Radeon RX Series graphic cards; the expectation that AMD Radeon RX Series graphic cards will be a disruptive technology that adds rocket fuel to the VR inflection point; the expectation that the pricing of select models of AMD Radeon RX series graphic cards can effectively grow the addressable market for PC VR and accelerate economies of scale in the VR ecosystem; and that AMD's high-performance x86 processor core will be manufactured on 14nm FinFET process technology, which are made pursuant to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. Forward-looking statements are commonly identified by words such as "would," "may," "expects," "believes," "plans," "intends," "projects" and other terms with similar meaning. Investors are cautioned that the forward-looking statements in this document are based on current beliefs, assumptions and expectations, speak only as of the date of this document and involve risks and uncertainties that could cause actual results to differ materially from current expectations. Material factors that could cause actual results to differ materially from current expectations include, without limitation, the following: the possibility that Intel Corporation's dominance of the microprocessor market and its aggressive business practices may limit AMD's ability to compete effectively; AMD relies on GLOBALFOUNDRIES Inc. (GF) to manufacture all of its microprocessor and APU products and a certain portion of its GPU products, with limited exceptions. If GF is not able to satisfy AMD's manufacturing requirements, its business could be adversely impacted; AMD relies on third parties to manufacture its products, and if they are unable to do so on a timely basis in sufficient quantities and using competitive technologies, AMD's business could be materially adversely affected; failure to achieve expected manufacturing yields for AMD's products could negatively impact its financial results; the success of AMD's business is dependent upon its ability to introduce products on a timely basis with features and performance levels that provide value to its customers while supporting and coinciding with significant industry transitions; if AMD cannot generate sufficient revenue and operating cash flow or obtain external financing, it may face a cash shortfall and be unable to make all of its planned investments in research and development or other strategic investments; the loss of a significant customer may have a material adverse effect on AMD; global economic uncertainty may adversely impact AMD's business and operating results; and the markets in which AMD's products are sold are highly competitive; and uncertainties involving the ordering and shipment of AMD's products could materially adversely affect it. Investors are urged to review in detail the risks and

uncertainties in AMD's Securities and Exchange Commission filings, including but not limited to AMD's Quarterly Report on Form 10-Q for the quarter ended March 26, 2016.

<sup>1</sup> Statement of "future-proof" refers to support of current and upcoming technology standards including 14nm FinFET process technology, DirectX<sup>®</sup>12 and Vulkan<sup>™</sup> API support, new display technology, and experiences such as VR. "Future-proof" statement is not meant to serve as a warranty or indicate that users will never have to upgrade their graphics technology again. Support of current and upcoming technology standards described above has the potential to reduce frequency of graphics upgrades for some users.

<sup>2</sup> Testing by AMD Performance labs. PC manufacturers may vary configurations yielding different results. Dota 2 1366x768 @Maximum Detail average FPS; the 7<sup>th</sup> Generation AMD FX<sup>™</sup> 9800P scored 31.03 FPS, while the 6<sup>th</sup> Generation AMD FX-8800P scored 22.7 for a benchmark score comparison of  $31.03/22.7 = 1.37X$  or 37% more. Sony Vegas Pro average time to render to .avi; the 7<sup>th</sup> Generation AMD FX<sup>™</sup> 9800P took 86.03 seconds, while the 6<sup>th</sup> Generation AMD FX-8800P took 107.99 seconds for a comparison of  $107.99/86.03 = 1.26X$  or 26% faster. Testing by AMD Performance labs. PC manufacturers may vary configurations yielding different results. WinZip 18.5 average time to compress; the 7<sup>th</sup> Generation AMD FX<sup>™</sup> 9800P took 47.03 seconds, while the 6<sup>th</sup> Generation AMD FX-8800P took 63.94 seconds for a comparison of  $63.94/47.03 = 1.36X$  or 36% faster. BRN-40, BRN-41, BRN-42. System Configuration: 7<sup>th</sup> Gen AMD FX<sup>™</sup> 9800P: AMD 'Gardenia' reference platform, 7<sup>th</sup> Gen AMD FX<sup>™</sup> 9800P with AMD Radeon<sup>™</sup> R7 Graphics, 2x4096 DDR3-1866 RAM, 244GB SSD Drive (Non-rotating), Microsoft Windows 10 Pro, Graphics driver 16.101.0.0 2016-01-31. AMD FX-8800P: HP ENVY m6 Notebook, FX-8800P with AMD Radeon<sup>™</sup> R7 Graphics, 2x4096 DDR3-1600 RAM, 244GB SSD Drive (Non-rotating), Microsoft Windows 10 Pro, Graphics driver 15.300.1025.1001 2015-12-03

<sup>3</sup> Testing by AMD Performance labs. PC manufacturers may vary configurations yielding different results. PCMark<sup>®</sup> 8 v2 Home is used to simulate system performance; the AMD FX<sup>™</sup> 9830P scored 3477.4, while the AMD A10-5750M scored 2520.75 for a benchmark score comparison of  $3477.4/2520.75 = 1.38X$  or 38% (Work Faster). Local 1080p video playback using the FX-9800P utilized 4.263W average while the A10-5750M utilized 12.925W average (Play Longer). Work Faster Configs: AMD FX<sup>™</sup> 9830P: AMD Bristol, AMD FX<sup>™</sup> 9830P with AMD Radeon R7 Graphics, 2x4096 DDR4-2400 RAM, 244GB SSD Drive (Non-rotating), Microsoft Windows 10 Enterprise, Graphics driver 15.300.0.0 2015-11-09; A10-5750M: Hewlett-Packard HP ENVY TS 15 Notebook PC, A10-5750M with AMD Radeon HD 8650G, 2x4096 DDR3-1600 RAM, 244GB SSD Drive (Non-rotating), Microsoft Windows 10 Pro, Graphics driver 15.200.1055.0 2015-07-05. Play Longer Configs: 7<sup>th</sup> Gen AMD FX<sup>™</sup> 9800P: AMD "Gardenia" platform, 2x4096 DDR4-1866 RAM, 256GB SSD Drive (Non-rotating), Microsoft Windows 10 Pro, Graphics driver 16.100.0.0 2016-1-12; AMD A10-5750M: AMD "Pumori" platform, 2x2048 DDR3L-1600, 250 GB 5400RPM HDD, Windows 8 Pro 64-bit, Graphics Driver 9.10.0.0 2012-10-23. BRN-20

<sup>4</sup> AMD defines All-Day Battery Life as 8+ hours of continuous use when measured with the Windows Idle test.

<sup>5</sup> Testing by AMD Performance labs. PC manufacturers may vary configurations yielding different results. 3DMark 11 Performance is used to simulate gaming performance; the 7<sup>th</sup> Generation AMD FX @ 15W scored 2424.5 while the Intel<sup>®</sup> Core i7-6500U scored 1585.75,

for a benchmark score difference of  $2424.25/1585.75 = 1.53X$  or 53%. 7<sup>th</sup> Gen AMD FX™ 9800P: AMD "Gardenia" platform, FX 9800P with AMD Radeon R7 Graphics, 2x4096 DDR4-1866 RAM, 244GB SSD Drive (Non-rotating), Microsoft Windows 10 Pro, Graphics driver 16.101.0.0 2016-01-31; i7-6500U: ASUS X555UA, i7-6500U with Intel® HD Graphics 520, 2x4096 DDR3-1600 RAM, 244GB SSD Drive (Non-rotating), Microsoft Windows 10 Pro, Graphics driver 20.19.15.4352 2015-12-14. BRN-57

<sup>6</sup> Testing by AMD Performance labs. PC manufacturers may vary configurations yielding different results. Basemark CL is used to simulate system performance; the AMD FX™ 9800P scored 80.7, while the Intel i7-6500U scored 53.57 for a benchmark score

comparison of  $80.7/53.57 = 1.51X$  or 51% more. 7<sup>th</sup> Gen AMD FX™ 9800P: AMD "Gardenia" platform, FX 9800P with AMD Radeon R7 Graphics, 2x4096 DDR4-1866 RAM, 244GB SSD Drive (Non-rotating), Microsoft Windows 10 Pro, Graphics driver 16.101.0.0 2016-01-31; i7-6500U: ASUS X555UA, i7-6500U with Intel® HD Graphics 520, 2x4096 DDR3-1600 RAM, 244GB SSD Drive (Non-rotating), Microsoft Windows 10 Pro, Graphics driver 20.19.15.4352 2015-12-14. BRN-70

<sup>7</sup> Testing by AMD Engineering and Performance labs. PC manufacturers may vary configurations yielding different results. Cinebench R11.5 1T is used to simulate CPU core performance; the 7<sup>th</sup> Generation AMD A9 scored .96 while the previous generation A8 scored .63 for a benchmark score difference of  $.96/.63 = 1.52x$  or 52%. 7<sup>th</sup> Generation A9: AMD Reference platform, Windows 10, 256 GB Crucial SSD - T256M550SSD1, 1x4GB DDR4-2133, Graphic Driver 16.10\_BR296655 1/4/2016); AMD A8-7410: AMD Gardenia, AMD A8-7410 with AMD Radeon™ R5 Graphics, 1x4096 DDR3-1866 RAM, 244GB SSD Drive (Non-rotating), Microsoft Windows 8.1 Pro, Graphics driver 14.502.1002.1003 2015-01-31. SRN-15

<sup>8</sup> Testing by AMD Performance labs. PC manufacturers may vary configurations yielding different results. 3DMark® 11 Performance is used to simulate system performance; the AMD A9-9410 scored 1202.25, while the Intel Pentium 4405U scored 947.75 for a benchmark score comparison of  $1202.25/947.75 = 1.27X$  or 27% faster. 7<sup>th</sup> Gen AMD A9-9410: AMD "Gardenia" platform, A9-9410 with AMD Radeon™ R5 Graphics, 1x4096 DDR4-2133 RAM, 244GB SSD Drive (Non-rotating), Microsoft Windows 10 Pro, Graphics driver 16.100.0.0 2016-01-24 4405U: HP ProBook 450 G3, 4405U with Intel® HD Graphics 510, 2x4096 DDR3-1600 RAM, 244GB SSD Drive (Non-rotating), Microsoft Windows 10 Pro, Graphics driver 20.19.15.4390 2016-02-17. SRN-51

<sup>9</sup> Testing by AMD Performance labs. PC manufacturers may vary configurations yielding different results. 3DMark® 11 Performance is used to simulate system performance; the AMD A9-9410 scored 1202.25, while the Intel i3-6100U in single channel RAM configuration scored 1230.75 for a benchmark score comparison of  $1202.25/1230.75 = .98X$  or 98%. 7<sup>th</sup> Gen AMD A9-9410: AMD "Gardenia" platform, A9-9410 with AMD Radeon™ R5 Graphics, 1x4096 DDR4-2133 RAM, 244GB SSD Drive (Non-rotating), Microsoft Windows 10 Pro, Graphics driver 16.100.0.0 2016-01-24; i3-6100U: HP Pavilion x360 Convertible, i3-6100U with Intel® HD Graphics 520, 1x4096 -1600 RAM, 244GB SSD Drive (Non-rotating), Microsoft Windows 10 Enterprise, Graphics driver 20.19.15.4300 2015-09-30. SRN-50

<sup>10</sup> Testing by AMD Performance labs. PC manufacturers may vary configurations yielding different results. PCMark® 8 v2 Home is used to simulate system performance; the AMD A9-9410 scored 2668.25, while the Intel i3-6100U in single channel RAM configuration scored

2807 for a benchmark score comparison of  $2668.25/2807 = .95X$  or 95%. 7<sup>th</sup> Gen AMD A9-9410: AMD "Gardenia" platform, A9-9410 with AMD Radeon™ R5 Graphics, 1x4096 DDR4-2133 RAM, 244GB SSD Drive (Non-rotating), Microsoft Windows 10 Pro, Graphics driver 16.100.0.0 2016-01-24 i3-6100U: HP Pavilion x360 Convertible, i3-6100U with Intel® HD Graphics 520, 1x4096 -1600 RAM, 244GB SSD Drive (Non-rotating), Microsoft Windows 10 Enterprise, Graphics driver 20.19.15.4300 2015-09-30. SRN-55

<sup>11</sup> The 7<sup>th</sup> Generation AMD A9-9410 has a base CPU of 2.9 and a max CPU frequency of 3.5 GHz, while the Intel Core i3-6100U only has a base frequency of 2.3 GHz  
[http://ark.intel.com/products/88180/Intel-Core-i3-6100U-Processor-3M-Cache-2\\_30-GHz?q=i3-6100u](http://ark.intel.com/products/88180/Intel-Core-i3-6100U-Processor-3M-Cache-2_30-GHz?q=i3-6100u)

Source: Advanced Micro Devices