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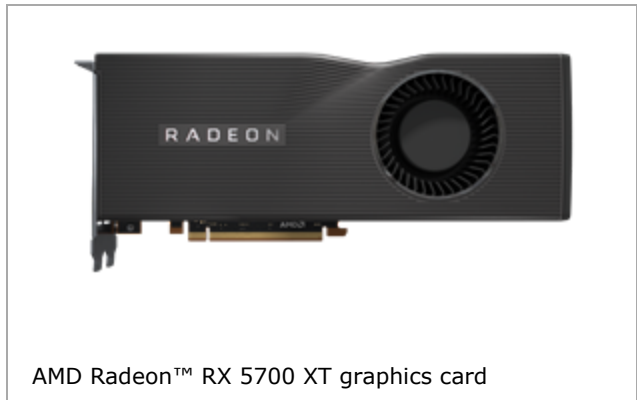


## AMD Reveals Leadership PC Platform for Gamers Worldwide at E3 2019

*– With a new design inside and out, the AMD Radeon™ RX 5700 XT graphics card delivers amazing 1440p gaming, high-fidelity visuals and ultra-responsive gameplay –*

*– Harnessing the ground-breaking new AMD RDNA gaming architecture and 7nm process technology, the new Radeon™ RX 5700 Series graphics cards deliver incredible performance and efficiencies –*

*– Armed with enthusiast-first features and more cores, cache, and I/O, 3<sup>rd</sup> Gen AMD Ryzen™ desktop processor family now includes flagship 16-core Ryzen™ 9 3950X processor for ultimate computing experiences –*



AMD Radeon™ RX 5700 XT graphics card

LOS ANGELES, June 10, 2019 (GLOBE NEWSWIRE) -- At the [AMD](#) (NASDAQ: AMD) “Next Horizon Gaming” livestream event at E3 today, President and CEO Dr. Lisa Su unveiled the company’s next-generation PC gaming platform, bringing new levels of performance and efficiency and introducing powerful features for gamers everywhere, based on the new AMD Radeon™ RX 5700 Series graphics cards and 3<sup>rd</sup> Gen AMD Ryzen™ desktop processors.

The AMD Radeon™ RX 5700 XT and RX 5700 graphics cards are built on the new AMD RDNA gaming architecture to deliver superior visual fidelity, lightning-fast performance and advanced features to power the latest AAA and eSports titles. The new product family also includes the 50<sup>th</sup> Anniversary Edition AMD Radeon™ RX 5700 XT graphics card that commemorates the company’s 50<sup>th</sup> anniversary by offering increased clocks and a luxurious gold accented shroud featuring Dr. Lisa Su’s signature.



AMD Radeon™ RX 5700 graphics card

The 3<sup>rd</sup> Gen AMD Ryzen™ desktop processors deliver leadership performance across gaming, productivity and content creation applications, offering more performance-critical on-die cache than ever before. Today, Dr. Su previewed the latest addition to the product

family – the 3<sup>rd</sup> Gen AMD Ryzen™ 9 3950X, the world's first 16-core mainstream desktop processor.

“We've made significant technology bets to push the envelope on high-performance computing and give gamers the hardware they need to power the experiences they want,” said Dr. Su. “Our industry-leading Ryzen 3000 Series desktop processors and Radeon RX 5700 Series graphics cards combine leadership design, performance, technology, and efficiency to provide the ultimate gaming experiences. From super-fast frame rates, to new levels of visual realism and image quality, or the ability to easily create, capture and share gaming experiences, PCs featuring our new Ryzen processors and Radeon GPUs offer exceptional performance and features for every gamer at every price point.”

“Seventy percent of PC gamers today are using three-year-old or older graphics hardware<sup>1</sup> that lacks the necessary horsepower and capabilities to deliver fully immersive, high-fidelity and high-performance gaming experiences,” said Scott Herkelman, corporate vice president and general manager, Radeon Technologies Group at AMD. “Our new Radeon graphics cards with RDNA redefine what's possible in 1440p gameplay, delivering stunning visuals, amazing performance and industry-leading features to take gaming experiences to the next level.”

## Superior 1440p Gaming

The AMD Radeon™ RX 5700 Series graphics cards include several powerful new features and capabilities to deliver superior 1440p gaming experiences, including:

- **Ground-breaking RDNA gaming architecture** – Built from the ground up for superior performance, scalability and power efficiency, RDNA was designed to power the future of PC, console, mobile and cloud-based gaming for years to come. It features a new compute unit design optimized for improved efficiency, and a multi-level cache hierarchy designed to provide reduced latency, higher bandwidth and lower power. It also includes a streamlined graphics pipeline that is optimized for performance-per-clock and high clock speeds.  
Delivering up to 1.25X higher performance-per-clock<sup>2</sup> and up to 1.5X higher performance-per-watt<sup>3</sup> compared to the previous-generation Graphics Core Next (GCN) architecture, RDNA provides the computational horsepower to enable thrilling, immersive gaming by enhancing explosions, physics, lighting effects and more, and by delivering fluid, high-framerate gaming experiences.
- **Radeon Image Sharpening (RIS)** – Restores clarity to in-game images that have been softened by other post-process effects. RIS combines with GPU upscaling to provide sharp visuals at fluid frame rates on very high-resolution displays, and works across DirectX® 9, 12, and Vulkan® titles.
- **FidelityFX** – An open-source developer toolkit available in the coming weeks on [GPUOpen](#) that makes it easier for developers to create high-quality post-processing effects that make games look beautiful while offering a balance of visual fidelity and performance. FidelityFX features Contrast-Adaptive Sharpening (CAS) that draws out detail in low-contrast areas while minimizing artifacts caused by typical image sharpening routines. Developers plan to integrate CAS into a number of popular games, and Unity Technologies plans to integrate it into its real-time 3D development platform.
- **Radeon™ Anti-Lag** – Optimized for eSports, Radeon™ Anti-Lag improves competitiveness by decreasing input-to-display response times by up to 31 percent<sup>4</sup>,

delivering an experience similar to higher framerates.

- **Extreme refresh rates** – RDNA enables DisplayPort™ 1.4 with Display Stream Compression (DSC) to deliver extreme refresh rates, color depth and resolutions up to 8K HDR at 60Hz or 4K HDR at 144+ Hz on cutting edge displays, including the world’s first monitor to support DSC: the new ASUS Republic of Gamers 43-inch monitor previewing at E3. The new monitor is capable of delivering 4K HDR at 144Hz with a single DisplayPort™ 1.4 cable.
- **Largest gaming display ecosystem<sup>5</sup>** – With over 700 supported monitors to choose from, gamers can enjoy stutter-free, tear-free gameplay with AMD Radeon FreeSync™<sup>6</sup> and Radeon FreeSync™ 2 HDR technology<sup>7</sup>.

The 7nm Radeon™ RX 5700 XT, RX 5700 and the 50<sup>th</sup> Anniversary Edition Radeon™ RX 5700 XT graphics cards are the first gaming graphics cards to support the PCIe® 4.0 interface. Additional product specs include:

Model	Compute Units	Stream Processors	TFLOPS	GDDR6 (GB)	Base Clock (MHz)	Game Clock (MHz)	Boost Clock (MHz)	SEP (USD)
Radeon™ RX 5700 XT 50 <sup>th</sup> Anniversary Edition	40	2,560	Up to 10.14	8	1,680	1,830	Up to 1,980	\$499
Radeon™ RX 5700 XT	40	2,560	Up to 9.75	8	1,605	1,755	Up to 1,905	\$449
Radeon™ RX 5700	36	2,304	Up to 7.95	8	1,465	1,625	Up to 1,725	\$379

## Unlocking New Experiences with Game Developers

AMD is working more closely than ever with game and game technology developers to unlock new experiences in PC gaming and supercharge Radeon™ graphics performance on today’s most popular titles. At the Next Horizon Gaming event, Dr. Su was joined by *The Game Awards* creator [Geoff Keighley](#) and leaders from the world’s top game and game technology developers, including head of The Coalition Studio, Rod Fergusson; The Coalition technical director, Mike Rayner; president, CEO and co-founder of Gearbox Software, Randy Pitchford; co-founder and CEO of Ubisoft, Yves Guillemot; executive producer of *Tom Clancy’s Ghost Recon Breakpoint* at Ubisoft, Nouredine Abboud; and vice president of graphics at Unity Technologies, Natalya Tatarchuk.

These industry pioneers provided exclusive looks at never-before-seen game content, including *Gears 5*, *Borderlands 3*, *Tom Clancy’s Ghost Recon Breakpoint*, and Unity’s *The Heretic* technology demo, showcasing the amazing PC gaming experiences enabled by new AMD products and technologies.

## Play Gears 5 and 100+ Other PC Games with Xbox Game Pass<sup>8</sup>

AMD also announced a new Xbox Game Pass for PC offer that provides complimentary, three-month access to Xbox Game Pass for PC with the purchase of select AMD products. With the Xbox Game Pass for PC, gamers can play *Gears 5* when it launches in fall 2019, and more than 100 other high-quality PC games. The offer is available at participating retailers. Learn more on July 1, 2019 [here](#).

## Ultimate Desktop Processor for Gaming

AMD also previewed the ultimate member of the new 3<sup>rd</sup> Gen Ryzen™ desktop processor [family](#), the flagship AMD Ryzen™ 9 3950X processor. With 16 cores and 32 threads running

up to 4.7GHz, the leadership CPU has already set multiple performance records. With the aid of liquid nitrogen, the AMD Ryzen Overclocking Team managed to push the AMD Ryzen™ 9 3950X processor to 5.375 GHz, achieving record-setting performance with a Cinebench R20 multi-thread score of 12,167. The Ryzen™ 9 3950X processor now holds the crown in two important dimensions: highest performance for any 16-core processor and highest performance in a mainstream CPU socket. A new and improved AMD Ryzen™ Master Software utility was also revealed, including a redesigned user interface and new enthusiast-first overclocking features<sup>9</sup>, offering users an easy way to squeeze every drop of performance from their AMD Ryzen™ desktop processor powered system.

Model	Cores/ Threads	TDP <sup>10</sup> (Watts)	Boost/Base Freq. (GHz)	L2 + L3 Cache (MB)	PCIe® 4.0 Lanes (processor+AMD X570)	SEP <sup>11</sup> (USD)	Expected Availability
Ryzen™ 9 3950X CPU	16/32	105W	4.7/3.5	72	44	\$749	September, 2019

## Pricing and Availability

The previously announced 3<sup>rd</sup> Gen Ryzen™ desktop processor family is expected to be generally available on July 7, 2019 from leading etailers/retailers. The AMD Radeon™ RX 5700 XT and RX 5700 graphics cards are expected to be generally available on July 7, 2019 for \$449 and \$379 USD SEP, respectively, from AMD.com and leading etailers/retailers. The AMD 50<sup>th</sup> Anniversary Edition Radeon™ RX 5700 XT graphics card is expected to be available in limited quantities on July 7, 2019 for \$499 USD SEP from AMD.com. and JD.com. The 3<sup>rd</sup> Gen AMD Ryzen™ 9 3950X processor is expected to be available in September 2019 for \$749 USD SEP from leading etailers/retailers. For more information, please visit AMD.com.

## Supporting Resources

- Learn more about the AMD Radeon™ RX 5700 XT and RX 5700 graphics cards [here](#)
- Learn more about the RDNA architecture [here](#)
- Learn more about the 3<sup>rd</sup> Generation AMD Ryzen™ desktop processors [here](#)
- Become a fan of Radeon™ and Ryzen™ on [Facebook](#)
- Follow AMD on Twitter [@AMD](#)
- Follow Radeon™ graphics on [Twitter](#)
- Follow Ryzen™ on [Twitter](#)

## About AMD

For 50 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.

## Cautionary Statement

This press release contains forward-looking statements concerning Advanced Micro Devices, Inc. (AMD) including, but not limited to, the features, functionality, performance,

availability, timing, pricing, expectations and expected benefits of AMD future products, including the 3<sup>rd</sup> Gen Ryzen™ 9 3950X processor, the AMD Radeon™ RX 5700 XT and RX 5700 graphics cards, the 3<sup>rd</sup> Gen Ryzen™ desktop processor family and the 3<sup>rd</sup> Gen AMD Ryzen™ 9 3950X processor, 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," "intends," "believes," "expects," "may," "will," "should," "seeks," "intends," "plans," "pro forma," "estimates," "anticipates," or the negative of these words and phrases, other variations of these words and phrases or comparable terminology. 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. Such statements are subject to certain known and unknown risks and uncertainties, many of which are difficult to predict and generally beyond AMD's control, that could cause actual results and other future events to differ materially from those expressed in, or implied or projected by, the forward-looking information and statements. Material factors that could cause actual results to differ materially from current expectations include, without limitation, the following: Intel Corporation's dominance of the microprocessor market and its aggressive business practices may limit AMD's ability to compete effectively; AMD has a wafer supply agreement with GLOBALFOUNDRIES Inc. (GF) with obligations to purchase all of its microprocessor and APU product requirements, and a certain portion of its GPU product requirements, manufactured at process nodes larger than 7 nanometer from GF with limited exceptions. If GF is not able to satisfy AMD's manufacturing requirements, AMD's 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; AMD's receipt of revenue from its semi-custom SoC products is dependent upon its technology being designed into third-party products and the success of those products; global economic and market uncertainty may adversely impact AMD's business and operating results; AMD's products may be subject to security vulnerabilities that could have a material adverse effect on AMD; IT outages, data loss, data breaches and cyber-attacks could compromise AMD's intellectual property or other sensitive information, be costly to remediate and cause significant damage to its business, reputation and operations; AMD's operating results are subject to quarterly and seasonal sales patterns; AMD may not be able to generate sufficient cash to service its debt obligations or meet its working capital requirements; AMD has a large amount of indebtedness which could adversely affect its financial position and prevent it from implementing its strategy or fulfilling its contractual obligations; the agreements governing AMD's notes and the Secured Revolving Line of Credit impose restrictions on AMD that may adversely affect AMD's ability to operate its business; the markets in which AMD's products are sold are highly competitive; AMD's worldwide operations are subject to political, legal and economic risks and natural disasters, which could have a material adverse effect on it; the conversion of the 2.125% Convertible Senior Notes due 2026 may dilute the ownership interest of AMD's existing stockholders, or may otherwise depress the price of its common stock; uncertainties involving the ordering and shipment of AMD's products could materially adversely affect it;

the demand for AMD's products depends in part on the market conditions in the industries into which they are sold. Fluctuations in demand for AMD's products or a market decline in any of these industries could have a material adverse effect on its results of operations; AMD's ability to design and introduce new products in a timely manner is dependent upon third-party intellectual property; AMD depends on third-party companies for the design, manufacture and supply of motherboards, software and other computer platform components to support its business; if AMD loses Microsoft Corporation's support for its products or other software vendors do not design and develop software to run on AMD's products, its ability to sell its products could be materially adversely affected; and AMD's reliance on third-party distributors and add-in-board partners subjects it to certain risks. 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 30, 2019.

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The information contained herein is for informational purposes only, and is subject to change without notice. Timelines, roadmaps, and/or product release dates shown in this Press Release are plans only and subject to change. "Vega" is an AMD codename and is not a product name.

<sup>1</sup> Source: Steam Survey <https://store.steampowered.com/hwsurvey/Steam-Hardware-Software-Survey-Welcome-to-Steam>

<sup>2</sup> Testing done by AMD performance labs 5/23/19, showing a geometric mean of 1.25x per/clock across 30 different games @ 4K Ultra, 4xAA settings. Performance may vary based on use of latest drivers. RX-327

<sup>3</sup> Testing done by AMD performance labs 5/23/19, using the Division 2 @ 25x14 Ultra settings. Performance may vary based on use of latest drivers. RX-325.

<sup>4</sup> Testing conducted by AMD Performance Labs as of June 4th, 2019 on the 8GB Radeon™ RX 5700 on the following games: Apex Legends, Tom Clancy's The Division 2, Dota 2, Fortnite, Overwatch, PlayerUnknown's Battleground, and Tom Clancy's Rainbow Six Siege. Performance may vary. RS-295

<sup>5</sup> As of February 2019, the number of FreeSync technology enabled screens available (700+) at <https://www.amd.com/en/products/freesync-monitors> - Largest ecosystem when compared to publicly available listings of competing product solutions at <https://www.144hzmonitors.com/list-of-g-sync-monitors/> and <https://www.blurbusters.com/gsync/list-of-gsync-monitors/> which list 58 screens respectively. GD-130.

<sup>6</sup> FreeSync requires a monitor and AMD Radeon™ graphics, both with FreeSync support. See [www.amd.com/freesync](http://www.amd.com/freesync) for complete details. Confirm capability with your system manufacturer before purchase. GD-127

<sup>7</sup> FreeSync 2 HDR does not require HDR capable monitors; driver can set monitor in native mode when FreeSync 2 HDR supported HDR content is detected. Otherwise, HDR content requires that the system be configured with a fully HDR-ready content chain, including:

graphics card, graphics driver and application. Video content must be graded in HDR and viewed with an HDR-ready player. Windowed mode content requires operating system support. GD-105

<sup>8</sup> Offer available through participating retailers for eligible purchases made July 1, 2019 through March 10, 2020 or when supply of coupon codes is exhausted, whichever occurs first. Void where prohibited. **Game Pass for PC:** Over 100 PC Games available starting August 2019. Gears 5 available fall 2019. Game Pass code must be redeemed by June 30, 2020. Limit one promotional 3-month subscription per Microsoft account over a 12-month period. Requires the Xbox (beta) app and Windows 10 (with updates). Age restrictions and system requirements apply. Game catalog varies over time. Learn more at [Xbox.com/gamepass](https://Xbox.com/gamepass). Gears 5 is rated ESRB “M” for Mature and PEGI is not yet rated. May contain content inappropriate for children. Please consult with ESRB.org, PEGI.info, or your regional game ratings organization.

<sup>9</sup> AMD’s product warranty does not cover damages caused by overclocking, even when overclocking is enabled via AMD hardware and/or software. GD-26

<sup>10</sup> Though both are often measured in watts, it is important to distinguish between thermal and electrical watts. Thermal wattage for processors is conveyed via thermal design power (TDP). TDP is a calculated value that conveys an appropriate thermal solution to achieve the intended operation of a processor. Electrical watts are not a variable in the TDP calculation. By design, electrical watts can vary from workload to workload and may exceed thermal watts. GD-109

<sup>11</sup> Suggested online retailer price in US dollars as of 5/23/2019.

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