

# AMD and Qualcomm Technologies to Support Always Connected PCs on Ryzen™ Mobile Platforms

AMD Ryzen™ Mobile Processors and Qualcomm® Snapdragon™ LTE Modem Solutions to Provide Gigabit Class Connectivity for High-Performance Consumer and Enterprise Notebook Platforms

SUNNYVALE, Calif., Dec. 05, 2017 (GLOBE NEWSWIRE) -- AMD (NASDAQ:AMD) today announced that they are working with Qualcomm Technologies, Inc. (NASDAQ:QCOM) to bring smooth and fast PC connectivity solutions to AMD's high-performance Ryzen™ mobile processors, featuring the world's fastest processor for ultrathin notebooks¹. With Qualcomm® Snapdragon™ LTE modem solutions, AMD and Qualcomm Technologies will help make it easy for the leading global PC companies to create premium computing platforms with Always Connected, Gigabit LTE speeds alongside the AMD Ryzen mobile processors' blazingly fast performance, fluid graphics rendering, and optimal efficiency.

"Both AMD and Qualcomm have shown a consistent commitment to delivering products that redefine next-generation mobile user experiences," said Kevin Lensing, corporate vice president and general manager, client computing, AMD. "OEMs around the world will now be able to combine the recently announced AMD Ryzen mobile processors with Qualcomm Technologies' leading wireless solutions via their Snapdragon LTE modem family to achieve new levels of performance, connectivity and capability for ultrathin notebook PCs."

"Qualcomm Technologies believes the Always Connected PC is the future of personal computing, and we are working with AMD to bring each company's expertise to bear for these exciting products," said Alex Katouzian, senior vice president and general manager, mobile, Qualcomm Technologies, Inc. "Combining AMD processors with our cutting-edge LTE connectivity technology results in Always Connected Client Notebooks for consumers in a mobile-first future."

# AMD Ryzen™ Mobile Processor with Radeon™ Vega graphics:

- **Leadership performance**: Featuring the World's fastest processor for ultrathin notebooks<sup>1</sup>, AMD Ryzen mobile processor provides unprecedented performance up to 2.7X<sup>2</sup> the CPU performance and up to 2.2X<sup>3</sup> the GPU performance generationally
- Complete entertainment experience: Outstanding gaming in popular eSports titles & ready to power the most advanced & beautiful displays including HDR<sup>4</sup>, Radeon™ FreeSync™ 2<sup>5</sup>, and 4K<sup>6</sup> monitors
- Focused on amazing battery life: Targeting up to a 2X battery life improvement<sup>7</sup> generationally

# Qualcomm<sup>®</sup> Snapdragon™ LTE Modem Solutions Engineered to Offer:

- Support some of the latest wireless network technologies<sup>8</sup>
- Blazing-fast LTE download speeds<sup>9</sup>
- Superior speeds in weak signal conditions 10
- · Long battery life

### **Supporting Resources**

- Learn more about AMD Ryzen™ Mobile processors at <u>AMD.com/RyzenMobile</u>
- Learn more about the "Zen" core architecture at AMD.com/Zen
- Learn more about the AMD Radeon™ RX Vega Series
- Learn more about the AMD <u>25X20 Energy Efficiency Initiatives</u>
- Learn more about AMD <u>Products</u>, <u>Solutions</u>, and <u>Innovations</u>
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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.

#### **Cautionary Statement**

This press release contains forward-looking statements concerning Advanced Micro Devices, Inc. (AMD) including the collaboration between AMD and Qualcomm Technologies and the expected benefits from the collaboration, 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 forwardlooking 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 GF with obligations to purchase all of its microprocessor and APU product requirements, and a certain portion of its GPU product requirements, from GLOBALFOUNDRIES Inc. (GF) 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; 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 uncertainty may adversely impact AMD's business and operating results; the markets in which AMD's products are sold are highly competitive; 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 its ability to operate its business; AMD's issuance to West Coast Hitech L.P. (WCH) of warrants to purchase 75 million shares of its common stock, if and when exercised, will dilute the ownership interests of its existing stockholders, and the conversion of the 2.125% Convertible Senior Notes due 2026 may dilute the ownership interest of its 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 AIB 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 September 30, 2017.

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<sup>&</sup>lt;sup>1</sup> "Processor for ultrathin laptops" defined as 15W nominal processor TDP. Based on testing of the AMD Ryzen™ 7 2700U, AMD Ryzen™ 5 2500U, and Core i7-8550U 15W mobile processors as of 10/6/2017. Performance based on Cinebench R15 nT ("CPU performance") and 3DMark® TimeSpy ("GPU performance") in order of AMD Ryzen 7 2700U, AMD Ryzen 5 2500U and Intel 8550U. AMD Ryzen™ 7 2700U: AMD Reference, AMD Ryzen™ 7 2700U

with Radeon™ Vega 10 Processor Graphics, 8GB DDR4-2400 RAM, Samsung 850 PRO 512GB SATA SSD, Windows 10 Pro RS2, Graphics driver 23.20.768.9, 26-Sep-2017

- <sup>2</sup> Testing by AMD Performance labs. PC manufacturers may vary configurations yielding different results. Cinebench R15 nT is used to simulate multi-thread CPU performance; the AMD Ryzen™ 7 2700U scored 660.5, while the FX 9800P scored 240 for a benchmark score comparison of 660.5/240 = 2.75X or 175% more. System Configurations: AMD Ryzen™ 7 2700U Processor: HP 83C6, AMD Ryzen™ 7 2700U Mobile Processor with Radeon™ Vega 10 Graphics, 8GB Dual Channel (2x4GB) DDR4-2400 RAM, Samsung 850 PRO 512GB SATA SSD, Windows 10 Pro RS2, Graphics driver 22.19.655.2, 06-Sep-2017AMD FX™ 9800P: HP 81AA, AMD FX™ 9800P with Radeon™ R7 Mobile Graphics, 8GB Single Channel (1x8GB) DDR4-2133 RAM, Samsung 850 PRO 512GB SATA SSD, Windows 10 Pro RS2, Graphics driver 22.19.662.4, 19-Jul-2017. RVM-27
- <sup>3</sup> Testing by AMD Performance labs. PC manufacturers may vary configurations yielding different results. Performance may vary with driver versions. AMD Ryzen™ 7 2700U: AMD Reference, AMD Ryzen™ 7 2700U with Radeon™ Vega 10 Processor Graphics, 8GB DDR4-2400 RAM, Samsung 850 PRO 512GB SATA SSD, Windows 10 Pro RS2, Graphics driver 23.20.768.9, 26-Sep-2017. AMD FX™ 9800P: HP 81AA, AMD FX™ 9800P with Radeon™ R7 Mobile Graphics, 8GB DDR4-2133 RAM, Samsung 850 PRO 512GB SATA SSD, Windows 10 Pro RS2, Graphics driver 22.19.662.4, 19-Jul-20173DMark® Time Spy is used to simulate graphics performance; the AMD Ryzen™ 7 2700U scored 915, while the AMD FX™ 9800P scored 400 for a benchmark score comparison of 915/400 = 2.29X or 129% more performance. RVM-17
- <sup>4</sup> HDR content requires that the system be configured with a fully HDR-ready content chain, including: graphics card, monitor/TV, 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-96
- <sup>5</sup> FreeSync 2 does not require HDR capable monitors; driver can set monitor in native mode when FreeSync 2 supported HDR content is detected. Low-latency HDR only attainable when using a FreeSync 2 API enabled game or video player and content that uses at least 2x the perceivable brightness and color range of sRGB, and using a FreeSync 2 qualified monitor. Based on AMD internal testing as of November 2016. GD-105.
- <sup>6</sup> Requires 4K display and content. Supported resolution varies by GPU model and board design; confirm specifications with manufacturer before purchase. GD-113
- <sup>7</sup> Based on AMD testing as of 10/11/2017. Battery life targets for the AMD Ryzen™ Processor with Radeon™ Graphics assume a 50Wh battery, a fully power-optimized software/hardware solution stack, and the following system configuration: AMD Reference Platform, AMD Ryzen™ 7 2700U, 2x4GB DDR4-2400, graphics driver 17.30.1025, Windows 10 x64 (1703). 1080p H.264 battery life tested at 10.6 hours for the AMD FX™ 9800P and targeted at 12.2 hours for the Ryzen™ 7 2700U. Mobile Mark battery life tested at 10.7 hours for the AMD FX™ 9800P and targeted at 13.5 hours for the Ryzen™ 7 2700U. VP9 battery life improvement of 4.5 hours to 9.2 hours represents 2.04. Actual battery life may vary with system configuration.
- <sup>8</sup> Snapdragon LTE modems support up to Category 18 LTE, the most advanced LTE capability available on commercial networks, as well as technologies such as 4x4 MIMO and

## License Assisted Access (LAA)

- <sup>9</sup> Devices with Snapdragon Gigabit LTE can achieve an average of 100-300Mbps real world download speeds on supporting networks.
- <sup>10</sup> Devices with Snapdragon Gigabit LTE, including 4x4 MIMO support, can achieve up to 70% faster download speeds compared to 2x2 MIMO devices in weak signal conditions (20dB SNR and below).

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