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Qualcomm Contacts:
Pete Lancia, Corporate Communications
Phone: 1-858-845-5959
Email: corpcomm@qualcomm.com

Warren Kneeshaw, Investor Relations
Phone: 1-858-658-4813
Email: ir@qualcomm.com

Qualcomm Helps Make Your Mobile Devices Smarter With New Snapdragon Machine Learning Software Development Kit

– Snapdragon Neural Processing Engine SDK First to Accelerate Deep Learning On Snapdragon 820 Series Processor –

SAN DIEGO — May 2, 2016 — Qualcomm Incorporated (NASDAQ: QCOM) today announced at the Embedded Vision Summit in Santa Clara, Calif., that its subsidiary, Qualcomm Technologies, Inc., is offering the first deep learning software development kit (SDK) for devices powered by Qualcomm® Snapdragon™ 820 processors. The SDK, called the Qualcomm Snapdragon Neural Processing Engine, is powered by the Qualcomm® Zeroth™ Machine Intelligence Platform and is optimized to utilize Snapdragon's heterogeneous compute capabilities to provide OEMs a powerful, energy efficient platform for delivering intuitive and engaging deep learning-driven experiences on device. This SDK is the latest software addition to Snapdragon 820 and demonstrates Qualcomm Technologies' continued leadership by adding value for our customers to the Snapdragon portfolio.

Qualcomm Technologies, with the introduction of the Snapdragon Neural Processing Engine, is the first mobile SOC provider to offer a deep learning toolkit optimized for mobile. This SDK will allow OEMs to run their own neural network models on Snapdragon 820 devices such as smart phones, security cameras, automobiles and drones, all without a connection to the cloud. Common deep learning user experiences that can be realized with the SDK are scene detection, text recognition, object tracking and avoidance, gesturing, face recognition and natural language processing.

The Zeroth Machine Intelligence Platform is a Snapdragon-optimized software platform designed for mobile machine learning. Zeroth technology currently drives visual intelligence software such as Snapdragon Scene Detect and advanced malware detection software found in Snapdragon Smart Protect.

“The demand for untethered, mobile learning-driven user experiences is increasing rapidly and Qualcomm Technologies’ customers have been clamoring for tools to help them realize their product visions,” said Gary Brotman, director of product management, Qualcomm Technologies, Inc. “With the introduction of the new Snapdragon Neural Processing Engine SDK, we are making it possible for myriad sectors, including mobile, IoT and automotive to harnesses the power of Qualcomm Snapdragon 820 and make high-performance, power efficient on-device deep learning a reality.”

The Snapdragon Neural Processing Engine SDK also includes the following features:

- accelerated runtime for on-device execution of convolutional and recurrent neural networks on the Snapdragon 820 cores (Qualcomm® Kryo™ CPU, Qualcomm® Adreno™ GPU, Qualcomm® Hexagon™ DSP);
- support for common deep learning model frameworks, including Caffe and CudaConvNet;
- a lightweight, flexible platform designed to utilize Snapdragon heterogeneous cores to deliver optimal performance and power consumption;
- supports companies in a broad range of industries, including healthcare, automotive, security and imaging, to run their own proprietary trained neural network models on portable devices.

“The Qualcomm Snapdragon Neural Processing Engine SDK helps us bring deep learning to our connected camera and smart cloud network, and that helps us present a full, contextual picture of the driving environment to our commercial automotive fleet and auto insurance customers,” said Frederick Soo, CTO of NAUTO, the autonomous vehicle technology company. “The Neural Processing Engine SDK means we can quickly deploy our proprietary deep learning algorithms to our Snapdragon-based connected camera devices in the field, which can detect driver distraction and help prevent auto accidents. That same deep learning helps NAUTO’s system deliver valuable information that helps our customers reduce liability and drive more safely and efficiently.”

The Snapdragon Neural Processing Engine SDK is expected to be available for Snapdragon 820 processors in the second half of 2016.

About Qualcomm Incorporated

Qualcomm Incorporated (NASDAQ: QCOM) is a world leader in 3G, 4G and next-generation wireless technologies. Qualcomm Incorporated includes Qualcomm's licensing business, QTL, and the vast majority of its patent portfolio. Qualcomm Technologies, Inc., a subsidiary of Qualcomm Incorporated, operates, along with its subsidiaries, substantially all of Qualcomm's engineering, research and development functions, and substantially all of its products and services businesses, including its semiconductor business, QCT. For more than 30 years, Qualcomm ideas and inventions have driven the evolution of digital communications, linking people everywhere more closely to information, entertainment and each other. For more information, visit Qualcomm's [website](#), [OnQ blog](#), [Twitter](#) and [Facebook](#) pages.

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