BrainChip Announces the Availability of Advanced AI Intellectual Property

The Akida™ Neural Processing Core is now available to license for integration within Application Specific Integrated Circuits

- Event-Based Spiking Neural Processing Core (NPC) is now available as an Intellectual Property Block

- Development Environment is available to support early customer adoption

- Intellectual Property includes multiple training modes, inference and unsupervised learning for ASIC designs

San Francisco, California – 28 May 2019: BrainChip Holdings Ltd (ASX: BRN), the leading AI EDGE company, today announced the availability of the Company's Akida Neural Processing Core ("NPC") as intellectual property available for licensing. This introduction marks a major development in the Company's market presence.

The Akida NPC is now available to license as an IP block for incorporation into ASICs provided by semiconductor suppliers developing Artificial Intelligence enabled "Edge" devices. Applications at the edge include intelligent environmental controls, driver safety monitoring, vehicle safety and preventative maintenance, medical image classification, wearable health monitors, retail item recognition, access control, the industrial Internet-of-Things (IoT) and acoustic analysis.

The Akida NPC is a first-in-kind solution for ASIC integration and provides unprecedented performance, configurability, low power and small size. Validation of the Akida NPC is available with the Akida Development Environment (ADE) which fully simulates the Akida NPC size, performance and power and can be verified in a Field Programmable Gate Array.

The introduction of the Akida NPC marks a significant advancement in the Company's market penetration strategy.

The need for a low power, high performance neural network to incorporate artificial intelligence into ASICs is a pressing concern for suppliers targeting edge applications and represents a large and growing opportunity for the Company.

The Company's business model is multi-fold and includes:

- Akida NPC as an IP Block to semiconductor companies that develop ASICs which include a wide variety of additional functions.
- Akida as a device, a FlipChip 368 Ball Grid Array (BGA) through direct sales and global channel partners. The Akida device is a fully integrated neural network with no external CPU required to run the network targeted at edge applications.
- Akida as a USB dongle, for use in development environments and remote Cybersecurity applications through online sales and global channel partners.
- Akida on a reference board for the development of products and IP integration. The reference board can be used as a stand-alone neural network processor or in combination with a host computer and the ADE through a USB3.0 port.

The Akida NPC IP is modular, flexible, small and operates at unprecedented power levels depending on the processing demands of the application. The client's entire neural network is running within the Akida neural fabric (this differs from so-called 'accelerators', which only perform fast multiplications and additions). Suppliers of smart sensors represent significant opportunities for early adopters to integrate the Akida NPC.

Linley Gwennap, principal analyst of The Linley Group, commented, "Spiking neural networks offer unique advantages over traditional AI models. By offering new levels of power efficiency and area efficiency, this approach is well suited to smart edge devices. An IP solution is essential for customers adding AI capability to high-volume SoC-based devices. Over the next few years, I expect a significant shift in AI processing from the data center to the edge."

Peter van der Made, BrainChip Founder and CTO commented, "From the start, our goal has been to build a revolutionary integrated circuit which brings artificial intelligence to edge devices, and to provide our intellectual property on a licensed basis to the world. The small size, high performance, low power and reconfigurable nature of the Akida IP provides ASIC integrators with a unique solution for incorporation into their products over multiple generations and serves to improve their ASIC performance. I believe that we have the right solution at the right time. The market is ready for Artificial Intelligence in edge devices."

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About BrainChip Holdings Ltd (ASX: BRN)

BrainChip Holdings Ltd is a leading provider of low power, high performance edge AI technology using neuromorphic circuits, a type of artificial intelligence that is inspired by the biology of the human neuron. The Company's revolutionary and proprietary new event-based spiking neural network technology can learn autonomously or execute pre-trained DNN entirely within the boundaries of the chip. The proprietary technology is fast, completely digital and consumes very low power. The Company provides hardware focused solutions that address high-performance requirements in sensory processing, gaming, financial technology, cybersecurity, ADAS, autonomous vehicles, and other advanced vision systems.

www.brainchipinc.com

Company Contact:
Roger Levinson
rlevinson@brainchipinc.com