Weebit Nano advances its ReRAM selector development to fit embedded & discrete applications

- *Enabling high densities needed for discrete chips using standard materials and tools*
- *Selector technology also suitable for the embedded market, a significant step forward for edge AI and automotive applications*
- *Greatly increases the number of possible applications for Weebit Nano's technology*

13 October 2022

Weebit Nano Limited (**ASX:WBT**; **Weebit** or the **Company**), a leading developer of next-generation memory technologies for the global semiconductor industry, has made significant progress in its selector development with new results confirming its ReRAM selector is suitable for both embedded and discrete (stand-alone) applications, greatly increasing the number of possible applications for Weebit's technology.

Weebit Nano, together with its development partner CEA-Leti, have demonstrated the potential of the Weebit ReRAM selector to achieve the high densities needed for discrete chips using standard materials and tools. In addition, this same selector technology will fit embedded applications, enabling unprecedented Non-Volatile Memory (NVM) densities for future system-on-chips (SoCs).

The new Weebit ReRAM selector was manufactured in CEA-Leti's R&D fab, and the silicon wafers were thoroughly tested for both programming and leakage currents. The results from this internal testing showed that the ratio between programming current and leakage current was at industry standard, signifying high on-state and low leakage current.

In a memory array, the role of a selector is to ensure that only the specific cells which should be accessed actually are, and all other cells are disconnected and not impacted. Embedded designs currently use a transistor as the selector device, but transistors increase the cell area of a memory bit and therefore cannot support the high densities required for discrete chips. In addition, future embedded applications such as edge AI and automotive will require far larger memory arrays and could benefit from an optimised selector that enables higher densities.

Developing cost-efficient selectors using only standard materials and tools is a significant challenge, but has the potential to further minimise manufacturing cost and complexity. While additional development is still required, this new selector technology could be easily integrated into any CMOS fab, potentially enabling the high-capacity memory arrays needed while keeping size and power to a minimum.

Coby Hanoch, Weebit Nano CEO, commented: "We have worked hard to create a ReRAM selector that can achieve high densities using fab-friendly materials and standard tools, and accomplishing this is a significant development for Weebit. Such a selector will make it easy and cost-effective for any foundry to integrate the technology into existing processes and offer it to their customers.

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"In addition, we're breaking down a barrier by making it possible to use the same selector for both discrete and embedded applications. This is an important step forward on our roadmap for discrete products and is a compelling value proposition for companies developing advanced SoCs for applications like edge AI, which need a reliable, cost-effective replacement for embedded flash.

"Ongoing selector development will be carried out in parallel to rolling out our embedded technology to mass production."

Approved for release by the Board of Weebit Nano Limited.

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About Weebit Nano Limited

Weebit Nano Ltd. is a leading developer of next-generation semiconductor memory technology. The company's ground-breaking Resistive RAM (ReRAM) addresses the growing need for significantly higher performance and lower power memory solutions in a range of new electronic products such as Internet of Things (IoT) devices, smartphones, robotics, autonomous vehicles, 5G communications and artificial intelligence.

Weebit's ReRAM allows semiconductor memory elements to be significantly faster, less expensive, more reliable and more energy efficient than those using existing Flash memory solutions. As it is based on fab-friendly materials, the technology can be quickly and easily integrated with existing flows and processes, without the need for special equipment or large investments.

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