

Weebit Nano demonstrates successful reliability of data retention and endurance

10 years' data retention achieved across 300nm 4Kb memory array cells

14 Nov, 2017 – Weebit Nano (ASX: WBT), an Israel-based semiconductor company that is seeking to develop the next generation of memory technology, is pleased to report promising preliminary evaluation results of endurance and data retention measurement on 4Kb (Kilo Bit) arrays on 300nm cells. These results successfully conclude the 300nm 4Kb characterisation.

The characterisation measurement was performed on 300nm 4Kb memory array cell structures under a variety of temperature and duration conditions at 150°C, 200°C and 260°C, monitoring the ability of the ReRAM cells to maintain their resistivity levels within industry acceptable ranges. The 260°C temperature is of great importance as it is the temperature used when soldering chipsets into printed circuit boards. Weebit Nano's 4Kb array maintained its programmed data after 30 minutes at 260°C, exceeding the soldering requirement of 15 minutes at this temperature and allowing several soldering cycles.

In addition, data retention lifetime extrapolation demonstrated the ability to maintain written data for 10 years at above room temperature.

Endurance characteristics were done under various voltage levels and timing durations to assess the ability of the memory to endure multiple re-write cycles. Very pleasingly, the endurance results are significantly higher than the program/erase cycling of existing Flash technology.

While this is only preliminary data, the Company is very encouraged with the results achieved as it provides additional data points for the Weebit Nano ReRAM manufacturability and product reliability potential that will be critical for possible commercialisation discussions.

Coby Hanoch, CEO of Weebit Nano, said: "After achieving strong performance and yield results on the 300nm 4Kb array memory cell, we are very pleased to say that we have now overcome the significant hurdles of endurance and data retention, which is a positive indicator for success in smaller geometries and larger array capacities. We are very satisfied with our demonstrated data retention results achieved on our first CMOS integrated wafer batch and we believe we will be able to demonstrate 10 years' retention and above at more elevated temperatures required for additional market segments such as industrial and automotive grade."

The 4Kb array reliability results were achieved in Leti's pre-industrialisation facilities in Grenoble, France, and were conducted in parallel to the 40nm SiOx ReRAM cell development. The 300nm 4Kb results further increase the Company's confidence in being able to achieve positive results on 40nm wafers. Weebit Nano remains on track to achieve its 40nm working cell target by the end of 2017.



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About Weebit Nano Limited

Weebit Nano is a leader in the development of next generation computer memory storage, and plans to become the new industry standard in this space. Its goal is to address the growing need for a significantly higher performance and lower power data storage technology. Weebit Nano's ReRAM technology is based on fab-friendly Silicon Oxide, allowing the company to rapidly execute, without the need for special equipment or preparations. The company secured several patents to ensure optimal commercial and legal protection for its ground-breaking technology.

Weebit Nano's technology enables a quantum leap, allowing semiconductor memory elements to be significantly cheaper, faster, more reliable and more energy efficient than the existing Flash technology. Weebit Nano has signed an R&D agreement with Leti, an R&D institute that specialises in nanotechnologies, to further develop SiOx ReRAM technology.

For more information please visit: <http://www.weebit-nano.com/>



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