Weebit Nano

Further de-risked after 1MB arrays achieved

On 25 June Weebit Nano (ASX:WBT) announced it successfully built and tested 1 MB SiOx ReRAM arrays at the 40 nanometer (nm) resolution. Even though this announcement was widely expected, it is still very significant in a number of ways.

Array size of 1 MB covers most of the embedded memory market

WBT is initially targeting the embedded memory market, i.e. electronics products that require some form on on-board storage capacity other than DRAM and SRAM. Typically, this storage consists of Flash memory.

Most embedded non-volatile memory (NVM) applications require much less than 1MB of on-board storage. A typical IoT device, such as a smart light bulb, remote sensors, beacons etc, requires between 64KB and 512KB. WBT's 1MB array (1,024 KB) can thus address a large part of the embedded memory market. Longer term, WBT may start to address the Storage Class Memory (SCM) segment, in which case it will need to scale up to GB arrays.

Start to productize and take ReRAM into commercial fabs

As the company announced earlier this year, under the extended agreement with Leti in France, development work has shifted focus to improving the baseline parameters of the SiOx ReRAM cells. In other words, WBT has started to optimize the individual performance metrics of its memory cells, such as cycling endurance, access speed and data retention. Because each end-application will have its own set of optimized parameters, WBT will need to tweak these parameters depending on the specific requirements of future licensees. We expect this initial optimization process will take roughly 9 to 12 months. After that the company will need to qualify the manufacturing process in a fab, potentially more than one, to facilitate integration of the technology into multiple existing and new manufacturing processes, e.g. to design-in the SiOx ReRAM cells into existing or, more likely, new chip designs with embedded memory. This process may take another twelve months, which would make WBT's technology ready to license out by mid-year 2020.

Further de-risked: Buy rating reiterated

WBT has consistently met each milestone on its development roadmap in the last two years, which provides quite a bit of confidence the company will have its technology ready to license within the next two years. We reiterate our Buy rating. Due to the large amount of outstanding options (132.4M), a substantial part of which are broker options, which we believe effectively cap the share price in the near term, our A$ 0.07 price target is unchanged despite a further de-risking of the WBT investment case.

Number of shares (m)	1,443
Number of shares FD (m)	1,593
Market capitalisation (A$ m)	95.2
Free Float (%)	60%
12 month high/low A$	0,082/0,014
Average daily volume (k)	4,430
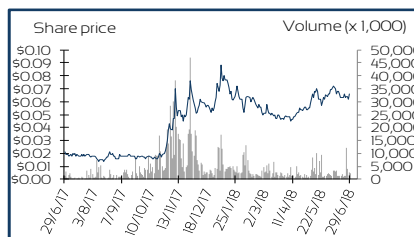
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