

## Think Silicon Launches Industry's Smallest Ultra-Low Power 3D GPU

### *NEMA|t<sup>100</sup> – Tiny GPU IP core for the wearable /non-wearable IoT market*

**Patras, Greece / San Jose, California - June 4th, 2015:** Think Silicon announced today the immediate availability of NEMA|t<sup>100</sup> the world smallest Internet-of-Things (IoT) Graphics Processor Unit (GPU) with real 3D functionality. The architecture of this latest development has been specifically designed from bottom-up for a new generation of wearable and non-wearable IoT products. NEMA|t<sup>100</sup> can extend the battery life of a wearable device from one day to five days of typical use.

The incredibly small silicon footprint of just 0.1mm<sup>2</sup> (400MHz in 28nm), with leakage power consumption of just 0.07mW and memory power consumption of just 0.03mW (with no need for extra power for an external DDR) the NEMA|t<sup>100</sup> features OpenGL® API and Think Silicon's proprietary memory compression technology.

“Now we can truly speak of a tiny GPU where vibrant visual experiences paired with stunning performance can be delivered without the limitations of reduced battery life or poor power consumption,” said Ulli Mueller, Vice President Sales & Marketing of Think Silicon. “We see many compelling opportunities for NEMA|t<sup>100</sup> in the power sensitive IoT device market. This is where NEMA|t<sup>100</sup> demonstrates its power, performance and cost leadership.”

NEMA|t<sup>100</sup> is the first core product in the NEMA-SERIES, designed to support current and future customized MCU/MPU platforms. Its industry-leading technology supports products across all segments of wearable and non-wearable, consumer and embedded devices.

The scalable and modular architecture is available in one, two or four-core configurations. The GPU can be customized for small footprint devices and configured for flexible display requirements using core frequencies as low as 25MHz, yet without compromise of performance. Think Silicon's proprietary 4bpp (bits-per-pixel) real-time frame-buffer compression/de-compression and the 6bpp texture compression and real-time de-compression techniques eliminate the need for external DDR memory. Customers can create compelling 2D/3D Graphical User Interfaces (GUIs) and software applications with ultra-long battery life at a significantly lower cost for power, memory and area constrained applications.

The NEMA|t<sup>100</sup> is available in Verilog HDL code. It supports AMBA interfaces (AHB, AXI 32 or 64 bits), and embeds DMA controllers with command list for minimal CPU overhead, input/output memory management unit and an ultra-low-power network-on-chip.

NEMA|t<sup>100</sup> supports all major IoT operating systems and middleware including FreeRTOS, Linux, Android. It comes together with Software Libraries for graphics APIs such as OpenGL®, DirectFB, µGFX and a bare metal C library for OS-less Systems.

#### Availability:

The NEMA|t<sup>100</sup> is available for licensing now. Contact [sales@think-silicon.com](mailto:sales@think-silicon.com) for more information.

#### **About Think Silicon:**

Think Silicon Ltd. (TSi) is a privately held Limited Company founded in 2007, located in Patras, Greece (HQ), Toronto, Canada (Business Development & Marketing office) and San Jose, CA, USA (Sales office). The Think Silicon team specializes in developing high performance graphics IP technology for ultra-low power and area limited IoT applications. Contact: Mr. Ulli Mueller, Vice President | +1 647.824.2006 | [u.mueller@think-silicon.com](mailto:u.mueller@think-silicon.com)