

Art of Technology AG announces a Solderable Memory Module (SMM)

A memory module with SD/MMC interface for embedded systems

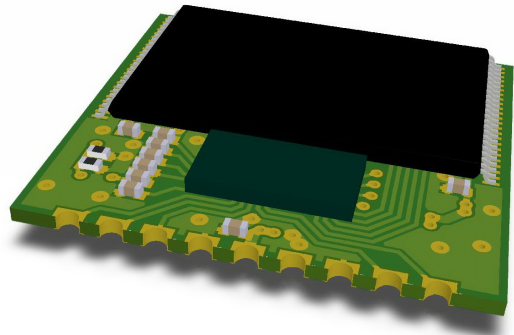
Zurich, Switzerland, February 22nd, 2011 – Art of Technology AG (AoT) a Swiss company specialised in custom specific electronic system design and development of hardware and software for embedded systems, announces the newest addition to its range of Semi-Custom Devices, the SMM, a solderable alternative for SD cards for industrial and medical embedded systems. The module combines all the advantages of a SD/MMC card without having to live with their disadvantages (in particular the need for an additional card holder). Built with SLC NAND Flash and a Hyperstone Flash controller the module is about half the size of a conventional SD/MMC memory card, offers a controlled BOM and can be delivered with different memory capacities. It can even be supplied with customised software.

Flash based memory is normally preferred when storing large volumes of data in embedded systems. Due to the simple interface and the small dimensions SD/MMC memory cards are often the first choice. Depending on the processor either the original SD/MMC interface is used, or for smaller processors - the SPI interface.

High quality industrial SD/MMC cards with single level (SLC) NAND flash offering high reliability are now available for industrial applications.

Problems arise either when there is not enough space for an SD/MMC card holder, or if there is a poor electrical contact due to the environmental conditions (vibration, dampness etc.). This is especially true if the board needs to be coated or moulded together with the memory.

In principle, NAND Flash components can be connected directly to the processor. However, a special, component-specific FTL software (Flash Transfer Layer) has to be used to ensure safe and reliable operation. The use of such software routines on smaller processors is limited due to the complexity of the FTL.



The new Solderable Memory Module (SMM), from Art of Technology offers an elegant solution for applications in industrial and medical environments - a compact memory module with an electrical SD/MMC interface which is soldered directly onto a printed circuit board.

With a size of 24 x 20 mm² and a pitch of 1.27mm it is significantly smaller than an SD/MMC card, has less demands on board design and can be used where space considerations are critical.

In order to ensure high data reliability and long term use, the SMM is built exclusively with industrial-grade SLC NAND memory from Micron. The NAND Flash controller used is also used in industrial SD/MMC cards providing a high level of compatibility with standard SD/MMC cards. A controlled bill of material (BOM) ensures that hardware and firmware changes to the NAND Flash controller are always visible to the customer.

In close co-operation with the manufacturer of the NAND Flash controller customized functions can be realised (e.g. password protection, emergency deletion etc.) .

The SMM is the ideal choice for your demanding embedded systems

Technical data:

Capacity:	1GByte (alternative sizes on request)
Interface:	1 or 4bit SD/MMC, SPI
FLASH memory:	Micron SLC NAND Flash
FLASH controller:	Hyperstone S6
Operating voltage:	2.7 - 3.6V
Power input:	Read/Write typ. 35mA/max. 50mA, Sleep - 0.3mA (max)
Writing speed:	Up to 21MByte/s
Reading speed:	Up to 24Mbyte/s
Temperature:	Extended (- 25°C - +85°C)
Dimensions:	24 x 20 mm ² with 2.1mm height (smaller versions possible)
Package:	Open SMD module with 1.27mm pitch
Software Compatibility:	Standard SD/MMC memory card
Packing:	In tubes (supply as tape or in trays possible)

Advantages of the SMM compared to Industrial-SD cards:

- Smaller form factor
- Automatic pick and place, no card holder necessary
- Simple to solder and control (visible solder joints)
- Vibration resistant (soldered)
- Mouldable for harsh environmental conditions
- SLC memory ensures high reliability and long life
- Controlled and transparent, BOM
- Standard software (customisable on request e.g. password protection, emergency deletion)

About Art of Technology

Art of Technology specialises in custom specific electronic system design and development of hardware and software for embedded systems. Our unique combination of capabilities enables us to realise cost optimised miniaturisation of electronic systems and distinctively innovative solutions in partnership with our customers.

Specialising in the design and development of embedded systems, Art of Technology serves as the behind-the-scenes resource helping customers to develop their own ideas and concepts into creative and innovative products and systems. Committed to integrity, innovation, quality, performance and building these values into every Art of Technology solution, we give our customers the power to develop when, where and how they choose.

For further information about Art of Technology AG, the SMM and our comprehensive list of services please contact Mr. Paul Sphikas +41-43-311 77 06, sphikas@aotag.ch. Further information can also be found on our homepage <http://www.aotag.ch>.