Sundance Multiprocessor Technology
●●● embedded signal processing solutions
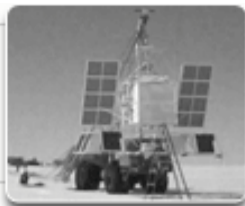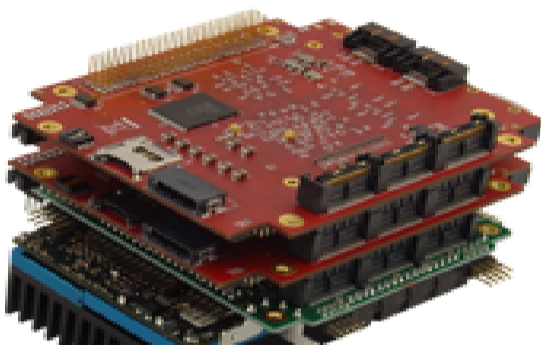
SUNDANCE

Test & Measurement, Data acquisition

- ● VISION
- ● X-RAY
- ● SENSOR

Edition: May 2010

Market trend 2010-2013

Small Form Factors' Outlook

Even if the first half of 2010 remains challenging, the **next big market trend** will reach the small form factor (SFF) and embedded computing equipments. A healthy growth of 26% is predicted to happen by 2013.

Small form factors - *such as 3U cPCI/PXI Express boards, PCI/104-Express stackable modules and Multicore-based equipments* - bring a rapid response to new highly integrated technologies constrained by **weight/space** limitation and **energy** efficiency. Small, rugged designs based on industry standards *(PCI express, SATA, USB, Fibre channel, RapidIO…)* simply fit where other solutions do not.

We have designed our innovative range of **COTS products** with the small form factor philosophy in mind: making possible **module expansion** *(stack, scale)* and **customizations** through application-specific carrier boards, or FPGA mezzanine cards to give all the flexibility necessary to architect any type of data acquisition, vision and computing systems.

Medical, test & measurement, avionics, military and government applications would benefit from Sundance's small form factor systems to build powerful and reliable **portable**, **stationary**, **handheld** or **rack mount** equipment. Sundance's small form factors are the perfect balance between **performances, thermal management, size and price**.

Quad-channel 14-bit, 250MSPS A/D mezzanine card

The SMT941 is shipping now!
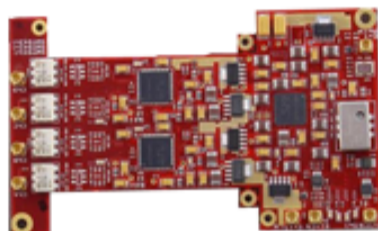
The **SMT941** is a new **FPGA mezzanine card** complementing the large range of Sundance Local Bus (SLB) **COTS** solutions. Data acquisition SLB modules are cost-effective and they fit extremely well in Sundance's concept of *flexibility, interoperability, and modular signal processing design*.

The SMT941 features two low-power consumption [Texas Instruments' ADS62P49 devices](#) offering **four-channel 14-bit A/D converters** with sampling rates **up to 250MSPS**.

The ADCs are AC-coupled, and they have a programmable gain up to 6dB to improve SNR/SFDR performance at lower full-scale input ranges, as well as DC offset correction loop.

Unique features include to have data sampled by an **internal clock** source, or by an **external clock** source supplied. Both sampling clocks may be locked to the on-board **10MHz reference** clock, or to an **external reference clock** input. An **external trigger** input for customized sampling control is also available. Cascading multiple SLB mezzanine cards for synchronized high-channel count is then possible.

The **SMT941** is manufactured to support the industrial range of operating temperatures from **-40°C to +85°C**. Ruggedization using conformal coating is also possible for hostile environmental applications.

The **SMT941** is targeted at the *software defined radio (SDR) baseband infrastructures, real-time multichannel data recorders, embedded LIDAR equipments and 4D medical imaging applications*.

More information: [SMT941 product page](#)

Spotlight: Digitizer systems based on small form factors

Multichannel data recorders based on the SMT941

SMT700: 3U PXI Express with Virtex-5 FPGA Rack-mount Instrument,

SMT100: PCI/104-Express Stackable Module with Virtex-5 FPGA and PowerPC core,

SMT900: Virtex-5 SXT/LXT/FXT Standalone Embedded Platform with USB,

EVP6472: TMS320C6472 Multicore DSP and Virtex-5 developer's kit.