



## **Toshiba combines CMOS ASIC and eDRAM technologies to support rapid development of SIDSA mobile TV chipset**

### **Compact, low-power DVB-H IC demonstrates benefits of Toshiba model for fabless chip companies**

Toshiba Electronics Europe (TEE) has announced that the company's renowned CMOS ASIC process and Embedded DRAM (eDRAM) technology have played a key role in the development of a next generation system on chip (SoC) DVB-H IC from SIDSA, a leading supplier of mobile TV technology.

The Enter E<sub>1</sub> SoC IC is a fundamental element of SIDSA's mobile TV reference designs, which bring new levels of mobile performance to a wide range of mobile and consumer electronics products for different mobile TV standards in frequency bands as high as 3GHz. These reference designs combine the advanced SoC IC with RF tuner technology supplied by some of the leading tuner vendors.

SIDSA worked closely with Toshiba's ELDEC (European LSI Design and Engineering Centre) to bring the IC to market in the

shortest possible time. Important elements of the SoC design included a special dual low-power analogue-to-digital converter (ADC) to support the mobile TV application, an advanced embedded DRAM implementation, and techniques that helped to minimize package size and power consumption.

The eDRAM allows the SoC to support reception of an unlimited number of DVB-H and DVB-T services as well as enabling the ARM® application processor to run significant parts of the SIDA DVB-H software stack. This frees up the host processor, reduces data transfer overheads and leads to a reduction in overall system power consumption.

Federico Ruiz, one of the founders and the engineering director of SIDA comments: “By basing its design on Toshiba’s renowned CMOS ASIC process, embedded DRAM technology and dual low-power ADC IP, and by working closely with Toshiba’s local LSI specialists, we have been able to combine the highest mobile performance and unlimited multi-service support with low area and low-power operation. Furthermore, Toshiba’s high quality mass production capability ensures that we will be able to rapidly respond to volume requirements for the Enter E<sub>1</sub> IC.”

Mr. Mitsumasa Tsutsui, senior manager from the Toshiba Semiconductor Company Custom SoC group in Japan, adds: “Toshiba is committed to growing its custom SoC business with fabless chip makers and this development illustrates how our open and advanced IDM model can lead to rapid success for customers seeking advanced, low power, high performance single-chip solutions.”

Armin Derpmanns, general manager of the SoC Business Unit at Toshiba Electronics Europe states: “The development of this mobile TV chipset illustrates the benefits of bringing together proven in-house CMOS ASIC process technologies with an experienced LSI engineering team that was able to work closely with SIDA at every stage of the design, testing, prototyping and production process to ensure the shortest possible turnaround time.”

For more information on Toshiba’s ASIC and Foundry business, please visit [www.toshiba-components.com/ASIC](http://www.toshiba-components.com/ASIC)

## **About Toshiba**

Toshiba Corporation is a leader in information and communications systems, electronic components, consumer products and power systems. The company's integration of these wide-ranging capabilities assures its position as an innovator in advanced components, products and systems. Toshiba has more than 172,000 employees worldwide and annual sales of over US\$54 billion (FY2005).

Toshiba Electronics Europe (TEE) is the European Headquarters for the electronic components business of Toshiba Corporation, which is the world's fourth largest semiconductor vendor according to estimates by Dataquest. Providing design, manufacturing, marketing and sales, TEE was formed in 1973 in Neuss, Germany. The company now has headquarters in Düsseldorf, Germany and subsidiaries in France, Italy, Spain, Sweden and the United Kingdom. Company president is Mr Shikama and the total number of personnel in Europe is around 400.

Toshiba Electronics Europe offers one of the industry's broadest IC and discrete product lines including high-end memory, microcontrollers, ASICs, ASSPs and display products for automotive, multimedia, consumer, telecoms and networking applications. The company also has a wide range of power semiconductor solutions.

For more company information visit Toshiba's web site at [www.toshiba-components.com](http://www.toshiba-components.com)

## **About SIDSA**

SIDSA is an audiovisual technology provider with activity areas in semiconductors, conditional access and digital headends. Located in Madrid (Spain), the company was started in 1992 as an integrated circuit design company, but soon, taking advantage of its IC know-how, started to build its own products and became a fabless semiconductor provider.

In 2006 SIDSA received an investment from the Spanish private equity and venture capital groups: Inova Capital and Baring Group, which has speeded up its international expansion and growth. Currently SIDSA has offices in Dubai, Hong Kong, Moscow and San Francisco.

SIDSA's digital TV headend portfolio includes contribution and distribution network solutions, broadcast-to-IPTV Gateways and terrestrial and mobile digital TV platforms, where the company has developed the most compact but fully featured headend product line in the market place.

SIDSA complements the headend line with KeyFly 2.0, a smartcard-less conditional access system, specifically designed to offer the maximum level of security and flexibility in horizontal pay-TV markets, such as DTT.

SIDSA also offers ultra-secure, state-of-the-art CAMs (conditional access modules) for third party smartcard-based CA.

Within the semiconductors portfolio, SIDSA is introducing its new cutting edge DVB-H demodulator and application processor chipset, which is commercialized as different reference designs (hardware and software) targeted at mobile devices, consumer electronics, professional reception and micro gap-fillers markets. SIDSA also offers Intellectual Property for DVB-H, DVB-SH and DVB-T2 demodulators to the semiconductor industry.

SIDSA's key differentiation is the valuable know-how of understanding complete end-to-end Digital TV Systems. This fact allows the company to produce valuable products that perfectly fit the necessities of the operators and also help to provide more advanced overall project management services.

For more company information visit SIDSA's web site at: [www.sidsa.com](http://www.sidsa.com)

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