

# NOMADIK® STN8815 MULTIMEDIA APPLICATION PROCESSOR

Making advanced multimedia a practical reality

The STn8815 application processor is the ideal solution to enable smartphones, mobile multimedia, internet appliances and in-car entertainment systems to play back media content, record video clips and pictures, receive mobile TV and perform real-time bidirectional audio-visual communication.



## KEY FEATURES

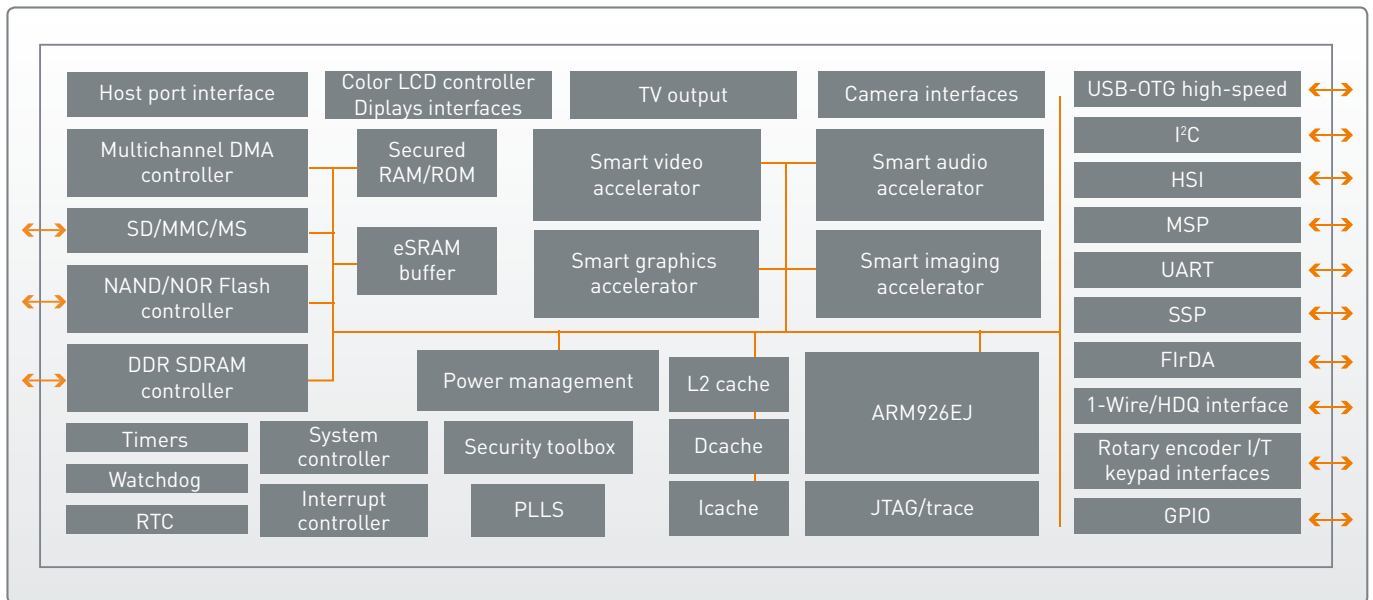
- Distributed architecture based on smart accelerators
- SDTV video capable
- On-chip imaging processor, 2 SMIA CCP2 interfaces, 5-Mpixel sensor
- 2D hardware accelerated graphics
- Rich set of accelerated multimedia codecs
- Supports all major operating systems including Symbian OS™, Windows® and Linux®
- Security framework for DRM and secure content protection
- Leading-edge package technologies such as PoP allowing small footprint

## KEY BENEFITS

- Best-in-class multimedia performances
- Extra battery lifetime
- Small PCB footprint
- Mature product enabling fast time to market
- Optimized multi-OS support

## TARGETED APPLICATIONS

- Smartphones
- Feature-rich portable multimedia devices
- Internet tablets
- Portable multimedia players
- Portable navigation devices
- Mobile TVs



**STn8815 block diagram**

Nomadik architecture is based on the distributed processing of audio, video and imaging, advanced security features, pervasive low-power techniques for increased autonomy, and optimized memory architecture for the best cost/performance ratio. The STn8815 combines an ARM9 core up to 332 MHz with level-two cache to audio, video, imaging and graphics accelerators, allowing both low-power multimedia performance and powerful general-purpose software processing and OS support.

The STn8815 smart imaging accelerator (SIA) delivers impressive multimedia quality without sacrificing battery life. It operates as a real-time, programmable image-reconstruction engine at up to 80-Mpixel/s. This capability enables camera-phone systems, based on 5-Mpixel sensors, to execute noise reduction, autofocus and exposure control, and other fundamental algorithms, therefore eliminating the need for an external imaging coprocessor, and reducing the system BOM (bill-of-materials). The SIA, coupled with the smart video accelerator (SVA), which is capable of 30-Mpixel/s JPEG-image encoding, allows

impressive multi-shot camera performance, as well as low-power video encoding. The STn8815 integrates two SMIA (standard mobile imaging architecture), CCP2 (compact camera port 2) camera interfaces, and supports 10-bit raw Bayer RGB data formats.

The Nomadik platform gives customers the ease to differentiate products, an openness to industry standards (such as OMA and MIPI), and our expertise in open OS complex platform integration. Nomadik is reinforced by a full system offering with multiple connectivity, camera, energy management, TV out, and companion devices.

STn8815-based development kits (NDK-15, NHK-15) offer a complete, flexible design environment, including a rich set of peripherals such as cameras, audio codecs, wired and wireless connectivity, LCD displays, among others. A complete set of development tools is available from ST-Ericsson or tools partners (ARM Ltd, Lauterbach) to support a full range of application development, from firmware customization up to OS-level applications.

**STN8815 PRODUCT TABLE**

Part number	Package type	Package size	Availability
STn8815A09	Standalone	9 x 9 x 1.0 mm	Production
STn8815A12	Standalone	12 x 12 x 1.2 mm	Production
STn8815P14	MAP PoP (Package-on-Package)	14 x 14 x 1.0 mm	Engineering samples

**LET'S CREATE IT**

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Order code: FLSTN88150109

