
ST-NXP Wireless

IMPORTANT NOTICE

Dear customer,

As from August 2nd 2008, the wireless operations of STMicroelectronics have moved to a new company, ST-NXP Wireless.

As a result, the following changes are applicable to the attached document.

- **Company name - STMicroelectronics NV** is replaced with **ST-NXP Wireless**.
- **Copyright** - the copyright notice at the bottom of the last page “© STMicroelectronics 200x - All rights reserved”, shall now read: “© ST-NXP Wireless 200x - All rights reserved”.
- **Web site** - <http://www.st.com> is replaced with <http://www.stnwireless.com>
- **Contact information** - the list of sales offices is found at <http://www.stnwireless.com> under Contacts.

If you have any questions related to the document, please contact our nearest sales office. Thank you for your cooperation and understanding.

ST-NXP Wireless

Mobile multimedia application processor

Nomadik is a registered trademark of STMicroelectronics

Data Brief

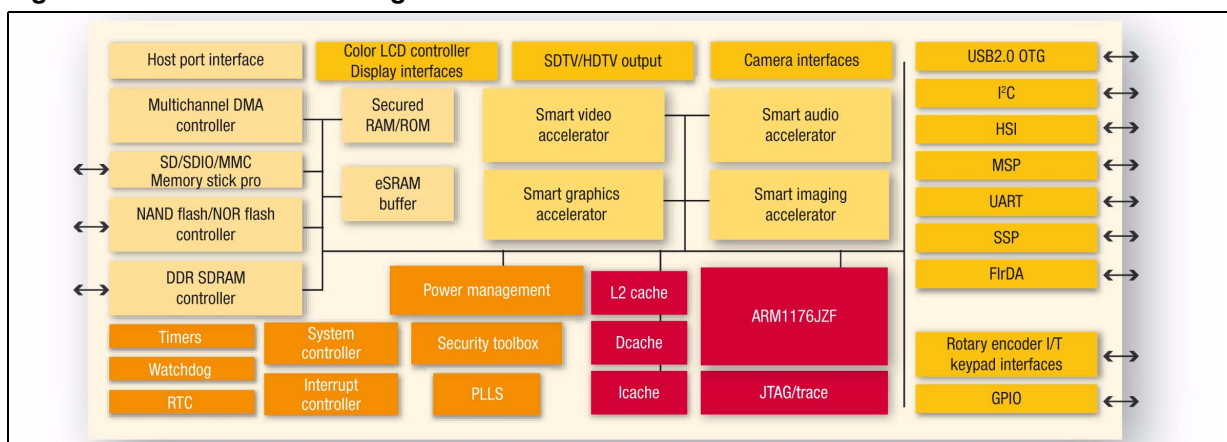
Features

- Smart video accelerator
 - MPEG-4 SP real-time encoding/decoding up to HDTV 720P 30 fps
 - H264, VC1, MPEG-2, DivX encoding/decoding up to SDTV 30 fps
 - JPEG fast encode/decode
- Smart audio accelerator
 - Extensive digital-audio software library
 - MIDI audio accelerated synthesis
- Smart imaging accelerator
 - Embedded real-time image reconstruction
 - High resolution sensor up to 8 Mpixels
- Smart 3D graphics accelerator
 - OpenGL-ES v1.2 and v2.0 compliant
 - OpenVG 1.1 compliant
- Ultra low-power implementation
- Simultaneous multiple display support
 - Display interfaces for STN/TFT/smart panels
 - Advanced multi-layer composition
- SDTV and HDTV outputs
- Advanced power management unit with fine-grain power domains, dynamic voltage and frequency scaling
- ARM 1176JZF™ 32-bit RISC CPU, up to 528 MHz and 32 Kbyte instruction cache, 32 Kbyte data level 1 cache, 256 Kbyte level 2 cache
- Large on-chip memory: up to 1 Mbyte SRAM, 128 Kbyte ROM
- Advanced security with TrustZone® memory protection, safeboot, crypto-acceleration, unique die identity
- 32-bit DDR-SDRAM memory controller
- NAND/OneNAND/NOR Flash controller
- Multiple high-speed MMC/SD Card/SDIO/Memory Stick Pro™ host controllers
- USB2.0 OTG high-speed interface

Description

The STn8820 application processor enables smartphones, connected multimedia computers, internet appliances and in-car entertainment systems to play back web content, to capture high resolution pictures and record HD video clips, to receive mobile-TV or perform video conferences, and also to play vivid 3D immersive games.

Figure 1. STn8820 block diagram



Ordering information

Table 1. Ordering information

Order code	Package	Packing
STN8820A0P12H11E	VFBGA 12 mm x 12 mm, 0.4mm pitch	Tray

Revision history

Table 2. Document revision history

Date	Revision	Changes
17-Jan-2008	1	Initial release.
08-Feb-2008	2	Updated the smart imaging accelerator feature in Features .

Please Read Carefully:

Information in this document is provided solely in connection with ST products. STMicroelectronics NV and its subsidiaries ("ST") reserve the right to make changes, corrections, modifications or improvements, to this document, and the products and services described herein at any time, without notice.

All ST products are sold pursuant to ST's terms and conditions of sale.

Purchasers are solely responsible for the choice, selection and use of the ST products and services described herein, and ST assumes no liability whatsoever relating to the choice, selection or use of the ST products and services described herein.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted under this document. If any part of this document refers to any third party products or services it shall not be deemed a license grant by ST for the use of such third party products or services, or any intellectual property contained therein or considered as a warranty covering the use in any manner whatsoever of such third party products or services or any intellectual property contained therein.

UNLESS OTHERWISE SET FORTH IN ST'S TERMS AND CONDITIONS OF SALE ST DISCLAIMS ANY EXPRESS OR IMPLIED WARRANTY WITH RESPECT TO THE USE AND/OR SALE OF ST PRODUCTS INCLUDING WITHOUT LIMITATION IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE (AND THEIR EQUIVALENTS UNDER THE LAWS OF ANY JURISDICTION), OR INFRINGEMENT OF ANY PATENT, COPYRIGHT OR OTHER INTELLECTUAL PROPERTY RIGHT.

UNLESS EXPRESSLY APPROVED IN WRITING BY AN AUTHORIZED ST REPRESENTATIVE, ST PRODUCTS ARE NOT RECOMMENDED, AUTHORIZED OR WARRANTED FOR USE IN MILITARY, AIR CRAFT, SPACE, LIFE SAVING, OR LIFE SUSTAINING APPLICATIONS, NOR IN PRODUCTS OR SYSTEMS WHERE FAILURE OR MALFUNCTION MAY RESULT IN PERSONAL INJURY, DEATH, OR SEVERE PROPERTY OR ENVIRONMENTAL DAMAGE. ST PRODUCTS WHICH ARE NOT SPECIFIED AS "AUTOMOTIVE GRADE" MAY ONLY BE USED IN AUTOMOTIVE APPLICATIONS AT USER'S OWN RISK.

Resale of ST products with provisions different from the statements and/or technical features set forth in this document shall immediately void any warranty granted by ST for the ST product or service described herein and shall not create or extend in any manner whatsoever, any liability of ST.

ST and the ST logo are trademarks or registered trademarks of ST in various countries.

Information in this document supersedes and replaces all information previously supplied.

The ST logo is a registered trademark of STMicroelectronics. All other names are the property of their respective owners.

© 2008 STMicroelectronics - All rights reserved

STMicroelectronics group of companies

Australia - Belgium - Brazil - Canada - China - Czech Republic - Finland - France - Germany - Hong Kong - India - Israel - Italy - Japan - Malaysia - Malta - Morocco - Singapore - Spain - Sweden - Switzerland - United Kingdom - United States of America

www.st.com

