

STMP3700 System-on-Chip

Enabling the next generation of portable multimedia players

Overview

The Freescale STMP3700 System-on-Chip (SoC) provides customers the ability to design and develop high-performance digital multimedia players with audio, video, gaming and wireless capabilities. An ideal solution for next-generation portable multimedia players (PMP), the 90 nm STMP3700 is designed to be the most integrated mixed-signal SoC available for the PMP market, offering a higher level of processing power to enable superior video quality and extended battery life at the lowest overall system cost. Freescale enables OEMs to design differentiated PMPs by providing software offerings that are feature-rich and highly flexible. With worldwide engineering support, customers can go to market more rapidly and economically utilizing the STMP3700 SoC.

Comprehensive Multimedia Solution

Coupled with the SDK, the STMP3700 SoC offers superior audio and video quality, custom user interfaces and industry-leading battery life at the lowest system BOM cost.

SoC Designed to Offer High Audio and Video Quality

The STMP3700 multimedia processor provides consumers with better than CD audio quality and 30 fps QVGA high frame rate video quality. Freescale's proprietary audio processing technology is designed to produce best-in-class audio quality for next-generation multimedia players.

Enhanced User Interfaces

- "Buy now" capability
- On-screen display and content management tools
- Sorting by artist, album, genre and favorites
- Multiple playlists, instant playlist creation
- Transparent menus

Industry-Leading Battery Life

Due to Freescale's optimized power management, the STMP3700 SoC supplies industry-leading battery life, enabling consumers to listen to and watch their favorite music and videos.

- Over 60* hours of audio playback
- Over 6* hours of video playback

*based on a 400 mAh Lithium-Ion battery

Integration for Lowest System Cost

With high-level on-chip integration, the STMP3700 SoC needs very few external components for a complete system. The STMP3700 SoC integrates the battery charger, DC-DC converter, USB power circuit, backlight, headphone amplifier and real-time clock. The integration allows for manufacturers to achieve a high level of functionality at the lowest system Bill of Materials (BOM) cost.

Digital Rights Management

As the leading supplier of portable digital audio integrated circuits, Freescale is committed to supporting the leading DRM technologies to allow our customers to design products that optimize digital rights protection and interoperability with existing, evolving and future content services. Freescale has licensed WM-DRM10/PD-DRM (DRM9) and is PlaysForSure™ 2.2x compliant.



Flash Support

Freescale's continuing innovation changes with the dynamic consumer electronics environment by continually working to support new NAND flash technology.

Turnkey Solutions Available

Freescale's turnkey solution offers a comprehensive PMP system, industrial design plastics and a full reference design. Features such as songs, videos, ebooks, photos and games are also available from Freescale distributors with the complete turnkey solution.

The Comprehensive Channel Ecosystem

Freescale has established a worldwide network of design houses, developers, Original Design Manufacturers (ODMs) and technology partners to assist customers with their design needs. Services range from consultation to design and manufacturing. This efficient and effective ecosystem helps to ensure a high-quality product with rapid time to market.

STMP3700 Specifications

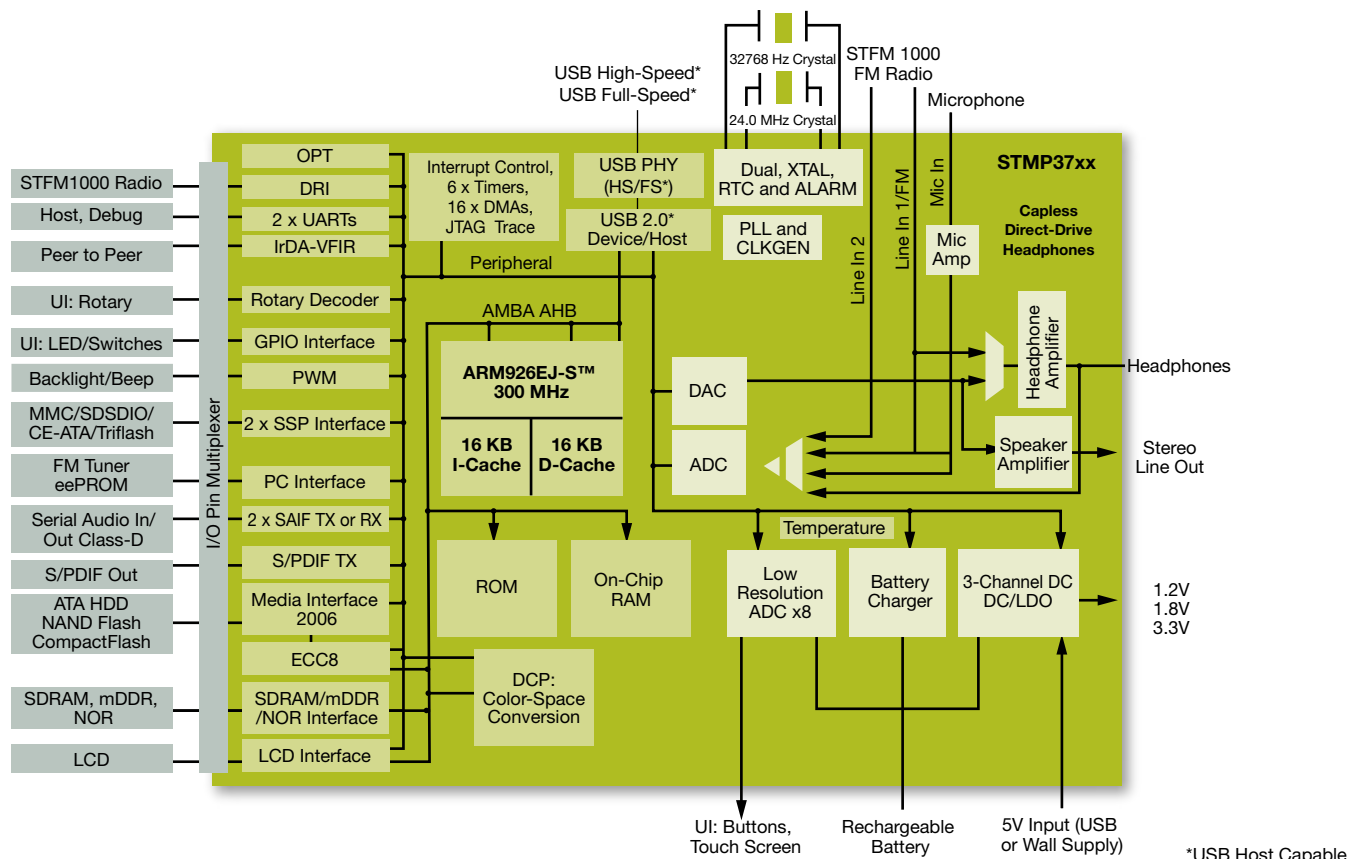
Freescale provides a comprehensive solution, including hardware and software, through our Software Development Kits.

- Content management and user interface framework
 - Graphic EQ with five preset settings and custom settings
 - Localized fonts
 - Voice record
 - Lyrics support
 - Album art
 - On-screen display
- Multimedia formats supported:
 - Audio playback: MP3, WMA, WAV (PCM, IMA-ADPCM, MS-ADPCM), AAC, Ogg Vorbis

- Audio record: MP3, WMA, WAV (PCM, IMA-ADPCM, MS-ADPCM)
- Images: JPEG, BMP
- Video playback:
 - MPEG4 SP/ASP @ QVGA, 30 fps
 - VC1 SP/Main @ QVGA, 30 fps
 - H.264 baseline @ QVGA, 30 fps
- Support for third-party audio post-processing algorithms
 - Audible™, SRS™ Support
- Player connectivity
 - Wi-Fi® and Bluetooth® support
 - USB mass storage class (MSC) or Windows Media® Transfer Protocol (MTP)
 - FAT32/16 file system formats with device formatting
 - Host system recovery and firmware update Utility

- Windows Media Player 11 and Windows Vista® support
- Media storage
 - NAND flash
 - MMC/SD card support
- Digital Rights Management
 - WM-DRM10/PD-DRM (DRM9) support
 - PlaysForSure 2.2x compliant
- Dynamic power management
 - Battery charging
- FM playback and recording with radio data Service (RDS) support

STMP3700 Block Diagram



Learn More: For current information about Freescale products and documentation, please visit www.freescale.com.

You can also find more information about Freescale's STMP products at www.freescale.com/stmp.