Product Bulletin

DaVinci™-Based Third Party Reference Design Simplifies Media Player Development

Ittiam's new PMPR644x reference design, based on TI's TMS320DM6441 processor, can dramatically reduce development time for a wide variety of target applications, including personal media players/recorders, networked media players, digital media adapters, digital TVs and set-top PVRs.

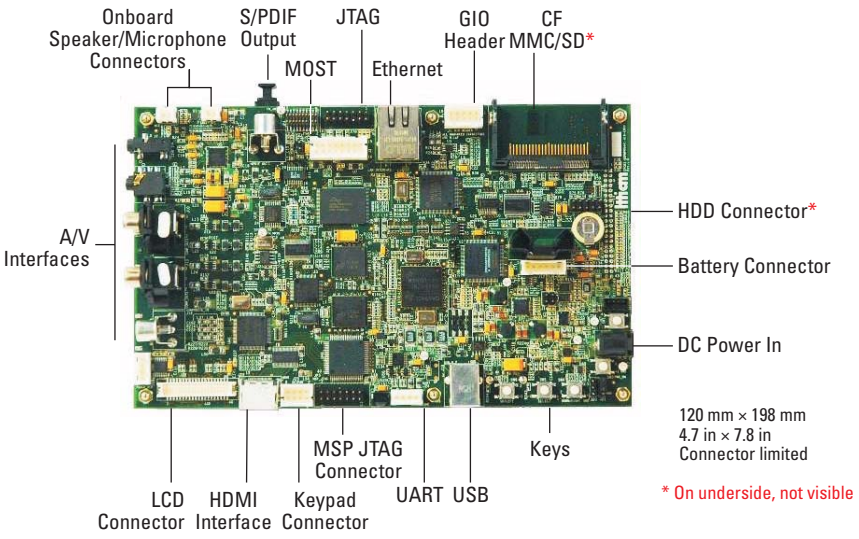
Developed in conjunction with TI third-party provider Ittiam Systems – the world's most preferred DSP intellectual property supplier, according to Forward Concepts – the reference design provides you with:

- Starting reference hardware for final board design
- System-tested codecs
- Proven second-generation multimedia system software

The PMPR644x reference design is configured around TI's DaVinci™ technology for digital media, which features a highly integrated SoC based on the TMS320C64x+™ DSP core and an ARM926 processor. The DaVinci platform includes video accelerators, networking peripherals and external memory/storage interfaces, all specifically tuned for video.

The reference design also comes with a complete suite of tools, including BSP for Linux (based on MontaVista™ Linux 2.6.10), system software and a sample application. To let integrators develop multiple applications on the same device, PMPR644x offers a Media System SDK (MSS) – a C library for A/V and system functionality that abstracts underlying multimedia subsystems with consistent APIs. This method allows multiple applications to share and reuse multimedia resources efficiently for a rich user experience.

PMPR644x Hardware



PMPR644x Hardware Overview

Memory: Flash (16/32-MB NAND/NOR) + SDRAM (32/64 MB)

Removable storage: HDD (20/30/60 GB), CF, MMC/SD, MS

Interface: USB 2.0

Connectivity: Ethernet, WLAN

Power: Line, battery (3600 mAH), power management

Video inputs: Composite/S-video

Video outputs: Composite/component/S-video, HDMI

Audio inputs: FM Rx, line/microphone

Audio outputs: On-board speaker, line/headphone, S/PDIF

Display: LCD daughterboard

User interaction: Keys, keypad, remote

Expansion: SPI, UART, MOST

Debug: JTAG (3), UART (1)

One key to the reference design's functionality is its power manger with multimedia caching that enables OEMs/ODMs to achieve high system throughputs at low power consumption levels via a mix of proprietary algorithms and power control schemes. The resultant is an application framework that scales with available power giving manufacturers an extensible framework to build a variety of end appliances – from portable players/TV receivers to high-end set-top applications – all on the same DaVinci™ technology-powered SoC.

The PMPR644x reference design has been developed to speed time-to-market while also providing maximum flexibility. The design enables developers to decide whether to optimize their BOM for a desired set of features, for example, or for volume production.

The PMPR644x is thus both a proven reference design and a foundation on which you can innovate, reinventing what a media player can be.

Get all the details about Ittiam's new PMPR644x reference design now. For more information please visit:
www.ti.com/pmpplatform

PMPR644x Codec Support

Audio (DSP side)

Decoders
- MP3
- AAC-LC/HE-AAC v1, v2
- WMA
- WMA Lossless
- WMA Pro
- AC-3

Encoders
- MP3
- AAC-LC/HE-AAC v1, v2
- WMA
- Dolby® AC-3

Audio (ARM side)

Decoders
- MP3
- AAC-LC/HE-AAC v1, v2
- WMA
- WMA Lossless
- WMA Pro
- Dolby AC-3

Encoders
- MP3
- AAC-LC/HE-AAC v1, v2
- WMA

Image

Decoders
- JPEG
- MJPEG
- TIFF

Encoders
- JPEG

Speech

Decoders/Encoders
- G.711
- G.722.1
- G.722.2
- G.723.1A
- G.726
- G.728
- G.729AB

Digital AV Middleware

AV Parsers/Creators
- ASF / AVI / MP4 / MOV / MPG / VOB / OGG / DAT Parser
- AVI / ASF Creator
- Streaming/Device Protocols
- HTTP Streaming Client, UPnP Client
- DRM
- DivX™ DRM, WMDRM10-PD, MTP

Video

Decoders
- MPEG-2
- MPEG-4 SP/ASP
- DivX™ 3.11/4/5/6
- H.264 BP/MP
- WMV9 SP/MP/AP

Encoders
- MPEG-2
- MPEG-4 ASP
- H.264 BP
- WMV9 SP/MP

Processing

Audio
- Resampler
- EQ
- Mixer
- Crossfade

Video
- Scaling
- Rotation
- Color Control
- Bilinear Filter