

# Marvell Google TV Reference Platform

Based on Google TV and Marvell ARMADA HD Media Processor



## ▶ PRODUCT OVERVIEW

The Marvell's Google TV reference design, based on Google TV™ and Marvell® ARMADA™ high-definition (HD) media processor system-on-chip (SoC), is available to OEMs and ODMs for designing network-connected televisions. The reference design includes Marvell's HD media processor SoC, TV tuner, and Wi-Fi/Bluetooth connectivity chip. The HD media processor SoC is a highly integrated chip consisting of: dual high-performance (1 GHz+) ARM processors to support a PC-like web browsing experience; GPU for rendering HD graphics; secure demux engine for parsing and protecting high-value media content; multi-format HD AV decoder for decoding network AV streams; Qdeo™ processing, including automatic block/noise reduction for rendering best picture quality even for low bit-rate network content; customizable audio post-processor to support Dolby®/SRS audio post-processing routines; and peripherals such as USB, SDIO, and Ethernet. The reference hardware accepts legacy TV inputs such as RF terrestrial/cable, composite video, component video, and VGA and includes 4 HDMI v1.4 ports for capturing 3D video from BD players. One of the HDMI input port supports audio return channel to enable "one cable" connectivity with one home theater receivers. The video output from the platform can be directly connected to drive full-HD LCD panels. The platform supports multiple stereo audio inputs and outputs the processed audio to speakers or PCM/compressed audio to SPDIF/HDMI-ARC.

The package includes a DTV reference design PCB, ATSC/QAM/NTSC middleware, network applications including Google TV/Netflix®/YouTube®/Picasa®, a customizable reference user interface and documentation.

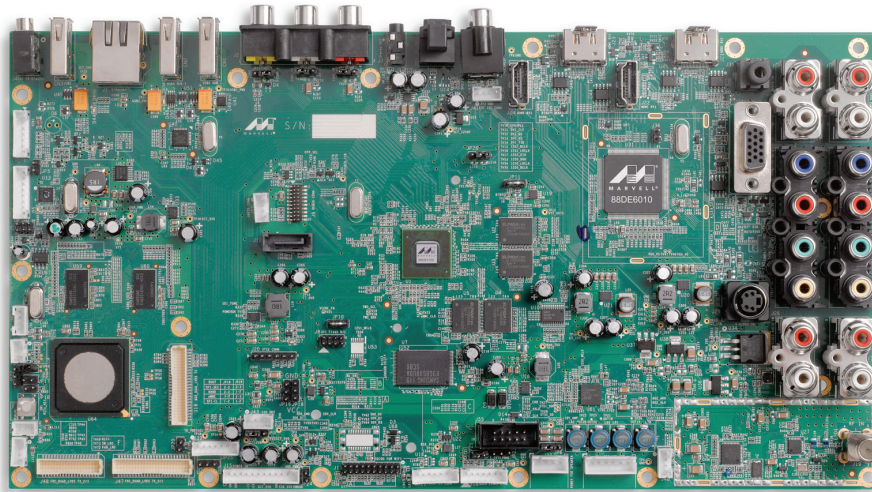


Figure 1: Marvell Google TV Reference Design

## ▶ KEY FEATURES AND BENEFITS

FEATURES	BENEFITS
<ul style="list-style-type: none"><li>• Highest performing ARM v6/v7 compatible dual-CPU cores</li><li>• Integrated with Marvell's leading edge TV technologies:<ul style="list-style-type: none"><li>- Clear RF</li><li>- Swift View</li><li>- Qdeo</li></ul></li></ul>	<ul style="list-style-type: none"><li>• Fast application launch, PC-like web browsing</li><li>• RF tuning performance matching legacy can tuners</li><li>• Fast switching between various analog/digital AV inputs</li><li>• High-resolution picture quality for HD, SD and low bit-rate content</li></ul>
<ul style="list-style-type: none"><li>• Inputs: RF, CVBS, Component, VGA, HDMI, USB, LR Audio</li><li>• Network: Wi-Fi/Bluetooth, Ethernet</li><li>• Output: LVDS, Speaker, Headphone Out, SPDIF</li></ul>	<ul style="list-style-type: none"><li>• Multiple AV Inputs for connectivity to legacy AV devices and to the network</li></ul>
<ul style="list-style-type: none"><li>• Reference design with field-proven Marvell connectivity ICs</li></ul>	<ul style="list-style-type: none"><li>• Lesser integration issues</li></ul>
<ul style="list-style-type: none"><li>• Google TV OS with marketplace support</li><li>• Network video-on-demand (Netflix, Amazon®)</li><li>• Worldwide DTV middleware support</li><li>• Customizable reference UI</li></ul>	<ul style="list-style-type: none"><li>• Complete system software to jump start Smart TV design and rollout products to market faster</li></ul>

# Marvell Google TV Reference Platform

## BLOCK DIAGRAM

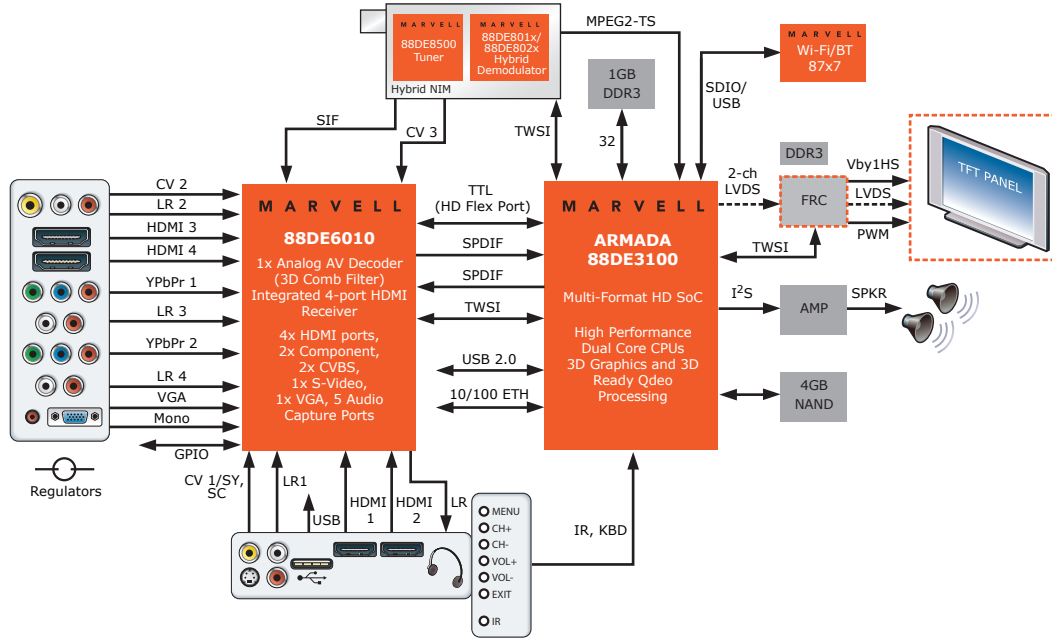


Figure 2. Marvell Google TV Reference Design Block Diagram

**THE MARVELL ADVANTAGE:** Marvell chipsets come with complete reference designs which include board layout designs, software, manufacturing diagnostic tools, documentation, and other items to assist customers with product evaluation and production. Marvell's worldwide field application engineers collaborate closely with end customers to develop and deliver new leading-edge products for quick time-to-market. Marvell utilizes world-leading semiconductor foundry and packaging services to reliably deliver high-volume and low-cost total solutions.

**ABOUT MARVELL:** Marvell is a leader in storage, communications, and consumer silicon solutions. Marvell's diverse product portfolio includes switching, transceiver, communications controller, processor, wireless, power management, and storage solutions that power the entire communications infrastructure, including enterprise, metro, home, storage, and digital entertainment solutions. For more information, visit our Web site at [www.marvell.com](http://www.marvell.com).



Marvell Semiconductor, Inc.  
5488 Marvell Lane  
Santa Clara, CA 95054  
Phone 408.222.2500  
[www.marvell.com](http://www.marvell.com)



[www.ClearlyQdeo.com](http://www.ClearlyQdeo.com)

Copyright © 2012. Marvell International Ltd. All rights reserved. Marvell, and the Marvell logo are registered trademarks of Marvell or its affiliates. Qdeo is a trademark of Marvell or its affiliate. All other trademarks are the property of their respective owners.

Marvell\_Google\_TV\_Reference-001 1/12