Broadcom Unveils World's First UltraHD TV Home Gateway Chip

Opens 2013 Consumer Electronics Show With Game Changer for Big Screen and Internet Video Delivery in the Home

News Highlights:
- Enables UltraHD (4Kx2K resolution) TV into the home for dramatically improved picture quality on big screens
- Supports HEVC video coding standard; reduces video bandwidth usage by 50 percent
- Simultaneously delivers four transcoded HD video streams over IP for content on any screen
- Delivers unprecedented 21000 DMIPs of application performance while protecting high-value content with web domain security features

LAS VEGAS, Jan. 8, 2013 /PRNewswire/ -- — 2013 CES International —

Broadcom Corporation (NASDAQ: BRCM), a global innovation leader in semiconductor solutions for wired and wireless communications, today announced the world's first Ultra High Definition Television (UltraHD TV) video decoder solution on the market. Learn how Broadcom® innovation is enabling the Connected Life at home, at work, and on-the-go at Broadcom®CES.

The BCM7445 is the first step to delivering UltraHD TV into the home with the performance and picture quality needed for the evolution in multi-screen connected home entertainment. Broadcom's 28 nanometer (nm) ARM-based BCM7445 UltraHD video decoder solution, serving as the primary gateway to the home, delivers more transcoding, CPU processing performance and home networking throughput to support a greater range of applications such as video-on-demand (VoD), gaming, social media and web store applications.

UltraHD TV technology, formerly known as 4K, marks a major innovation in HD resolution. UltraHD TV screens display four times the resolution of today's 1080p60 displays. The delivery of UltraHD TV requires a more efficient compression codec made possible by the use of the new High Efficiency Video Coding (HEVC) standard. HEVC speeds Internet video downloads giving operators and users the ability to download content such as movies in half the time and with higher quality video at 50 percent of the bit rate previously required.

"The clarity and brilliance of UltraHD television is a significant step forward in viewing enjoyment and is the next true evolution in TV innovation," said Dan Marotta, Broadcom's Executive Vice President and General Manager, Broadband Communications Group."By integrating HEVC, Quad 1080p transcoding, quad-core CPU, gigabit networking speeds and web domain security, Broadcom is enabling a dramatic improvement in the TV viewing experience while making UltraHD video delivery economics work for service providers."

"HEVC, which will be known as MPEG-H or H.265, will be required to broadcast UltraHD content, notably major sporting events and Hollywood content," said Michael Inouye, Senior Analyst of TV and Video, ABI Research. "Next generation user experience, including 80 inch and larger displays, will be improved by the adoption of UltraHD and HEVC. The efficiency of HEVC will also enable additional services including faster IP downloads and the provisioning of VoD services over wireless networks."

Key Features:

- Based on 28 nm process technology, the BCM7445 features the new Brahma15 21,000 DMIP CPU, four 1080p30 real-time transcoders and HEVC compression that delivers resolution up to 4096x2160p60.
- The BCM7445 also features web domain security, an industry leading hardware security oversight to separate Internet services from premium broadcast content. This protects critical core network functions from malware threats, paving the way for operators to securely converge and deliver pay-TV programming and open Internet applications to subscribers for a web-based TV experience.

Brahma15 Application Processing
The Brahma15 is a 21,000 DMIP Quad-core ARMv7-A instruction set compatible multiprocessor. 32KB instruction and 32KB
data caches per processor are backed by a shared 2MB L2 cache and feed the multi-issue, out-of-order superscalar 15-stage plus write back pipeline of the Brahma15. A 32KB read-ahead cache between the L2 cache and the memory controllers provides 8KB of read latency reduction per processor. The Brahma15 supports the ARM Trust Zone® security architecture, software virtualization and hardware virtualization by core for complete security isolation. Each core individually supports single cycle ARM NEON 128-bit vectors for software based media processing applications. The entire architecture supports Broadcom's Nexus and Trellis software interfaces ensuring a seamless continuation of the home gateway and client experience.

Availability
Samples of the BCM7445 UltraHD TV video decoder for the home are now available, with volume production expected in mid-2014. The BCM7445 will be demonstrated at Broadcom's booth at 2013 CES International.

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About Broadcom
Broadcom Corporation (NASDAQ: BRCM), a FORTUNE 500® company, is a global leader and innovator in semiconductor solutions for wired and wireless communications. Broadcom® products seamlessly deliver voice, video, data and multimedia connectivity in the home, office and mobile environments. With the industry's broadest portfolio of state-of-the-art system-on-a-chip and embedded software solutions, Broadcom is changing the world by Connecting everything®. For more information, go to www.broadcom.com.

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