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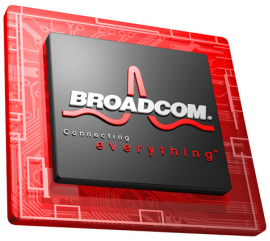
BCM2820 PRODUCT Brief



LOW-POWER, HIGH-PERFORMANCE APPLICATIONS PROCESSOR

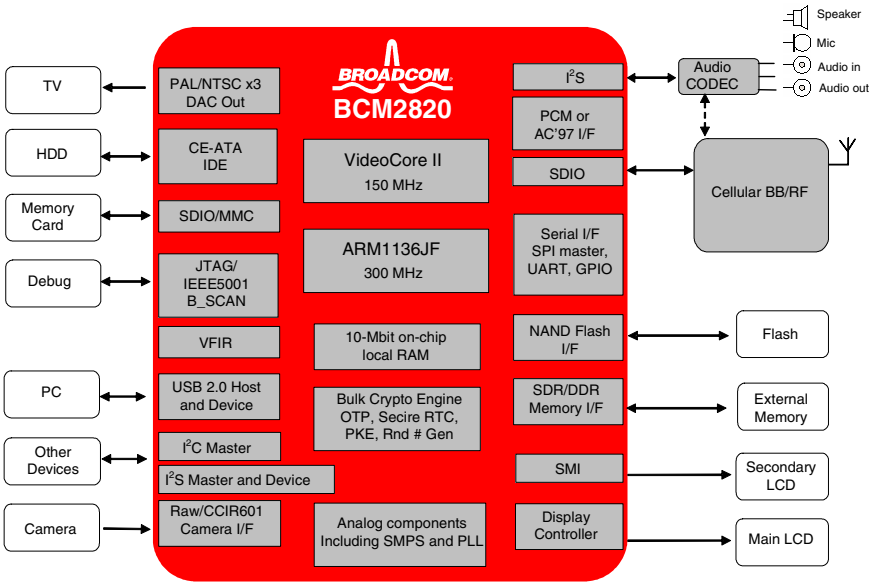
FEATURES

- 150-MHz dual issue ALU VideoCore® II processor
- 300-MHz ARM1136JF™ processor
- On-chip SRAM for both VideoCore and ARM11™
- Optimized instruction and data caches
- Primary 32-bit memory bus for high-speed glueless connection
- Secondary 16-bit memory bus for connection to slower external peripherals
- I^2S digital audio interface
- USB 2.0-compliant host and device interfaces
- ATA66 and CE-ATA hard drive interfaces
- VFIR interface
- 1-bit and 4-bit SDIO SD card interface
- 16550 compatible UART, SPI, and I^2C compatible masters
- Multiple voltage banks 1.8V–3.3V

BENEFITS

- Low-power, high-quality MPEG4/H.264 video encode/decode
- Low-power AAC/MP3/WMA audio encode/decode for extended battery life
- 8 megapixels of high resolution still image capture via CCIR 601/656, or raw data format
- Up to XGA resolution through the display controller with built-in scaling interpolator
- Composite, S-Video and Component PAL/NTSC TV out using the on-chip triple DAC
- 3D gaming capability with audio and graphics acceleration
- Support for industry leading content protection through the on-chip encryption engine
- Capable of supporting lower cost NAND flash technology with the hardware ECC and RS enabled on-chip controller
- OS independence with a host of Linux®-based multimedia software and drivers

BCM2820 Block Diagram



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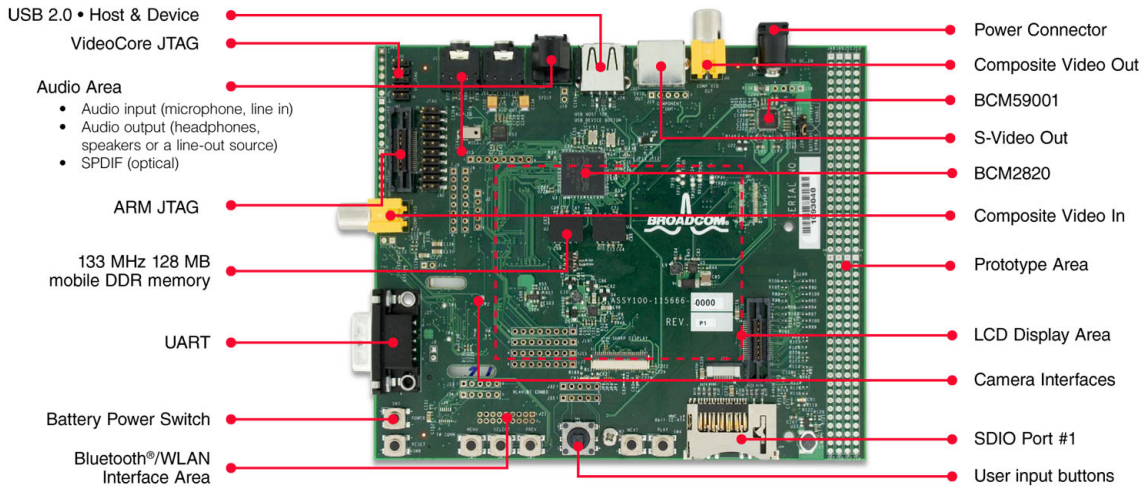
OVERVIEW



BCM2820 Development Platform

The BCM2820 is a monolithic high-performance device combining the industry leading VideoCore multimedia processor and an ARM11 applications processor. The BCM2820 is OS independent and is optimized for high volume markets including mobile phones, mobile TVs, and portable audio/video/game devices, and delivers unprecedented level of integration, multimedia performance, low-power dissipation and time-to-market.

The increasing popularity of multimedia features in mobile phones and other portable devices is generating demand for high-end applications optimized to work with video and camera capabilities at price points affordable by mainstream consumers. The new Broadcom BCM2820 applications processor offers an impressive array of multimedia features including support for 8 megapixels digital camera, MPEG-4/H.264 VGA video decoding at 30 frames per second, video encoding at 30 frames per second, and NTSC/PAL TV output via composite, component, and S-video connections.

Two World-Class Devices in Single Chip

Similar to the existing BCM27XX multimedia processor family, the BCM2820 applications processor chip is based on Broadcom's VideoCore video-processing engine, making all the chips in the BCM27XX family software compatible with the new BCM2820. Both families, BCM27XX and BCM28XX, are completely programmable, and able to handle a wide range of audio and video formats, offering maximum scalability and flexibility to Broadcom's OEM partners. The programmability of VideoCore technology enables developers to program or reprogram different applications in software, rather than requiring new chip designs for each new mobile product. For further details on Broadcom products that feature VideoCore, visit http://www.broadcom.com/videocore.

What differentiates the BCM28XX family from previous BCM27XX products is the integration of an ARM11 embedded microprocessor core that serves as the host processor for advanced mobile device applications such as email, web browsing, file management, and graphical user interfaces. Unlike competing solutions, Broadcom's embedded ARM runs up to 300 MHz, but when coupled with up to 6 billion instructions per second of multimedia processing in VideoCore, it typically needs to run at less than 200 MHz and, in fact, as low as 10 MHz during full H.264 video playback, thereby enabling excellent power consumption performance.

The BCM2820 also runs audio processing algorithms to provide a complete multimedia solution. Codecs such as G.723, AMR, MP3, and AAC (including evolving variants) can all be implemented. The BCM2820 includes PCM, S/P-DIF, and I^2S interfaces for connection to standard ADC/DACs for audio input/output.

Complete Software Solution

The BCM2820 applications processor handles software applications and operating systems available on mainstream mobile wireless devices. Additionally, for the BCM2820 device, Broadcom provides a host of Linux-based multimedia software including WLAN and Bluetooth stacks, audio and video CODECs such as MPEG4, H.264, Windows® Media, MP3, 3D audio and audio visualizations, slideshow transitions, image editing applications, 3D graphics acceleration, video camcorder applications with visual effects, WMDRM, MTP, PlaysForSure™, and drivers to support cellular baseband modems

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