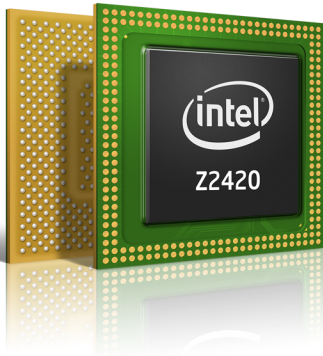(intel)

Intel® Atom™ Processor Z2420

Bringing advanced smartphone performance to the value segment. Lightning-fast apps. Seamless multitasking. Amazing graphics. Great camera features and vivid HD video.

Overview

Every smartphone user wants fast and responsive applications, eye-popping graphics, and advanced camera features at consumer friendly price points. Users in the value segment are no exception. The Intel® Atom™ processor Z2420 brings high-end capabilities to value smartphones through processing performance up to 1.2 GHz, built on Intel's 32-nanometer process technology, with intelligent power efficiency of Intel® Burst Performance Technology.

The highly integrated system-on-chip (SoC) includes the Intel® Graphics Media Accelerator for rich and lifelike graphics, amazing gaming realism and eye-catching 1080p HD video, with support for the larger displays and new cameras that today's consumers want. The integrated image signal processor will let users capture impressive images up to 8MP, even under challenging conditions, with advanced capabilities like burst-shot image capture and video image stabilization.

Optimized for Android*, the Intel® Atom™ processor Z2420 accelerates time-to-market through pin-compatibility, design re-use, and software compatibility with the Intel® Atom™ processor Z2460.

Intel® Burst Performance Technology enables the processor to dynamically scale frequency to processing load, for superior performance and outstanding power efficiency.

Product Highlights

High Performance CPU for the Value Segment
The 1.2 GHz Intel® Atom™ processor Z2420 brings incredible mobile experiences to smartphones in the value segment. The integrated dual-channel memory controller enables fast read/write performance with low latency. The 32-bit LPDDR2 400 MHz interface supports 800 MT/s data rates.

This power-efficient SoC enables a smooth and responsive user experience, inlcuding a repsonsive hardware-accelerated HTML 5 browser, fast applications, and outstanding multi-tasking performance.
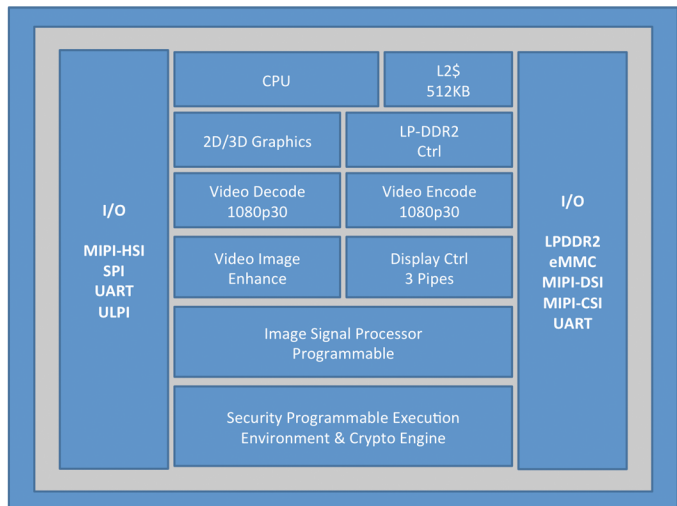
The Intel® Atom™ processor Z2420 is a system-on-chip (SoC) that brings together the functional units to support incredible mobile experience

Intel® Atom™ Processor Z2420

Intel® Hyper-Threading Technology

Executing two parallel threads on each processor core makes user interfaces more responsive. Web pages load faster, and users can switch between apps quickly and seamlessly.

Intel® Graphics Media Accelerator

Smartphone users want compelling 3D graphics, responsive gaming action, and smooth HD video. The integrated Intel® Graphics Media Accelerator provides great performance in a cost-effective package.

Intel provides full HD video capabilities, including hardware-accelerated 1080p decode (30fps) and encode (30fps). The decoder supports H.264, MPEG4, VC1, WMV9, H.263 standards and the encoder supports H.264, MPEG4, and H.263.

The 400 MHz graphic core provides low memory latencies for responsive performance, enhanced by optimized graphics drivers and support for the OpenGL ES2.0 and Open VG 1.1 standards

Intel® Smart Image Technology

Intel's integrated image signal processor (ISP) makes image quality a snap, so price conscious smartphone owners can use their phone as their only camera. The integrated image signal processor (ISP) supports a primary camera with resolution up to 8 MP with a burst-shot capture up to 15 frames per second. The ISP supports a secondary camera up to 1.3 MP. Low light performance and noise reduction provide excellent image quality with digital video stabilization.
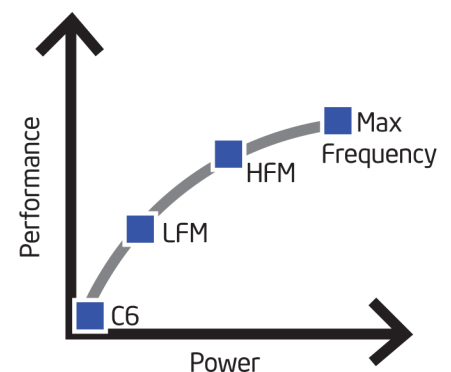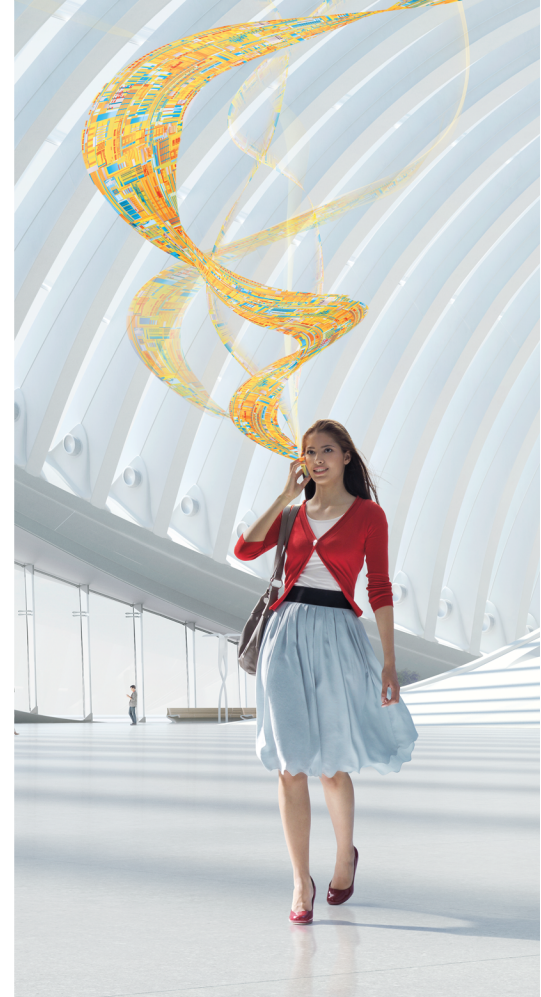
Intel® Burst Performance Technology

Intel® Atom™ Processor Z2420 delivers outstanding performance with the power efficiency that smartphone users demand. As processing demand changes, the processor dynamically shifts between zero-power C6 standby mode, low-frequency mode (LFM), intermediate frequencies and the max frequency, also referred to as burst frequency mode (BFM). Dynamic scaling optimizes performance while minimizing power consumption.

Intel® Burst Performance Technology dynamically shifts the processor's core frequency to match processing demand for optimum performance and power efficiency

Optimized for Android*

Smartphones built on the Intel Atom processor Z2420 are optimized for the Google Android* platform. The Intel solution is also enhanced using Dalvik VM* runtime optimization, x86 trace-based JIT, Native Code Generation, Javascript* and HTML5 code execution.

Intel also provides software specifically targeted at power management and security for Android with new firmware, drivers, and middleware. This new Android software integration for Intel® Architecture balances performance, security, and power efficiency for Android applications.

Intel® Atom™ Processor Z2420

Smartphones with Intel Inside®

The company the revolutionized computing technology is now bringing amazing new experiences to smartphones. New Intel® Atom™ processors are designed and optimized for lightning-fast apps, responsive Web browsing, stunning 3D graphics, advanced camera capabilities, and vivid HD video, with energy efficiency for outstanding battery life. Smartphones with Intel Inside® deliver new experiences at the speed of life

Technical Specifications

Process Technology	32 nm High-k/metal gate transistor technology
Compact Co-POP Package	12 mm x 12 mm, 617 balls, 0.4 mm pitch, LPDDR2 PoP package
Intel® Atom™ Microarchitecture	Intel® Smart Cache, 512 KN Enhanced data prefetcher & enhanced register access manager Intel® Enhanced Deeper Sleep C6/Low Power Audio State Intel® Smart Idle Technology (Intel® SIT) Digital Thermal Sensor (DTS)
3D Graphics Engine	2000 MPPS peak fill rate 40 MTS (real scene) - peak polygons Supports Open VG 1.1, OpenGL ES 1.1, & OpenGL ES 2.0
Hardware Accelerated Video Encode and Decode	1080p30 video encode 1080p30 video decode
Display Controller	Supports up to 4 DSI lanes at 800 Mbps per lane
System Memory Interface	Dual-channel 32-bit LPDDR2 interface Supports up to 1 GB Supports 800 MT/s data rate
Image Signal Processor	ISP @ 320 MHz Support for up to 8 MP primary camera and up to 1.3 MP secondary camera Video up to 1080p30
6 High-Speed Master I2C controller	Supports high-speed, full-speed and ow-speed modes
SPI Controller	2 master and 1 master/slave ports
Keypad Controller	Supports up to 4 direct key inputs
Intel® Smart Sound Technology	Low-power programmable codec to decode/encode popular audio formats
Flexible GPIO Configuration	Configurable mux with functional blocks Up to 89 GPIO - always on to enable wake events Up to 69 GPIO balls - core power GPIO shuts down in sleep states

Intel® Atom™ Processor Z2420

Intel Smartphones:

http://www.intel.com/content/www/us/en/smartphones/smartphones.html

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