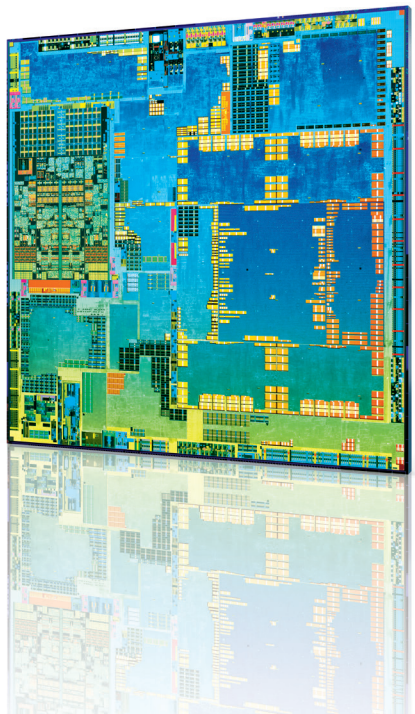
Intel® Atom™ Processor Z34XX Series for Smartphones and Tablets

Experience performance that takes you further.

Smart devices have Intel Inside®

Launch yourself into a world of new experiences with your next smartphone or tablet with Intel Inside®. The new Intel® Atom™ processor Z34XX series is designed to inspire with a combination of fast, smart performance and long battery life. Enjoy your favorite Android* apps with the added dimension of precise 3D graphics and captivating high-definition video. The Intel® Integrated Sensor Solution helps enable apps to adapt to your life using contextual awareness, keeping track of your personal activities and location. For experiences that move you, wherever your life takes you, pick a mobile device with Intel Inside.



High performance for peak mobile experiences

When you're posting, surfing, streaming, or gaming, you want peak mobile experiences. Today's high-performance apps need a processor that keeps pace. Great performance is what the Intel Atom processor Z34XX series delivers, powering popular Android apps from Google Chrome*, and Google Maps* to Asphalt8* and Candy Crush*.

You get this amazing performance from a 64-bit-ready[1] system-on-chip (SoC) at up to 2.13 GHz with energy efficiency enabled by high-frequency bursts at lower power. It all adds up to the long battery life you need to keep your mobile experiences going non-stop.

With Intel's new 22 nm microarchitecture and the PowerVR* Series 6 Graphics IP core from Imagination Technologies, 3D graphics leap off the screen. The Intel Atom processor Z34XX series delivers up to 2x the graphics performance and up to 4x the GPU compute performance of Intel's previous smartphone SoC.[2]

The processor includes a dedicated programmable hardware video signal processor (VSP) that implements algorithms for noise reduction, de-blocking, color enhancement, and sharpening for a premium viewing experience. The VSP can also convert the frame rate up to 60 frames per second (fps) for smooth and fluid playback.

Experiences come to life in high definition, and the turbo-charged video-stabilized camera has the capabilities you need. You can capture and play back 1080p HD video at 60 fps, and dual-camera capability lets you capture video at 30 fps with front and back cameras. H.265 (HEVC) and VP9 decoders help deliver stellar visual quality at a reduced bit rate, and native hardware-accelerated VP8 encode and decode makes WebRTC connections seamless and fluid. Life moves fast, and the camera's burst mode keeps pace, capturing up to 10 consecutive photos at 15 fps at 8 MP.

Your mobile device is uniquely yours, and the Intel Integrated Sensor Solution enables intelligent apps that can use sensor data to analyze your location, body movement, and personal preferences. Your device will learn how you change your settings and provide solutions based on your location and activities. Use your device to tailor your fitness program, find nearby shopping, play interactive games, and improve your shopping experience by interacting with retail signage. These apps work in low-power mode, helping to preserve battery life on your device.

Global 4G LTE: your connection to a world of amazing experiences

The Intel® XMM™ 7160 LTE modem[3] provides blazing-fast 4G speeds so you can enjoy HD video, fast web browsing, and quick downloads worldwide. With support for up to 15 global 4G LTE bands plus additional 3G/2G global bands, the XMM 7160 modem keeps you connected.

Because it's one of the world's smallest and most power-efficient LTE multicomm modems, it conserves battery power while you stay connected and in-touch. The combination of the XMM 7160 LTE modem and the Intel Atom processor Z34XX connects you to an expanding world of mobile experiences.

Fast and fluid.
Wherever you go.

150▼ Mbps download
50▲ Mbps upload
Intel® XMM™ 7160 LTE Modem

2x
Up to 2x better graphics performance[2]

Performance that takes you further

FEATURE[a]	INTEL® TECHNOLOGY	BENEFIT
Fast and Responsive Performance	▪ Intel® multi-core technology in a small footprint, 64-bit-ready SoC	Experience the difference peak performance makes with today's leading apps and advanced mobile features.
Long Battery Life	▪ Intel's 22nm process technology on Silvermont microarchitecture ▪ Advanced RF transceiver design	Enjoy mobile apps and services with optimal energy efficiency. Processor core architecture supports out-of-order execution, eliminating idle cycles by executing instructions when they are ready.
HD Video	▪ Hardware-accelerated VP8 encode/decode ▪ 1080p 60 fps encode/decode ▪ H.265 (HEVC) and VP9 support	Intel's first hardware-based WebRTC platform. Immerse yourself in compelling HD video with 1080p video playback and capture at 60 fps.
Great 3D Graphics	▪ Imagination PowerVR* G6400 ▪ Four compute clusters	Enjoy eye-popping graphics with a performance improvement up to 2x over the Intel® Atom™ processor Z2580.[2] Up to 4x GPU compute performance compared to the Intel® Atom™ processor Z2580,[2] and first Intel-based smartphone platform to support OpenCL and RenderScript GPU.
Video Signal Processor (VSP)	▪ Dedicated, programmable, hardware video signal processor (VSP) improves visual quality and more fluid playback	Enhance your video clips, Web streaming, WebRTC and movies with content-adaptive video post-processing and frame-rate up-conversion to 60 fps. VSP gives you option of 60-fps quality without the extra storage space typically needed.
Turbo-charged Camera	▪ Next-generation image signal processing architecture ▪ Highly parallel image processing	The camera includes 1080p 60 fps video recording to let you capture all the action. Dual camera support lets you use front and back cameras to capture video.
Context Awareness	▪ Intel® Integrated Sensor Solution	Personalize your mobile experiences with context-awareness and continuous sensing, without sacrificing battery life.
Multi-Screen Sharing	▪ Intel® Mobile Wireless Display[4] (Intel® WiDi)	Use your mobile device for seamless multi-screen connectivity and data sharing.
Multi-Band WWAN Connectivity	▪ Intel® XMM™ 7160 LTE Modem[3]	Always stay connected wherever you go by automatically connecting with the fastest available cellular network (4G, 3G, 2G).
Wireless Connectivity	▪ Support for third-party wireless solutions	Bluetooth* 4.0 low energy Wi-Fi* (802.11a/b/g/n/ac)
High-Grade Security	▪ Secure Boot ▪ Secure Storage ▪ Intel® Virtualization Technology (Intel® VT-x2)[5] ▪ Intel® Advanced Encryption Standard New Instructions (Intel® AES-NI) Acceleration[6] ▪ Digital Rights Management (DRM) support ▪ HDCP 2.x for premium content over HDMI	Protect apps and data with a comprehensive platform-based security solution for device protection, coupled with robust hardware and software support for data protection.

[a]Some features must be enabled by the device manufacturer and may require additional software and/or hardware.

SPECIFICATIONS[a]

Intel® Atom™ Processor Z34XX Series	2 cores/2 threads with out-of-order execution Maximum core frequency up to 2.13 GHz
Microarchitecture	Silvermont microarchitecture (22 nm process technology)
Form Factor	>4”
Graphics	Imagination PowerVR* G6400
CPU Performance	Up to ~1.7x single-threaded improvement over Intel® Atom™ processor Z2580[7]
Graphics Performance	Up to ~2x improvement over Intel Atom processor Z2580[2] OpenGL ES 3.0 API
Graphics Compute Performance	Up to ~4x graphics GPU compute improvement over Intel Atom processor Z2580[2] and first-time enabling OpenCL and RenderScript GPU processing on Intel-based smartphones.
Image Signal Processor (ISP)	13 MP support hardware-capable; 8 MP enabled on Form Factor Device (FFD)
Intel® XMM™ 7160 Multi-Band, Multi-Mode LTE Modem	Support up to 15 LTE bands, up to 150 Mbps download/50 Mbps upload speed
Memory	LPDDR3 (COPoP); 2x32 bit, up to 4 GB; 8.5 GB/s
Internal Display	Up to 19x12
External Display	1080p 60 fps
I/O and Storage	USB 3.0; eMMC 4.5
OS Support	Android* 4.4.2
Multi-Band Connectivity[3]	4G, 3G, 2G
Support for Third-Party Wireless Solutions	Bluetooth* 4.0 low energy; Wi-Fi* (802.11a/b/g/n/ac)
Package	12 mm x 12 mm

[a]Not all features indicated may be offered on all SKUs.

Software and workloads used in performance tests may have been optimized for performance only on Intel microprocessors. Performance tests, such as SYSmark and MobileMark, are measured using specific computer systems, components, software, operations and functions. Any change to any of those factors may cause the results to vary. You should consult other information and performance tests to assist you in fully evaluating your contemplated purchases, including the performance of that product when combined with other products.

[1] Hardware is 64-bit ready and the consumer will be able to use this capability when the software is updated to utilize 64 bit.

[2] Based on GLBenchmark 2.5.1 Egypt HD Offscreen benchmark. Measured value of 30 frames per second on Lenovo K900 with Intel® Atom™ Z2580 processor, up to 2.0GHz, Imagination PowerVR* SGX544MP2 graphics compared with measured value of 68 frames per second on Salt Bay PR2 FFD with Intel® Atom™ processor Z3480, up to 2.13GHz, Imagination PowerVR G6400 graphics. GPU compute performance as established by peak GFLOPS. GFLOPS = Giga Floating Point Operations Per Second.

[3] Platform subsystem, sold separately.

[4] Requires an Intel® Wireless Display enabled system, compatible adapter, and TV. 1080p and Blu-Ray* or other protected content playback only available on Intel® Atom™ processor-based devices with built-in visuals enabled. Consult your device manufacturer. For more information, see http://www.intel.com/go/widi.

[5] Intel® Virtualization Technology requires a computer system with an enabled Intel® processor, BIOS, and virtual machine monitor (VMM). Functionality, performance or other benefits will vary depending on hardware and software configurations. Software applications may not be compatible with all operating systems. Consult your PC manufacturer. For more information, visit http://www.intel.com/go/virtualization

[6] No computer system can provide absolute security. Requires an enabled Intel® processor and software optimized for use of the technology. Consult your system manufacturer and/or software vendor for more information.

[7] Performance statements based on SPECint_base2000 estimates.

Intel processor numbers are not a measure of performance. Processor numbers differentiate features within each processor family, not across different processor families:

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