WinHEC Event Update
June 17, 2015

If It’s Smart
and Connects,
It’s Best With Intel.
Intel Powers Smarter Devices and Smarter Networks

*Other names and brands may be claimed as the property of others.*
Strong Progress on Our Mobile Portfolio

Communications / Connectivity

Connectivity Products

New connectivity solutions: WiFi, NFC, GNSS

Modules

Discrete

2G 3G 4G

Mobile Platforms

Integrated

Client Devices

Phone/Phablet

Tablet

Small Screen 2 in 1s

Larger Screen 2 in 1s

Larger Screen Notebooks

*Other names and brands may be claimed as the property of others.
## Intel’s Mobile Devices Portfolio
Scales from Entry to Performance Segments

### Mobile Market Segments
(average retail prices)

<table>
<thead>
<tr>
<th>Segment</th>
<th>Price Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Performance</td>
<td>$350+</td>
</tr>
<tr>
<td>Mid</td>
<td>$250 - 349</td>
</tr>
<tr>
<td>Value</td>
<td>$150 - 249</td>
</tr>
<tr>
<td>Entry</td>
<td>$75 - 149</td>
</tr>
<tr>
<td>ULC</td>
<td>&lt;$75</td>
</tr>
</tbody>
</table>

### Consumer Drivers of Choice
- Price
- Brand
- Performance
- Screen Size

### Next Level Preference Drivers
- Modems
- Advanced Camera(s)
- Weight
- Screen Quality
- Battery Life
- App Availability
- Advanced Voice Command

### Mobile Market

<table>
<thead>
<tr>
<th>Segment</th>
<th>Processor Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>Performance</td>
<td>Intel® Core™ m Processor</td>
</tr>
<tr>
<td></td>
<td>Intel® Atom™ x7</td>
</tr>
<tr>
<td></td>
<td>Intel® Atom™ x5 (WiFi Only)</td>
</tr>
<tr>
<td>Mid</td>
<td>Intel® Atom™ x5</td>
</tr>
<tr>
<td>Value</td>
<td>Intel® Atom™ x3 (LTE)</td>
</tr>
<tr>
<td>Entry</td>
<td>Intel® Atom™ x3 [3G-R]</td>
</tr>
<tr>
<td>ULC</td>
<td>Intel® Atom™ x3 [3G]</td>
</tr>
</tbody>
</table>

Source: IMR Consumer Tablet Purchase Driver Usage Trends – December 2014
Intel® Atom™ x5 and x7
Full Windows*: exciting experiences

First Intel® Atom™ SoC on 14nm, featuring next generation microarchitecture

64-bit CPUs and Intel® Gen 8 graphics

Next generation LTE with Intel® XMM™ 726x supporting Cat-6 and carrier aggregation

New user experiences: Intel® RealSense™ technology, True Key™, Pro WiDi

Full Windows* OS

Mainstream to premium $119 - $499
7” tablets to 10.1” 2 in 1s
Improved 3D Performance
Comparing Intel® Atom™ x7 to Intel Atom Processor Z3795

GFXBench* 2.7
T-Rex HD (offscreen)
up to
2X BETTER

3DMark*
Ice Storm Unlimited
up to
50% BETTER

OpenGL* and DirectX* games run better
on the new Intel® Atom™ x7

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. For more information go to http://www.intel.com/performance. System configurations in backup.
Exciting UX – Immersive, Fun, and Convenient

Intel® RealSense™ Technology

Intel® RealSense Snapshot (R100)
- Takes photos to a new dimension
- Quick measure, selective focus and filters, special effects

Intel® RealSense 3D Camera (R200)
- Real-time depth imaging for 3D scanning, sharing, and printing
- Depth-enhanced photography
- Immersive scene perception

Intel®Pro WiDi
Make conference rooms cable free
- Securely project
- Save your time – no more hassle
- Easily share projector among colleagues

True Key™
Easier, safer way to unlock your digital world
- Security – you are in control
- Easy, safe, and private
- Multifactor authentication
Intel® Atom™ x5 and x7: Ecosystem Support

*Other names and brands may be claimed as the property of others

Intel® Atom™ x5 and x7 products coming out in 1H 2015
Intel® XMM™ 7360 Modem
World-class feature integration and LTE Advanced performance

3rd Generation LTE modem
Up to 450 Mbps downlink
3x carrier aggregation

Global Mobility
Supports up to 29 LTE bands
5-mode with LTE TDD/FDD & TD-SCDMA

Flexible Design
Compact size
Dual & single transceiver options

Advanced Data Features
LTE Broadcast (eMBMS) & Voice over LTE (VoLTE)
Dual-SIM capability

High quality, low power connectivity
Envelope tracking for power efficiency
Interference mitigation

First Commercial Devices
2H 2015

* Other names and brands may be claimed as the property of others.
New Connectivity Products for Intel® Atom™ Platform
Scalable for a range of tablet, phablet and smartphone designs

**Intel® Wireless-AC 8x70**

*High performance, power-efficient multi-radio solution*
- First 28nm combo chip
- MIMO 2x2 802.11ac, 80MHz, Dual band
- >650 Mbps peak WiFi data rate
- Bluetooth™ 4.1 Smart Ready
- FM radio receiver

**Intel® Wireless-GNSS 2x00**

*GNSS location engine for continuous tracking*
- Worldwide coverage with support for all four major satellite constellations
- Advanced location capabilities for geofencing & geologging
- Full-featured & value-oriented SKUs for flexible integration

**Intel® Wireless-NFC 4000**

*Near Field Communications controller*
- Peer-to-peer mode for connecting close proximity devices
- Streamlined tap and pay for simple, secure transactions
- Support for mobile point of sale, tag reading/writing and device pairing

Pre-integrated with the Intel® Atom™ x3-C3440 processor and Intel® XMM™ 726x & XMM™ 7360 modems
Intel® Atom™ Portfolio Breadth
SoC Platforms across All Mobile Segments

LTE Advanced & Wireless Products
Benefiting All Intel Platforms

Full Ecosystem Support
Strategic Partnerships and Customer Support
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Intel® Atom™ x3-C3440 processor max sustained clock frequency is 1.2 GHz for all four cores. Burst Mode enables up to a max clock frequency of 1.4 GHz for relatively short peak loads for max 2 CPU cores simultaneously within specific temperature ranges. Availability and frequency of Burst Mode varies depending on, but not limited to, type of workload, hardware, software, number of active cores, power consumption, processor temperature, and system configuration as determined by your device OEM. For details on specific implementations depending on device configuration, please refer to your device manufacturer’s specifications.

Measured using GFXBench* 2.7, previously known as GLBenchmark* and DXBenchmark*, is a benchmark from Kishonti Informatics* that measures OpenGL* ES 2.0 and DX* 9 gaming performance. There are two major graphics tests: GFXBench 2.7 T-Rex HD (not compatible with GLBenchmark* 2.5.1) and GFXBench 2.5 Egypt HD. Reported metrics: Frames per second. Scaling efficiencies: Graphics tests are GPU dominant, sensitive to graphics and CPU frequency, core count and memory. OS support: Android®, iOS* and Windows*. Note: Replaced by GFXBench 3.0.

Measured using 3DMark* Ice Storm 1.2 Unlimited – a 3D graphics benchmark that measures 3D gaming performance. Find out more at www.futuremark.com

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BACKUP
## Intel® Atom™ x5 and x7 Processors

<table>
<thead>
<tr>
<th>Specifications</th>
<th>Intel® Atom™ x5-8300</th>
<th>Intel® Atom™ x5-8500</th>
<th>Intel® Atom™ x7-8700</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPU</td>
<td>Quad core 64-bit Atom x5 Up to 1.84 GHz¹</td>
<td>Quad core 64-bit Atom x5 Up to 2.24 GHz</td>
<td>Quad core 64-bit Atom x7 Up to 2.4 GHz</td>
</tr>
<tr>
<td>Process</td>
<td>14nm</td>
<td>14nm</td>
<td>14nm</td>
</tr>
<tr>
<td>Graphics (GPU)</td>
<td>Gen8 12EU, up to 500MHz, DX11.1, OpenGL ES 3.1, OpenCL 1.2, OpenCL 4.3, RS Compute</td>
<td>Gen8 12EU, up to 600 MHz, DX11.1, OpenGL ES 3.1, OpenCL 1.2, OpenCL 4.3, RS Compute</td>
<td>Gen8 16EU, up to 600 MHz, DX11.1, OpenGL ES 3.1, OpenCL 1.2, OpenCL 4.3, RS Compute</td>
</tr>
<tr>
<td>Media (Encode/Decode)</td>
<td>HEVC (decode), H.264, VP8</td>
<td>HEVC (decode), H.264, VP8</td>
<td>HEVC (decode), H.264, VP8</td>
</tr>
<tr>
<td>Memory</td>
<td>1x32, 1x64 DDR3L-RS² 1600, 1-2GB</td>
<td>2x64 LPDDR3 1600, 2-8GB</td>
<td>2x64 LPDDR3 1600, 2-8GB</td>
</tr>
<tr>
<td>Display Resolution³</td>
<td>INTERNAL: 1920x1200 (MIPI-DSI or LVDS) EXTERNAL: 1920x1080 (HDMI)</td>
<td>INTERNAL: up to 25x16 (MIPI-DSI or eDP) EXTERNAL: up to 4k2k (HDMI)</td>
<td>INTERNAL: up to 25x16 (MIPI-DSI or eDP) EXTERNAL: up to 4k2k (HDMI)</td>
</tr>
<tr>
<td>MODEM (Discrete)</td>
<td>Intel XMM™ 7260/62 LTE Cat-6 (up to 300Mbps DL) M.2 only for x5 8300</td>
<td>Intel XMM™ 7260/62 LTE Cat-6 (up to 300Mbps DL, 50Mbps UL for modem-down)</td>
<td>Intel XMM™ 7260/62 LTE Cat-6 (up to 300Mbps DL, 50Mbps UL for modem-down)</td>
</tr>
<tr>
<td>Connectivity</td>
<td>Intel WLAN, Intel WWAN (M.2 modules), Intel NFC</td>
<td>Intel WLAN, Intel WWAN (Intel XMM 726x), Intel NFC</td>
<td>Intel WLAN, Intel WWAN (Intel XMM 726x), Intel WiGig, Intel NFC</td>
</tr>
<tr>
<td>Input Output</td>
<td>6xI2C², 2xHSUART, 1xDIO, 3x12S, SPI³, PCIe 2.0 x1, 1xI2C(ISH), 1xI2C (NFC)</td>
<td>7xI2C⁴, 2xHSUART, 1xDIO, 3x12S, 1xLPC, 1xSP I², PCIe 2.0 x2, 1x 1I²⁴ (ISH), 1xI2C (NFC)</td>
<td>7xI2C⁴, 2xHSUART, 1xDIO, 3x12S, 1xLPC, 1xSPI³, PCIe 2.0 x2, 1x 1I²⁴ (ISH), I2 C³(NFC)</td>
</tr>
<tr>
<td>USB</td>
<td>1xUSB3 OTG, 2xHSIC, 3xUSB2</td>
<td>1xUSB3 OTG, 3xUSB3⁶ 2xSSIC, 2xHSIC</td>
<td>1xUSB3 OTG, 3xUSB3⁶ 2xSSIC, 2xHSIC</td>
</tr>
<tr>
<td>Storage</td>
<td>eMMC 4.5¹⁷</td>
<td>eMMC 4.5¹⁷</td>
<td>eMMC 4.5¹⁷</td>
</tr>
<tr>
<td>ISP / Camera (rear/front)</td>
<td>Up to 8MP Intel® RealSense™ Snapshot⁸</td>
<td>Up to 13MP Intel® RealSense™ 3DCamera⁸</td>
<td>Up to 13MP Intel® RealSense™ 3DCamera⁸</td>
</tr>
</tbody>
</table>

¹Max. CPU Burst Frequency for 1 or 2 Cores. Max. CPU Burst Frequency for 3 or 4 cores bursting simultaneously is 1.60GHz
²Additionally, LPDDR3 can be supported on customer designs if needed
³Simultaneous display resolution capabilities may differ.
⁴General Purpose I2C
⁵SPI on x8300 and x8500 is multiplexed with other pins. SPI availability is implementation dependent
⁶USB 3.0 backward compatible to USB 2.0
⁷eMMC 5.0 storage devices can be used and are compatible with the eMMC 4.51 storage controller included in CHT
⁸Other names and brands may be claimed as the property of others.
Intel® Atom™ x5 and x7 Processor Platform Block Diagram
Tablet, Phablet & Smartphone Platforms

**Intel® Atom™ x7 Processor**

Z8700 Series  
(Cherry Trail)

**Intel® Atom™ x5 Processor**

Z8500 & Z8300 Series  
(Cherry Trail)

**Intel® Atom™ x3 Processor**

C3000 Series  
(SoFIA LTE, SoFIA 3G-R, SoFIA 3G)

Performance

Mainstream

Entry/Value

A portfolio of scalable Intel Atom SoC products from Entry/Value through Performance