# Quick Reference Guide

## 2020 Mobile Processors for Laptops

**AMD Ryzen™ 4000 Series Mobile Processors with Radeon™ Graphics**

**AMD Athlon™ 3000 Series Mobile Processors with Radeon™ Graphics**

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Disruptive processor and graphics performance across the product lineup, addressing every computing need – productivity, entertainment, gaming, and content creation.

### Responsive Performance Meets Modern Features

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<th>AMD Athlon™ 3000 Series</th>
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<tr>
<td>&quot;Zen&quot;</td>
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**Modern Mainstream**

For everyday users who want modern features and great battery life in a responsive laptop.

- **Real Performance**
  - AMD "Zen" technology delivers a powerful upgrade to mainstream laptops
  - Up to 2.5X faster multithreaded performance vs. previous gen processors

- **Gorgeous Visuals**
  - Edit photos and stream movies in up to 4K

- **Modern Features**
  - Enjoy Windows® 10 modern features like Windows Hello, Digital Pen, Cortana, and Modern Standby along with long-lasting battery life

### The World's Most Advanced Laptop Processors

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<th>AMD Ryzen™ 4000 U-Series</th>
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<td>&quot;Zen 2&quot;</td>
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- **Ultra-Fast Responsiveness**
  - Up to 8 ultra-fast "Zen 2" cores, the most available on an ultrathin PC
  - Create, stream, and multitask faster than ever with the world's highest performing ultrathin laptop processor

- **The Best Entertainment Built-In**
  - The best-in-class graphics for ultrathin laptops
  - Enjoy up to 4K streaming and full HD gaming

- **Maximum Mobility**
  - Up to 2X the power efficiency of previous gen processors to support long-lasting battery life
  - Wi-Fi 6 and Bluetooth 5 compatibility

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<th>AMD Ryzen™ 4000 H-Series</th>
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- **Uncompromising Performance**
  - Up to 8 ultra-fast "Zen 2" cores deliver enthusiast performance for innovative thin and light laptops
  - Optimized for discrete graphics for enhanced visuals

- **Born To Game**
  - Experience smooth gaming in up to 1440p and blazing fast framerates on top game titles
  - Enjoy high resolutions and high game settings on-the-go

- **Built To Create**
  - Tackle demanding creative applications for graphic design, editing photos and videos, encoding, rendering, and more

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1. Previous generation specifications for comparison.
2. Windows Hello requires a compatible device.
3. Digital Pen requires a compatible device.
4. "Zen 2" is the most advanced generation of AMD Ryzen™ processors.
5. "Zen 2" is the most advanced generation of AMD Athlon™ processors.
6. "Zen 2" is the most advanced generation of AMD Ryzen™ processors for ultrathin laptops.
7. Previous generation specifications for comparison.
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<td>AMD Ryzen™ 5 4600H Mobile Processor with Radeon™ Graphics</td>
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<td>1500 MHz</td>
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<td>AMD Ryzen™ 3 4300U Mobile Processor with Radeon™ Graphics</td>
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<td>AMD Radeon™ Graphics</td>
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<td>1400 MHz</td>
<td>Intel® Core™ i3-1005G1</td>
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<td>AMD Athlon™ Gold 3150U Mobile Processor with Radeon™ Graphics</td>
<td>AMD 14 nm <em>Zen</em></td>
<td>2C/4T</td>
<td>5 MB</td>
<td>3.3 GHz</td>
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<td>AMD Radeon™ Graphics</td>
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<td>1000 MHz</td>
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<td>AMD Athlon™ Silver 3050U Mobile Processor with Radeon™ Graphics</td>
<td>AMD 14 nm <em>Zen</em></td>
<td>2C/2T</td>
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<td>3.2 GHz</td>
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1. Testing by AMD Performance Labs as of 11/22/2019 utilizing the Athlon Gold 3150U vs. the Intel® Pentium® 5405U. Performance may vary. See Table 1.
2. Requires specialized hardware, including a fingerprint reader, an IR sensor or other biometric sensors, and capable devices.
3. Alta subscription required and sold separately. Pen capable tablet or PC required. Pen accessory may be sold separately.
4. As of December 2019, the Ryzen 4000 series mobile processor is the “Most advanced laptop processor” defined as superior 7nm process technology in a smaller node, 15W and 45W typical TDP.
5. As of December 2019, the Ryzen 7 4800U mobile processor is expected to have the “Most cores in a laptop processor” defined as up to 8 cores. Testing by AMD Performance Labs as of 12/09/2019 utilizing an AMD Ryzen™ 7 4800U vs. 2nd Gen Ryzen 7 3700U in Cinebench R20 Benchmark, Cinebench R20 nT and 3DMark 11 Performance. Results may vary. 3DMark is a registered trademark of Futuremark Corporation. See Table 7.
6. As of December 2019, the Ryzen 7 4800H mobile processor is the “Most advanced laptop processor” defined as superior 7nm process technology in a smaller node, 45W typical TDP. Performance may vary. See Table 7.
7. As of December 2019, the Ryzen 7 4800U mobile processor is expected to have the “Most cores in a laptop processor” defined as up to 8 cores. Testing by AMD Performance Labs as of 12/09/2019 utilizing an AMD Ryzen™ 7 4800U vs. 2nd Gen Ryzen 7 3700U in Cinebench R20 Benchmark. Results may vary. See Table 7.
8. Wi-Fi 6 and Bluetooth 5.0 availability varies by laptop manufacturer and are system configuration dependent. Check with your laptop manufacturer for compatibility information.
9. Performance varies by AMD Ryzen processor. The maximum frequency achievable by a single core on this processor varies by single-threaded workload. Max Boost will vary based on several factors, including, but not limited to: thermal paste; system cooling; motherboard design and BIOS; the latest AMD chipset driver; and the latest OS updates. See Table 7.