The Intel® Agilex™ FPGA family brings together the power of Intel’s 10 nm SuperFin process technology, 3D heterogeneous system-in-package (SiP) integration with Intel’s proprietary Embedded Multi-Die Interconnect Bridge (EMIB), and an innovative chiplet-based architecture to deliver customized connectivity and acceleration for a variety of applications.

The new architecture allows the FPGA fabric to be combined with purpose-built tiles, such as transceivers, processor interfaces, optimized I/O, custom computing, Intel® eASIC™ devices, and many other functions to create solutions that are uniquely optimized for each application.

From the edge through the network to the cloud, an explosion of data is driving the need for flexibility and agility in the products that process, move, and store data. Advances in analytics are compelling hardware systems to cope with evolving standards, support varying workloads, and integrate multiple functions.

## Markets Demanding Customization

**Edge**
- Real-Time Actionable Intelligence

**Network**
- High Bandwidth Aggregation, Processing and Security

**Data Center**
- Managing, Organizing, and Processing the Explosion of Data
### Intel® Agilex™ FPGA Series

#### F-Series
For wide range of applications
- Up to 58 G transceivers
- PCIe Gen4 x16
- DDR4 SDRAM
- Quad-core Arm Cortex-A53 SoC option

#### I-Series
For high-performance processor interface and bandwidth-intensive applications
- Up to 116 G transceivers
- PCIe Gen5 x16
- DDR5 and Intel® Optane™ persistent memory support
- Compute Express Link (CXL) to Intel® Xeon® Scalable processor option

#### M-Series
For compute-intensive applications
- Up to 116 G transceivers
- PCIe Gen5 x16
- DDR5 and Intel® Optane™ persistent memory support
- Quad-core Arm Cortex-A53 SoC
- Compute Express Link (CXL) to Intel Xeon Scalable processor option
- High Bandwidth Memory option

### Intel Agilex FPGAs – Key Attributes

<table>
<thead>
<tr>
<th>KEY ATTRIBUTES</th>
<th>Description</th>
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<tbody>
<tr>
<td>Network Security</td>
<td>Hardened 200G (Half Duplex) crypto cores supporting AES-GCM encryption / decryption, MACsec IP to secure network traffic.</td>
</tr>
<tr>
<td>Compute Express Link (CXL)</td>
<td>First FPGA with a cache and memory coherent interconnect to Intel® Xeon® scalable processors for high-speed, low-latency and efficient performance between CPU and FPGA.</td>
</tr>
<tr>
<td>Transceiver data rates</td>
<td>Support up to 116 Gbps data rates for data intensive applications and hardened media access control, physical coding sublayer (PCS), and forward error correction (FEC) up to 400 Gbps Ethernet (GbE) for networking applications via hardened IP blocks.</td>
</tr>
<tr>
<td>Hardened PCIe PCI Express (PCIe) Gen5 support</td>
<td>2X higher bandwidth compared with PCIe Gen4 to Gen5 x16 interfaces.</td>
</tr>
<tr>
<td>2nd generation Intel® Hyperflex™ FPGA Architecture</td>
<td>Enables significant design optimization to deliver 45% higher performance, or up to 40% lower total power compared with Intel® Stratix® 10 FPGAs.*</td>
</tr>
<tr>
<td>DSP innovation</td>
<td>Hardened BFLOAT16 and up to 40 tera floating point operations per second (TFLOPS)* of digital signal processing (DSP) performance (FP16) for higher performance/watt.</td>
</tr>
<tr>
<td>Advanced memory support</td>
<td>Industry’s only FPGA to support industry standard DDR5, high-bandwidth memory (HBM), and Intel® Optane™ persistent memory support.</td>
</tr>
<tr>
<td>Intel® eASIC™ devices</td>
<td>Structured ASIC solutions with reusable intellectual property (IP) cores provide a custom logic continuum to enable scaling while saving on cost and power.</td>
</tr>
</tbody>
</table>

### For More Information
- Intel Agilex FPGA homepage: [www.intel.com/agilex](http://www.intel.com/agilex)
- Compute Express Link: [www.computeexpresslink.org](http://www.computeexpresslink.org)
- Contact an Intel sales representative for inquiries

*Performance varies by use, configuration and other factors. Learn more at [www.Intel.com/PerformanceIndex](http://www.Intel.com/PerformanceIndex).

Performance results are based on testing as of dates shown in configurations and may not reflect all publicly available updates. No product or component can be absolutely secure. Your costs and results may vary.

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