OVERVIEW

The Kria™ KR260 Robotics Starter Kit is a Kria SOM-based development platform for robotics and factory automation applications. It enables roboticists and industrial developers without FPGA expertise to develop hardware accelerated applications for robotics, machine vision, and industrial communication & control. Developers benefit with greater flexibility from native ROS 2 and Ubuntu support along with increased productivity through the Kria Robotics Stack (KRS).

The pre-built interfaces and accelerated applications make the KR260 an ideal platform to accelerate robotics innovation and take those ideas to volume production deployment with commercial- and industrial-grade Kria K26 SOMs.

HIGHLIGHTS

**Instant-On Robotics Platform**
- Enables software-defined, hardware-accelerated applications for robotics
- Provides deterministic communication across robotics internal network
- Integrates any sensor (e.g., vision, radar, LiDAR) for perception
- Leverages Modbus over Pmod for actuation

**Time Sensitive Networking**
- Accurate time synchronization over Ethernet (IEEE Std 802.1AS)
- Two TSN ports with built-in switch eliminates external TSN switch
- Ethernet with support for converged traffic classes and data types

**High-Performance Machine Vision**
- SLVS-EC sensor RX connector for high-performance vision
- SFP+ cage (10G) for 10GigE Vision
- Partner IP available for sensor and network connectivity
- Lightweight ISP optimized for low latency with Vitis™ Vision libraries

TARGET APPLICATIONS

**Robotics**
- Collaborative Robots
- Surgical Robots
- Autonomous Mobile Robots (AMRs)
- Automated Guided Vehicles (AGVs)
- Aerial Robots
- Delivery Robots
- Cartesinian Robots
- Hospitality Robots

**Industrial Communication & Control**
- Programmable Logic Controllers (PLC)
- Programmable Automation Controllers (PAC)
- Computer Numerical Control Router (CNC)
- Wired/Wireless Secure Industrial Gateway

**Machine Vision**
- SLVS-EC Sensor-Based Camera
- USB-Stereo Camera
- 1/10GigE Vision / CXP over Fiber
## WHAT’S INSIDE

### Kria™ KR260 Robotics Starter Kit

![KR260 Starter Kit Diagram](image)

<table>
<thead>
<tr>
<th>PARAMETER</th>
<th>KR260 STARTER KIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Device</td>
<td>Zynq™ UltraScale+™ MPSoC EV (XCK26)</td>
</tr>
<tr>
<td>Form factor</td>
<td>SOM + Carrier Card + Thermal Solution</td>
</tr>
<tr>
<td>Starter kit dimensions</td>
<td>119mm x 140mm x 36mm</td>
</tr>
<tr>
<td>Thermal cooling solution</td>
<td>Active (Fan + Heatsink)</td>
</tr>
<tr>
<td>System logic cells</td>
<td>256K</td>
</tr>
<tr>
<td>Block RAM blocks</td>
<td>144</td>
</tr>
<tr>
<td>UltraRAM blocks</td>
<td>64</td>
</tr>
<tr>
<td>DSP slices</td>
<td>1.2K</td>
</tr>
<tr>
<td>Ethernet interfaces</td>
<td>4x 10/100/1000 Mb/s RJ-45s, 1x SFP+ Cage</td>
</tr>
<tr>
<td>DDR memory</td>
<td>4GB (4 x 512Mb x 16 bit) [non-ECC] DDR4</td>
</tr>
<tr>
<td>Primary boot memory</td>
<td>512Mb QSPI</td>
</tr>
<tr>
<td>Secondary boot memory</td>
<td>SDHC card</td>
</tr>
<tr>
<td>Device security</td>
<td>Zynq UltraScale+™ MPSoC hardware root of trust (RoT) in support of secure boot. Infineon TPM 2.0 in support of measured boot.</td>
</tr>
<tr>
<td>Video</td>
<td>x1 SLVS-EC Gen2 x2 lane interface DisplayPort 1.2a Output for 1920 x 1080 at 60Hz</td>
</tr>
<tr>
<td>I/O expansion</td>
<td>x4 Pmod 12-pin interface x1 Raspberry Pi HAT header with 26 I/Os</td>
</tr>
<tr>
<td>USB3.0/2.0 interfaces</td>
<td>x4</td>
</tr>
</tbody>
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### TAKE THE NEXT STEP

For more information, documents, and reference designs, or to purchase, visit [xilinx.com/kr260](https://www.xilinx.com/kr260)

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