

# Velocity™ 100

## Board Specifications

FPGA	<ul style="list-style-type: none"><li>• AMD Xilinx Virtex Ultrascale Plus XCVU13PFHGA2014-2L-E</li><li>• Speed Grade -2, Low Power</li><li>• Extended temperature range</li></ul>
On-board Flash	<ul style="list-style-type: none"><li>• 2Gbit Flash memory for booting FPGA</li></ul>
DRAM	<ul style="list-style-type: none"><li>• 2x banks chip on board DDR4</li><li>• With ECC, up to 16GB total (2x 8GB)</li><li>• 2400MHz</li></ul>
Host interface	<ul style="list-style-type: none"><li>• PCIe Gen3 x 16G interface direct to FPGA, connected PCIe hard IP</li></ul>
QSFP28 cage	<ul style="list-style-type: none"><li>• 200 Gbps (2x 100 Gbps PAM4)</li><li>• PAM4: 1x 200GbE, 2x 100GbE, 4x 50GbE</li><li>• NRZ: 1x 200GbE, 2x 100GbE, 4x 50GbE, 8x 10/25 GbE</li><li>• Multi-rate hard MAC supports all combinations</li></ul>
External Power Pin	<ul style="list-style-type: none"><li>• PCIe Slot (75W)</li><li>• 8-Pin connector (up to 150W)</li></ul>
VCCINT Supply	<ul style="list-style-type: none"><li>• 80A</li></ul>
Config Port	<ul style="list-style-type: none"><li>• PMBus, Soft Processor JTAG</li></ul>

SD Card	<ul style="list-style-type: none"><li>• Boot drive for soft core processor</li><li>• Data storage expansion</li></ul>
Cooling	<ul style="list-style-type: none"><li>• Standard: single-width passive heat-sink</li></ul>
Electrical	<ul style="list-style-type: none"><li>• PCIe slot (75W) or 1x 8-pin External PCIe 12V connectors (150W)</li><li>• Up to 225W total</li></ul>
Environmental	<ul style="list-style-type: none"><li>• Operating Temperature: 0°C-100°C</li></ul>
Quality	<ul style="list-style-type: none"><li>• Manufactured to IPC-A-610</li><li>• Class 2</li><li>• RoHS compliant</li><li>• CE, FCC, UKCA &amp; ICES approvals</li></ul>
Form factor	<ul style="list-style-type: none"><li>• 1/2 length, 1/2 height PCIe single-slot board</li><li>• Size: 68.9mm x 167.65mm</li><li>• (2.7in x 6.6in)</li></ul>

## Development Tools

System development	<ul style="list-style-type: none"><li>• Pascaline SDK including PCL-e driver, Host software, libraries, and board utilities</li></ul>
Application development	<ul style="list-style-type: none"><li>• C High level synthesis, AMD Vivado Tools (HDL and VHDL)</li></ul>

To learn more, visit

[www.pascalinetechology.com](http://www.pascalinetechology.com)



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