

## Instant-DevKit Arria 10 SoC FMC IDK



### Target markets:

- Video capture and processing
- Industrial
- Test & Measurement
- Medical

The Arria 10 SoC FMC Instant-Development Kit provides to developers the best Out-Of-The box experience, combining the Best-In Class compact hardware platform and the most efficient intuitive software environment.

Dual-core ARM® Cortex™-A9 MPCore™ hard processor system (HPS).

Its unique install and GUI interface allows an immediate start, and its reference designs enable fast turn-around designs, shortening and securing the developments.

## DevKitInvasion



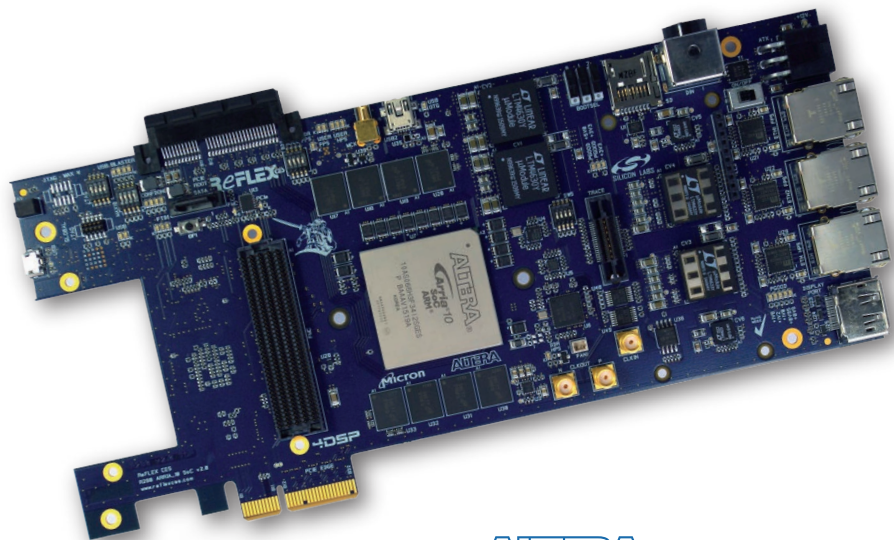
**ATTILA**  
Arria 10 FPGA FMC IDK



**ALARIC**  
Arria 10 SoC FMC IDK



**ACHILLES**  
Arria 10 SoC SoM IDK



**ALTERA**   
now part of Intel



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# ALARIC Instant-DevKit

## Arria 10 SoC SoM IDK

### Featured Device

Arria 10 SoC 660 KLEs

- Board based on Altera Arria 10 SoC 660KLEs, speed grade -2 by default
- PCIe end point edge connector for Gen3 x4 (32Gb/s)
- PCIe root Complex edge connector for Gen3 x4 (32Gb/s)
- FMC High Pin Count fully compliant:
  - 168 LVCMOS (1.8V) or 84 LVDS (1.8V,2.5V)
  - 10 XCVR (Typical 10Gb/s)
- One serial over USB High speed link (through USB Hub)
- 2 x RJ45 copper connector 10/100/1000Base-T Ethernet connected to the FPGA core fabric part
- 1 x RJ45 copper connector 10/100/1000Base-T Ethernet connected to the HPS part of the FPGA
- On board DDR3 for HPS (2GB) speed up to 2133 MT/s\*

\* Depends on FPGA speed grade

- On board DDR3 for FPGA (2GB) speed up to 2133 MT/s\*
- DisplayPort Rev1.2 (up to 5.4Gbit/s)
- One microSD 8 Go SDHC Class 10 (already insert into the support connector) with factory image boot
- Mini USB connector B-type to enable the USB2.0 PHY OTG high speed, ULPI interface connected to the HPS of the FPGA
- MAX 10 Power supplies monitoring with its ADCs solution
- Innovative clock tree (Silicon Labs)
- +12V on a JACK/Edge PCIe connector / ATX connector
- Active Heat sink
- PCIe Bracket, LED
- SATA connector to FPGA 1 x XCVR
- MCX connector for PPS interface
- Mictor connector for HPS debug trace

### Board Programming

- JTAG : On-board USB-Blaster II MAX V (reachable by USB Hub)
- Fast passive parallel (FPP) configuration via MAX<sup>®</sup>10 device and flash memory
- AS configuration supported with NOR FLASH EPCQL512
- Boot selection for HPS through user dipswitch

### Board Size

- Length : 240 mm (9.45 inches)
- Height : 111.15 mm (4.38 inches) / Standard Height PCIe
- PCB thickness : 1.57 mm (0.062 inches) / Standard Thickness PCIe

### Kit Ordering information

- Development Kit (FPGA Arria 10 SX 660) / RXCA10S066PF34-IDK00A (Production version)

### Power & Environmental

- Power : 75W max/ 40W typical
- Environmental : 0°C/ +60°C

### Clock Circuitry

- 3 x SMA connectors (1 main input clock + 1 diff. output programmable clock)
- 9 x FPGA XCVR programmable inputs Clocks (up to 800 MHz to reach different communication protocol)

### Kit Content

- Power adapter (US, UK, EU, JP) and cables (USB, Ethernet, DisplayPort, SMA)
- FMC and PCIe Loop back boards
- LCD (2 lines x 16 characters, I2C, 5V)
- Starter Guide
- ReFLEX CES innovative software interface (GUI) on USB Key/Windows64 with Test Designs
- OpenCL BSP HPC (Host-In-x86)
- Schematics and assembly documentation

### Partners

