

Intel® Arria® 10 SoC Development Kit

Introduction

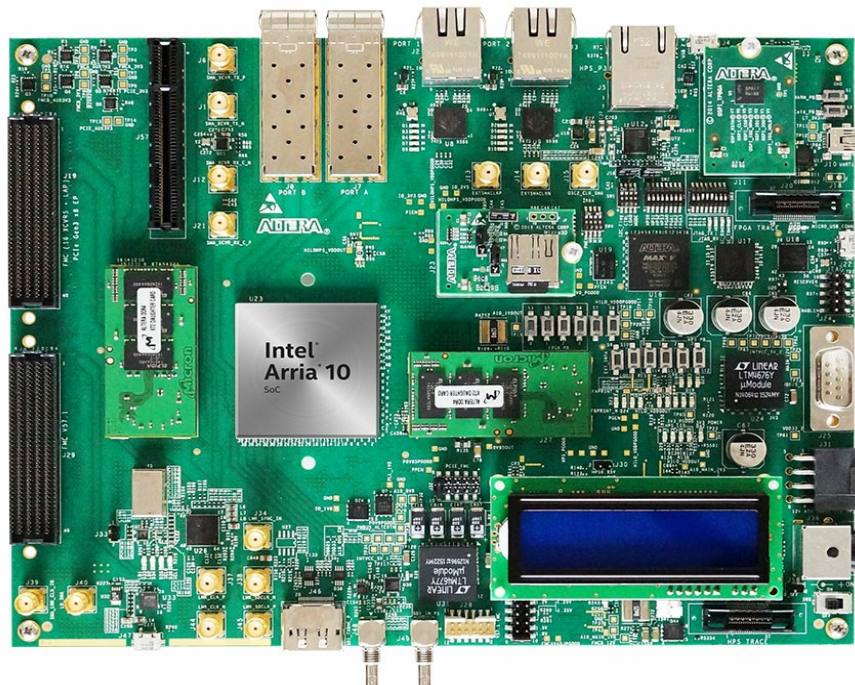
The Intel® Arria® 10 SoC Development Kit offers a quick and simple approach for developing custom ARM® processor-based SoC designs. Design productivity is one of the driving philosophies of the Arria 10 SoC architecture. The Arria 10 SoCs offer full software compatibility with previous generation SoCs, a broad ecosystem of ARM software and tools, and the enhanced FPGA and digital signal processing (DSP) hardware design flow.

Arria 10 SoCs have been designed to meet the performance and power requirements for mid-range applications such as:

- › Wireless infrastructure equipment including remote radio unit and mobile backhaul**
- › Compute and storage equipment including flash cache, cloud computing, and acceleration**
- › Broadcast studio and distribution equipment including professional A/V and video conferencing**
- › Military guidance, control, and intelligence equipment**
- › Wireline 100G line cards, bridges and aggregation, 40G GPON**
- › Test and measurement equipment**
- › Diagnostic medical imaging equipment**
- › PCI Express* (PCIe*) Gen3 x8 lanes (endpoint or root port)**

**Application-specific daughtercards, available separately, supporting a wide range of I/O and interface standards

Figure 1. Intel Arria 10 SoC Development Kit



With this kit, you can:

- › Evaluate Arria 10 SoC device features and performance
- › Begin development of your hardware and software design
- › Use as a platform for target reference designs, OS/BSP, and tools

Figure 2. Arria 10 SoC Development Kit Block Diagram

<ul style="list-style-type: none"> › NAND, quad serial peripheral interface (SPI), and SD/MICRO boot flash cards › 2GB DDR4 HILO memory card › Display port and serial digital interface (SDI) port 	<ul style="list-style-type: none"> › including ARM* Development Studio 5 for Intel SoC FPGAs › Quartus Prime Pro software (required) › Nios® II processor (optional) › MegaCore® intellectual property (IP) library (optional) › Mentor Graphics* ModelSim* - Intel FPGA Edition software (optional)
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1. DK-SOC-10AS066S-A development kit comes with a 10AS066N3F40E2SG device
2. Download the zip file, and install the Arria 10 SoC Board Test System.
3. A one-year license for Quartus Prime design software is available upon purchase of the kit. License activation [instructions](#) and [FAQs](#).

Table 3. Arria 10 SoC Development Kit Downloadable Content

Files	Description
Arria 10 SX SoC Package Installer (ES2 Edition) Arria 10 SX SoC Package Installer (Production Edition)	<p>A single zip file containing</p> <ul style="list-style-type: none"> › Arria 10 SoC Development Kit board design files, documents, and examples including the BTS installation files.
User Guide (ES2 Edition) User Guide (Production Edition) Quick Start Guide (ES2 Edition) Quick Start Guide (Production Edition)	<p>Documentation about setting up the Arria 10 SoC Development Kit and using the included software: Arria 10 SoC Development Kit User Guide</p> <p>Documentation summarizing the usage of the development kit and its features</p>
Board Schematic	Production Kit schematic, Rev C
Board Bring Up Guide	Details on how to bring up the Arria 10 SoC Development Kit
Arria 10 GSRD (Golden System Reference Design)¹	The Arria 10 GSRD (Golden System Reference Design) page on Rocketboards.org has instructions to create an SD card image.
SoC EDS Installer	SoC EDS installer which includes ARM Development Studio 5 (ARM DS-5*) for Intel SoC FPGAs
Qsys and Quartus Tools	The Quartus Prime design suite provides the necessary tools used for developing hardware and software for Intel FPGA devices. Included in the Quartus Prime design suite are the Quartus Prime software, the Nios II EDS, and the Intel FPGA IP Library.

¹ Please refer to the [GSRD compatibility matrix](#) to pick the correct GSRD version for your board.



