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Stratix V GX FPGA Development Kit

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from **Altera**

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The Altera® Stratix® V GX FPGA Development Kit provides a complete design environment that includes all the hardware and software you need to begin developing FPGA designs immediately. The development kit is RoHS compliant. You can use this development kit to do the following:

- Develop and test PCI Express® (PCIe®) designs at data rates up to Gen3 using the PCIe short card form factor-compliant development board
- Develop and test memory subsystems for DDR3, QDR II+, or RLDRAM II memories
- Use the high-speed mezzanine card (HSMC) connectors to interface to one of over 35 different HSMCs provided by Altera partners, supporting protocols such as Serial RapidIO®, 10-Gbps Ethernet, SONET, CPRI, OBSAI, and others

Ordering Information

Table 1. Altera's Stratix V GX FPGA Development Kit Ordering Information [\(1\)](#)

Ordering Code	Price	Ordering Information
DK-DEV-5SGXEA7N	<div><div></div><div>Buy Now ▶</div></div>	The Stratix V GX FPGA Development Kit features a 5SGXEA7N device and a one-year license for the Quartus® II design software.

Notes:

- You can purchase optional HSMC connector interface-compatible [daughter cards](#), adapters, or cables to use with your development kit.

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Development Kit Contents

The Stratix V GX FPGA Development Kit features the following:

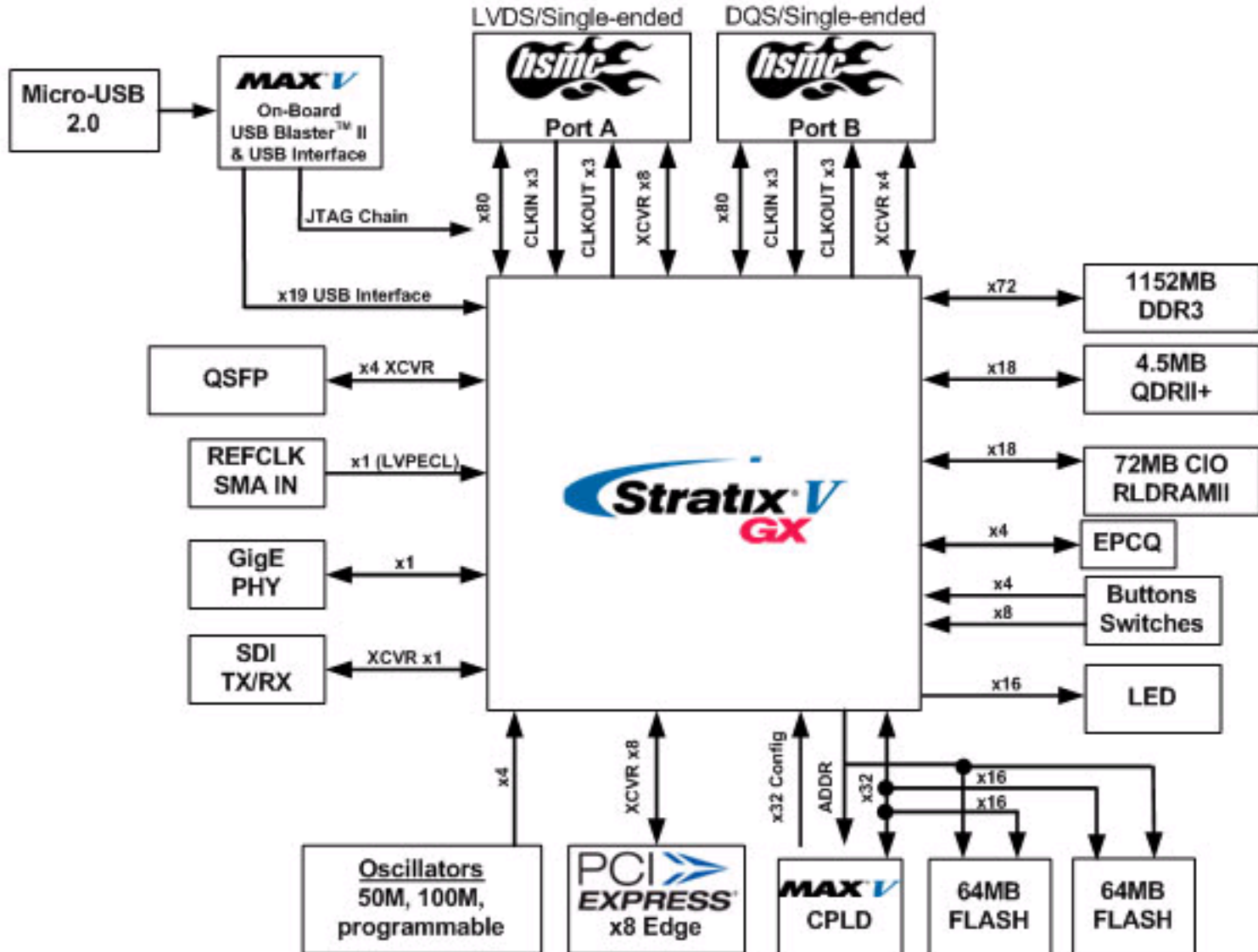
- Stratix V GX FPGA development board (see Figure 1)
 - Featured device:
 - Stratix V GX FPGA: 5SGXEA7K2F40C2N
 - Configuration, status, and setup elements
 - JTAG
 - On-board USB-Blaster™ II cable
 - Fast passive parallel (FPP) configuration via MAX® V device and flash memory
 - One reset config push button
 - One CPU reset push button
 - Two configuration push buttons
 - Clocks
 - 50-MHz, 125-MHz, 100-MHz, and 148.5-MHz programmable oscillators
 - SMA input (LVPECL)
 - General user input and output
 - 10/100/1000Mbps Ethernet PHY (SGMII) with RJ-45 (copper) connector
 - 16x2 character LCD
 - One 8-position dual in-line package (DIP) switch
 - Sixteen user LEDs
 - Three user push buttons
 - Memory devices
 - DDR3 SDRAM (1,152 MB, x72-bit wide)
 - QDR II+ SRAM (4.5 MB, 2-Mb x18-bit wide)
 - Footprint compatible to QDR II 4-Mb x18-bit wide
 - RLDRAM II (72-Mbyte CIO RLDRAM II with an 18-bit data bus)
 - Component and interfaces
 - PCIe x8 edge connector
 - Two HSMC connectors
 - SMB for serial digital interface (SDI) input and output
 - QSFP optical cage
 - 10/100/1000Mbps Ethernet PHY (SGMII) with RJ-45 (copper) connector
 - Power
 - Laptop DC input
 - PCIe edge connector
 - Nios® II processor web server and remote system update
 - Loopback and debug HSMC cards
 - Power adapter and cables
 - Stratix V GX FPGA Development Kit software content
 - Complete documentation
 - User guide
 - Reference manual
 - Board schematics and layout design files
 - GUI-based Board Test System
 - Includes complete Quartus II software projects with open source RTL
 - Board Update Portal
 - Includes complete Quartus II software projects with open source RTL
 - Quartus II design software, Development Kit Edition (DKE)
 - License to use full version of Quartus II software for one year

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Figure 1. Stratix V GX FPGA Development Board



Figure 2. Stratix V GX FPGA Development Board Block Diagram



Available Documentation

Kit Name (Ordering Code)	Document	Description	Version
Stratix V GX FPGA Development Kit (DK-DEV-5SGXEA7N)	Stratix V GX FPGA Development Board Reference Manual (PDF)	Detailed information about board components and interfaces.	12.0
	Stratix V GX FPGA Development Kit User Guide (PDF)	Information about setting up the Stratix IV GX FPGA development board and using the included software.	12.0
	Kit installation (for boards with ES silicon)	Full installation of all files including reference manual, user guide, quick-start guide, BOM, layout, PCB, schematics, Board Update Portal example file, Board Test System example file, and others.	11.1
	Kit installation (for boards with ES silicon)	Full installation of all files including reference manual, user guide, quick-start guide, BOM, layout, PCB, schematics, Board Update Portal example file, Board Test System example file, and others. Contents are updated to Quartus II software version 11.1 SP2 with increased DDR3 SDRAM performance and improved transceiver designs.This installation is for ES Boards only.	11.1.2
	Kit installation	Full installation of all files including reference manual, user guide, quick-start guide, BOM, layout, PCB, schematics, Board Update Portal example file, Board Test System example file, and others.	12.0

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Related Links

- Documentation for Stratix V Devices
- Errata Sheet and Guidelines for Stratix V ES Devices (PDF)
- Errata Sheet for Stratix V Devices (PDF)
- Altera and partner daughter cards
- Other Stratix V FPGA-based development kits
- Junco PCI Express WinDriver (30-day evaluation)

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