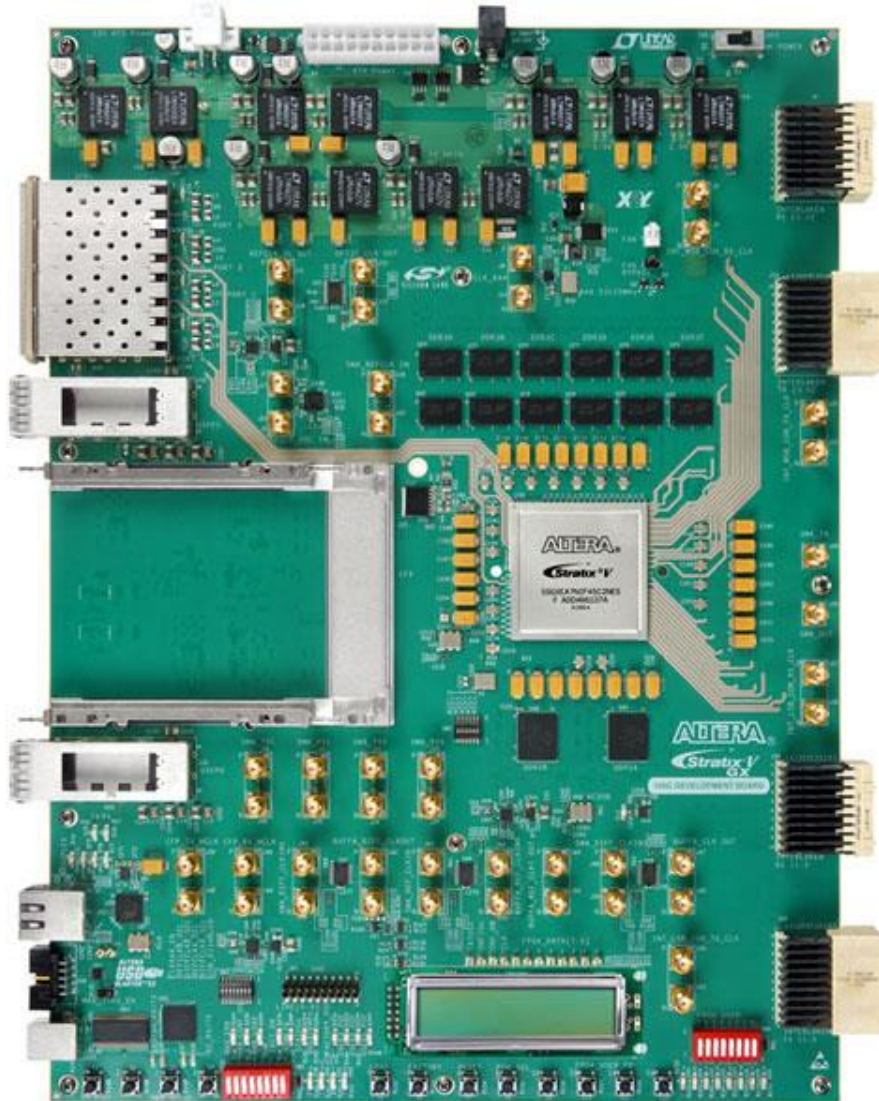


# Altera 100G Development Kit, Stratix V GX Edition

## 1. Overview



Altera's 100G Development Kit, Stratix<sup>®</sup> V GX Edition enables a thorough evaluation of 100G designs by allowing you to:

- Support 10G/40G and 100G line interfaces through optical modules
  - Support applications requiring external memory interfaces, through 6x32-bit DDR3 and 1x36- and 1x18-bit QDR II BL2 memory banks
  - Use system-side interfaces via two pairs of FCI AirMax connectors
- 
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- Complete line-side (optical modules) to system-side (AirMax connector) datapath analysis
- Evaluate transceiver performance up to 12.5 Gbps
- Verify physical medium attachment (PMA) compliance to 10G/40G/100G Ethernet, Interlaken, CEI-6G/11G, and other major standards
- Validate interoperability between optical modules, such as SFP, SFP+, QSFP, and CFP

## 2. Specification

### Stratix V GX development board

- Featured device: 5SGXEA7N2F45C2N
- EPM2210F324C3N, MAX<sup>®</sup> II 324-pin CPLD

### FPGA configuration

- Fast Passive Parallel (FPP) configuration
- 1-Gb flash storage for two configuration images (factory and user)
- On-board USB-Blaster<sup>™</sup> II cable for use with the Quartus<sup>®</sup> II Programmer, Nios<sup>®</sup> II software and System Console
- JTAG header for external USB-Blaster cable

### Memory

- Twelve 2-Gb DDR3 SDRAM
- Two 72-Mb QDR II SRAM

### General user input/output

- Four user push buttons
- Two DIP switches
- Eight user LEDs
- Two-line character LCD
- Ten configuration status LEDs

### Components and interfaces

- 10/100/1000 Ethernet PHY and RJ-45 jack
- 48 transceiver channels
  - Two channels for SMA interface
  - Four channels for SFP+ interface
  - Eight channels for QSFP interface
  - 10 channels for CFP interface
  - 24 channels for Interlaken interface

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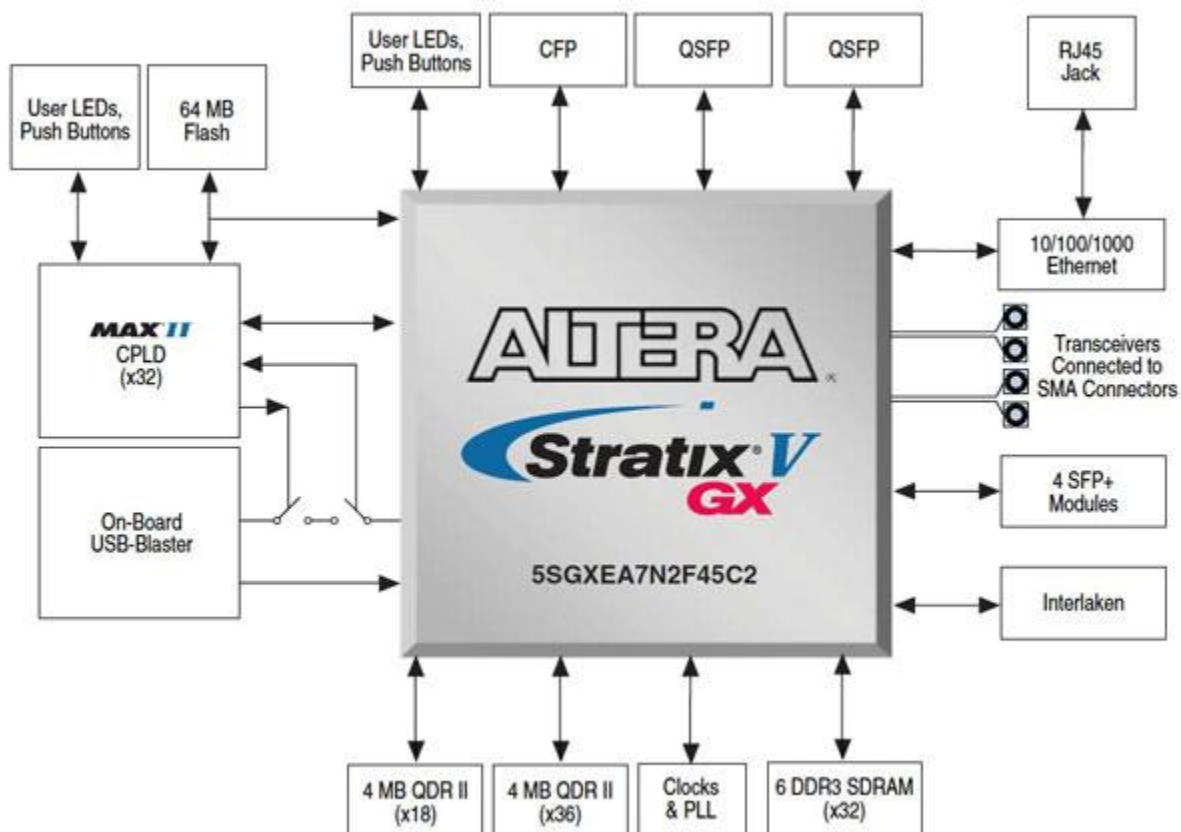
## Temperature measurement circuitry

- Die temperature

## Power

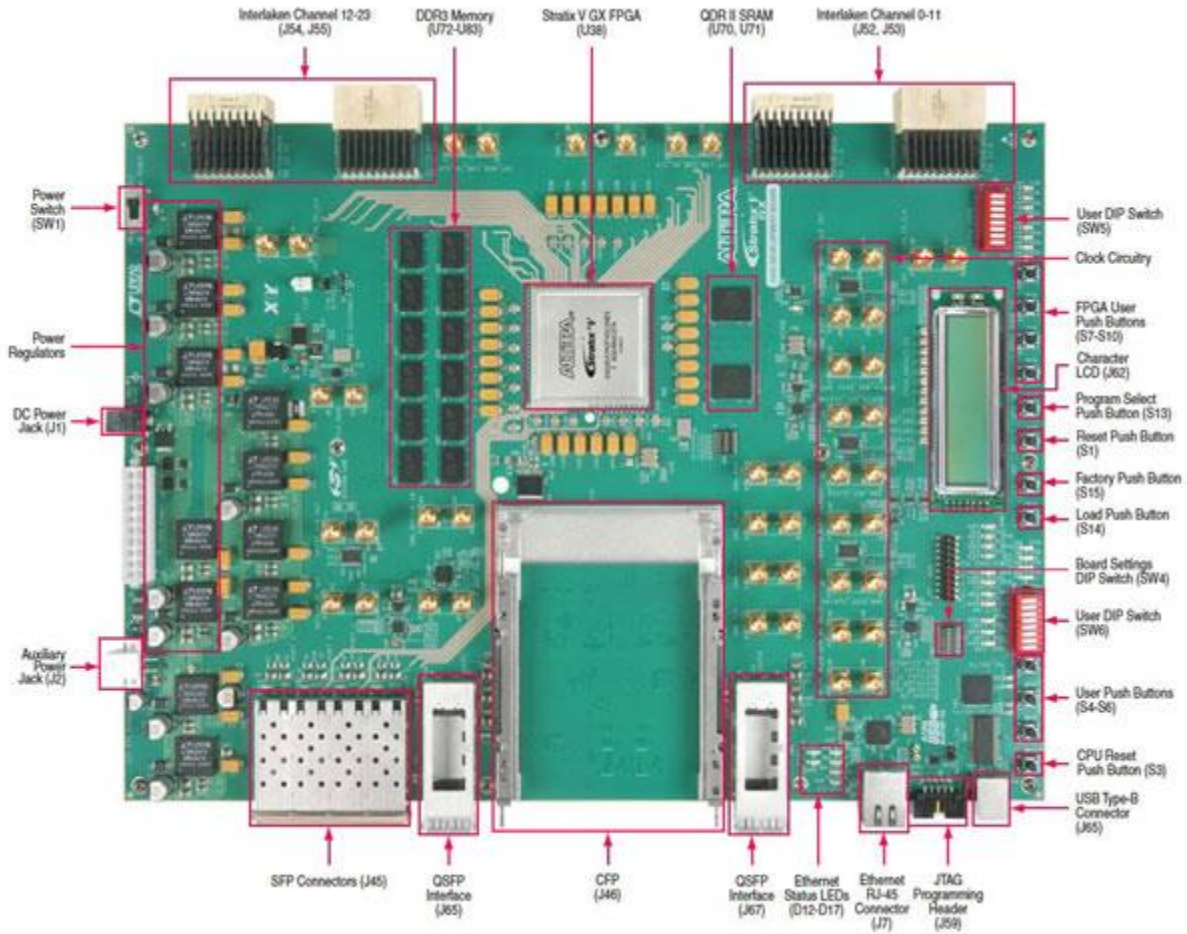
- 19-V DC input
- 2.5-mm barrel jack for DC power input
- On/off power slide switch
- On-board power measurement circuitry

## Altera 100G Development Kit, Stratix V GX Edition Block Diagram



## 4. Layout

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