



Implementation of Space-Industry IP : A Comparison of Space-Grade FPGAs

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FPGAs for Rocket Scientists :

A Comparison of Space-Grade Devices

Day 1

Module 1 : Space-Grade FPGA Technologies

- *One-Time Programmable FPGAs*
- *Flash FPGAs*
- *SRAM FPGAs*
- *A comparison of FPGA technologies and SEE mitigation*

Module 2 : Space-Grade FPGA Fabrics & Resources

- *One-Time Programmable fabrics & resources*
- *Flash fabrics & resources*
- *SRAM fabrics & resources*
- *A comparison of FPGA fabrics and SEE mitigation*

Module 3 : A Comparison of Space-Grade FPGAs Implementing Spacecraft IP

- *A comparison of devices, specifications and resources*
- *A comparison of devices implementing spacecraft IP*
- *A comparison of design software*
- *A comparison of hardware debug features*

Day 2

Module 4 : FPGA System Architecture Design

- *How to power, sequence and clock your FPGAs, high-speed serial links*
- *Space-grade, low-voltage, high-current DC-DC converters*
- *Space-grade oscillators*

Module 5 : Hardware Design-In of Space-Grade FPGAs

- *Signal Integrity, PDN design & power-estimation spreadsheets and high-speed serial links*
- *Right-first-time PCB design*
- *Design-for-EMC stack-up design and using your PCB as the heatsink*

Module 6 : HDL Coding Techniques for High-Reliability Applications

- *Best practice coding techniques for space applications*