innovaide
Global Engineering Services

Embedded System Diagnostic Power On Self-Test IP

Product Brief

Scope of the Test

The “Power on Self Test”, “POST” is a set of simple and quick tests to be executed during the embedded system boot time. It tests the critical hardware components which are used during the boot process.

Applications

Most of the embedded systems, including 8-bit, 16-bit and 32-bit microprocessors, micro-controllers, DSPs, etc.

Examples: Medical devices, telecommunication, data communications, data center, consumer products which have embedded processors.

POST Test IP Features

All the hardware components should be tested before using during the boot process:

- The Boot Rom or the Boot Flash
- The SDRAM, DDR, DDR2 or DDR3 memories used by boot process
- The communication devices used in the boot: serial controller, Ethernet PHY, etc.
- The major CPLD, FPGA, which are used during the boot

Solution

- Small pieces of test routine calls will be added to several places in the boot code.
- First piece of the test is a small memory test code in assembly language to test the RAM which is used by the Boot Rom/Flash.
- Next piece of the tests are the memory test for relocating the application code/image from Boot Rom/Flash. Also the memory is used for setting up the stack, heap, etc. for the running the C, C++, etc. high level language code. And the test code for communication device, etc.

Benefits

- Ensure the critical hardware devices used in the boot process are in good working condition
- Catch the hardware failure in the earlier stage during the power up time
- Small and quick test only takes seconds

Embedded System POST Diagnostic Test IP Solution

The Power on Self-Test (POST) will automatically run after system power on during the normal system boot up time, it is a go/no go test. If any of the test fails, the failure result will be log/signaled to flash/NVRAM/console/led. The system will be stopped. Usually, this test should only take a very short time, less than 30 seconds.

Service and Support

Innovaide's highly experienced team will ensure a seamless integration and hand-off of VIP into your verification methodology and environment.

innovaide
Global Engineering Services

Contact Information
Email: sales@innovaide.com
Web: www.innovaide.com
Phone: (508)-630-0307

Headquarters: 241 Boston Post Road West.
Marlborough, MA-01752