



Client Case Study

The Solution: High Performance fPGA Characterization Sockets

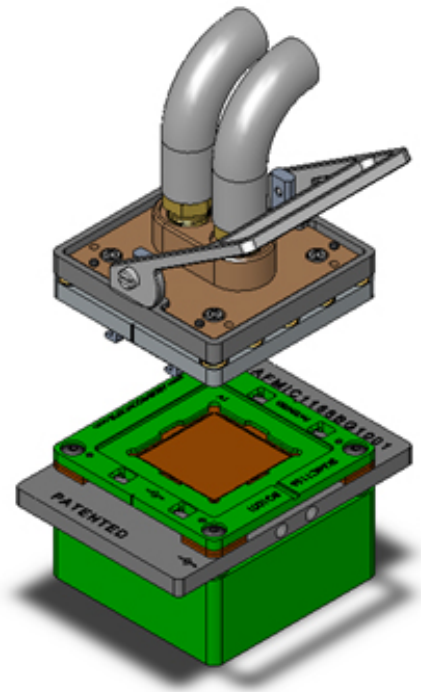
Our Client: A pioneer of programmable logic solutions, enabling system and semiconductor companies to rapidly and cost effectively innovate, differentiate and win in their markets.

The end product:

Client makes next generation custom logic chipsets for client's own customers to develop their own devices.

The Challenge:

- ✓ Performance and value - Client had tried a new solution and after 1 year was faced with increasing electrical performance criteria concerns and a series of mechanical reliability issues in the field. Needed product performance they could count on and ongoing support from their test socket provider.
- ✓ Chipsets require advanced characterization and system level testing analysis during development.
- ✓ Testing requires AC and DC analysis and significant thermal cycling of the device in situ.
- ✓ Any issues with interconnect reliability, current carrying capacity or thermal management of the device under test could result in poor data for chip design and development which could dramatically impact lead time and reliability of the new chip.



Ardent's Solution:

Technology: [RC Spring Probe™](#)



Ardent developed well engineered high performance test socket solutions using our patented **RC Spring Probe™** technology. Working closely with the client cross functional team spanning Asia and the U.S., Ardent standardized a number of high AC performance interposer sets and passive thermal management devices which interface the device under test with the complex electronics necessary for high speed test and characterization of the chipsets.

Benefits/Business Impact:

- ✓ Enabled self service to support the client's service model and process for socket refurbishment and repair.
- ✓ Nearly 100% uptime in characterization and system level labs for testing due to refurbishability of the sockets.
- ✓ Team approach (cross functional client team and Ardent as U.S. based partner) ensured mechanical reliability and proper integration of the test socket and thermal management devices within the test system.
- ✓ Flexibility of Ardent and variety of pin options provided enabled expanded electrical testing to be completed.
- ✓ Standardization enabled reduction of potential issues in mechanical design and resulted in a proven system for socket reliability and electrical performance over extended use on multiple programs.
- ✓ Faster time to market enabled by reliable and consistent results
- ✓ Quality of the test sockets backed by support and service delivered increased overall value and performance to the client.