# CASE STUDY

## ENGINEERING SERVICES HI-TECH







### HIGH BANDWIDTH FPGA PLATFORM

- Challenge High component density with restricted layer build.
- High speed PCIe (8Gbps), FMC (12.5Gbps), SFP+ (10Gbps)
- Prequalified 1996 pin BGA device
- Shall address all DFx, issues to meet cost effective production
- Socket based design to integrate DDR3, RLDRAM3, and QDRII memory devices

### **ENTERPRISE STORAGE**

- Redundant SAS 3 12G based 2U/3U base platform with capacities 100TB to 360TB
- Customized Board Management controller
- Redundant system power distribution of 1600W
- ~250 SAS 3 lanes with trace lengths more than 20 inches

#### ENTERPRISE HIGH CAPACITY/PERFORMANCE STORAGE

- ◆ High capacity 2TB to 8TB, Flash based pluggable memory modules, with small form factor.
- High density Component placement (10 mil spacing between components)
- Compliant to JEDEC PCB form factor and board thickness, limiting the no of layers used while ensuring signal integrity.
- Propriety interposer PCB technique to double memory capacity
- Design optimized to minimize components to meet PCB form factor

#### SATELLITE, TERRESTRIAL AND IP SET TOP BOXES

- Standard Definition Satellite STB
- Onboard Legacy TV interface output support
- Smart card Support, DC power input
- Low Cost solution an d Mass manufactured

#### Technology

- HD, PVR Expertise; HDMI, SPDIF, RGB, SCART Expertise
- NAGRA, NDS support
- Mechanical Design (Metal and Plastic)
- Video Decoder across vendors like ST Micro, Broadcom, NXP
- Exposure to cable, satellite, IP and terrestrial STB's
- DVT and Characterization



#### **MULTI BOARD SIGNAL INTEGRITY ANALYSIS**

To analyze and recommend signal topologies and interconnect rules for high speed signals from a micro-processor controller board to redundant modules through a motherboard and board end connectors.



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