

# HOST

## Hardware IP Protection

May 2016

Chris Pawlowicz

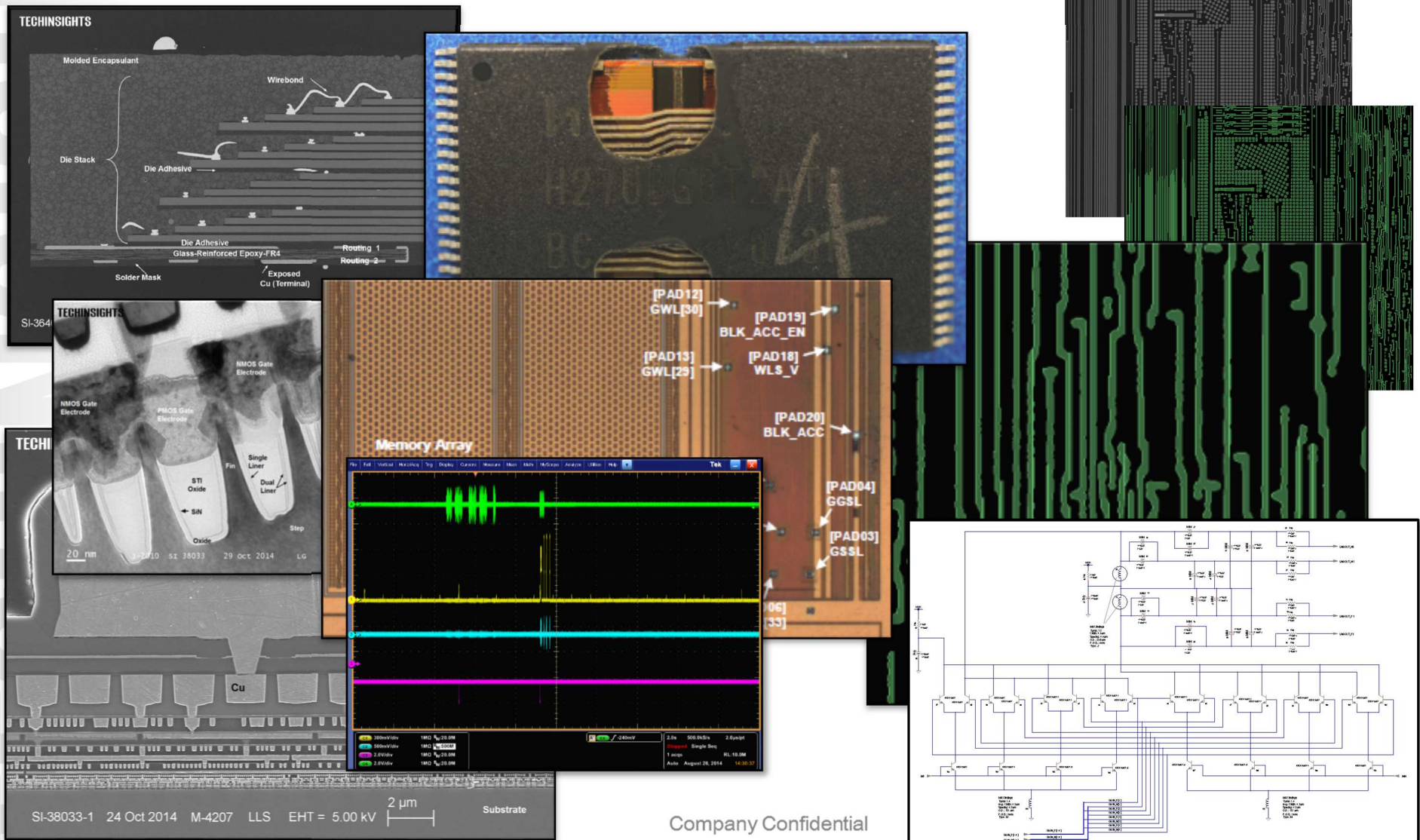
Director, R&D

[cpawlowicz@techinsights.com](mailto:cpawlowicz@techinsights.com)

## 25+ Years of Providing IP Protection Support

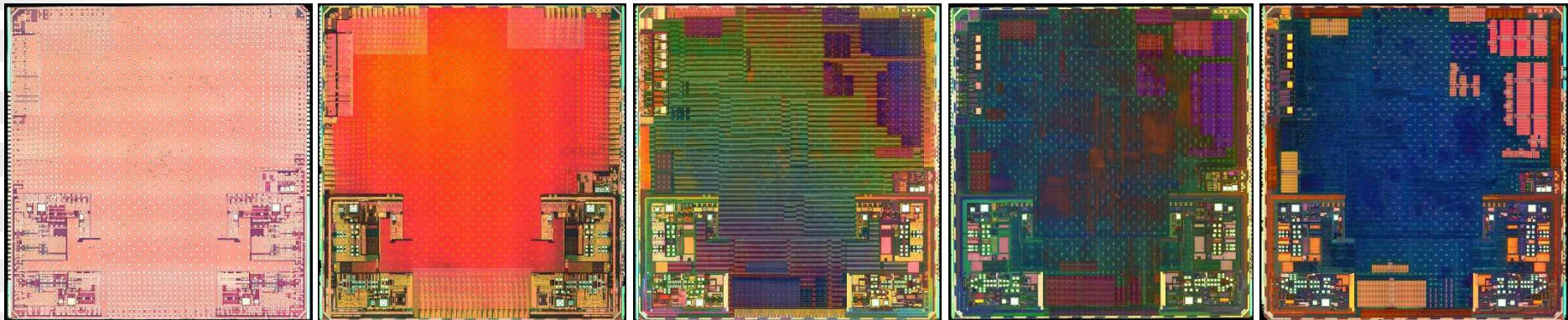
- ⌚ Our clients include >50% of the top 50 patent holders in the world
- ⌚ Primarily driven by commercial market, high volume technology
- ⌚ Forensic analysis covers
  - ⌚ Functional (Firmware, Waveform, Algorithms)
  - ⌚ Structural (IC fabrication, displays, batteries, packaging)
  - ⌚ **Circuit implementation (PCB, IC) – 1000+ reports**
- ⌚ Reverse Engineering plays a large role in generating documentation and identifying infringement

## Structural, Functional and Circuit Analysis

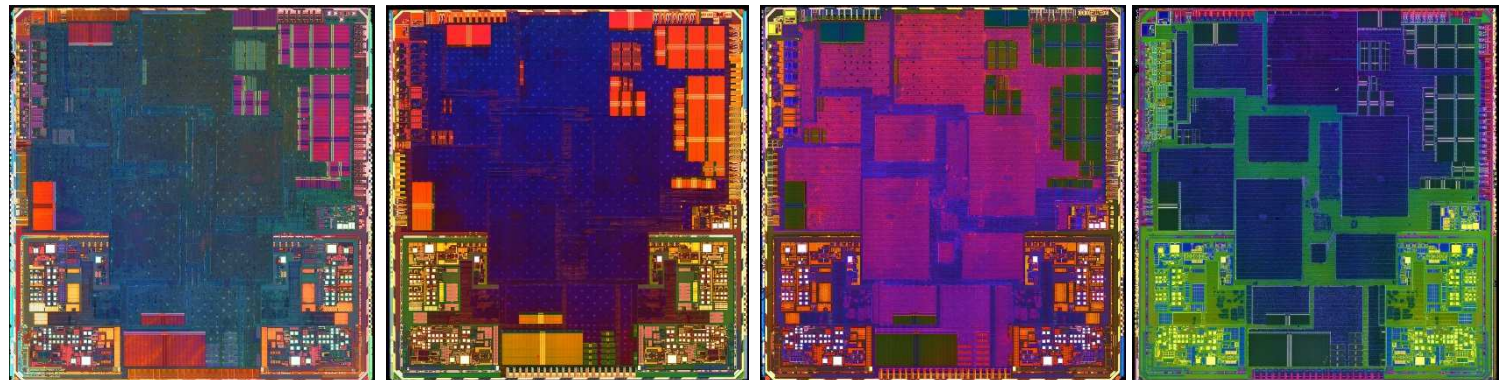


## Mature Deprocessing and Imaging Techniques

13mm x 13mm 8 metal copper process

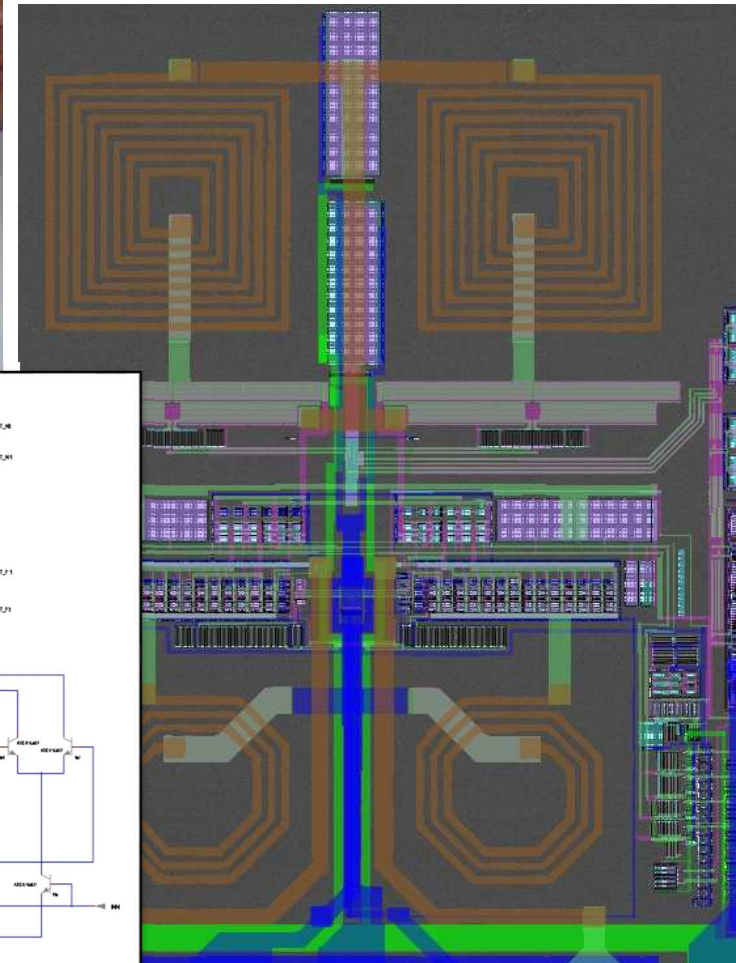
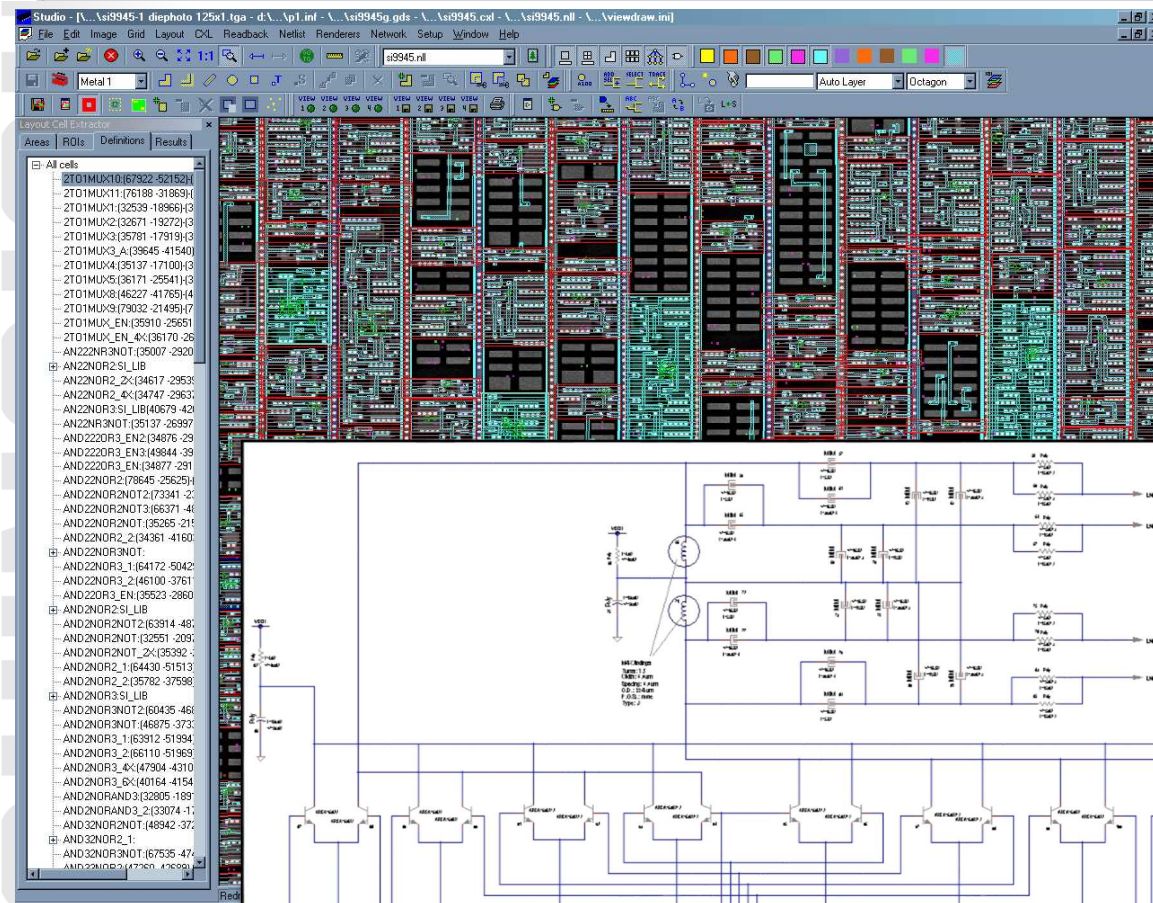


- ✓ Delayering
  - ✓ Imaging
  - ✓ Segmentation
  - ✓ Netlist
  - ✓ Hierarchy
- = Full Schematic



- ✗ Subtle variations (timing, vt shift, transistor size, dopant variation)

## Digital and Analog Circuit Extraction Tools



## Identifying Malicious Activity

