



Dr. Tom Kean
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Algotronix Background



Spin out from Xilinx in 1998. Consulting Services and IP Core Products.

- Advanced Encryption Standard IP Cores
- Patent licensing – FPGA bitstream security and rights management for IP trading
- **New Product at DAC** - DesignTag



AES Encryption Cores



- Leading FPGA implementation of AES used by many of the largest global defence suppliers also casino gaming, networking, test equipment....
- Highly configurable through VHDL generics to trade area/performance/features
- G3 product addresses full performance range: multi-project licences are particularly cost effective
- Galois Counter Mode (AES-GCM) up to 10Gbit/sec on FPGA while handling minimum sized packets

Low cost source code access for security review
G2 Product has NIST validation certificate



DesignTag IC Product Labelling



Active tag circuit added to chip design – DesignTag is **NOT** ink on chip package, optically recognised marks on die, or annotations in design source code

- Usable by all parts of the value chain – FPGA users, IP Core Vendors and CAD Companies
- Tracks field-upgrades to FPGA bitstreams
- No electrical contact to chip pins required to scan tag
- Identifies the chip directly – detects fraudulently labelled products or chips where original labelling has been removed by the customer
- Tag Circuit is Low Cost, Low Area and Low Power
- Two Products
 - Red Tag: Overt use for product and version identification
 - Black Tag: Covert use for IP and CAD tool licence enforcement. Multiple tags per chip
- Readable quickly, non-destructively and at low cost
- Tags link to web database to prove rich information on tagged products



Three Part Solution:

- A very small, low power, digital, tag circuit block added to the chip design
- A low cost PC connected scanner which reads the tag and connects to a web service
- Web service providing information on tagged products and added value IP tracking services for Black Tag customers



Thank you!



- Please stay and talk with Tom
- Explore Algotronix IP at ChipEstimate.com
- Use Algotronix IP to Plan a Chip at DAC (get a DAC Trip Report!)

