



# Zero-power Dynamic Signature for Trust Verification of Passive Sensors and Tags



Shantanu Chakrabarty

Department of Electrical and Systems Engineering  
Washington University in St. Louis, USA.

Email: [shantanu@wustl.edu](mailto:shantanu@wustl.edu)

Research: <http://aimlab.seas.wustl.edu>



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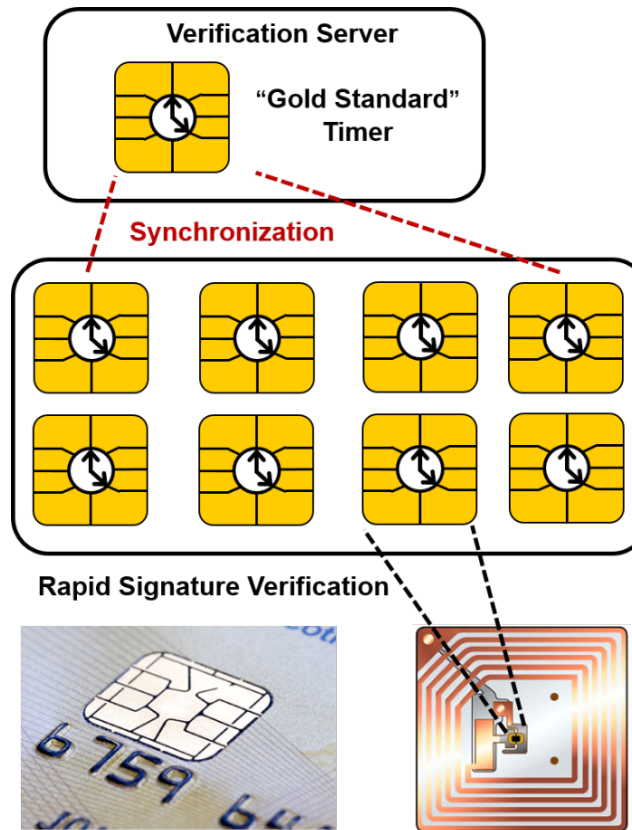
## Quad Chart for: Zero-power Dynamic Signature for Trust Verification of Passive Sensors and Tags

### Challenge:

Robust and secure authentication of passive Internet-of-things at minimal computational cost and complexity.

### Solution:

- **Self-powered** chip-scale clock that operate without any external powering.
- The **clocks are synchronized** with respect to each other without any communications.
- **Trust verification and authentication** based on the degree of synchronization of an array of clocks.
- **Tampering** or change in supply-chain conditions desynchronizes the clocks and can be detected.



### Value proposition:

- **Dynamic Authentication:** Technology more secure than existing static techniques and is immune to different attack models.
- **Zero-power and minimal computational foot-print:** Technology does not require any external powering and can be used for authenticating any passive assets.
- **Chip-scale solution:** Micro-scale device can be integrated with existing wireless solutions.

### What we need to TTP

- Full chip integration
- Software interface development

### Contact us

- Shantanu Chakrabartty
- Washington University in St. Louis, Email: [shantanu@wustl.edu](mailto:shantanu@wustl.edu)

(GRANT INFO)  
NSF STARSS: 1525476  
SRC Contract:2015-TS-2640  
PI: Shantanu Chakrabartty

# Technology Value Proposition

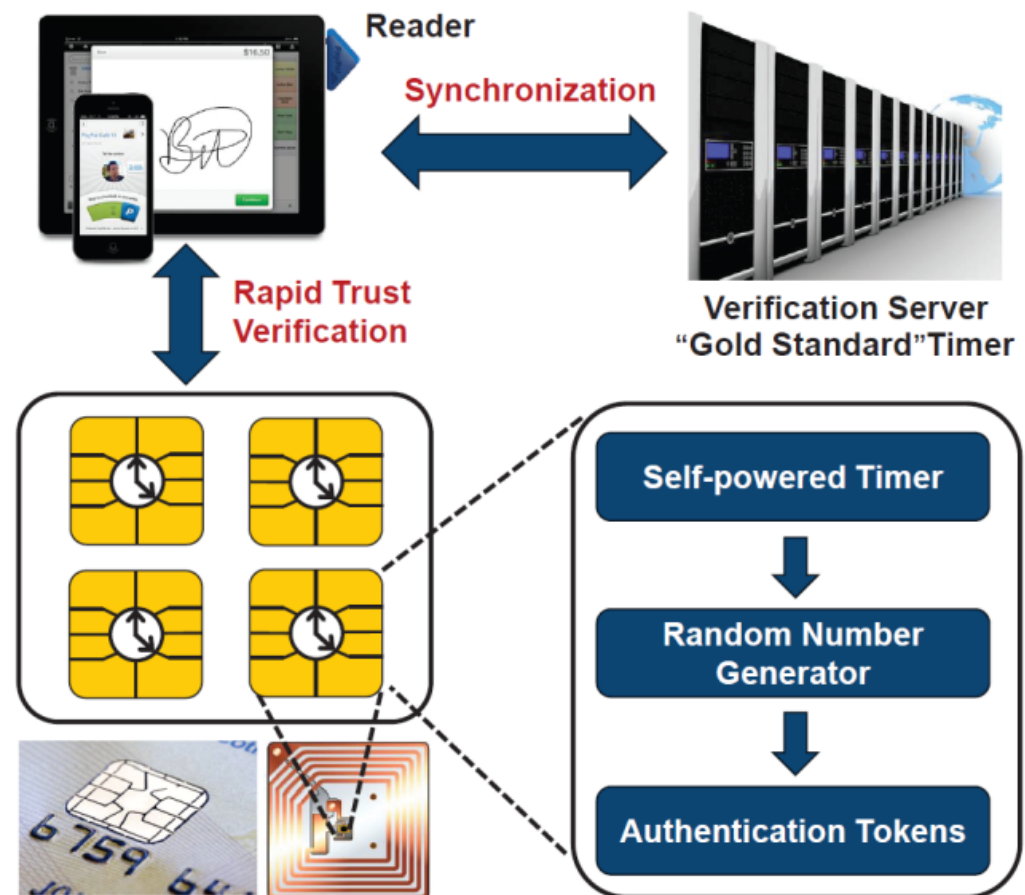
- **Dynamic Authentication:** Technology more secure than existing static techniques.
- **Zero-power and ultra-low computational foot-print:** Technology attractive for authenticating passive assets and IoT devices.
- **Chip-scale solution:** Micro-scale device can be integrated with existing wireless solutions.

# Applications

## Platform technology for trust verification and monitoring of passive assets in a supply chain:

- SMD devices, tags, cards, pharmaceuticals, labels, perishables.

IEEE IoT Journal 2017

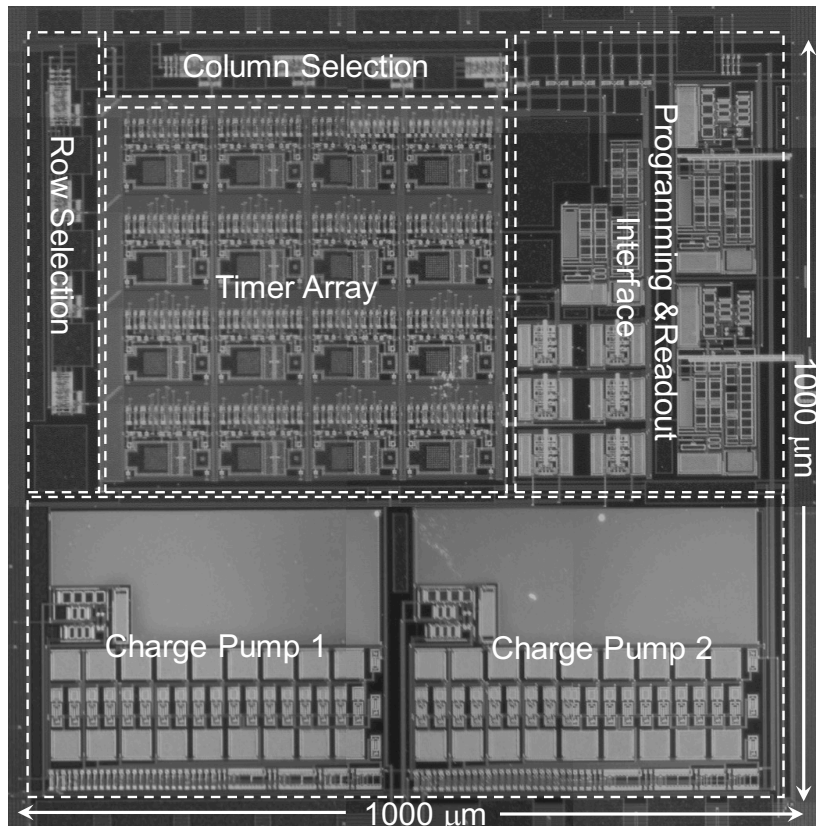


# Technology Status

## Proven Self-powered FN Timer Technology:

- Robust quantum tunneling device for passive time-keeping – verified and validated.

IEEE Transactions of Electron Devices, 2017.



## IP Landscape:

- Patent pending.

## System status:

- Fabricated prototypes being evaluated.
- Evaluation prototypes available upon request.