

Certicom Asset Management System

Revolutionizing Silicon Manufacturing

REDUCE MANUFACTURING WASTE & UNLOCK AFTER-MARKET PROFIT OPPORTUNITIES

Certicom Asset Management system is a comprehensive infrastructure solution that **reduces inventory related waste** and **eliminates unnecessary over processing** costs during device manufacturing. Chips are serialized with cryptographic identities at the per-diem level and tracked throughout production across multiple outsourced contractors and partners. This unique system of factory provisioning opens **new revenue sharing opportunities with partners and downstream customers** while improving overall security and **brand protection** throughout the manufacturing process, especially when outsourced sub-contractors are used to produce high margin devices.

REDUCE TEST TIME AND IMPROVE EARLY DEFECT DETECTION

Track every die from wafer test to final test across every site even when using sub-contractors. Retaining wafer map data allows you to correlate x,y wafer locations with defects found at final chip test.

REDUCE INVENTORY COSTS ACROSS SUB CONTRACTORS

Consolidate chip inventories, save on mask costs and re-assign SKUs for particular die if product demand forecasts change. Managing multi chip inventories and work in process can be very expensive, you can save costs by pushing SKU selection as late in the manufacturing process as possible. Change a chip from one SKU to another using methods that are fully automated and prevent product counterfeiting.

ELIMINATE MANUFACTURING RISKS INVOLVING HDCP AND OTHER LICENSES

Protect your business from \$1-\$8 million in liquidated damages found in HDCP and similar licenses. More than any other form of serialized data, cryptographic keys are difficult to track. The world's leading chip manufacturers already rely on Certicom KeyInject™ technology, an AMS service module, to automate sending cryptographic keys to remote offshore factories and track their injection into security enabled chips.

PREVENT PRODUCT COUNTERFEITING AND GREY MARKETS

Protect your valuable IP at every stage of the production process. By adding sophisticated hardware blocks to chip designs, and tracking silicon die throughout your supply chain of subcontractors you can defeat grey markets and make low cost subcontractors as safe and reliable as high-priced alternatives.

Benefits of Certicom AMS

Cost Savings and Revenue Opportunities

realized immediately by giving your company access to a complete solution composed of hardware, software, services and support.

Improve your Manufacturing Security Posture

even if your sub-contractors are do not operate with best security practices

24x7 Operations Support contracts to ensure that your critical business operations are covered and protected

Scalable System Components are added as your operations expanded to other sub-contractors or manufacturing sites.



Service Modules & Features

Serialization Service Module

- Define serialization schemes globally or by product model
- Integrate with test vectors to track production directly from Tester
- Individually track chips throughout testing stages in supply chain

Feature Activation Service Module

- Use in-factory chip feature activation to reduce physical chip inventories and save inventory waste
- Activate features in the "After Market" to garnish additional revenues with unique die activation codes setup during chip test
- For export compliance, special features can be turned on or off securely on chips with foreign import/export restrictions
- Guard chip features like BIST that are normally fused off prior to sale, allow these features to be controlled and for RMA and problem diagnostic purposes

KeyInject® Service Module

- Automated and Secure cryptographic key transport, injection and logging for outsourced chip fabrication and test
- Leading commercial solution for HDCP enabled chip manufacturing
- Supports cryptographic provisioning for multiple key types, multiple product lines and multiple factory production locations

Yield Collection & Decision Service Module

- Capture per-die related yield data directly from Tester
- Track a particular die at every test point from wafer sort to post package test
- Reduce test time on a per die basis at post package test, based on previous test results at wafer sort

CERTICOM AMS INCLUDES THESE COMPONENTS

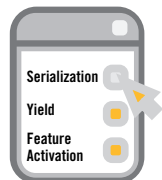
AMS Controller Appliance

- **Located at headquarters or trusted location**
- Rack mounted appliance
- Managed and operated by Operations Team or IT
- Security center for AMS
- Controls multiple remote production sites



AMS Service Module License

- Service modules extend the utility of AMS as operation changes and grows



AMS Production Appliance

- **Located at test house, 3rd party manufacturer, assembly, any keying location**
- One appliance serves many tester Agents
- Redundant, security hardened, rack-mounted servers with dedicated security hardware



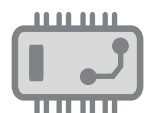
AMS Agent Tester Software Device Firmware

- **Software libraries embedded in ATE with customer test scripts**
- Export approved security software for integration with Verigy, Advantest, Teradyne, and other ATE equipment.



Asset Control Core RTL

- **Soft IP Core License (RTL) that is integrated with Chip design**
- Accepts secure cryptographic messages from AMS to perform customer specific feature activation or secure data from headquarters, right to the chip.



24x7 Operations Support and Maintenance Agreements

Certicom recognizes the critical nature of manufacturing operations and offers the expected service level agreements (SLA) that are **essential for supporting global, high volume device production**. Expert, in-house support staff operates our critical severity response hot line and work closely with escalation engineers in North America and the Asia Pacific region. Certicom is proactive in keeping customers on an **upgrade path that is consistent with future releases** and ongoing product roadmap.

About Certicom

Founded in 1985 with a long-term focus on Elliptic Curve Cryptography, Certicom has been awarded over 500 patents. As a leader in applied cryptography and key management, Certicom provides managed PKI, key management and provisioning technology that helps to protect customers' device firmware, applications, and long-lived assets. Certicom is a critical element of the BlackBerry cybersecurity portfolio deploying the first and best in class end-to-end security solutions used in preventing product counterfeiting, re-manufacturing, and rogue network access. BlackBerry Certicom's secure key provisioning, code signing and identity management solutions are field-proven to protect next-generation connected cars, critical infrastructure and IoT deployments

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