An Industry Standards Approach to Counterfeit Prevention Compliance

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Can You Tell the Difference?
Per the Semiconductor Industry Association counterfeits cost U.S. semiconductor companies more than $7.5 billion annually in lost revenue, and the loss of nearly 11,000 American jobs
SIA President Brian Toohey, SASC Hearing November, 2011

**Senate Armed Services Committee**

- **2011 Levin McCain Hearings**
  - Sen. Carl Levin, D-Mich, Committee’s Chairman
  - Ranking Member Sen. John McCain, R-Ariz

- **Found a total number of suspect electronic counterfeit parts in 1,800 cases exceeded 1 million parts**
  - U.S. Air Force said that a single electronic parts supplier, Hong Dark Electronic Trade of Shenzhen, China, supplied approximately 84,000 suspect counterfeit electronic parts into the DOD supply chain
Legislative Actions

• Section 818 of the 2012 NDAA


DFAR 252.246.7007 Criteria

System Criteria

1. Training
2. Inspection and test
3. Processes to abolish
4. Traceability
5. Procurement controls
6. Reporting and quarantining
7. Identification and evaluation of suspect counterfeit
8. Systems to detect and avoid (e.g. AS5553)
9. Flow-down
10. Process to keep informed
11. Process for screening GIDEP report
12. Control of obsolete electronic parts

DFARS 252.246-7008 covers system criteria 4 and 5
INDUSTRY STANDARDS
SAE formed the AS5553 writing committee, now known as G-19CI, to address counterfeit electronics

- Industry and Gov. approached SAE to develop an industry consensus standard for electronics
- Published in early 2009
- Intention was to provide information and guidance, not necessarily requirements

AS5553 targets Primes, system integrators, etc.
G-19 Expansion

• Industry recognized the electronics supply chain is extremely complex
  – OCM
  – Authorized Distribution
  – Independent Distribution
  – Aftermarket manufacturer
  – Stocking Distributor
  – Broker
  – ???

• Identified need for standards to cover various parts of the supply chain
Technical Writing Committees Formed

- **G-19**
  - G-19A Testing AS6171
  - G-19AD Authorized Distribution AS6496
  - G-19C Compliance Various
  - G-19CI OCM, System Integrators, etc. AS5553
  - G-19D Independent Distribution AS6081
  - G-19T Definitions AIR6273

- **G-21** Materials AS6174
Compliance Architecture

Tier 0 – Aerospace & Defense Supply Chain
- ISO9001 (QMS)
- AS9100 (QMS)

Tier 1 – OEM
- AS5553 (Electronics CP)
- AS6174 (Materiel CP)

Tier 2 – Distributors
- AS6496 (Authorized)
- AS6081 (Unauthorized)

Tier 3 – Inspection & Test Labs
- AS6171 (EEE Test Methods)
- AS9115 (Software QMS)

QMS
- AS9100 (QMS A&D)
- ISO9001 (QMS General)
- AS9110 (MRO QMS)
- AS9120 (Distributor QMS)

Verification
- AS9104

Certification
- Certification Schema
  - ICOP (AB / CB)
  - AS9111
  - AS9121
  - 17021 9101

Regulatory
- DFARS 252.246-11
- FAA 14 CFR-21, 145
- EASA-21,145

CAAP Schema
- PRI / Nadcap Model
- Recognized

CAAP Certification Governance Policy
- PRI e-Qual Learn
- Inspector Certification

ARP 6328 (AS5553)

A standards based approach for DFARS compliance
Summary

- Aviation, Space and Defense and a VERY small part of the overall electronics market

- Traditionally industry systems and methods were not designed to detect deliberate and deceptive product alterations

- Threat is Real & Growing ...Prevention Methods must Out Pace the Threat

- Continue to Evolve, Educate, Communicate & Enforce Prevention Measures

- Engaging with Customers & Industry to Develop the Most Effective, State of the Art Prevention Measures Possible

Every counterfeit part comes with a CofC
Questions