Counterfeit Electronic, Electrical, Electromagnetic and Mechanical parts cost industries worldwide more than $250 Billion (USD)

Counterfeiting components has reached epidemic levels over the past five years. This epidemic is caused partly by the global demand to recycle material as much as possible and partly by ease of their availability. Materials once buried in landfill are now readily available for entrepreneurs to harvest. These new breed of farmers have developed the skills to remove, clean; remark and package components and pass them off as new. While this process may seem to be in line with the WEEE Directives established by the European Union, the practice fails to disclose that parts are not newly manufactured. Failing to inform a buyer that the parts have been reclaimed is by definition “Counterfeiting”.

Eradicating the Counterfeit Electronic Parts Epidemic requires global recognition of the problem and a unified solution. Such a solution comes in the form of International Standards and accredited conformity assessment programs with the following key elements:

1. Technical standard(s) recognized worldwide
2. Competency based training program
3. Global Supply Chain Certification System
4. Recognized Accreditation of Certification Bodies
5. Respected international certification program

TECHNICAL STANDARD(S) RECOGNIZED WORLDWIDE
SAE AS 5553A Aerospace Standard; Counterfeit Electronic Parts; Avoidance, Detection, Mitigation, and Disposition

This standard was created in response to a significant and increasing volume of counterfeit electronic parts entering the aerospace supply chain, posing significant performance, reliability, and safety risks. This standard was created to provide uniform requirements, practices and methods to mitigate the risks of receiving and installing counterfeit electronic parts.

SAE AS 6462 AS5553, Counterfeit Electronic Parts; Avoidance, Detection, Mitigation, and Disposition

Verification Criteria
This verification criterion was created in response to the increasing use of AS5553 (Aerospace Standard; Counterfeit Electronic Parts; Avoidance, Detection, Mitigation, and Disposition) by industry due to the increasing volume and potential risk of procuring and using counterfeit electronic parts. As the industry has adopted AS5553 and claim that processes and procedures are in compliance with the Counterfeit Electronic Parts Standard, a standard set of conformity assessment compliance requirements is established to validate compliance and justify issuance of certification to AS5553.
SAE AS 6081 Fraudulent/Counterfeit Electronic Parts: Avoidance, Detection, Mitigation, and Disposition – Distributors.

This standard was created in response to a significant and increasing volume of fraudulent/counterfeit electronic parts entering the aerospace supply chain, posing significant performance, reliability, and safety risks. This standard was created to provide uniform requirements, practices and methods to mitigate the risks of purchasing and supplying fraudulent/counterfeit electronic parts.

SAE AS 6301 Fraudulent/Counterfeit Electronic Parts: Avoidance, Detection, Mitigation, and Disposition – Distributors Verification Criteria

The criteria in this document is to be used by accredited Certification Bodies (CBs) to determine compliance and grant certification to AS6081, Fraudulent/Counterfeit Electronic Parts: Avoidance, Detection, Mitigation, and Disposition – Distributors.

SAE ARP 6178 Counterfeit Electronic Parts; Tool for Risk Assessment of Distributors

This recommended practice was created due to a significant and increasing volume of counterfeit electronic parts entering the aerospace supply chain, posing significant performance, reliability, and safety risks. This recommended practice was created to provide organizations with a tool to assess a supplier’s capability to prevent, detect, contain, and report suspect or confirmed counterfeit electronic components.

Competency based training program

The IECQ System provides manufacturers with a “supply chain verification tool” for seeking assurance that electronic components, assemblies, processes and related materials conform to declared technical standards and specifications. Technically competent personnel are an integral part of the IECQ System. In support, IECQ facilitate standardized training via both

- The provision of IECQ qualified Training Bodies, and
- IECQ Standard Training Course Material

These Rules of Procedure set out the application, acceptance and maintenance process for bodies seeking to be accepted and maintain acceptance for their training services as an IECQ Training Body (IECQ TB).

Global Supply Chain Certification System

The Design, planning, execution, control, and monitoring of supply chain activities with the objective of creating net value, building a competitive infrastructure, leveraging worldwide logistics, synchronizing supply with demand and measuring performance globally.”

Recognized Accreditation of Certification Bodies

An organization accredited by a recognized accrediting body for its competence to audit and issue certification confirming that an organization meets the requirements of a standard (e.g. SAE AS 5553A, AS 6081 etc.). Accreditation means that certification and inspection bodies have been assessed against recognized standards to demonstrate their competence, impartiality and capability

Respected International certification program

The IECQ is a worldwide approval and certification system for covering the supply of electronic components and associated materials and assemblies and processes. It uses quality assessment specifications that are based on International Standards prepared by the International Electrotechnical Commission (IEC).

The IECQ is about assurance and cost-cutting. Electrical and electronic products comprise many, sometimes hundreds of individual components and sub-assemblies. The well-known brand manufacturers and their purchasing managers want to be assured that the electronic components used in their products are of the required quality and reliability. To minimize incoming inspection costs and eliminates the quality auditing of suppliers, they can chose components suppliers who hold IECQ product certifications for their components.

Successful compliance with these requirements for a distributor means:

1. Integrate your Counterfeit Avoidance Program with your Quality Management System
2. Contract Review requirements must be fully understood
3. If the parts are not from Original Component Manufacturer or Original Equipment Manufacturer with full traceability they must be tested per AS 6081
4. AS 6081 and Quality Management System assessments must be combined.

Assessment of the organization seeking certification to the AS Counterfeit Avoidance Standards requires in-depth knowledge of contract review, supply chain management, technical testing requirements and performing RISK Assessments. Accreditation Rules dictate that the assessment of the Counterfeit Avoidance System SHALL be done in conjunction (Combined) with the Quality Management System.

Flowing Down the requirements of the standard is an essential. Relying solely on testing is not an option in most cases. Electronic components also require the adoption of Electrostatic Discharge Standards and diligent adherence to procedures.