

## PREVENTION OF COUNTERFEIT PARTS

---

The National Defense Authorization Act of 2012 enacted this year imposes new requirements on defense contractors regarding counterfeit electronic part avoidance. Contractors who fail to comply with these new requirements risk suspension, debarment, and potential civil and criminal liability. This policy covers a) Electrical Parts, and b) Non Electrical Parts (Airworthiness Products).

### **A. Electrical Parts**

All electrical, electronic and electro-mechanical parts delivered and/or used in the manufacture of deliverable products shall be from the Original Component Manufacturer (OCM)/Original Equipment Manufacturer (OEM) or their franchised distributor. Parts shall not be used or reclaimed and misrepresented as new. Parts shall not be acquired from independent distributors or brokers. The supplier must have a certification from the OCM/ OEM, and that certification shall be delivered with each lot/ shipment. Companies that procure electrical, electronic and electro-mechanical parts need to have a Counterfeit Avoidance Policy and Program to ensure it does not receive counterfeit parts into inventory, use them in manufacturing, or inadvertently sell them to other parties.

The supplier shall have a counterfeit avoidance process that meets the intent of SAE standard AS5553, Counterfeit Electronic Parts, Avoidance, Detection, Mitigation, and Disposition. Suppliers that deliver next higher assemblies shall flow this requirement down to all their sub-tier suppliers to prevent the inadvertent use of counterfeit materials and equipment. Suppliers of next higher assemblies shall specify on their purchase order to their sub-tier suppliers that they shall only procure electrical, electronic and electro-mechanical parts from the original manufacturer of the part or the original manufacturer's franchised distributor only.

### **B. Non-Electrical Parts**

Companies that procure non-electrical standard parts need to have a Counterfeit Avoidance Policy and Program to ensure it does not receive counterfeit parts into inventory, use them in manufacturing, or inadvertently sell them to other parties. The supplier shall have a counterfeit avoidance process that is similar to, and meets the intent of, SAE standard AS6174, Counterfeit Non-Electronic Parts, Avoidance, Detection, Mitigation, and Disposition. Suppliers of next higher assemblies shall flow this requirement down to all their sub-tier suppliers to prevent the inadvertent use of counterfeit materials and equipment. Distributors or brokers that supply non-electrical standard parts, like fasteners, nuts, washers, springs, o-rings, inserts, and pins, must have a certification from the Original Component Manufacturer (OCM)/Original Equipment Manufacturer (OEM), and that certification shall be delivered with each lot/ shipment. Parts shall not be used or reclaimed and misrepresented as new

## 1.0 Purpose/Scopes

---

- 1.1 To establish and maintain the leadership responsibilities and authority necessary to ensure top management at MSI/DNE Products is committed to supporting the requirements of the Quality Management System (QMS).
- 1.2 The procedure applies to MSI/DNE Product's stated commitments and aspirations to performance, integrity and reliability of products and services.
- 1.3 This Procedure, and the procedures described within, are intended to detect, avoid, and help abolish the use and proliferation of counterfeit and suspect counterfeit electronic parts at MSI/DNE Products. With that end in mind, this Procedure specifies certain requirements that must be met with respect to procurement and to the identification, control, and disposition of such parts.
- 1.4 The counterfeit risk mitigation requirements of MSI/DNE Products for electronic and non-electronic parts procured from dealers, distributors and brokers are contained in this procedure. For the purposes of this document, 'electronic' represents Electrical, Electronic, and Electromechanical (EEE) components hereinafter referred to as electronic parts.
- 1.5 This document provides requirements, practices and methods to mitigate the risks of receiving counterfeit electronic parts. It also specifies requirements for suppliers' counterfeit risk mitigation and control plan, and applies to all levels of procurement of electronic parts and associated material management, and inspection and test.
- 1.6 A distributor who complies with all the requirements of this document is considered a Counterfeit Electronic Parts Avoidance Approved Supplier. Allowance to depart from the requirements within this document is at the sole discretion of MSI/DNE Products.

## 2.0 Responsibilities and Authorities

---

- 2.1 The President and/or their designee has the prime responsibility and approval authority for this procedure.
- 2.2 Top Management is responsible to demonstrate leadership and commitment with respect to the QMS.
- 2.3 Top Management is responsible to ensure that MSI/DNE Product's QMS conforms to the requirements of AS 9100 and is established, implemented and maintained in a planned and systematic manner.
- 2.4 All personnel are responsible for reporting counterfeit or suspect counterfeit electronic parts, and/or products containing such parts.

## 3.0 References and Definitions

---

- 3.1 Reference
  - 3.1.1 This document addresses Clause 8.1.4 of the AS 9100 Standard covering, Prevention of Counterfeit Parts.

## 3.2 Definitions

### 3.2.1 **Authorized/Franchised Distributor**

A distributor that has a contractual agreement with the original component manufacturer (OCM) or original equipment manufacturer (OEM) to directly buy, stock, repackage, sell and distribute their product. Authorized/franchised distributors typically provide full manufacturer warranty for the product for sale.

### 3.2.2 **Approved Trusted Supplier**

A non-franchised distributor that has been either: (1) identified as a trusted supplier by the Department of defense pursuant to Section 818 of the 2012 National Defense Authorization Act (Pub. L. No. 11281§818), or (2) audited and preapproved by MSI/DNE Products for the purchase of electronic parts unavailable from an OEM or OCM or their authorized dealers.

### 3.2.3 **Broker/Non-Franchised Distributor**

Distributor, not authorized by the OEM/OCM, who may not carry inventory but will search industry to locate parts that meet the target price and other customer requirements. Brokers may also purchase excess inventories from end users or other sources with the intention to sell and redistribute.

### 3.2.4 **Counterfeit Electronic Part**

A part made or altered to imitate or resemble an approved part without authority or right, and with the intent to knowingly mislead or defraud by passing the imitation as original or genuine. A part whose identity has been deliberately altered, misrepresented, or falsified. This definition includes used parts represented as new.

**Electronic Part** – As used in this document, the term “electronic part” refers to any integrated circuit, discrete electronic component (including, but not limited to, a transistor, capacitor, resistor or diode), or circuit assembly.

### 3.2.5 **Original Component Manufacturer (OCM)/Original Equipment Manufacturer (OEM)**

An organization that designs and/or engineers a part or equipment and is pursuing or has obtained the intellectual property rights to that part or equipment.

### 3.2.6 **Seller**

For the purpose of this specification; A seller is an entity that meets the requirements of this specification and provides electronic parts that are in accordance with a contract or purchase order.

### 3.2.7 **Suspect Electronic Parts**

A suspect electronic part is an indication established by inspection, testing, or other means that its authenticity may have been misrepresented by the supplier and may be counterfeit. A copy or substitute created without benefit of legal right or authority to do so or one whose material, performance, or characteristics have been knowingly misrepresented by a supplier in the supply chain is also a suspect electronic part.

## PREVENTION OF COUNTERFEIT PARTS

---

Examples of counterfeit electronic parts include, but are not limited to:

- Electronic parts that do not exhibit the proper internal construction consistent with that ordered e.g., incorrect die, multiple die sizes with one date code, wrong manufacturer, wire bonding, etc.;
- Used, refurbished or reclaimed electronic parts represented as new product;
- Electronic parts with different package or surface plating/finish than that ordered e.g., blacktopped components with evidence of sanding and remarking; wrong lead finish; marking for tin finish, actual finish gold.
- Electronic parts which have not completed the Original Component Manufacturer's (OCM)'s full production and test flow, but are represented as such.

### 4.0 Resources

---

4.1 None

### 5.0 Instructions

---

#### 5.1 General Requirements:

In addition to maintaining a quality management system acceptable to MSI/DNE Products, the Seller shall develop and maintain documented processes for control of electronic components. These processes shall include supplier management and approvals, procurement, inspection, test/evaluation, segregation, reporting, and disposition of suspect or confirmed counterfeit electronic components. Seller shall maintain supply chain traceability and authenticity of all electronic components through all supply chain operations. The Seller shall employ counterfeit risk mitigation processes commensurate with the risk associated with the application and ensure the quality and authenticity of delivered product.

The Seller shall ensure that counterfeit electronic components are not delivered to MSI/DNE Products. Seller shall only purchase products to be incorporated into MSI/DNE Products product or delivered to MSI/DNE Products from the Original Component Manufacturer (OCM), Original Equipment Manufacturer (OEM), or an OEM/OCM authorized distributor.

#### 5.2 Counterfeit Electronic Parts Risk Mitigation Process

The Seller shall develop and implement a counterfeit electronic parts risk mitigation process that documents the methods used for avoidance, detection, risk mitigation, disposition, and reporting of counterfeit electronic parts. In addition, the Seller shall have documented processes for purchasing, verification of purchased product, in process investigation, and material control.

#### 5.3 Procurement Process:

The Seller shall:

- 5.3.1 Document initial and maintenance assessment of all sources of supply for electronic parts to determine risk of counterfeits. Review of supplier performance data, audits, surveys, product alerts may be included as assessment activities;

## PREVENTION OF COUNTERFEIT PARTS

---

5.3.2 Develop and maintain a documented list of approved sources. Seller's documented source approval process shall include the criteria required for approval, the scope of the approval, performance evaluation, training of supplier inspection personnel and duration of the approval. The approved source list shall indicate OEM/OCM authorized distributors and franchised distributors where applicable. Preference to procure directly from OCM or Authorized sources shall be emphasized over procurement from independent distributors and brokers.

5.3.3 Provide supply chain traceability to the OEM/OCM through all of the supply chain intermediaries from the electronic part manufacturer to the direct source of the product for the seller. Supply chain traceability is defined as name and location of all supply chain intermediaries for all procurement lots, and date of all intermediate purchases from the part manufacturer to the direct source of the product for the seller. Supply chain traceability is required for all new purchases of electronic parts, electronic parts in inventory, and electronic parts transferred from other businesses within the organization. In the event that documented supply chain traceability is not obtainable or is incomplete, Seller shall notify MSI/DNE Products prior to purchase contract acceptance. Seller shall conduct a documented risk mitigation assessment. Seller shall obtain MSI/DNE Product's prior written concurrence for tests and inspections required to demonstrate authenticity of parts procured from suppliers that do not have valid OEM Certificate of Conformance or sufficient records providing unbroken supply chain traceability.

The documented processes shall require records providing supply chain traceability to the OEM/OCM or Aftermarket Manufacturer that identifies the supplier's name and location of all of the supply chain intermediaries for all procurement lots, and the date of all intermediate purchases, from the electronic component OEM to the direct source of the product for the supplier. Supply chain traceability records shall be available for MSI/DNE Products review upon request. If this supply chain traceability is not available or is incomplete, Seller shall notify MSI/DNE Products prior to purchase contract acceptance.

5.3.4 Ensure that processes are in place to audit compliance to the requirements of this document internally and at sub tier suppliers. Audits shall ensure that quality processes have effectively precluded purchase, acceptance, use and delivery of counterfeit electronic parts and adequately reported, contained and segregated counterfeit electronic parts.

### 5.4 Seller Flow-down

The Seller shall flow-down all applicable requirements of this document to its suppliers when procuring from other distributors or sources. Distributors or sources that do not have a counterfeit electronic components risk mitigation process compliant to this document shall be assessed by the seller for additional risk for every application of the electronic component. MSI/DNE Products reserves the right to review and approve all suppliers' risk mitigation processes

### 5.5 Verification of Purchased Product Process

A documented process shall be in place to assure detection of counterfeit electronic components prior to formal product acceptance. Examples of verification actions include visual inspection, review of data deliverables to Purchase Order requirements,

## PREVENTION OF COUNTERFEIT PARTS

---

nondestructive evaluation and destructive testing (e.g., marking permanency, x-ray, x-ray fluorescence, destructive physical analysis (DPA), electrical testing). Seller shall maintain verification records in accordance with contractual record retention requirements.

Seller personnel performing inspection and testing or reviewing inspection and test results shall have completed all applicable required training and shall be formally qualified for the specific work they perform. Seller shall maintain training records in accordance with contractual record retention requirements.

Acceptance and reject criteria shall be defined for all inspections and tests. Results of each inspection and test performed shall be documented, retained, and traceable to product identification (e.g. date/lot codes, serial number), purchase order invoice and inspection and testing personnel.

### 5.6 Certificate of Conformance

The Seller shall review and retain copies of the electronic part Manufacturer's original Certificates of Conformance (C of C).

Manufacturer C of Cs shall, at minimum, include the following:

- a. Manufacturer name and address;
- b. Manufacturer's part number;
- c. Batch identification for the item(s) such as date codes, lot codes, serializations, or other batch identifications;
- d. Signature or stamp with title of seller's authorized personnel signing the certificate;
- e. Certification to testing specification and revision level that parts are certified to.

Where manufacturer's C of Cs are not available, the Seller shall notify MSI/DNE Products and provide verification of authenticity.

### 5.7 Material Control and Disposition

Seller shall prevent nonconforming and excess electronic parts from entering the supply chain under fraudulent circumstances. For suspect counterfeit electronic parts, Seller shall ensure that electronic parts are identified as suspect/counterfeit product and quarantined. For suspect counterfeit electronic parts in storage and installed in product, Seller shall quarantine suspect components and assembled product until properly disposition and notify affected customers. Seller shall have documented processes to preclude returning suspect counterfeit electronic parts to the supply chain, which may include controlled conditions to allow for internal investigation.

### 5.8 Reporting Process

The Seller shall have documented processes for internal/external reporting of all instances of counterfeit electronic components to ensure adequate notification to affected customers.

- 5.8.1 Electronic parts represented as up-screened; which have not successfully completed all tests e.g., commercial or industrial grade parts marked as military grade parts
- 5.8.2 Electronic parts with modified labeling or markings that misrepresent the form, fit, function, or part class e.g., Top marking doesn't match bottom marking, varied

## PREVENTION OF COUNTERFEIT PARTS

---

markings; C of C country does not match parts; missing trademark logo and date stamp incorrect; date code after part was discontinued; shadow of previous marking evident; marking did not match known good part.

5.8.3 Electronic parts scrapped by the OEM and subsequently sold as compliant

5.8.4 Electronic parts, which have been refinished, up-screened, or up-rated and have been identified as such, are not considered counterfeit.

### 5.9 **Unauthorized/Independent Distributor**

Distributors who are neither authorized nor franchised by the original component manufacturer for the parts they sell.

### 5.10 **Up-screening**

Additional testing performed on electronic parts to increase confidence in reliability, and to evaluate the lot by discarding defective parts or rejecting the lot. Examples of up-screen testing are Particle Impact Noise Detection (PIND) testing, burn in, temperature cycling and Radiation Hardness Assurance testing, etc.

### 5.11 **Related Terms**

ERAI (Electronic Resellers Association International): A privately held global trade association charged with monitoring, investigating, reporting, and mediating issues affecting the global supply chain of electronics, including counterfeit and substandard electronic components sales.

GIDEP (GOVERNMENT-INDUSTRY DATA EXCHANGE PROGRAM): A cooperative activity between Government and Industry chartered to share technical information essential during all phases of the life cycle of systems, facilities, and equipment.

IDEA (Independent Distributors of Electronics Association): A non-profit trade association representing Independent Distributors who have committed to adhere to prescribed quality and ethical standards. The stated purpose of IDEA is to promote the independent distribution industry through media advocacy; to improve the quality of products and services through a quality certification program, educational seminars and conferences and to promote the study, development, and implementation of techniques and methods to improve the business of Independent Distributors.

### 5.12 **Records**

Records of counterfeit or suspect counterfeit electronic parts, and/or products containing such parts and any actions taken to disposition such parts or products, are Quality Records and shall be maintained in accordance with MSI/DNE Product's Records Management Policy.

### 5.13 **Training**

Documented training on the Prevention of Counterfeit Parts will be conducted once every two years at a minimum. Knowledge of the Prevention of Counterfeit Parts is applicable to everyone and training will be a requirement for all personnel.



### 5.14 Obsolescence Management

MSI/DNE Products conducts obsolescence management to mitigate risk in procuring Counterfeit components.

MSI/DNE Products perform an obsolescence assessment on all new product designs. During Preliminary Design Review (PDR), MSI/DNE Products will perform an assessment of the BOM for components at risk of pre-mature obsolescence during the expected life-cycle of the program. Evidence of the obsolescence assessment will be recorded in the design review record, form F-830-002.

MSI/DNE Products performs the assessment through a variety of methods:

1. Component Risk Management Software
2. Communication with Suppliers and Distributors

Based on the results of the assessment, MSI/DNE Products will review components at risk of pre-mature obsolescence and make recommendations for equivalent components with longer supply expectancy. Acceptable alternative components will be implemented in the new design and components at risk of pre-mature obsolescence will be designed out.

Upon customer request, MSI/DNE Products will perform a BOM obsolescence assessment. The BOM will be reviewed in a similar manner to a new product design. Components that are obsolete or at risk of obsolescence will be communicated to the customer and recommendations for a lifetime buy or change of design will be made, if possible.

## 6.0 Forms and Documented Information

---

- 6.1 None

## 7.0 Opportunities and Risks

---

- 7.1 The planning procedure P-600 for Planning for the Quality Management System addresses opportunities and risks (Risk-Based Thinking).
- 7.2 As applicable, MSI/DNE Products, makes use of our organizational knowledge, lessons learned and experience with the activities associated with **Prevention of Counterfeit Parts** to determine the opportunities and risk that need to be addressed and that can:
- Give assurance that the procedure can achieve its intended result(s);
  - Enhance desirable effects, and prevent or reduce undesired effects;
  - Achieve improvement.





## PREVENTION OF COUNTERFEIT PARTS

---

### 8.0 Revision History

---

Rev	Date	Section	Paragraph	Summary of Change	Authorized By
A	05/15/2017	ALL	ALL	Initial Issue	Larry Falco
B	11/14/2018	5	5.13 & 5.14	Add Training & Obsolescence	Larry Falco