

## GQR-1

# AETHERCOMM GENERAL QUALITY REQUIREMENTS

## A PROHIBITED PRACTICES

### Unauthorized Repairs/Rework

No repair or rework shall be allowed outside of the specific specification limits, (i.e., welding, reheat-treat, insert removal, re-installation, etc.) unless prior approval is obtained by the Seller from the Buyer. All deviations shall be submitted for approval by the Buyer. Submission of deviation in no way affects any contractual requirements until an approved disposition is issued by the Buyer. The approved deviation shall be included with the part/documentation package when delivered to Buyer.

### Use As Is

Shall not be allowed unless approved by a signed waiver.

### Change in Approved Drawings, Processes, Materials or Procedures

Seller shall not change any drawing, process, material, or procedure without prior written Buyer approval, if such drawing, process, material, or procedures were originally approved by Buyer. Approval requests shall be submitted to the Buyer. This requirement is not relevant for Commercial and/or Military Part Numbers.

Seller shall not change any process, material, or procedure from that used to qualify items or which was used by Seller to become a qualified source without written approval by Buyer.

### Re-submittal of Rejected Items

Items rejected by Buyer, and subsequently resubmitted to Buyer, shall be clearly identified on Seller's shipping document as resubmitted items. New lot control identification numbers are to be provided, if required by the Buyer.

### Unauthorized Submittal of Production

When the Purchase Order requires Buyer acceptance of a "first article," Seller shall not submit items from a production run for Buyer inspection prior to Buyer's acceptance of such "first article."

### Part Substitution

Part substitution shall not be allowed; the exact part number as identified on the Purchase Order, or the exact part number identified in the purchase item drawing shall be provided. For Distributors only, if the ordered part is not available, and the Distributor has a replacement part, the Distributor shall submit a Request for technical evaluation and approval prior to delivery of the replacement part.

### Notification of Facility Change

#### *For OEM/OCM:*

Seller shall not use or relocate any production, manufacturing, and/or processing facilities during performance of the work specified on the Purchase Order from those production, manufacturing, or process facilities previously qualified by Buyer without promptly notifying Buyer and affording Buyer an opportunity to examine such facilities for compliance with Quality requirements. Seller shall notify Buyer of changes.

#### *For Distributors:*

Seller shall not use or relocate any distribution or value-add facilities during performance of the work specified on the Purchase Order from Seller facilities previously qualified by Buyer without promptly

notifying Buyer and affording Buyer an opportunity to examine such facilities for compliance with Quality requirements. When notified by the changes, the Seller shall notify the Buyer. Value added services provided by the Seller are subject to the notification. Seller shall notify Buyer of changes by submitting a Request.

#### **B. SELLER RESPONSIBILITY FOR CONFORMANCE**

The Seller named on the purchase order retains full responsibility for ensuring products, suppliers, or services furnished here under; comply with all applicable specification and standard requirements for design, construction, and workmanship. All Industry Standards/Specifications and flow downs shall be to the latest revision unless otherwise stated on the Buyer Purchase Order.

Acceptance of the Purchase Order and receipt of product at Buyers location certifies that items processed on this order meet all the requirements imposed.

This includes any/all suppliers or services purchased from a secondary (sub-tier) supplier that are incorporated into or are used to produce, inspect, or test products or services under this Purchase Order.

The Seller shall:

- Provide (flow-down) of applicable specification and standards requirements to sub-tier suppliers.
- Ensure, by performing physical and/or functional inspections that sub-tier suppliers have complied with the requirements of this Purchase Order.
- Upon request, Seller shall provide objective evidence to Buyer Quality personnel of compliance to this provision.

Neither surveillance, inspection, and/or tests made by Buyer, or their representatives, or representatives of the Buyer's Customer at either Seller's or Buyer's facility, nor Seller's compliance with all applicable Quality requirements, shall relieve Seller of the responsibility to furnish items which conform to the requirements of the Purchase Order.

Seller shall control sub-tier procurements to the extent required to assure quality requirements specified in Buyer Purchase Orders are satisfied.

#### **C. BUYER SURVEYS, SURVEILLANCE, AUDITS, AND INSPECTION**

Buyer, Buyer's Customer, and Authorities have the right to conduct surveys, audits, and surveillance of Seller's facilities, or those of Seller's subcontractors, or suppliers with prior coordination with Seller to determine the capability to comply and to verify continuing compliance with the requirements of the Purchase Order.

Buyer, Buyer's Customer, and Authorities have the right to perform inspection at Seller's facilities, or those of Seller's subcontractors, or suppliers with prior coordination with Seller during the period of manufacture and inspection prior to shipment.

Final inspection is the Seller's responsibility to complete prior to shipment for validation of contractual requirements. Final acceptance Inspection shall be completed at the Buyers facility, unless otherwise specified on the Purchase Order.

#### **D. CORRECTIVE ACTION REQUESTS**

When a quality problem exists with Seller's items, Buyer may forward a Corrective Action Request to Seller. Corrective Action Requests require timely responses and includes:

- The short-term containment of suspect parts (if applicable);
- Analysis of the cause of the problem;
- Statement of the action taken to prevent recurrence;
- The effectivity of the action.

When corrective action is required for Government Source Inspected items, Seller shall coordinate such action with the Government Quality Assurance Representative assigned to Seller's facility.

#### **E. MEASURING AND TEST EQUIPMENT**

Seller shall be responsible for validating the accuracy and stability of tools, gages, and test equipment used to demonstrate that items conform to the Purchase Order. Traceability of calibration equipment and gages shall be to the National Institute of Standards and Technology (NIST) which is in conformance with ANSI/NCSL-Z-540-1 or ISO 10012:2003 unless stated otherwise in the Purchase Order.

Documented schedules shall be maintained to provide for periodic calibration to adequate standards. Objective evidence of calibrations shall be recorded and made available for Buyer review.

If the SOW, specification, or other contractual flow down documents/requirements specify a higher or alternate calibration requirement, it takes precedence over the specification above.

If seller is performing a process or a test where the use of calibrated equipment is not utilized, this clause does not apply.

#### **F. NONCONFORMING MATERIAL**

Decisions to accept nonconformances (variances from Buyer drawings and specifications) detected at Seller's facilities must be made by Buyer, unless otherwise specified by the Purchase Order.

Shipment of nonconforming items must be accompanied by a Buyer-Approved Supplier Discrepancy Report. The Supplier Discrepancy Report must be dispositioned by the Quality Engineer prior to shipment.

Seller shall provide for control, segregation, and identification of non-conforming material detected at Seller's facilities.

Seller does not have MRB authority without express written authorization of the Buyer. Seller must request MRB authority by submitting MRB board members' resumes and positions currently held.

#### **G. INSPECTION RECORDS**

Seller shall maintain records of all inspections and tests performed on items delivered to Buyer. These records shall identify nonconformances and shall be made available for Buyer, Buyer's customer and regulatory review. Period of retention is 7 years from close of order, unless otherwise specified on the Purchase Order.

#### **H. DELETED**

#### **I. PACKAGING**

Boxes or containers, as applicable, should be selected to the extent necessary to provide protection from physical and environmental damage during shipping and handling. Cushioning materials shall be applied, as required, to protect and to restrict movement of the item(s). Electrical components shall be kept from direct contact with cardboard and other paper products. Electrostatic Discharge sensitive component shall be package per the requirement of Seller's electrostatic discharge control program detailed in section N. Perishable items or those with limited shelf life must be handled/preserved in accordance with recommendations of the manufacturer.

Ceramic (Substrate) Printed Circuit Boards shall be packaged to prevent surface damage-cracks and scratches to occur such as individual wrapping or individual container.

Silver plated parts shall be wrapped in appropriate treated kraft paper / silver paper such as ULIN Silver Saver.

Hardware or metal housing that has flexible parts shall be packaged with stiff backing to prevent damage from shipping and unpacking.

J. DELETED

K. **COUNTERFEIT PARTS PREVENTION**

At a minimum, Seller shall have a counterfeit parts prevention plan that incorporates the following:

1. Assesses potential sources of supply to determine risk of receiving counterfeit parts.
2. Maintains a register of approved suppliers, including the scope of the approval, to minimize the risk of counterfeit parts supply.
3. A documented process to specify contract/purchase order quality requirements to minimize the risk of being provided counterfeit parts.
4. A documented process to assure detection of counterfeit parts prior to formal product acceptance. The rigor of the verification process shall be commensurate with product risk.
5. A documented process to assure that all occurrences of counterfeit parts are reported, as appropriate, to internal organizations, customers, government reporting organizations (e.g., GIDEP), industry supported reporting programs (e.g., ERAI), and criminal investigative authorities.

The Seller, and its' sub-tier suppliers, shall ensure that only new items (EEE parts, components, equipment, hardware, or materials) are used in products required to be delivered to the Buyer. To further prevent the inadvertent use of counterfeit parts, the Seller may only purchase components and parts procured directly from the Original Component Manufacturer (OCMs), the Original Equipment Manufacturers (OEMs), or through the OCM/OEM's authorized distribution chain.

The Seller, and its sub-tier suppliers, shall not provide refurbished or used items (EEE parts, components, equipment, hardware, or materials) unless first approved in writing by the Buyer. The Seller, and its sub-tier suppliers, shall not provide items through a non-franchised distributor unless first approved in writing by the Aethercomm Buyer through the request and approval of a Deviation.

No alterations of requirements are permitted until the Deviation is issued by the Buyer or Seller and approved by the Buyer. The Seller must present complete and compelling support for its request and include in its request all actions to ensure the parts thus procured are legitimate, authentic, non-counterfeit parts. All C of C documentation shall be on file at Seller's facility and available to Buyer upon request.

The Seller shall segregate and provide full, inclusive of all supply chain intermediaries from the part manufacturer to the direct source of the product, traceability identifiers (i.e., name and location of all supply chain intermediaries, date code/lot code, and serial number) for all items delivered to Buyer which contain an item procured from sources other than OEMs or OCMs or their Authorized Distributors.

MIL Spec parts MIL-PRF-38535, MIL-PRF-19500, and those MIL Spec parts covered under MIL-STD 790 shall include C of C documentation via instructions as specified by Buyer.

Seller shall provide timely (within 14 days) notification to Buyer with the pertinent facts if Seller becomes aware of, or that it has delivered fraudulent, suspect counterfeit, or counterfeit work.

Suspect counterfeit or counterfeit parts will not be returned to Seller nor reimbursed. Seller shall at its expense promptly replace any suspect counterfeit or counterfeit parts with new parts conforming to the requirements of the Purchase Order. Buyer will provide documentation to the

Seller with results of investigation indicating suspect counterfeit parts and coordinate any Seller review of suspect counterfeit parts at the Buyer's facility.

Seller and all sub-tier suppliers of Seller shall not use any suppliers who have been suspended or indicted for counterfeit part reasons.

**Federal Penalties Associated with Fraud**—This purchase order and activities herein are within the jurisdiction of the United States Government. Any knowing and willful act to falsify, conceal or alter a material fact, or any false, fraudulent or fictitious statement or representation in connection with the performance of work under this purchase order may be punishable in accordance with applicable Federal statutes. This clause applies in addition to any quality provision, specification, statement of work or other provision included in this Purchase Order addressing the authenticity of work. To the extent that such provisions conflict with this clause, this clause prevails.

Seller shall include flowdown of equivalent provisions in all lower tier procurements for items that will be included in or furnished as items to the Buyer.

**L. TEST SAMPLES/REJECT/REWORK PART PACKAGING AND IDENTIFICATION**

All test samples and/or reject parts to be shipped to Buyer shall be packaged in appropriate packaging medium to protect parts from damage. These items shall be packaged separately from compliant product and shall be identified/labeled with part number, date/lot code, and identified as test samples/rejected and/or reworked parts (if applicable).

**M. CONFIGURATION MANAGEMENT REQUIREMENTS**

The Seller is required to establish engineering and manufacturing controls to ensure that the configuration of the end item(s) comply with the specification requirements. The configuration end items (hardware, software) delivered under this contract shall conform to those configuration management and engineering documentation requirements implicit in the specification. The Seller shall impose the same configuration requirements on their vendors and suppliers in concert with the above requirements. The following configuration management functions are basic to good practices:

- Product Identification
- Configuration change control
- Material traceability

**N. ELECTROSTATIC DISCHARGE PROTECTION**

For the contractual requirements of parts that are ESD sensitive, the Seller shall have an Electrostatic Sensitive Discharge (ESD) control program subject to review and approval by Buyer in compliance to the requirements of the applicable standard specified by the Purchase Order. As a minimum, MIL-STD-1686, ANSI/EIA-625, ANSI/ESD S20.20, or JESD 625 shall be complied with.

Packaging techniques using MIL-B-81705 Type I, or Type II barrier material or equivalent shall be used in device shipment. A label identifying that the parts are static sensitive shall be attached to the package.

**O. SHELF LIFE**

Each shipment of material with a finite shelf life shall be accompanied by documentation to determine expiration date based on the OEM method for determining useful life (date of manufacture, date of shipment or expiration date as applicable). Product that has a shelf life requirement shall be marked with this information, and shall have 75 percent remaining total available shelf life from the initial date of certification when received by the Buyer. The latest SDS/MSDS for all chemical shall be supplier to Buyer upon request.

**P. SOLDERABILITY / MOISTURE SENSITIVE PARTS**

Product that have leads, terminations, wiring, etc. intended to be soldered by the Buyer shall meet the requirements imposed by the procurement document (military specification, industry standard practices for hand and machine soldering.

Plastic Encapsulated Microcircuits (PEMs) that exhibit moisture sensitivity in relation to the surface mount reflow soldering processes shall meet the PEM packaging requirements specified below.

#### PEM Packaging Requirements (Moisture Sensitive Parts)

Seller shall "dry" pack all moisture sensitive devices in a Moisture Barrier Bag (MBB) with desiccant and humidity indicator card (HIC) I.A.W. J-STD-033 or equivalent.

Seller shall label all moisture sensitive devices with level, seal date, shelf life and baking instructions I.A.W. J-STD-033 or equivalent. Received items shall have a minimum of nine months of shelf life remaining upon receipt.

#### Q. **Competence, Training and Awareness**

The supplier shall ensure personnel processing orders or performing work affecting conformity to product or service are trained and aware of the relevance and importance of their activities in relation to meeting the requirements of Aethercomm purchase orders and associated documentation.

#### R. **Product Safety & Ethical Behavior**

The supplier shall ensure personnel processing orders or performing work affecting conformity to product or service are aware of their contribution to product safety and the importance of ethical behavior.

#### S. **Interactions with Aethercomm**

All Supplier Interactions with Aethercomm should be initially coordinated through Purchasing.

#### T. **Parts Requirements**

For the below listed material types, the noted requirements and information is required to accompany the received material:

Date Code or Lot Code shall be stated on the CofC and shall match the part label.

**Electronic Components** - Lot Code or Date Code and C of C (Certification of Conformance)

Serial Number (if applicable)

**Wires** - Lot Code or Date Code and C of C

**Hardware** - Lot Code or Date Code and C of C.

Special Process C of C if Loctite has been used on Hardware.

**Epoxies** - Lot Code or Date Code, C of C, Date of Manufacture and Expiration Date

#### **Custom Parts\*:**

**Metal** - Lot Code or Date Code and C of C for Raw Material

**Printed Circuit Boards** - Lot Code or Date Code, serialization and C of C

Following shall be delivered from each lot manufactured.

Reports: Copies of your internal data-report for;

Lab Cross Section report

Electrical TestCofC

Impedance Test Report (when applicable)

Coupons: Set of A & B coupons.

Solder Sample

Cross Section Solder Floated Mount:

**Ceramic (Substrates) Printed Circuit Board**- Lot Code or Date Code, serialization and C of C

Reports: Copies of your internal Lab Cross Section or XRF results, Electrical Test or statement  
no Opens/Shorts

A solder sample shall be delivered from each lot manufactured.

**Cables** - Lot Code or Date Code and C of C

**SCD (Source Control Drawing)** - Lot Code or Date Code and C of C

**Subcontract assembly manufacturing** - Lot Code or Date Code and C of C for Raw Material.

Raw Material - Purchased items that are used to build the final unit.

\*Notes: Include C of C for Special Process if applicable. Supplier to retain C of C for raw material for 10 years and make available to Aethercomm if requested.