



**Summit Interconnect Anaheim**

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## **SUPPLIER QUALITY ASSURANCE REQUIREMENTS**

**QWI 7003-3**

**Revision F**

# **SUMMIT SUPPLIER QUALITY ASSURANCE REQUIREMENTS**

**PURPOSE: ALL QUALITY ASSURANCE REQUIREMENTS ESTABLISHED BY THIS DOCUMENT ARE APPLICABLE TO ALL SUPPLIERS. THESE REQUIREMENTS SHALL APPLY TO EACH PURCHASE ORDER ISSUED BY SUMMIT INTERCONNECT, ANAHEIM CALIFORNIA.**

## **1. QUALITY SYSTEM REQUIREMENTS**

- Supplier shall maintain a quality system that is in conformance with ISO 9001 or industry created other party (ICOP) Standards such as ISO 13485, ISO/TC 16949, AS9100 etc. or has been determined in writing by Summit Interconnect to be acceptable. Supplier shall promptly notify Summit Interconnect of the loss of any third party certifications.

## **2. INSPECTION SYSTEM REQUIREMENTS AND RECORDS**

- Supplier shall maintain an inspection system which will assure compliance with the Procurement Document and all applicable specifications.
- Supplier shall maintain all inspection records and test results on items delivered to Summit Interconnect for a minimum of 7 years unless advised otherwise. These records shall identify discrepancies and shall be made available for Summit Interconnect review.

## **3. PROHIBITED PRACTICES**

- Unauthorized Repairs: Supplier may not repair items without first obtaining Summit Interconnects written approval for the repair. Repairs include, but are not limited to: welding, plating, coating, soldering or using adhesives.
- Unauthorized Processing: Supplier shall not change any equipment, process, or material without prior Summit Interconnect written approval, if such equipment, drawing, process, or material has been originally approved by Summit Interconnect.
- Improper Re-submittal: Items rejected by Summit Interconnect and subsequently re-submitted to Summit Interconnect shall be clearly identified on Supplier's shipping document as re-submitted items.
- Notification of Facility Change: Supplier shall not use or relocate any production, manufacturing and/or processing facilities during performance of the work specified on the Procurement Document from those production, manufacturing or process facilities approved by Summit Interconnect, without promptly notifying Summit Interconnect and affording Summit Interconnect an opportunity to examine such facilities for compliance with Quality Assurance requirements, including any necessary approvals.

## **4. RESPONSIBILITY FOR CONFORMANCE**

Neither surveillance, inspection and/or test made by Summit Interconnect or its representatives or representatives of the Regulatory Authority of Summit Interconnect customers, at either the Supplier's or Summit Interconnects' facility, nor Supplier's compliance with all applicable Quality Assurance requirements, shall relieve the Supplier of the responsibility to furnish items which conform to the requirements of the Procurement Document and these Quality Procurement Requirements.

## **5. CONFIGURATION MANAGEMENT**

Supplier shall maintain a configuration management process to control products, process and related documentation. This management process must include, as appropriate, identifying, documenting and verifying the functional and physical characteristics of the product; maintaining records of its configuration; and controlling changes to the product and its documentation.

# **SUMMIT SUPPLIER QUALITY ASSURANCE REQUIREMENTS**

## **6. SUMMIT INTERCONNECT ANAHEIM SURVEYS, SURVEILLANCE, AUDITS, AND INSPECTION**

- Summit Interconnect has the right to conduct surveys, audits, and surveillance of Supplier's facilities, or those of Supplier's subcontractors or supplier with prior coordination with Supplier, to determine the capability to comply, and to verify continuing compliance, with the requirement of the Procurement Document.
- Summit Interconnect has the right to perform inspection at Supplier's facilities, or those of Supplier's subcontractors or suppliers with prior coordination with Supplier, during the period of manufacture, inspection, and acceptance unless otherwise specified on the Procurement Document.
- Summit Interconnect reserves the right to use MIL-STD-1916, or equivalent sampling plans for the acceptance or rejection of items which in no way relieves the supplier of the responsibility for compliance to requirements.

## **7. MEASURING AND TEST EQUIPMENT**

Supplier shall be responsible for validating the accuracy and stability of tools, gauges and test to ANSI/NCSL Z540.3 or national or international equivalent, which are used to demonstrate that items conform. Documented schedules shall be maintained to provide for periodic calibration traceable to international or national standards bodies such as the National Institute of Standards & Technology (NIST). Objective evidence of calibrations shall be recorded and made available for Summit Interconnect to review upon request.

## **8. DISCREPANT MATERIAL**

Decisions to accept discrepancies (variances from Summit Interconnect drawings, specifications, or procurement documents) detected at Supplier's facilities, must be made by Summit Interconnect unless otherwise specified by the Procurement Document. Shipment of discrepant items must be authorized by Summit Interconnect in writing. Supplier shall provide for control, segregation and identification of discrepant material detected at Supplier's facilities. Upon receipt of discrepant materials, Summit Interconnect shall notify Supplier of acceptance or rejection of these materials, in the event that Summit Interconnect rejects discrepant material, Summit Interconnect may require Supplier to replace or rework and discrepant materials in accordance with the contract requirements on an expedited basis. In the event that the scheduled requirements do not permit the return of the material to the Supplier's facility, Supplier agrees to perform rework at the Summit Interconnect facility or reimburse Summit Interconnect for all costs incurred by Summit Interconnect in performing this rework.

## **9. SUPPLIER DISCREPANCY REPORTS AND SCAR**

When a quality problem exists with Supplier's items, Summit Interconnect may forward a Supplier Corrective Action Request (SCAR) to Supplier. This requires mandatory response and must include the following information: Analysis of the cause of the problem, statement of the action taken to prevent recurrence, and the affectivity of the action.

## **10. INSPECTION RECORDS**

Supplier shall maintain records of all inspections and test performed on items delivered to Summit Interconnect for a minimum of 7 years unless advised otherwise. These records shall identify discrepancies and shall be made available for Summit Interconnect review.

## **11. WORKMANSHIP STANDARDS**

Unless otherwise specified, quality workmanship will be in accordance with applicable drawings and specifications and/or if not identified, with J-STD-001 or American National Standards Institute (ANSI) criteria. Soldering workmanship shall conform to IPC-A-610 (Class 3).

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## **12. ELECTROSTATIC DISCHARGE PROTECTION**

Supplier shall provide safeguards for all electrostatic discharge sensitive (ESDS) components and assemblies in conformance with MIL-STD-1686 and Military Handbook DOD-HDBK-263. ESDS components and assemblies shall be packaged and transported in electrostatic shielding containers. All ESDS containers or cushioning materials must have the mechanical characteristic to properly protect the part against damage. All ESDS packaging containers must have an ESDS caution label affixed to the outer surface. Summit Interconnect may refuse to accept items received which are improperly package or protected. Summit Interconnect reserves the right to verify continuing compliance with the requirements for ESD protection.

## **13. RIGHT OF ENTRY**

Seller shall allow Summit Interconnect, customers, or regulatory agencies right of entry to any place necessary, at any level of the supply chain, to determined and verify the quality of contracted work, records, and material.

## **14. SUMMIT INTERCONNECT/CUSTOMER SOURCE INSPECTION**

Items may be inspected by Summit Interconnect /Customer during manufacture and/or prior to shipments as specified by the Procurement Document. The Supplier shall furnish, at no cost, acceptable facilities and equipment to the Summit Interconnect /Customer representative for his inspection. Supplier shall notify Summit Interconnect not less than three (3) days in advance that the items are ready for Summit Interconnect /Customer inspection. After Summit Interconnect /Customer inspection, any rework or retest of the items, including any unscheduled entry, such as removal of a panel, cover or enclosure will void the inspection. In case of any nonscheduled entry, rework, or retest, Summit Interconnect shall be notified for a decision as to the need for a repeat inspection.

## **15. GOVERNMENT/REGULATORY AUTHORITY SOURCE INSPECTION**

If Source Inspection is required at the Supplier's facility, the supplier should promptly notify the regulatory authority representative who normally services their plant on receipt of an order so that appropriate planning for Source Inspection can be accomplished. When the order is received promptly furnish a copy to the regulatory authority representative who normally services your plant, or if none, to the nearest Army, Navy, Air Force or Defense Supply Agency inspection office. In the event the representative of office cannot be located Summit Interconnect Purchasing shall be notified immediately.

## **16. TEST DATA**

When Summit Interconnect requires test data to be recorded and delivered during the performance of acceptance testing. A copy of the recorded data, showing evidence of Supplier's inspection and verification of conformance, shall accompany shipment of items. As a minimum, data shall be identified with:

- Purchase Order Number
- Part Number
- Type of test performed
- Lot numbers, serial numbers, or date codes of items listed
- Total quantity tested, quantity accepted and quantity rejected
- Any codes, keys or other information necessary to interpret Supplier's data

# SUMMIT SUPPLIER QUALITY ASSURANCE REQUIREMENTS

## 17. CERTIFICATE OF ANALYSIS (C of A)

When specified, by specification or required by procurement document, the supplier must provide a Certificate of Analysis with the raw material, finished or semi-finished items at the time of delivered. This certificate must be executed by an authorized representative of the organization performing the physical or chemical analysis of a representative sample taken from items to be shipped to Summit Interconnect and this document is required to state actual quantitative data and product-specific information from the specification.

- Summit Interconnect may refuse to accept items if Supplier fails to submit certifications, documentation, test data or reports specified by the Procurement Document or Specifications.

## 18. CERTIFICATE OF CONFORMANCE (C of C)

Shipment of raw material, or finished or semi-finished items manufactured from raw materials must be accompanied by a Certificate of Compliance form. Items delivered from a distributor must be accompanied by a statement, executed by an authorized representative, that the items furnished are part of the shipment covered by the manufacturer's documentation. Applicable test and inspection records shall be maintained and made available to Summit Interconnect upon request.

- Summit Interconnect may refuse to accept items if Supplier fails to submit certifications, documentation, test data or reports specified by the Procurement Document or Specifications.

## 19. ASSEMBLY SOLDERING REQUIREMENTS

Component/connector soldering operations, including inspection, shall be performed in accordance with the following standards, as applicable:

- J-STD-001
- IPC-A-610

Packaging: All solderable components shall be packaged and sealed to eliminate air flow and moisture. Packaging material containing paper with sulfur is strictly forbidden as in any material which could leave a residue or degrade the Solderability of the components.

## 20. FIRST PIECE APPROVAL

When specified on the Procurement Document, First Piece approval is required. Following inspection and testing, written approval or rejection of the first piece will be furnished by Summit Interconnect. When approval is received, Supplier is authorized to proceed with the production of the balance of the order.

## 21. PACKAGING AND MARKING

Unless otherwise specified on the drawing, packaging will be in accordance with the best commercial practices available. The package must be capable of protecting the quality of the product and prevent deterioration and damage, including Moisture Barrier packaging, where applicable.

## 22. SHELF LIFE

Unless otherwise specified, all products with a shelf life must be marked with expiration date, as applicable. **Material must be within 75% of the material shelf life at the time of delivery to Summit Interconnect.**

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## 23. HAZARDOUS MATERIAL

When applicable, supplier shall package and label material in accordance with OSHA guidelines for Hazardous Material, and supply current MSDS sheets.

## 24. *International Traffic in Arms Regulations (ITAR)*

All Summit Interconnect product is to be handled as being International Traffic in Arms Regulations (ITAR) controlled.

The supplier will be responsible for developing procedures to comply with ITAR/AECA. These procedures include directions as to how to obtain written State Department approval prior to the transfer of ITAR-designated product to a foreign national employed by the supplier, a foreign person within the US, or to a foreign person outside the US.

Additionally, the supplier shall ensure that procedures are in place to ensure the proper screening of any sub-tier suppliers and carriers to prevent unauthorized release of ITAR-designated product. Furthermore, the supplier shall ensure that procedures are in place to ensure the proper recordkeeping of ITAR records.

Finally, the supplier shall ensure that procedures are in place to ensure the continued monitoring of the ITAR compliance program.

## 25. Counterfeit Prevention Requirement

Supplier is only authorized to deliver work, components, or material from the following as defined in AS5553 (*electrical components*) and AS6174 (*materials*):

- Original Equipment Manufacturer (OEM) or Original Component Manufacturer (OCM)
- Franchised distributor
- Authorized aftermarket manufacturer

Supplier shall not deliver to Summit Interconnect any work, components or material purchased either directly or indirectly through 3<sup>rd</sup> party distributors, brokers, and independent distributors as defined in AS5553 and AS6174 without prior written approval from Summit Interconnect. In such a case, the Supplier must submit the following:

- Results of authentication test and analysis conducted in accordance with AS5553 and/or AS6174
- Traceability with identification, date code/lot code
- Identification of traceability to the original source of manufacture
- Risk mitigation test plan to screen parts for counterfeit sources

Counterfeit Item is defined to include, but is not limited, the following:

- An item that is an illegal or unauthorized substitute of an Original Equipment Manufacturer or Original Component Manufacturer
- An item that does not contain the proper external or internal materials or components required by the OEM or OCM or that is not constructed in accordance with OEM or OCM design, but is represented as such
- An item that has not successfully passed all OEM or OCM required testing, verification, screening, and quality control, but that Seller represented as having met or passed such requirement.
- An item with label or other marking intended, or reasonably likely, to mislead a reasonable person into believing a non-OEM or non-OCM item is a genuine OEM or OCM item when it is not.

# SUMMIT SUPPLIER QUALITY ASSURANCE REQUIREMENTS

Supplier shall immediately notify Summit with the pertinent facts if Supplier becomes aware or suspects that items delivered in accordance with the Summit purchase order are or contain suspect or confirmed counterfeit items. When requested by Summit, Supplier shall provide OCM/OEM documentation that authenticates traceability of the affected items to the applicable OCM/OEM.

## Foreign Object Debris (FOD) Prevention Program

Supplier shall have an effective FOD prevention program. The National Aerospace Standard 412 is to be used as a guideline to develop and maintain the program. FOD prevention procedures are subject to review and audit by Summit Interconnect or Summit Interconnects' customers.

## 26. Conflict Minerals

Supplier shall comply with Section 1502 of Dodd-Frank and its implementing regulations. Supplier shall commit to have in place a supply chain policy that makes a reasonable inquiry into the country of origin of Conflict Minerals incorporated into products provided to Summit Interconnect, and to report those findings to Summit Interconnect.

## 27. Notification Of Change

Supplier shall promptly notify Summit Interconnect of any impending change to the supplier's quality system, manufacturing facility location, data sheets, specifications, raw materials, etc. that would result in a change in the form, fit, function, or end use suitability of the item being offered for sale.

## 28. HOT AIR SOLDER LEVELING (HASL) Requirements

The solder coating shall be Sn63/Pb37 and meet the requirements of J-STD-006 as flowed down by one of the listed specifications. The Vendor shall also meet the requirements of Summit specification SPS-001 and the purchase order. Summit will test the solder finish to confirm it meets the solderability requirements of J-STD-003.

|          |               |
|----------|---------------|
| IPC-6012 | MIL-PRF-50884 |
| IPC-6013 | MIL-PRF-55110 |
| IPC-6018 | MIL-PRF-31032 |

## 29. PROHIBITED MATERIALS

*The following materials shall be forbidden for us in the design, manufacture, construction, or coating of any products or services provided to Summit Interconnect that may ultimately remain as part of the Summits shippable product:*

- *Tin and tin alloy coating and finishes containing less than 3% by weight of lead.*
- *Cadmium and cadmium alloy coatings and finishes.*
- *Zinc and zinc alloy coating and finishes.*
- *Cadmium and/or zinc bearing solders and braze alloys.*
- *Copper/zinc (brass) alloys containing more than 15% zinc by weight without a Summit approved metal plating finish.*

*Any proposed deviation from this requirement must be approved in writing by the Director of Quality.*

# SUMMIT SUPPLIER QUALITY ASSURANCE REQUIREMENTS

## 30. Ethics

Supplier shall comply with the Aerospace Industries Association of America (AIA) and AeroSpace and Defense Industries Association of Europe (ASD) "Global Principles of Ethics in the Aerospace & Defense Industry," available for review here:

[http://asd-europe.org/sites/default/files/atoms/files/Ethics\\_Global\\_Principles.pdf](http://asd-europe.org/sites/default/files/atoms/files/Ethics_Global_Principles.pdf)

## 31. OTHER

The Supplier shall meet other Quality requirements delineated on the Purchase Order and not included within this document.

## 32. REVISION HISTORY

| Date       | Description  |
|------------|--|
| 11/20/2012 | Original Issue   |
| 9/8/2014   | Added SQAR 25 (Counterfeit Prevention Requirement), 26 (FOD Prevention Program), 27 (Conflict Minerals), and relocated bullet point 2 from original SQAR 1 to 28, (Notification of Change). Renumbered "Other" to item 29. |
| 4/15/2015  | Revised SQAR 19 to clarify that this applies to Soldering Operations as opposed to HASL. Added SQAR 29 to define the requirements for HASL. Renumbered "Other" to item 30  |
| 6/22/2015  | Revised SQAR 29 to identify both J-STD-006 and J-STD-003 as requirements   |
| 11/27/2015 | Revised SQAR 25 to require Supplier to disclose the source of counterfeit materials.   |
| 09/22/2017 | (1) Changed all KCA references to Summit Interconnect. (2) Added reference to prohibited materials from QWI 7005-5 and (3) Added ethics in the aerospace and defense industry requirements IAW AS9100D.                    |