

REV	DESCRIPTION	DATE	APPROVED
AY	Update #52 Counterfeit Part Plan Action	4/15/2016	RC/PS
AZ	Add QAP 58A and 58B for J-Std-001 Soldering	12/20/2016	DD
BA	Add QAP #59 sub-tier approval requirements for special processes	9/15/2017	PS
BB	Updated QA # 9, 30, 31, 50, 59. Table 1 - QA Code Guidelines. Added words "and/or sub-tier supplier" to QA # 2, 5, 9B, 11, 12, 13, 16, 27, 42, 45, 47, 50A, 52, and 56	1/2/2018	PS
BC	Combining Tampa and Thousand Oaks Quality Provisions	4/02/2018	RC
BD	Revised #11, #27, Para.3.1, added 3.2 to meet requirements of AS9100D, ICAR 18013. Defined Smiths Interconnect, Inc. and SII and replaced TRAK with SII/TRAK.	5/25/2018	RC/WA/PS



## QUALITY FUNCTIONAL OPERATING PROCEDURE

Quality Assurance Provisions for Suppliers

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DOCUMENT NO.      SHT      REV  
**P3100-05**      1 OF 18      **BD**



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## 1 Scope

The scope of this procedure is to establish the Quality Assurance Provisions which may apply to Purchase Orders and Sub-Contracts for materials, parts, or components that become a part of, or used in, the manufacture of end items produced by Smiths Interconnect, Inc. or TRAK Microwave Corporation hereafter referred to as SII/TRAK. This may also include test equipment and tooling, supplies, or services.

## 2 Reference Documents

PTM-11	AS9100 Quality Manual
PTM-16	Purchasing
PTM-27	Internal Quality Audits
PTM-24	Corrective and Prevention Actions
PTM-41	Counterfeit Part Mitigation
P3100-16	Receiving Inspection
P3100-18	Supplier Rating System

## 3 Procedure

### 3.1 Provision Requirements

The decision to include these provisions will be based upon the contractual requirements or as deemed necessary by the Director of Quality Assurance or the responsible Quality Engineer at the time the Purchase Requisition is reviewed. This will be accomplished by adding QA Provision #(s) to the Purchase Requisition. In general, Quality notes 2, 5, 9, 11, 27, 30, 31, 32, 36, 44A, and 56 will be applied to all purchase orders. Additional QA notes may apply. Table 1 will be used by SII/TRAK only as a guide for assigning QA notes. The Purchase Order (PO) shall be the final authority on assigning QA notes. **Questions, Issues, additional information related to the Purchase Requisition or Quality Provisions should be directed to the Buyer listed on the Purchase Requisition via email or phone.**

### 3.2 Supplier Rating

#### 3.2.1 Composite Supplier Performance

**Supplier Performance is evaluated on each PO issued for Quality and On Time Delivery. The results are reviewed quarterly by SII/TRAK Supplier Quality Engineer.**

**To determine Composite Supplier Performance, the Quality Rating and Delivery Rating are used to assign the rating values shown in Table 1 - Composite Supplier Performance. Composite Supplier Performance is weighted 60% Quality Performance and 40% Delivery Performance. For example, a supplier with a 93% Quality Performance and a 75% delivery Performance would have a Composite Supplier Performance calculated as  $(93\% \times 60 + 75\% \times 40)/100 = 85.8\%$ . A range of 90% to 94.9% Composite Performance is **"SATISFACTORY"** and is the minimum required for all suppliers.**

**Table 1 - Composite Supplier Performance**

<b>Composite Performance</b>	<b>Performance Rating</b>	<b>Inspection Level</b>
98 - 100%	Exceptional	Reduced or Dock-to-Stock
95 - 97.9%	Very Good	Reduced
90 - 94.9%	Satisfactory	Normal (AQL)
80 - 89.9%	Marginal	Tightened
<80%	Unsatisfactory	100%
<b>NOTES:</b> <ol style="list-style-type: none"> <li>1. Less than 4 lots in 12 months equals Insufficient Data</li> <li>2. Performance Rating is a weighted average of Quality and Delivery Performance</li> </ol>		

**3.2.2 Minimum Performance**

The highlighted cell in Table 1 - Composite Supplier Performance designates the minimum performance levels to remain an *Approved Supplier*.

**3.3 Metals**

When specialty metals are to be purchased, e.g. steel parts like Steel screws, Steel nuts, Steel bolts, Steel washers, Steel Housings, Titanium and Titanium alloys, Nickel alloys like Kovar, Zirconium and Zirconium alloys, DFAR 252.225.7008 shall be added to the PO in the form of QA Code #6.

**3.3.1 Specialty Metals Definition**

Steels with a maximum alloy content exceeding one or more of the following limits:

- 1) Magnesium 1.65%, Silicon 0.60%, or Copper 0.60% or containing more than 0.25% of any of the following elements -- Aluminum, Chromium, Cobalt, Columbium, Molybdenum, Nickel, Titanium, Tungsten or Vanadium.
- 2) Metal alloys consisting of Nickel, Iron-Nickel, and Cobalt base alloys containing a total of other alloying metals (except Iron) in excess of 10%
- 3) Titanium and Titanium alloys, and Zirconium and Zirconium alloys.



## STANDARD PURCHASE ORDER QUALITY ASSURANCE PROVISIONS

The requirements of these provisions and any procedure or report executed in implementation thereof, with their terms and conditions become an integral part of the Purchase Order to the extent specified in the Purchase Order. These requirements supplement, but do not supersede, the presently existing terms and conditions of the Purchase Order. Compliance with the requirements of these provisions does not relieve the supplier of their responsibility for furnishing materials and services, which fully comply with applicable Drawing and Specification Requirements – nor does it guarantee acceptance of material and services by **SII/TRAK**.

Applicable provision number(s) shall be designated in the body of the Purchase Order.  
**The (\*) denotes **SII/TRAK INTERNAL USE ONLY**.**

- #1A **GSI Inspection Required:** Government Inspection is required prior to shipment from your plant. Upon receipt of this order, promptly notify the Government Representative who normally services your plant so that appropriate planning for Government Inspection can be accomplished.
- #1B **Test Data to GSI:** Upon receipt of this order, promptly furnish a copy to the Government 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 or office cannot be located, the **SII/TRAK** purchasing agent shall be notified immediately.
- #2 **Inspection System Required:** Supplier, and/or sub-tier supplier, shall maintain a Quality and Inspection System in compliance with ISO 9001:2008 or as approved by **SII/TRAK**.
- #3 **Packaging for Precious Metals:** Items on this order are considered precious metal parts and/or stock and shall be packaged to prevent environmental contamination. Outer packages shall be marked to indicate precious metal parts and/or stock.
- \*#4 **Precious Metal Handling Per PTM-25:** Items on this order are precious metal parts or stock and shall be handled and stored in accordance with PTM-25. When items from the order are removed from the original manufacturers or suppliers packaging, the intermediate packaging shall be of equivalent protection as the original packaging and shall be marked to indicate handling and storage per PTM-25.
- #5 **Calibration System Required:** Supplier, and/or sub-tier supplier, shall maintain a Calibration and Control System in compliance with ANSI/NCSL Z540 or as approved by **SII/TRAK**.
- #6 **Shall Comply With DFAR 252.225.872.1:** Items on this order shall comply with DFAR 252.225.7008 for specialty metals listed and shall be made in the US or qualifying countries listed in DFAR 252.225.872.1. Compliance shall be verified on a certificate of compliance.



- \*#7 **Receiving Inspection per Critical Characteristics Inspection Form, P3100-16:**
- #8A **Pre-Cap Source Inspection Required:** The supplier shall notify the Buyer a minimum of 5 days in advance of when the material will be ready for **SII/TRAK** Source inspection. If the material will not be ready for **SII/TRAK** source inspection on the scheduled date the supplier shall notify the **SII/TRAK** Buyer at the earliest possible date and as a minimum 24 hours before he scheduled inspection.
- #8B **In-Process Source Inspection Required:** The supplier shall notify the Buyer a minimum of 5 days in advance of when the material will be ready for **SII/TRAK** Source inspection. If the material will not be ready for **SII/TRAK** source inspection on the scheduled date the supplier shall notify the **SII/TRAK** Buyer at the earliest possible date and as a minimum 24 hours before he scheduled inspection.
- #8C **Final Source Inspection Required:** The supplier shall notify the Buyer a minimum of 5 days in advance of when the material will be ready for **SII/TRAK** Source inspection. If the material will not be ready for **SII/TRAK** source inspection on the scheduled date the supplier shall notify the **SII/TRAK** Buyer at the earliest possible date and as a minimum 24 hours before he scheduled inspection.
- #9 **Certificate of Conformance:** With each shipment of items covered by this Purchase Order, the supplier, and/or any sub-tier supplier, shall submit a certificate of conformance signed by the Manager/Director of Quality or authorized designate, which shall attest that the parts, materials and/or processes used are genuine, in compliance with the Purchase Order and applicable Specifications and Drawings. Specifically, when services are provided by a sub-tier supplier, the sub-tier supplier shall also submit a certificate of conformance stating compliance to their purchase order and all flow requirements and quality clauses. The supplier's, or any sub-tier supplier's certificate of conformance, certificate of conformance, shall include the P.O. #, quantity, Smith's P/N, S/N (if applicable), applicable drawings with revision number used, and any Process Specifications used.
- #9A **Raw Material C of C:** Material certification for raw material or processed raw material is required on this order. C of C shall contain Lot Date Code information for the material being provided.
- #9B **Original Manufacture C of C:** These parts have been designated as High Reliability parts in a Space application. With each shipment of items covered by this Purchase Order, the Supplier, and/or sub-tier supplier, shall submit a certificate of conformance from the Original Component Manufacturer (OCM) or Original Equipment Manufacturer (OEM) signed by the

- Manager/Director of Quality or authorized designate, which shall attest that the parts, materials and/or processes used are genuine, in compliance with the Purchase Order and applicable Specifications and Drawings. The certificate shall include the P.O. #, quantity, **SII/TRAK** P/N, S/N or Lot/Date Code and when applicable the **SII/TRAK** Specification/Drawing number and revision. Each separate lot or date code shall be individually packaged and marked with the lot or date code, the quantity and listed separately on the packing list or C of C.
- #9C **Magnetic Property Raw Material C of C (B-H):** For material having magnetic properties, the magnetic property (B-H) curves shall also be included with the raw material certification for product delivery.
- #10A **Screening Data for Serialized Item:** The supplier shall provide one copy of the Acceptance Inspection and Test data for each item delivered on this order. Parts shall be individually serialized or lot/date code applied.
- #10B **Screening Data for Non-serialized Item:** The supplier shall provide one copy of the Acceptance Inspection and Test data for each item delivered on this order.
- #10C **100% Mechanical Variable Data Recorded:** One piece from each lot or date code shall have 100% variable data recorded and provided with the shipment. This part shall be identified and segregated from the rest of the lot. Each separate lot or date code shall be individually packaged and marked with the lot or date code and the quantity.
- \*#10D **Route Test Report to Component Engineer upon receipt:**
- #11 **Retention of Documented Information (Records):** Unless otherwise specified by the Purchase Order, the supplier, and/or sub-tier supplier, shall maintain documented information (records) created by supplier, including inspection and test records for minimum of (4) years from the completion date of this order.
- #12 **Qualified Products List (QPL) Compliant Material:** Materials used for this order must be from sources listed on the QPL. By acceptance of this Purchase Order, and the acknowledgment thereof, the Supplier, and/or sub-tier supplier, certifies that the parts supplied to **SII/TRAK** were manufactured by an approved QPL Manufacturer and the manufacturer was listed on the Qualified Products List for the part(s) indicated at the time they were manufactured.
- #13 **Shelf Life Data Required:** Manufacturing date, shelf life and/or expiration date required. Material received with more than 20% of its shelf life expired shall be rejected. If refrigeration or freezing will affect the shelf life of the product, the supplier, and/or sub-tier supplier, shall specify the shelf life at 0 degrees Fahrenheit and 35 degrees Fahrenheit as well as the shelf life

- at room temperature. In addition, if refrigeration or freezing adversely affects the product, it shall be so specified.
- #14 **Material Rejection w/o 1<sup>st</sup> Article Inspection:** SII/TRAK will not accept responsibility for material delivered prior to first article approval when First Article Acceptance is required under this Purchase Order.
- #15 **Traceability Requirement of Each Item:** Each part, component or material furnished shall be identified by lot or batch number, traceable to the actual manufacturing process. The lot or batch number may be by date of shop order.
- #16 **C of C for Calibration Accuracy:** The supplier, and/or sub-tier supplier, shall submit a certification of accuracy of calibration, signed by a responsible representative, which shall attest that the items furnished were calibrated with instruments whose accuracy is traceable to the National Institute for Standards and Technology (NIST).
- #17 **RMA Flux per J-STD-004:** Flux shall be type RMA in accordance with J-STD-004.
- #18A **Physical Test Report Required:** Physical test reports are required on this order.
- #18B **Mechanical Test Report Required:** Mechanical test reports are required on this order.
- #18C **Chemical Test Report:** Chemical test reports are required on this order.
- \*#19 **Class K 100% Inspection:** This Product is Class K Product and must be 100% inspected at Receiving Inspection.
- #20 **Marking per MIL-STD-130:** The material on this purchase order must be permanently identified with the part number and revision letter in accordance with MIL-STD-130. This provision will take precedence over drawing or specification requirements.
- #21 **100 PPM Sulfur Content:** Sulfur content of sponges shall be less than 100 parts per million. Certifications to this requirement shall be provided with each shipment.
- #22 **MIL-S-19500 JAN Certified Parts:** During performance on this order, your control of device lot traceability documentation and your inventory control for MIL-S-19500F JAN branded devices are subject to review, validation and verification by an authorized Government representative. Government release of shipment is not required unless you are otherwise notified.
- #23 **Part Identification:** The supplier is to ensure that all items provided under this Purchase Order are identified with their part information as stated on the SII/TRAK or customer drawing or document, the Purchase Order, or if not specifically defined, with the items' Part Number (as indicated on the PO) and applicable Revision. Preferred methods for Part Identification other than specified on the controlling document or Purchase Order are 1) bag/box and tag a group



- of like items and indicate quantity enclosed 2) marking the outer packaging of the individual item 3) string/wire tag on the individual item. Unless specified on the controlling document or Purchase Order, parts manufactured to this Purchase Order shall not have identification markings directly on the item.
- #24 **28 – A Mercury Exclusion Clause:** A Mercury Exclusion Clause is effective on this Purchase order. Supplier, and/or sub-tier supplier, shall provide a certificate for each shipment on this order.
- \*#25 **Possible Sample Testing Required:** The Parts on this order may require sample testing prior to acceptance. See the Quality Engineer for instructions.
- #26 **IPC-A-610 Acceptability of Electronic Assemblies:** This clause applies to any material in support of deliverable customer product where Electronic Assembly is an integral process of the delivered product. The supplier shall adhere to the requirements of IPC-A-610 for all Electronic Assemblies. IPC-A-610 Class 3 is required unless otherwise specified on the Purchase Order or purchase documentation.
- #27 **Right of Access:** SII/TRAK, SII/TRAK's Customer, the Government, or any designated representative has the right of access to applicable areas of the seller's facilities and/or sub-tier supplier's facilities and applicable inspection or process completion documented information (i.e., records) for all work pertaining to this order.
- #28 **IPC-WHA-A-620 Assembly and Inspection of Cables and Harnesses:** The supplier shall adhere to the requirements of IPC/WHA-A-620 for all Cable/Harness Assemblies. IPC/WHA-A-620 Class 3 is required unless otherwise specified on the Purchase Order or purchase documentation. Supplier will provide proof of capability upon request by SII/TRAK Quality Assurance Representative or SII/TRAK Buyer. The Supplier's Certificate of Conformance will serve as evidence of compliance to IPC-WHA-A-620.
- #29 **First Article Inspection (FAI) Report:** When required by SII/TRAK Purchase Order, First Article Inspection shall be performed on the first production piece with all the applicable documentation completed and submitted to SII/TRAK for approval prior to shipment of the parts. Upon shipment, the part shall be identified as the First Article unit. The FAI shall be performed in accordance with AS9102 or the Supplier's procedure as approved by SII/TRAK.
- #30 **No Design MRB Authority Granted:** Once a baseline has been established, the supplier, and any sub-tier supplier, does not have Design MRB authority under this Purchase Order. The Design may not be changed without written authorization from SII/TRAK. A Design change shall be defined as any physical or functional change by supplier, and/or any sub-tier suppliers, to

form, fit, or function, including, but not limited to, drawings, bill of materials and specifications of products under procurement by this purchase order. The supplier shall obtain approval in writing from **SII/TRAK** for any changes to, or deviations from, the Design of the products under contract by this purchase order including changes made by any sub-tier supplier. Any departure from the Design or physical or functional requirements governing this product by the supplier, and/or any sub-tier supplier, shall be immediately identified to the Smith's Buyer with the details of the change or nonconformance, including an explanation of the reason or causes of the change. If the nonconformance was unintentional, the corrective actions taken to prevent recurrence and the proposed disposition of materials shall also be submitted in writing to **SII/TRAK**.

- #31 **No Process MRB Authority Granted:** Once a baseline has been established, the supplier, and/or any sub-tier supplier, does not have Process MRB authority under this Purchase Order. Processes may not be changed without written authorization from **SII/TRAK**. A Process change shall be defined as a change by supplier, or any sub-tier supplier, to any processing or manufacturing methods, e.g., work instructions, tooling, supplier facilities location, sub-tier supplier facilities location, materials, plating, fabrication and assembly processes, handling, and testing procedures for the manufacture of products under procurement by this purchase order. The supplier shall provide to **SII/TRAK** in writing advance notification of any changes to, or deviations from, these Processes used to manufacture the products under contract by this purchase order including process changes made by a sub-tier supplier. Any departure from the Processes or physical or functional requirements governing this product by the supplier, and/or any sub-tier supplier, shall be immediately identified to the Smith's Buyer with the details of the change or nonconformance, including an explanation of the reason or causes of the change. If the nonconformance was unintentional, the corrective actions taken to prevent recurrence and the proposed disposition of materials shall also be submitted in writing to **SII/TRAK**.
- #32 **Sub-Tier Flow Down Requirements:** Supplier shall flow down to their sub-tier suppliers all applicable requirements indicated within the purchasing documents, including key characteristics when required.
- #33 **OSHA – MSDS Data Required:** OSHA/MSDS report on the material specified shall be supplied on this order.
- #34 **ESD Packaging Required:** These parts are considered to be electrostatic sensitive and shall be packaged using electrostatic protective material. Outer packages shall be plainly marked with an ESD warning notice. Connectors shall be fitted with ESD protective caps and external terminals shall be shorted together or protected with ESD foam.



- \*#35 **ESD Parts Handling:** Parts on this order are electrostatic sensitive and shall be handled, processed, and packaged in accordance with PTM-04.
- #36 **Foreign Object Debris (FOD):** All parts, components and assemblies shall be free of FOD. The Supplier shall ensure that product being shipped to **SII/TRAK** shall be free of FOD and shall work within the guide lines as described in the NAS 412 Object Damage/Foreign Object Debris (FOD) Prevention Aerospace Industries Association – National Aerospace Standard when it is a contractual requirement.
- #37 **X-Ray Required:** Radiographic inspection is required on parts covered by this order. The radiographs shall be evaluated and interpreted in accordance with specifications and standards specified by drawings and/or purchase order.
- #38 **Solder IAW J-STD-005 or -006:** Solder shall be in accordance with J-STD-005 (for Pastes) or J-STD-006 (for Solid forms).
- #39 **Inspection Not Required:** No QA provisions apply to this item. \*Incoming Inspection is not required.
- #40 **Multiple Lots Shall Be Identified:** If more than one lot is included in this shipment, each lot must be individually identified and packaged separately.
- #41 **NADCAP Plating Required:** Parts on this order require the use of a NADCAP subcontractor certified to specific processes per drawing or PO requirements. Certification of specific process is required to be included with documentation package prior to shipment.
- #42 **Solderability Testing per J-STD-002:** Solderability testing is a requirement on this item. Testing shall be in accordance with J-STD-002 for component leads, terminations, lugs, terminals and wires, and in accordance with J-STD-003 for printed boards. A test certification shall accompany each shipment of parts, and shall include the date the test was performed, the test specification or standard, and the test method number. **SII/TRAK** will not accept parts that have not been tested within a three month period prior to shipment. Unless specifically stated by the Engineering Detail Specification all leads and other solderable surfaces shall be fused tin/lead plated or hot solder coated to a minimum thickness of 0.0001 inches. All Hole and Lead Dimensions shall be met after plating and fusing operations.
- #42A **No Pure Tin Allowed:** The supplier, and/or sub-tier supplier, shall not provide parts with pure tin leads or terminations. If this is the only plating configuration offered, the supplier, and/or sub-tier supplier, shall notify **SII/TRAK** that the part being provided has pure tin leads or terminations at the earliest possible date but not later than the time of order acknowledgement and mark the intermediate level packing or packing slip with the pure tin warning. Definition of

- pure tin product is any item that has leads or terminations that have less than 3% of material utilized in the spoiling process (i.e. Bi, Ag, etc...).
- #42B **Corfin Only Approved Solder Tinning:** Lead tinning activity shall only be performed by Corfin Industries.
- \*#43 **Clean Room Inspection Only:** Packages must be opened and product inspected in a designated clean room only.
- #44A **Best Commercial Packaging:** Packaging shall be done in accordance with best commercial practices to preclude movement and/or damage during normal handling and shipping. Bags or containers made of silicone sulfur compounds, polysulfides or processed with these compounds shall not be used. Packaging shall not degrade the long-term solderability of the product.
- #44B **Special Instruction For Direct Shipment:** Special instructions for direct shipments are required.
- #44C **Moisture Sensitive Packaging per J-STD-033:** Manufacture and/or Supplier shall process moisture sensitive product in accordance with IPC/JEDEC J-STD-033.
- #44D **Individual Item Packaging Required:** Product shall be individually wrapped or segregated in partitioned packaging medium to preclude physical contact and possible damage to applied plating/finish during handling, transport and shipping. Silver plated product shall be packaged in anti-tarnish protection paper.
- #44E **Tape and Reel Required:** Product shall be supplied on Tape and Reel with a minimum 6" leader and 6" tail unless otherwise instructed by the **SII/TRAK** procuring agent for modified packaging requirements.
- #44F **Heavy Product Packaging:** Product is heavy; product shall be packaged adequately to minimize possible movement and physical contact.
- #44G **Packaging in Tube Required:** Items shall be packaged in tubes for product delivery. Tubes shall be adequate to prevent product from falling apart from the stack and shall be adequate to minimize movement of product during shipment to prevent damage.
- #44H **Waffle Packaging Required:** Items shall be packaged in waffle packs for product delivery. Waffle pack selection shall be adequate to minimize movement of product during shipment to prevent damage.
- #45 **100% Variable Data Required:** Products has been identified for use in HI REL applications. Supplier, and/or sub-tier supplier, shall provide 100% variable data for each part supplied on this order.

- \*#46 **Engineering Use Only:** Engineering use only. No inspection required.
- #47 **Plating Thickness Data Required:** When parts are Electro or Electroless plated, the plating supplier, and/or sub-tier supplier, shall provide thickness measurements on a representative sample (5pcs. minimum or AQL of 1.0 sample per Lot size). Each lot shall be individually identified and segregated. Plating thickness samples can come from production lot, however must be identified accordingly. QAP # 47 is not applicable to Chromate Conversion applications.
- #47A **Metallization Thickness Data Required:** When parts have metallization other than an Electro or Electroless application, the metallization supplier, and/or sub-tier supplier, shall provide thickness measurement data for the representative sample (5pcs. minimum or AQL of 1.0 sample per Lot size). Each lot shall be individually identified and segregated. Metallization thickness samples can come from production lot, however must be identified accordingly.
- #48 **Packaging For Nonconforming Screened Items:** When Suppliers are contracted to perform electrical testing any devices with known electrical nonconformances that are forwarded to **SII/TRAK** shall be segregated and listed as a separate item on the packing slip.
- #49 **Painted Parts:** Painted parts or assemblies shall not be placed in the oven at any time for curing unless specified by the drawing or specification.
- #50 **Plating Adhesion C of C:** When parts have plating, the supplier, and/or sub-tier supplier, shall provide a "Plating Certificate of Compliance" stating that the plating adhesion testing was performed per ASTM-B-571 or as stated otherwise on the **SII/TRAK** drawing plating specifications. Plating adhesion test coupon(s) shall be representative of the actual material used in the manufacturing of the product and shall accompany the delivered product and be identified accordingly. Plating adhesion test coupons shall not be considered as part of the Purchase Order quantity.
- #50A **Metallization Certificate and Material Coupon Required:** When product has metallization, the metallization supplier, or any sub-tier supplier, shall state on their Certificate of Compliance identifying the standard and method utilized during metallization adhesion testing. Metallization test coupon(s) shall be representative of the actual material used in the manufacturing of the product and shall accompany the delivered product and be identified accordingly. Plating adhesion/bond pull test coupons shall not be considered as part of the Purchase Order quantity.
- #51 **100% Data Required per AS9102 Hi Rel.:** These parts have been designated as High Reliability parts in a Space application. 100% inspection of all drawing dimensions, notes and

- any other callouts is required on each part. The inspection results shall be recorded and delivered with the hardware. The supplier may document the inspection in accordance with AS 9102, the **SII/TRAK** FAI process or the supplier's standard process.
- #52 **Counterfeit Part Plan Required:** The supplier, and/or sub-tier supplier, shall establish and implement a counterfeit electronic parts; avoidance, detection, mitigation and disposition plan in compliance with AS5553. When the supplier is considering buying parts from a Broker; the supplier, and/or sub-tier supplier, shall request approval from **SII/TRAK** and specify the actions to be taken to assure the parts are genuine. The supplier, and/or sub-tier supplier, shall submit a certificate of conformance from the Original Component Manufacturer (OCM) or Original Equipment Manufacturer (OEM) signed by the Manager/Director of Quality or authorized designate, which shall attest that the parts, materials and/or processes used are genuine, in compliance with the Purchase Order and applicable Specifications and Drawings. The supplier, and/or sub-tier supplier, shall also be required to disclose the source if counterfeit parts are detected. If suspect or confirmed fraudulent/counterfeit EEE parts are detected as a result of **SII/TRAK** or 3<sup>rd</sup> party inspections and tests per AS5553 compliance, the suspect material shall be impounded and not returned to the Broker/supplier. The suspect parts may be turned over to US Government authorities for investigation and the incident should be reported to industry via a GIDEP Alert or other suitable means.
- \*#54 **Certifications Not Required:** For Non-US purchased COTS items, certifications are not required from the supplier. Dimensional, Material and Plating Verification as applicable shall be determined upon receipt at **SII/TRAK**. As required third party services may be used for the material and plating verification.
- #55A **Certificate of Conformance for RoHS Materials:** Upon reviewing the requirements of the Purchase Order, build documentation, and referenced specifications (may include FAR and DFAR), the supplier is to produce a Certificate for the parts being delivered. A responsible representative of the supplier's organization acknowledging that all requirements of the Restriction of Hazardous Substances (RoHS) per European Parliament Directive have been met shall sign the Certificate. The Certificate shall accompany the delivered items as either a separate document with reference to the packing slip number or it may be included on the packing slip. The Certificate may be worded substantially as follows: This is to certify that all articles delivered under this shipping document conform to all applicable drawing specifications, Purchase Order requirements, and all requirements of the Restriction of Hazardous Substances (RoHS) per European Parliament Directive. Materials/parts provided are obtained directly from the OEM, approved distributors, authorized resell organization or franchised aftermarket

- suppliers Test Reports, inspection records or other verifiable documentation of quality are maintained at the point of manufacture and are available for review by Buyer and/or Government/Customer representatives.
- # 55B **RoHS Compliant, Except Lead In Solders:** Items, materials, or processes shall be RoHS compliant per European Parliament Directive, with the exception of lead (Pb) in solders. The supplier shall provide a signed Certificate of Conformance (CoC) stating compliance to RoHS with the exception of Lead (Pb) in solders, the CoC shall reference the packing slip or order number. Supplier shall provide **SII/TRAK** with a description of any other materials or processes used that are not RoHS compliant as related to the product or process being supplied.
- # 55C **RoHS Compliant, Contains Lead >85% Weight in High Temp Solder:** Items, materials, or processes shall be fully RoHS compliant per European Parliament Directive, and contains lead (Pb) > 85% by weight in high melting temperature solders. The supplier shall provide a signed Certificate of Conformance (CoC) stating compliance to RoHS allowing Lead (Pb) > 85% by weight in high melting temperature solders, the CoC shall reference the packing slip or order number. Supplier shall provide **SII/TRAK** with a description of any other materials or processes used that are not RoHS compliant as related to the product or process being supplied.
- #56 **Conflict Minerals Notification Required:** In an effort to comply with US Government Dodd-Frank Financial Reform and Consumer Protection Act (Dodd-Frank Act) Section 1502 that requires publicly traded companies to annually disclose to the US Securities and Exchange Commission (SEC) if their manufactured products contain tin, tantalum, tungsten or gold (termed "conflict minerals"). As such, **SII/TRAK** is requiring all suppliers, and/or sub-tier supplier, who supply product that may contain materials defined "conflict minerals" to conduct a reasonable "country of origin" determination (due diligence) for any conflict minerals that may be contained in products supplied to **SII/TRAK** and inform **SII/TRAK** immediately in writing of any materials that do not conform to the Dodd-Frank Act.
- #57 **Fully RoHS Compliant 2011:** Items, materials, or processes shall be fully RoHS compliant per European Parliament Directive 2011/65/EU. The supplier shall provide a signed Certificate of Conformance (CoC) stating compliance to RoHS 2011; the CoC shall reference the packing slip or order number.
- #58A **IPC J-Std-001 Class 2 Soldering:** The parts supplied to **SII/TRAK** shall meet all requirements for Class 2 Soldering in accordance with the latest revision of IPC J-Std-001 Requirements for Soldered Electrical and Electronic Assemblies.

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- #58B **IPC J-Std-001 Class 3 Soldering:** The parts supplied to **SII/TRAK** shall meet all requirements for Class 3 Soldering in accordance with the latest revision of IPC J-Std-001 Requirements for Soldered Electrical and Electronic Assemblies.
- #59 **Approval and Management Requirements for Special Processes:** A special process is defined as when a product undergoes a physical, chemical, or Metallurgical transformation or when inspection and conformance to all specification requirements cannot be readily verified by normal or visual inspection methods. **SII/TRAK** must approve in writing the use of any sub-tier contractor that performs a special process required by **SII/TRAK** provided drawing, purchase order, or when deemed critical by the responsible **SII/TRAK** Supplier Quality Engineer. Examples of special processes are welding, brazing, soldering, plating, heat treating, magnetic particle and penetrant inspection, etc. **SII/TRAK** shall be notified within two business days when any special process being performed is found to be non-compliant to the specification(s). A reference list of **SII/TRAK** approved special processors will be provided with purchase order or upon request but does not alleviate the need for **SII/TRAK** approval. After approval, any desired changes to approved special processors must be resubmitted to **SII/TRAK** for approval.
- \*#59a **Customer Special Process Instruction and Verification:** When **#59 Approval and Management Requirements for Special Processes** is used, Supply Chain Management (SCM) will verify that suppliers/sub-tier suppliers that perform special processes are approved by the Customer. If required SCM will provide our supplier a current customer approved list of special process sub-tier suppliers. Examples of special processes are welding, brazing, soldering, plating, heat treating, magnetic particle and penetrant inspection, etc. When material is received SII/TRAK Receiving Inspection will verify that the Sub-tier suppliers used for Special Processes are Customer Approved.
- #99X **Complex Part Supplier Inspection Plan:** Supplier shall provide **SII/TRAK** part specific potential manufacturing issues and plans to mitigate identified risks.





**Table 2 - QA Code Guidelines**

Note: The (\*) denotes **SII/TRAK** MICROWAVE INTERNAL USE ONLY

PART TYPE	QUALITY CODES APPLIED
ALL	#2 Inspection System Required #5 Calibration System Required #9 Certificate of Conformance #11 Retention of Documented Information (Records) #27 Right of Access #30 No Design MRB Authority Granted (contract specific) #31 No Process MRB Authority Granted (contract specific) #32 Sub-Tier Flow Down Requirements #36 Foreign Object Debris (FOD) #44A Best Commercial Packaging #56 Conflict Minerals Notification Required
MANUFACTURED METAL (In addition to ALL above)	#9A Raw Material C of C #10C 100% Mechanical Variable Data Recorded #29 First Article Inspection (FAI) Report #30 No Design MRB Authority Granted (contract specific) #31 No Process MRB Authority Granted (contract specific) #47 Plating Thickness Data Required #50 Plating C of C #99X Complex Part Supplier Inspection Plan
SPECIAL PROCESSES (where applicable)	#59 Approval and Management Requirements for Special Processes *#59a Customer Special Process Instruction and Verification
PURCHASED COMPONENTS (In addition to ALL above)	#34 ESD Packaging Required *#35 ESD Parts Handling #42A No Pure Tin Allowed *#43 Clean Room Inspection Only (Open Die Parts) #44E Tape and Reel Required #52 Counterfeit Part Plan Required #57 Fully RoHS Compliant
PRINTED WIRING BOARDS (In addition to ALL above)	#9A Raw Material C of C #30 No Design MRB Authority Granted (contract specific) #31 No Process MRB Authority Granted (contract specific) #44C Moisture Sensitive Packaging per J – STD – 033 #50A Metallization Certificate and Material Coupon Required
CHEMICALS EPOXIES (In addition to ALL above)	#13 Shelf Life Data Required #33 OSHA – MSDS Data Required #18C Chemical Test Report



<p>HIGH RELIABILITY (SPACE APPLICATION) (In addition to ALL above)</p>	<p>#9B Original Manufacture C of C #18A Physical Test Report Required *#19 Class K 100% Inspection #37 X – Ray Required #45 100% Variable Data Required #48 Packaging For Non – Conforming Screened Items #51 100% Data Required per AS9102 Hi-Rel</p>
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