 <b>TELEDYNE</b> <b>PRINTED CIRCUIT TECHNOLOGY</b> A Teledyne Technologies Company	Form #:	Revision:
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Form Title:		
<b>Supplier Quality Requirements (SQR)</b>		

**I. PURPOSE:**

This document establishes requirements applicable to items ordered under the Purchase Order, of which this form is a part, to assure that such items are of the required quality and reliability. It contains “General Requirements” which are applicable unless expressly excluded in the Purchase Order, and Special Quality Requirements (SQR’s) which apply as designated.

**II. DEFINITIONS:**

- A. The term “purchase order” means the purchase order, subcontract or other written agreement with the Seller (supplier) in which this form is incorporated by reference.
- B. The term “Buyer” means Teledyne Electronic Technologies.
- C. The term “Seller” means the legal entity, which is the contracting party with the Buyer with respect to the purchase order.
- D. The term “Contracting Authority” means the legal entity (company, agency, or Government) which contracted with the Buyer for the services or supplies, which are being purchased from the Seller.

**III. GENERAL REQUIREMENTS:**

In all cases, unless otherwise specified in the purchase order, the following general requirements apply:

**A. PROHIBITED PRACTICES:**

1. Unauthorized Repairs: Without Buyer’s approval, seller may not repair parts damaged or found to be faulty or non-conforming during fabrication.
2. Change in Approved Processes, Material or Procedures: Seller shall not change any process, material or procedure without prior Buyer approval if such process, material or procedure was originally subject to approval by the Buyer. As to any product which has been subjected to Buyer or Government specified qualification procedures to qualify the product or to permit the Seller to become a qualified source for the product, the Seller shall not change any process, material or procedure from that used to qualify, without prior notification to Buyer, and approval by Buyer or the Government, as appropriate.
3. Unauthorized Submittal of Production Parts: When the purchase order requires Buyer acceptance of a first article, Seller shall not submit parts without prior acceptance of first article.
4. Notification of Facility Change: Seller shall not relocate any production, manufacturing and/or processing facilities during performance of the purchase order, without promptly notifying Buyer of an opportunity to examine such facilities for compliance with Quality Assurance requirements, including any necessary approvals.

**B. RESPONSIBILITY FOR CONFORMANCE:**

Neither surveillance, inspection and/or tests made by the Buyer or his representatives at either the Seller’s or Buyer’s facility, nor the Seller’s compliance with all applicable Quality requirements shall relieve the Seller of the responsibility to furnish items which conform to the requirements of the purchase order.

**C. DOCUMENTATION:**

The Buyer may refuse to accept items delivered under the purchase order if the Seller fails to submit the certification, documentation, test data or reports specified in the purchase order.



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### D. **CERTIFICATE OF COMPLIANCE AUDIT:**

Certifications furnished under the terms of the purchase order shall be supported by test records and data and are subject to audit by the Buyer.

### E. **SAMPLING:**

The Buyer reserves the right to use MIL-STD-105 or equivalent sampling plan for the acceptance or rejection of supplies.

### F. **CORRECTIVE ACTION REQUESTS:**

When a quality problem exists, the Buyer may request corrective action from the Seller. Such requests require timely responses and should include the following information: Analysis of the cause of the problem, statement of the action taken, and the effectiveness of the action. When corrective action is required for Government Source inspected items, the supplier shall coordinate such action with the Government Quality Assurance Representative assigned to his plant.

### G. **ACCESS TO FACILITIES:**

Seller must identify (without disclosing proprietary information) the intended use (by Seller or Seller's suppliers) in performance of the Purchase Order of an item, material, component or process with respect to which access by Buyer, Contracting Authority, or Government representatives for purpose of quality assurance by inspection, test or process surveillance is proposed to be restricted. Such identification shall be made in writing to Buyer along with Seller's quotation or offer to Buyer (or if the proposed restricted access involves a supplier not known to the Seller prior to award of the purchase order, such written identification shall be made as soon as Seller actively considers award to such supplier). The written identification shall state generally the basis for such proposed restricted-access (e.g., that the process involves proprietary information), and shall include a proposed method of quality control/inspection by Buyer, Contracting Authority, or Government representatives which Seller (or the supplier) considers applicable. The absence of such written identification is a representation by Seller that all items (including end items), materials, components, and processes are subject to inspection test and quality control surveillance at all places and at reasonable time prior to acceptance by authorized representatives of the Buyer, Contracting Authority, or the Government. If such written notification is given, Seller agrees to negotiate promptly and in good faith with Buyer for agreement on acceptable arrangement for such inspection/test and quality control surveillance.


### H. **PURE TIN FINISHES PROHIBITED:**

The use of pure tin (defined as having < 3 weight %) is prohibited as a surface finish for either component/connector leads or printed wiring boards unless specifically authorized in writing by a Teledyne Quality Assurance representative.

### I. **CERTIFICATE OF CONFORMANCE:**

With each shipment of items covered by this purchase order, Seller shall submit a certificate of conformance, authorized by a responsible representative, with signer's title and date authorized, which shall constitute a representation by the Seller that:

1. Materials used are those which have been specified by Buyer, and that the items delivered were produced from materials for which Seller has on file reports of chemical or physical analysis and any other required evidence of conformance of such items to applicable specifications.
2. Processes used in the fabrication of items delivered were in compliance with applicable specifications forming a part of this Purchase Order.

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3. The items as delivered comply with all specifications and other requirements or this purchase order.

By making shipment under this purchase order, the Seller automatically certifies that the materials (except when the materials are furnished by the Buyer) used in the articles shipped and the processes applied to such articles, comply with the applicable drawings and specifications. The Seller agrees to retain objective evidence, including records, or the inspection and tests performed in the course of manufacturing, testing, inspecting, preserving, packaging, and packing of said articles. These records shall be made available to Buyer for review upon request.

**J. PRODUCT/PROCESS CHANGE APPROVAL:**

Without prior approval by Buyer in writing, the Seller shall not make any changes in the following from end items accepted by Buyer under the Purchase Order and found to be satisfactory for their intended purposes: Changes in product design, composition, configuration (including form, fit, function, interchangeability or compliance), material. Seller shall also notify Buyer of any significant process changes related to the manufacture/fabrication of the items procured under the referenced purchase order. Seller shall flow down this requirement to Seller's suppliers.

**K. REPORT OF DISCREPANCY FOR BUYER MATERIAL REVIEW:**

A discrepancy report is to be initiated by the Seller for any departure from drawings, specifications, materials or other purchase order requirements and must adequately describe such departures, including a complete description of the cause and corrective action taken to prevent recurrence. The discrepancy report shall be submitted to the Buyer's Purchasing Department, which will arrange for material review. Seller shall not ship a discrepant item reported on a discrepancy report without Buyer's prior approval. Articles rejected by the Buyer and subsequently resubmitted to the Buyer shall be clearly and properly identified as resubmitted articles. Seller's shipping document shall contain a statement that articles are replacement or reworked articles and shall also refer to Buyer's rejection document.

**L. LOT CONTROL AND MATERIAL TRACEABILITY:**

Items furnished under this purchase order must be identified by manufacturing lot or batch number. Where impractical to stamp individual parts due to size or shape, the lot or batch number shall be stamped on identifying tags or the smallest unit package.

**M. SPECIAL PROCESS CERTIFICATIONS:**


Special processes such as plating, heat treating, etc., must be performed by Teledyne approved sources, unless otherwise directed by Teledyne. Material processed by non-approved suppliers may be subject to rejection. Contact Teledyne Purchasing for approval of special process supplier.

**N. SUPPLIER FLOW DOWN TO SUB-TIER SUPPLIERS/CONTRACTORS:**

It is the responsibility of the supplier denoted on the purchase order to flow down to sub-tier suppliers/contractors any applicable requirements outlined within the purchasing documents (eg: drawings, specifications, SOW's, purchase order requirements, SQR's, etc.).

**O. SELLER SUPPLIED INFORMATION:**

Seller shall furnish, at no cost to the Buyer, a minimum of one legible copy of applicable specifications, drawings, and/or catalog/s or catalog page/s sufficient to inspect and/or test the product specified in the purchase order. **This is not necessary if the documentation has previously been supplied to the Buyer.**

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**P. SELLER'S QUALITY CONTROL SYSTEM**

The Seller shall maintain a quality system which complies, as a minimum requirement, with ISO 9000 Series, AS9100, or the equivalent, as approved by Teledyne. The Seller's system shall be subject to audit by the Buyer's Quality Representative. Waivers to quality system requirements are not valid unless obtained in writing from Buyer. In the event of loss of Quality System certification, the Seller shall notify the Buyer immediately in writing.

**Q. COUNTERFEIT PARTS MITIGATION**

The Seller shall maintain a system which mitigates the risks involved with supplying Teledyne with counterfeit parts, as applicable to the product or service being supplied to Teledyne. This shall include purchasing components only from a licensed/franchised distributor and never from an independent broker, unless authorized by Teledyne's Purchasing Representative.

**R. FIRST ARTICLE INSPECTION**

The Seller shall supply a First Article Inspection report in accordance with AS9102. This requirement is waived if the product supplied is deemed to be a Commercial Off The Shelf (COTS) product, a Mil-spec component, or has had a First Article Inspection report produced within the past 3 years from the date of the Teledyne Purchase Order. A "delta" First Article report is required in accordance with the requirements of AS9102, such as in cases where revision or configuration status has changed. Contact Teledyne's Purchasing Representative with any questions or requests for interpretation.

**IV. SPECIAL QUALITY REQUIREMENTS (SQR's):**

The following Special Quality Requirements are a requirement of this purchase order when specified by number in the purchase order.

**SQRH-1: BUYER SOURCE INSPECTION:**

Items to be delivered under this purchase order require inspection, tests, or surveillance by the Buyer's Quality Representative at the Seller's plant. Sufficient advance notice (two working days for local travel plus travel time for distant location) must be given to Buyer to permit scheduling of source inspection. The Seller shall notify the Buyer's Purchasing Department when the product is ready for source inspection. Source inspection does not relieve the Seller of the responsibility for compliance with all requirements of the purchase order. Evidence of Buyer source inspection must accompany or be shown on the shipping documents (see III-C above). The Buyer reserves the right of final acceptance at Buyer's facility. Items submitted under this requirement shall have passed Seller's inspection.

**SQRH-2, 2I, 2S: SELLER'S QUALITY CONTROL SYSTEM (deleted – requirements moved to section P)**

**SQRH-3: CHEMICAL AND PHYSICAL ANALYSIS:**

The Seller shall submit a report as indicated below (actual or typical) with each lot of material shipped.

**SQRH-3T: ACTUAL VALUES TEST**

**REPORT:** The test report shall list actual test results obtained from an analysis of representative samples of each lot of material used to fill this order.

**SQRH-3R: TYPICAL VALUE TEST**

**REPORT:** The test report shall list the range of values in which the properties of material fall.



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### **SQRH-5: GOVERNMENT SOURCE**

#### **INSPECTION:**

Government inspection is required prior to shipment from Seller's plant. Upon receipt of this purchase order, Seller shall promptly notify the Government Representative who normally services Seller's plant, in order that appropriate planning for Government inspection can be accomplished. Upon receipt of this order, promptly furnish a copy to the Government Representative who normally services Seller's plant or, if none, to the nearest Army, Navy, Air Force, or Defense Supply Agency inspection office. In the event the representative of the Government Inspection Office cannot be located, the Buyer should be notified immediately. The Seller's Quality Control or Inspection System and manufacturing processes are subject to review, verification and analysis by authorized Government Representative upon request.

#### **SQRH-6: SERIALIZATION:**

With each shipment, the Seller shall submit a legible copy listing all serialized parts and assemblies by part number, within the serialized end item shipped. No two parts having the same number (under this purchase order or any other purchase order) are to be identified with the same serial number unless otherwise specified. Records must be maintained by the Seller, identifying the serial numbers of serialized subassemblies contained in deliverable items.

**SQRH-6S:** The supplier shall assign serial numbers to those parts, assemblies and end items required by this purchase order to be serialized, or shall assign serial numbers to the end items if this SQR-6S is applicable even though the purchase order does not otherwise require serialization.

**SQRH-6T:** The serial numbers to be assigned by part number are included with this purchase order.

**SQRH-6U:** Apply part number and revision letter per applicable drawing note.

**SQRH-6V:** Bag and tag parts.

**SQRH-6W:** Tag parts.

**SQRH-6X:** Identify parts in accordance with MIL-STD-130 (latest revision as of date of purchase order issuance).

**SQRH-6Y:** Identify per: \_\_\_\_\_

#### **SQRH-7: FINAL INSPECTION / TEST:**

Seller shall submit with each shipment a report for the delivered end product with the following information included as a minimum:

- Part number
- Revision letter
- Purchase order number
- Lot number
- Lot quantity
- Inspection sample size (when applicable)
- Characteristics/parameters inspected/tested
- Inspection/test data
- Quantity passed/rejected by characteristic
- Date of inspection/test
- Signature/stamp of seller's inspection/test representative.

Upon request, the Seller shall also submit a Test/Inspection plan inclusive of test/inspection parameters, details and process sequence.

#### **SQRH-8: FIRST ARTICLE INSPECTION / TEST REPORT (deleted – moved to section R):**

#### **SQRH-11: AGE CONTROL:**

The Seller shall have an effective system of age control of items whose acceptability is limited by age of the item. The system must include a method of identifying the age of such items and provisions for FI-FO control. *Time lapse between cure or manufacturing date and date of scheduled receipt by Buyer under the Purchase Order shall not exceed one-third of the shelf life for the material without prior consent of the Buyer.*

**SQRH-11L:** Seller shall show on each container of materials having a limited or specified shelf life (both Seller's in plant containers and containers in which material is delivered to Buyer) the date of manufacture, expiration date, lot or batch number and special storage and handling conditions



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applicable to the contents; this information shall be in addition to the normal identification requirements of name, part or code number, specification number, type, size, quantity, etc. Special handling conditions shall be recorded on certifications and shipping documents covering the material as delivered to Buyer, in addition to normal identification information.

### **SQRH-15: SOLDERING:**

All soldering shall be performed in accordance with the specification/s identified below:

**SQRH-15S:** Other, specified as: \_\_\_\_\_

**SQRH-15T:** IPC/EIA J-STD 001 Class 3

**SQRH-15U:** IPC/EIA J-STD 001 Class 2

### **SQRH-16: SOLDERABILITY:**

All product shipped under this Purchase Order/contract shall meet the solderability requirements of MIL-STD-202, Method 208.

### **SQRH-21: TOOL PROOFING:**

Tooling required for production under this purchase order is subject to acceptance by the Buyer. The Seller shall notify Buyer when tooling is ready for inspection. Acceptance will be contingent upon a quantity of resultant dimensional samples inspected under surveillance of the Buyer's representative at the Seller's facility or the items will be shipped to Buyer for inspection when directed by the Buyer. Dimensional samples are to be identified with a tool number.

### **SQRH-23: ACCEPTANCE TEST PROCEDURE:**

Seller shall prepare an acceptance test procedure for the items to be delivered under this purchase order, to include, as a minimum, the equipment, sequence, and steps necessary to perform the acceptance test. The procedure shall contain the following data (for submission to Buyer): part number, part name, revision letter, purchase order number, serial/lot number, sequence number, criteria measured or tested, test results, test date, and signature of Seller's inspection representative. Test procedure shall be submitted for Buyer's Quality Assurance approval at least thirty (30) days prior to performance of the

initial acceptance test. Any subsequent change to the acceptance test procedure requires prior approval of Buyer's Quality Assurance representative.

### **SQRH-24: TEST EQUIPMENT CERTIFICATION:**

All equipment used for acceptance testing of deliverable products under this purchase order shall be certified by the Buyer prior to acceptance testing of first deliverable lot or other quantity. Detailed requirements will be timely requested from the Buyer by Seller.