AS9100 Quality Clauses: Test Equipment and Tools (TE-AS)

A. QUALITY SYSTEM:

1. Seller must adhere to a Quality Management System (QMS) that is either certified by a 3rd party registrar or conforms to one or more of the following:
   a) SAE AS9100 Quality Management Systems - Aerospace - Requirements
   b) SAE AS9110 Quality Management Systems - Aerospace - Requirements for Maintenance Organizations
   c) SAE AS9120 Quality Management Systems - Aerospace - Requirements for Distributors
   d) ISO 9001 Quality Management System Requirements
   e) SAE AS9003 Inspection and Test Quality System
2. If Seller does not have an established QMS; Seller must pass an HRL Quality Management System risk assessment and/or audit to qualify as an HRL approved supplier.

B. FOREIGN OBJECT DAMAGE (FOD) PREVENTION:

1. The Seller shall establish and maintain an effective FOD prevention program. The Seller's program shall utilize effective FOD prevention practices. The program shall be proportional to the sensitivity of the products to FOD, as well as to the FOD generating potential of the manufacturing methods.
2. Written procedures or policies developed by the Seller shall be subject to review and audit by the Buyer and/or government representative. Failure to meet procedure objectives could result in a change of the Seller's approved supplier status from Buyer.

C. ELECTROSTATIC DISCHAGE (ESD) PREVENTION:

1. For sensitive electrical and electronic parts susceptible to damage from Electrostatic Discharge (ESD), the supplier is responsible to establish and implement and ESD Control Program per the latest revision of one of either MIL-STD-1686, EIA-625, ESD 20.20 or better equivalent. The supplier shall take the necessary precautions to ensure that static susceptible devices are adequately protected from ESD damage during manufacturing, test, inspection, storage, packaging, and shipping. Packaging shall be marked with an ESD cautionary note or symbol.
2. Written procedures or policies developed by the Seller shall be subject to review and audit by the Buyer and/or government representative. Failure to meet procedure objectives could result in a change of the Seller's approved supplier status from Buyer.

D. CALIBRATION SYSTEM:

1. The Seller must adhere to a documented calibration system that is certified by a 3rd party registrar and/or conforms to one or more of the following:
   a) ANSI/NCSL Z540-1 Calibration Laboratories and Measuring and Testing Equipment - General Requirements
   b) ISO 17025 General requirements for the competence of testing and calibration laboratories
2. If Seller does not have a documented calibration system, Seller must:
   a) Pass an HRL Quality Management System risk assessment and/or audit.
   b) Must audit the traceability of the calibrations to the National Institute of Standards and Technology (NIST), an appropriate National Measurement Institute (NMI) or a standard reference material and must document this audit to the satisfaction of HRL to qualify as an HRL approved calibration supplier.

E. CALIBRATION CERTIFICATE:

1. The Seller shall submit for each item calibrated, one reproducible record of actual calibration results, including applicable graphic and tabular data. Records shall be traceable to the individual item tested, by part number, serial number and customer's order number for the item shipped. The Seller's calibration certificate shall include a unique calibration tracking number, tolerance range, and, when applicable, environmental conditions for each parameter calibrated. The certificate shall also state the operating error per specification, the degree of correction of out of tolerance condition, and the remaining uncorrected out of tolerance condition(s), if applicable.

F. ACCEPTANCE TEST PROCEDURE (ATP) APPROVAL:

1. Prior to initial delivery of products on this Purchase Order, the Seller shall submit to Buyer, for review and approval, a copy of the ATP or other quality conformance procedure that describes the final tests to be performed by the Seller on products scheduled for delivery to Buyer. The ATP shall include a list of equipment used and any test diagrams or sketches necessary for technical interpretation of the ATP. Any revisions to a Buyer approved ATP shall be submitted to Buyer for review and approval prior to incorporation into production.

G. FUNCTIONAL TEST DATA SHEETS:

1. With each delivery of products on this Purchase Order, the Seller shall furnish to Buyer a functional test data sheet, which shows the actual results (values) obtained during the functional tests performed on each unit of product versus the requirements specified in the Buyer approved Acceptance Test Procedure or specification. The test data sheets shall identify the part number and drawing revision, individual products by serial number, and meet the requirements of Purchase Order Attachment Certificate of Conformance Clause.

H. FUNCTIONAL TEST CERTIFICATE (FTC):

1. The Seller shall include on the packing list / shipping documents or on a separate attached document a written statement titled "Functional Test Certificate" (FTC) that conforms to the requirements of Purchase Order and is worded as follows or equivalent.

> "This is to certify that all products delivered on this Purchase Order (number) and packing list/shipping document (number) have been tested as required by the applicable drawing, specification, or approved acceptance/functional test procedure, and are in conformance with all requirements of the Purchase Order. Objective evidence to support this certification will be made available on request."

Company Name: _____
Address: _____
Printed Name of Authorized Individual_____Date: _____
Title:_____Signature/Stamp: _____

I. MANUFACTURER'S CATALOGS, DRAWINGS, ETC.:

1. With the initial delivery of products on this Purchase Order, the Seller shall furnish to Buyer one (1) copy of the current manufacturer's catalog, drawing, blueprint, or specification which fully and clearly describes the products delivered and can be used by Buyer to verify product conformance to requirements.

J. SHIPPING DOCUMENTS:

1. The Seller shall furnish Commercial shipping documents / packing lists with each shipment containing the following information:
   a) Buyer Purchase Order Number,
   b) Part Number(s),
   c) Description,
   d) Manufacturer, if Seller is not the original manufacturer
   e) Quantity ordered,
   f) Quantity shipped,
   g) Lot/Date Code/serialization, as applicable, and
   h) Any handling constraints or cautions such as, but not limited to:
      i. Optics: open only in clean room environments.
      ii. ESD sensitive materials: open only at approved ESD workstation.
      iii. Moisture sensitive materials: open / store only in humidity controlled area.
      iv. Shock sensitive materials (shock monitoring should be specified if required).

K. OTHER QUALITY PROVISIONS:

1. Quality Flow Down: The Seller shall ensure all relevant Purchase Order requirements are flowed to their sub-tier sellers. The Seller's sub-tier sellers shall be responsible for compliance to the same quality clauses, specifications and requirements specified on the Purchase Order.
2. Quality Records: The Seller's Product, Process Control and Quality Records shall be retained by the Seller for a minimum of five (5) years unless a longer retention is specified in the Purchase Order. Seller shall return all such Records to Buyer or make such other disposition thereof as may be directed or approved by Buyer. The Seller shall provide Product, Process Control and Quality Records upon request from Buyer.
3. Configuration Management: The Seller shall notify Buyer and Supplier Quality (*SupplierQuality@hrl.com*) of any changes made to materials, processes, procedures, design interfaces or software which affects the form, fit, function, safety, reliability, service life, replaceability or interchangeability of products to be delivered to Buyer. Some examples (not inclusive) of changes where product impact shall be evaluated by the Seller and communicated to Buyer are Plant/Lab relocation, change in materials used, design change, sub-tier supplier change, process change, and/or equipment change.
4. Nonconformance/Corrective Action: The Seller shall notify the Buying Organization of nonconforming processes, product, service related to this Purchase Order, and obtain approval for their disposition. The Seller shall respond to Buyer's and Supplier Quality's (*SupplierQuality@hrl.com)* request for root cause and corrective action if nonconforming material is rejected by Buyer and determined to be the Seller's responsibility. Failure to respond within the prescribed time frames requested could affect future procurement and/or a change of the Seller's approved supplier status from Buying Organization.

5. The U.S. Government has the right to inspect any and all work and documentation included in this order at the Seller's facility that is in fulfillment of a U.S. Government contract.
6. Buyer may refuse to accept any product if the Seller fails to submit certifications, documentation, test data or reports specified by the Purchase Order. Documentation includes Source Inspection reports when such source inspection is performed.
7. The Supplier is encouraged to utilize Statistical Process Controls (SPC) and other proactive and preventive control methods wherever possible.
8. Buyer reserves the right to require and request evidence of Seller ensuring that their personnel are aware of their contribution to product or service conformity, product safety, and ethical behavior.
9. Buyer requires that all special processes required by this Purchase Order must be performed by competent qualified personnel.
10. Buyer reserves the right to monitor Supplier's performance including:
    a. Supplier Risk
    b. Quality of product or service delivered
    c. On time delivery of product or service