# pURPOSE

This is a reference document that specifies product unique quality requirements, in addition to those shown on the engineering drawing. These requirements are specified by number on the Cubic purchase order and are incorporated as part of the Cubic purchase order.

***Note: Supplier questions or requests for clarification should be directed to the appropriate Cubic Procurement Department personnel.***

## REQUIREMENTS APPLYING TO ALL CUBIC SUPPLIERS

**Purchase Order**

In this document the term “Purchase Order” or “P.O.” is an offer to enter into a contract, which is accepted by the seller signing and returning a copy, returning seller’s own form of acknowledgment, or commencement of performance.

**Point of Contact**

Your point of contact at Cubic Defense Applications (CDA) will be the Buyer referenced on the P.O. Any questions, problems, or information should always be directed to the buyer. Do not accept any change to the technical and quality requirements unless authorized in writing by the buyer.

**Supplier Rating System**

Cubic Defense Applications maintains a supplier rating system to track the supplier’s performance of contractual, P.O., specification, and Quality requirements. Any non-compliance with the specified requirements will affect your rating and your approval status. It is important that a supplier responds to any Corrective Action Request (CAR) completely and in the time specified on the CAR. Failure to do so will affect your rating and your approval status.

**Non-Conforming Material**

Unless specifically authorized, in writing by the Cubic Defense Applications buyer, you are not authorized to make use-as-is and repair dispositions of non-conforming material. Should you discover non-conforming material that you feel would be in Cubic Defense Applications interest to accept, you should contact the buyer for instructions.

## cERTIFICATIONS & TEST REPORTS

**C-1** The supplier shall retain all test reports and/or certifications on file for a minimum of four (4) years from payment of this order. Records shall remain legible, readily identifiable and retrievable. Record identification, storage, protection, retrieval, retention time (if greater than four years), and disposition of records shall be in accordance with the supplier’s company policy

**C-2** Reports of electrical, functional, mechanical, environmental, or other tests are required with each shipment. These reports shall include as applicable:

1. Cubic's Purchase Order number or Blanket Purchase Order number with released number.
2. Item description.
3. Drawing/Specification and Revision used.
4. Cubic Part Number and applicable Revision.
5. Acceptance limits of test parameters.
6. Number of units tested.
7. Serial number of units tested, as applicable.
8. Lot/date code, as applicable.
9. Recorded Test Data/Test Results.

**C-3** Chemical and Physical Test Reports are required with each shipment for each lot or batch shipped. The reports shall include the material manufacturer's lot/heat/melt number and actual inspection/test values as required by the material specification, typical values are acceptable when allowed by material inspection.

**C-4** A Certificate of Conformance is required with each shipment, Cubic form CF 6 193 or equivalent. The certificate shall be signed by an authorized representative and include as applicable:

1. Cubic purchase order and line item number(s).
2. Part number(s).
3. Serial number(s).
4. Lot/date code(s).

***ITEMS REQUIRING SHELF LIFE MUST HAVE A MINIMUM OF 70% SHELF LIFE REMAINING UPON RECEIPT AT CUBIC DEFENSE APPLICATIONS.***

1. Specification(s).

**C-5** A Certificate of Conformance is required with each shipment, Cubic form CF 6 193 or equivalent. The certificate shall be signed by an authorized representative and include as applicable:

1. Cubic purchase order and line item number(s).
2. Part number(s).
3. Serial number(s). as applicable
4. Specification(s). as applicable

**C-6** A Country of Origin Certification required, with each shipment, Cubic Form CF 6 193 or equivalent shall be used.

**C-7** Serialization control is required. All parts, shipping containers, and shipping documents shall be identified with serial number(s).

**C-8** Supplier shall submit gear trace tapes traceable to each delivered gear. Minimum trace requirements are tooth-to-tooth error and total composite error.

**C-9** Submittal of radiographic film is required. The radiographic film shall be traceable to each delivered item. Items will be individually identified with serial numbers traceable to corresponding serial numbers applied to radiographic film.

**C-10** The supplier shall provide metallographic test specimen(s) with each delivered lot of articles welded per MIL W 6858. Metallographic test specimen(s) shall be identified with the purchase order number and accompanied by a certificate of compliance.

**C-12 Lead-Free Components and Assemblies**

DOCUMENTATION

The replacement of lead-containing solder in Cubic assemblies such as CCA’s must be positively identified in the documentation sent to Cubic.

Shipped Lead-Free Components and Assemblies items that are affected by a reliable solder joint caused by reflow and wave-soldering processes must be identified as “Lead-Free” in the Supplier’s documentation.

COMPONENT AND ASSEMBLY IDENTIFICATION / APPROVAL

Suppliers must identify components or assemblies that introduce no-lead “green products” products into Cubic’s shipment. The location of the “Lead Free” identification shall be on the product and shipping container.

When items cannot be physically marked or tagged because of lack of marking space or item size, the detailed marking requirements shall be applied to the container or bag.

Prior to shipment, the Supplier must verify that no-lead or “green products” products used in Cubic’s shipments are approved in the Cubic Lead Free Alternate Parts List (LFAPL).

Lead-Free components in an electronic assembly are defined as ICs, resistors, capacitors, connectors, crystals, inductors… etc. and are capable of being attached to a circuit board by soldering. They shall have Lead-Free identification and must be listed in the Cubic’s Lead Free Alternate Parts List (LFAPL).

**C-13** A Certificate of Conformance is required with each shipment, Cubic form CF 6 193 or equivalent. The certificate shall be signed by an authorized representative and include as applicable:

1. Cubic purchase order and line item number(s).

b. Part number(s).

c. Serial number(s).

d. Lot/date code(s).

***ITEMS REQUIRING SHELF LIFE MUST HAVE AN EXPIRATION DATE IDENTIFIED.***

1. Specification(s).

## PACKAGING AND HANDLING REQUIREMENTS

**H-1** Identification and packaging of electrostatic sensitive parts and/or assemblies shall be in accordance with the electrostatic protection requirements of Electronic Industries Association EIA-625 or In Accordance With an ESD-Protective Program approved by CDA.

**H-2** Identification and packaging of electrostatic sensitive film resistors, resistor chips, and/or resistor networks shall be in accordance with Mil-R-39032.

**H-3** The supplier shall identify and package magnetic devices to ensure one that a (1) inch minimum clearance is maintained from all articles during transit/handling. The following caution note, or equivalent, shall be applied to each unit container:

***“’Special handling required’. These devices contain magnetic material. Maintain one (1) inch minimum clearance when device is not in package, do not store on metal shelving.”***

**H-4** The Foreign Object Damage (FOD) prevention requirements of Cubic Specification SP/006 675 are invoked as part of this order.

## INSPECTION & SURVEILLANCE

***Note: First Article Inspection (FAI) is required for the first item(s) of the first lot produced and delta FAI required for all part revisions or process changes.  A first article inspection is not required with subsequent orders of the same item, for minor changes to item (drawing clarification or changes that do not affect design form, fit, or function of the item), or for process adjustments (such as revising parameter levels or non-impactful changes to process step order).  Contact Cubic for clarification if necessary.***

**I-1A** Cubic Defense Applications shall conduct a First Article Inspection on the product prior to fabrication of additional deliverable items. The supplier shall notify the appropriate CDA Purchasing personnel five (5) business days prior to the date of the inspection to ascertain location (supplier or Cubic) of this inspection.

**I-1B** The supplier shall conduct and submit a First Article Inspection and Report that shall include all dimensional, functional and nondestructive test results required by applicable specifications.

**I-1C** Cubic Defense Applications shall witness First Article Inspection on the product prior to fabrication of additional deliverable items. The supplier shall notify the appropriate CDA Purchasing personnel five (5) business days in advance of the First Article Inspection.

**I-1D** Cubic Defense Applications shall witness the supplier’s First Article Inspection. The supplier shall notify the appropriate CDA Purchasing personnel five (5) business days in advance of the First Article Inspection.

**I-1E** First Article Inspection (FAI) shall be performed per the requirements of AS9102, “Aerospace First Article Inspection Requirement,” latest revision, and prior to product acceptance and shipment to Cubic Defense Applications. The following optional fields in the AS9102 FAI Report Form 1 are considered mandatory by Cubic: 11, 12, 21, 22, 23 and 24.

**I-2** A Cubic Defense Applications representative is to witness post burn in electrical testing per applicable specification. Five (5) days advance notification is required.

**I-3** Pre Closure (PRE CAP) Inspection by a Cubic Defense Applications representative is required at the supplier's facility. Five (5) days advance notification is required.

**I-4** Final Acceptance Mechanical and Functional Test Verification by a Cubic Defense Applications representative/or designated representative, is required at the supplier's facility prior to shipment. Five (5) days advance notification is required. If certified part, Final Source not required.

**I-5** In process inspection by a Cubic Defense Applications representative is required at the supplier's facility to verify material and/or processes (e.g., soldering, welding, machining) prior to encapsulation, plating, and/or painting. Five (5) days advance notification is required. If certified part, In-Process not required.

**I-19** Quality Conformance inspection shall be in accordance with the applicable drawing specification requirements.

**I-21** The following shall not be performed or implemented without written approval from Cubic Defense Applications:

1. The supplier and its sub-tier suppliers shall not repair any item found to be faulty or damaged during the manufacturing process by using adhesive, welding, brazing, plating, splicing, or soldering.
2. Defects in castings or forging shall not be repaired by any method.
3. The supplier shall not change any drawing, process, material, or procedure previously approved by Cubic Defense Applications/Prime Contractor including those used to qualify items or which were used by the supplier to become a qualified source.

**I-22** Cubic Defense Applications shall approve special processes performed by the supplier or any of its sub-tier suppliers, including the system/procedures used to control its sub-tier special processes (e.g., soldering, plating, welding, heat treating, magnetic particle, X-Ray, cleaning and penetrate inspection). Approval of special processes does not relieve the supplier of responsibility for exercising the control measures necessary to ensure that the work performed by its sub-tier is in accordance with all specification requirements. The supplier shall have a record of his sub-tier approval on file and available for review by a Cubic Defense Applications Representative. The supplier shall identify the sub-tier supplier that performed special processes, by process specification, and supply this information to Cubic Defense Applications with each shipment.

**I-26** Final Visual Inspection shall be performed at the supplier’s facility by an authorized Cubic Defense Applications Representative.

**I-28** Government Source Inspection is required prior to shipment of the product from your facility. Upon receipt of this order, promptly notify the Government Representative who normally services your facility so appropriate planning for Government Source Inspection (GSI) can be accomplished. Unless otherwise authorized, Cubic Quality Assurance approval is required prior to submittal for GSI.

**I-29** Cubic, the Government, and/or the Customer representatives reserve the right to conduct surveys and inspections at the Supplier's facility and Supplier chain, to evaluate compliance with this Purchase Order and all applicable requirements, including the right to perform Source Inspection on deliverable products. This includes the auditing of records created by and/or retained by the supplier for Cubic deliverable product. When required, Buyer will provide prior written notification to arrange audits or inspections.

**I-30** Upon receipt of this order, promptly furnish a copy of the order to the Government Representative who normally services your facility 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, notify the Cubic Defense Applications Buyer immediately.

**I-31** Products and/or services provided under this Purchase Order are subject to final acceptance at destination. Inspection, test, and acceptance will be performed by an authorized Cubic Defense Applications Representative.

**I-32** The supplier shall submit a production traveler for approval by Cubic Defense Applications thirty (30) calendar days prior to the start of production.

**I-33** Cubic Defense Applications approval of acceptance test procedures (ATP) is required prior to the testing of units to be delivered on this Purchase Order. Any changes to acceptance test procedures (ATP) require concurrence from Cubic Defense Systems.

**I-34** Non-Destructive Testing (NDT) shall be performed in accordance with the Purchase Order requirements.

**I-35** This part includes a Quality Assurance Provision (QAP) B/P Note. If this part is certified through “Key Supplier Program”, process data (SPC) is required as specified on part certification list. If part is not certified, process data (SPC) is required only as specified by Supplier Quality Assurance.

## NON CONFORMANCE REWORK & REPAIR

**N-1** Rework to a like new functional condition is required. Rework is defined as an action on a nonconforming product to make it conform to the requirements. A like-new functional and cosmetic condition is required. All rework specified shall be in accordance with the original equipment manufacturing specifications (including drawings), except that when such specifications are inappropriate, the manufacturer/rework agency will submit alternative recommendations to Cubic Defense Applications. The supplier shall not commence work until a change is made to the purchase order authorizing alternative recommendations.

**N-2** Rework to a serviceable condition is required. A serviceable condition is defined as being capable of functioning and performing in the same manner as identical new articles, although they need not have the physical appearance of newness.

All rework specified shall be in accordance with original equipment manufacturing specifications (including drawings), except that when such specifications are inappropriate, the manufacturer /rework agency will submit alternative recommendations to Cubic Defense Applications. The supplier shall not commence work until a change is made to the purchase order authorizing alternative recommendations.

**N-3** The supplier is not authorized to conduct independent MRB activity. Discrepant conditions requiring MRB disposition for repair and use as is shall be documented on a Supplier Request for Deviation form (T159) and submitted to Cubic Defense Applications, Inc. (CDAI) Supplier Quality through the applicable CDAI buyer for Cubic’s disposition and approval. The supplier shall place non-conforming material in bond, pending disposition and notification by the CDA buyer of the MRB action to be taken.

To obtain a copy of T159, Supplier Requested Waiver/Deviation, the supplier may:

* Contact your Cubic Buyer.

**N-4** Standard Repair Procedure (SRP) Approved by CDA.

**N-5** Repair to IPC 7711A and IPC 7721A is required.

## QUALITY SYSTEM REQUIREMENTS

**Q-1** The supplier's quality system shall comply with the requirements of Def Stan 05-91 “Quality System Requirements for Design/Development, Production, Installation, and Servicing”.

**Q-2** The supplier's quality system shall comply with the requirements of AQAP 110 “NATO Quality Assurance Requirements for Design, Development, and Production”.

**Q-4** The supplier's inspection system shall comply with the requirements of Cubic Specification SP/006 34 entitled "Specification for Supplier Inspection System", or is certified to AS9100 – “Model for quality assurance in design, development, production, installation, and servicing for the Aerospace industry”, or ISO 9001 “Quality systems -- Model for quality assurance in production, installation, and servicing”.

**Q-5** The supplier's control system shall comply with the requirements of Cubic Specification SP/006 35 entitled "Specification for Supplier Material Certification".

**Q-6** The supplier's control system shall comply with Cubic Specification SP/006 36 entitled "Specification for Supplier Services”.

**Q-8** The primary supplier named on this purchase order retains full responsibility for ensuring products, supplies, or services furnished comply with all applicable specification/standard requirements for design, construction, and workmanship.

The supplier continues to retain full responsibility for compliance to these specification/standard requirements when products, supplies, and/or services are purchased from secondary (sub-tier) supplier(s) that are incorporated into or are used to produce, inspect, or test products or services supplied under the purchase order. The primary supplier shall:

a. Provide manufacturer certs,

b. Provide (flow down) specification/standard requirements, including key characteristics to sub-tier supplier(s) as applicable.

c. Ensure, by performing physical and/or functional inspections, that sub-tier suppliers have complied with the requirements of Q 8B.

d. On demand, provide objective evidence to Cubic Defense Applications Quality Control personnel of compliance to Q 8B and C.

**Q-9** The Supplier shall submit a Product Quality Plan (PQP) using ISO 9001 and AS9100 as a guide. The PQP shall include a first article inspection and variability reduction plan using AS 9102 and AS 9103 as a guide.

**Q-10 Counterfeit Parts Prevention:**

For the purposes of this clause, Work consists of those parts delivered that are the lowest level of separately identifiable items (e.g., components, goods, assemblies). “Counterfeit Work” means Work that is or contains items misrepresented as having been designed and/or produced under an approved system.

1. SELLER agrees and shall ensure that Counterfeit Work is not delivered to Cubic Defense Applications Inc (CDA) by providing manufacturer certs or SELLER’s completed verification checklist with each shipment.
2. SELLER shall only purchase products to be delivered or incorporated as Work to CDA directly from the Original Component Manufacturer (OCM) / Original Equipment Manufacturer (OEM), or through an OCM/OEM authorized distributor chain. Work shall not be acquired from independent distributors or brokers unless approved in advance in writing by CDA.
3. SELLER shall notify CDA with the pertinent facts of SELLER becomes aware or suspects that it has furnished Counterfeit Work.
4. In the event that Work delivered under this contract constitutes or includes Counterfeit Work, SELLER shall, at its expense, promptly replace such Counterfeit Work with genuine Work conforming to the requirements of this contract.
5. SELLER shall be liable for all costs relating to the removal and replacement of Counterfeit Work.
6. SELLERs eligible for utilization of the Government-Industry Data Exchange Program (GIDEP) shall utilize the GIDEP process to alert the industry of encountered counterfeit parts.

**Q-11 Calibration Service Requirements**

### Out of Tolerance Conditions

1. Upon receipt for calibration, Measurement Test Equipment (MTE) is tested to determine if it is within specification limits before any adjustment, repair, or cleaning which would affect calibration results is performed. If not within specification limits, out of tolerance data is recorded and all work is halted.
2. The Cubic Metrology Department is contacted with the out of tolerance conditions of the MTE. An Out of Tolerance Notice (OTN) is then forward to Quality by Cubic Metrology Dept for an impact report.
3. Any MTE with an open OTN assigned is held in bond until the OTN has been cleared by Quality Department. Once the OTN is cleared, the calibration can continue.
4. Data obtained during an out of tolerance evaluation is used to:
5. Justify changes in calibration frequency, either by family or individual items of MTE.
6. Evaluate the adequacy of the MTE for the intended use.
7. Evaluate the effectiveness of the calibration procedures and the measuring or test procedures.
8. Impact report is generated to see if end product is affected.
9. Once the OTN is cleared by Quality, the calibration can continue.

### Standards Accuracy

The accuracy of the standards must be at least equal to the tolerance required (i.e., 1:1) but in most cases should be greater. A 1:1 comparison is permitted only when state of the art limitations preclude a higher accuracy ratio. Normally, when only a 1:1 accuracy ratio can be achieved, any out-of-tolerance condition of the MTE will be significant. A 4:1 ratio is required whenever possible, although a 1:1 ratio is sometimes necessary.

### Traceability

1. All calibration services performed by Subcontractor calibration labs must have calibration systems that meets the requirements of AS9100, ISO 9001, or ANSI -Z-540-1 and is traceable to National Institute of Standards and Technology (NIST).

### Certificate of Calibration / Traceability

1. A Certificate of Calibration / Traceability shall accompany each item calibrated by the subcontractor, indicating that all measurements are traceable to the National Institute of Standards and Technology. The Purchasing Department is responsible for coordinating with Metrology in the evaluation and selection of subcontractors.
2. MTE calibrated by a Subcontractor which is not accompanied by a Certificate of Calibration / Traceability or inadequate data, will not be accepted and unit will be returned for recalibration.

**Q-99** Special Instructions per attachment.

## SOFTWARE

**S-1** The seller shall maintain an accredited ISO-9001 quality system for software.

**S-2** The seller shall maintain a quality system for software that meets the intent of ISO 9001.

**S-3** The seller shall maintain a quality system for software that meets the guidelines of ISO 9000-3 or ISO IEC 90003 2004.

**S-4** The seller shall maintain a SEI Maturity of Level 2 (through a Software Capability Evaluation).

**S-5** The seller shall maintain a SEI Maturity of Level 3 (through a Software Capability Evaluation).

**S-6** Validation/verification of software shall be approved by a Cubic Defense Applications representative prior to acceptance.

**S-7** The seller shall propose a software quality system that must be certified by Cubic Defense Applications as acceptable prior to commencement of any subcontractor software development activities.

**S-8** The seller shall provide a copy of the appropriate documentation that describes the seller's quality system for software (e.g., Software Development Plan, Software Quality Plan, Software Configuration Management Plan) for Cubic Defense Applications approval.

**S-9** The seller shall provide a copy of the appropriate documentation that describes the seller's quality system for software (e.g., Software Development Plan, Software Quality Plan, Software Configuration Management Plan) for Cubic Defense Applications review.

## WORKMANSHIP REQUIREMENTS

**W-1** Printed-wiring boards supplied on this purchase order shall comply with the requirements of Military Standard MIL-PRF-31032 entitled “Printed Circuit Board/Printed Wiring Boards, General Specification For”.

**W-2** Circuitry testing for shorts and continuity shall be performed 100% for items supplied on this purchase order.

**W-3** Printed wiring boards supplied on this purchase order shall comply with the requirements of Cubic Specification SP/006 670 entitled "Specification for Bare Metal backed High Frequency (Microwave) Printed Wiring Boards".

**W-5** Printed-wiring boards supplied on this order shall comply with the requirements of Military Specification MIL P 50884 entitled “Printed-Wiring, Flexible, and Rigid-Flex”.

**W-8** Gold Duroid circuit boards supplied on this purchase order shall comply with the requirements of Cubic Specification SP/006 717 entitled "Specification for Metal backed Gold Plated High Frequency (Microwave) Boards”.

**W-10** For parts procured to CDA drawings, the purchase order identifies the appropriate revision letter for each part number. The identification method of marking a part shall be as described on the drawing along with the part number including applicable dash number & Part Revision letter.



Examples:

Marking for the Rev C drawing 57039-146687-1, identify as ***57039-146687-1 Rev. A MFR XXXXX*** where X is your manufacturer’s cage code IAW Mil-STD-130.

Marking for the Rev C drawing 57039-146687-2, identify as ***57039-146687-2 Rev. A MFR XXXXX*** where X is your manufacturer’s cage code IAW Mil-STD-130.

Marking for the Rev C drawing 57039-146687-3, identify as ***57039-146687-3 Rev. / MFR XXXXX*** where X is your manufacturer’s cage code IAW Mil-STD-130.

**W-11** Workmanship for items supplied on this purchase order shall comply with the requirements of Military Standard MIL HDBK 454, Guideline 9 entitled “Standard General Requirements for Electronic Assemblies, Workmanship”.

**W-12** Printed Wiring Boards on this P.O. shall comply with IPC-6011. PWB’s with more than two layers shall be Net List tested and documentation of net list shall accompany the PWB’s upon delivery. Coupons and/or Cross-section coupons shall be available and will be provided upon request.

**W-23** Items supplied on this order shall comply with the solder ability requirements of Military Standard MIL STD 202F Method 208G entitled “Test Methods for Electronic and Electrical Component Parts, Solder ability”. A certification/re-certification shall accompany each lot of devices in which the date code of the device exceeds 18 months.

**W-25** Items supplied on this order shall comply with the solder ability requirements of the Institute for Interconnecting and Packaging Electronic Circuits (IPC) ANSI J STD 002 entitled “Solder ability Tests for Component Leads, Terminations, Lugs, Terminals, And Wires”.

**W-26** Printed-wiring boards supplied on this purchase order shall comply with the requirements of Institute for Interconnecting and Packaging Electronic Circuits (IPC) IPC A-600 entitled “Acceptability of Printed Boards”.

**W-27** Workmanship for items supplied on this purchase order shall comply with the requirements of the Institute for Interconnecting and Packaging Electronic Circuits (IPC) IPC A-610, entitled “Acceptability of Electronic Assemblies, and shall meet Class 2 requirements unless otherwise specified on the assembly drawing.”

**W-28** Workmanship for items supplied on this purchase order shall comply with the requirements of Institute for Interconnecting and Packaging Electronic Circuits (IPC) IPC-7711/7721 “Suggested Guidelines for Modification, Rework, and Repair of Printed Boards and Assemblies”.

**W-29** Workmanship for items supplied on this purchase order shall comply with the requirements of Institute for Interconnecting and Packaging Electronic Circuits (IPC) ANSI/J STD 001 Class 2 entitled “Requirements for Soldered Electrical and Electronic Assemblies”.

**W-30** Workmanship for items supplied on this purchase order shall comply with the requirements of Institute for Interconnecting and Packaging Electronic Circuits (IPC) ANSI/J STD 001 Class 3 entitled “Requirements for Soldered Electrical and Electronic Assemblies”.

**W-31** Workmanship for items supplied on this purchase order shall comply with the requirements of the Institute for Interconnecting and Packaging Electronic Circuits (IPC) IPC A-610, entitled “Acceptability of Electronic Assemblies, and shall meet Class 3 requirements unless otherwise specified on the assembly drawing.”

**W-32** Workmanship for items supplied on this purchase order shall comply with the requirements of the Institute for Interconnecting and Packaging Electronic Circuits (IPC)IPC/WHMA-A-620, entitled “Requirements and Acceptance for Cable and Wire Harness Assemblies, and shall meet Class 2 requirements unless otherwise specified on the assembly drawing.”

**W-33** Workmanship for items supplied on this purchase order shall comply with the requirements of the Institute for Interconnecting and Packaging Electronic Circuits (IPC) IPC/WHMA-A-620, entitled “Requirements and Acceptance for Cable and Wire Harness Assemblies, and shall meet Class 3 requirements unless otherwise specified on the assembly drawing.”

**APPROVAL SIGNATURES**

Doug Jones

Process Group

Dave McAfee

Product Assurance

DOCUMENT HISTORY RECORD

| Rev | Date | By | Description | Affected Pages | Training Required  Y/N |
| --- | --- | --- | --- | --- | --- |
| W | 04/05/12 | L. Wise | Revised C-13 | 5 | N |
| V | 12/15/11 | L. Wise | Revised W-1 to replace cancelled MIL-P-55110 with MIL-PRF-31032. Removed reference to Internet-based Supplier Requested documents | 9, 14 | N |
| U | 06/30/11 | L. Wise | Revised Q-10 to coincide with W240 | 10 | N |
| T | 01/13/11 | L. Wise | Added Q-11 Calibration Service Requirements | 12 | N |
| R | 09/30/10 | L. Wise | Added Q-10 Counterfeit Parts Prevention. Revised W-11, W-28, W-32 and W-33 with updated references. Updated FAI note to include deltas FAI for revisions to part design or significant process changes. | 6, 11, 13, 14,15 | N |
| P | 12/17/09 | Process Group | Modified references to AS9100 and ISO 9001 standards to remove citation of a specific revision. | 10,11 | N |
| N | 10/29/09 | G. Altson | Added W-32 and W-33 | 14 | N |
| M | 11/13/08 | D. Samuels | Added key characteristics to Q-8 and created W-31. | 10, 14 | N |
| L | 04/24/08 | Process Group | Added ISO IEC 90003 2004 to paragraph S-3. Updated N-3 to replace Cubic Internet link with directions to location. Deleted FAR link. | 8, 9, 11 | N |
| K | 09/27/07 | D. Samuels | Replaced “and ISO 9001:2000” with “or ISO 9001:2000” in quality clause Q-4 and provided a more complete title to AS9100B. | 8 | N |
| J | 07/26/07 | D. Samuels | Revised Q-clause N-3 to comply with AS9100B, para. 7.4.2 | 7, 8 | N |
| H | 05/24/07 | PG | Added AS9100B Section 1.6 Quality System Requirements. | 8 | N |
| G | 04/16/07 | L. Kunster | Added quality clause I-1E to flow down AS9102 Aerospace First Article Inspection as required by contract. Clarified C-2 addressing 4-yr retention requirement. Removed CSP reference in I-35. | 2, 5, 7 | N |
| F | 04/05/07 | L. Kunster | Modified C-1 regarding test/cert record retention from 3 yrs to 4 yrs. Added verbiage to C-1 and I-29 for compliance to AS9100B, para. 4.2.4. Added Q-9 to support JSF flowdown requirements. | 1, 2, 6, 8 | N |
| E | 02/22/07 | D. Samuels | Added verbiage to the following Q-clauses: I-29: “supplier chain”; N-1: “like new”; N-5: NEW-Repair to IPC 7711A and IPC 7721A; Q-4: reworded to include “certified to ISO 9001:2000. Deleted Q-3 (obsolete) | 7 - 9 | N |
| D | 12/07/06 | D. Samuels | Deleted Q-3 (obsolete); changed Q-4 to reflect ISO 9001:2000; deleted W-9 (obsolete); changed W-27 to Class 2 and added verbiage “and shall meet Class 2 requirements unless otherwise specified on the assembly drawing.” Revised the definition of rework and deleted Q-24 (obsolete).Added paragraph about size in C-12. | 2, 3, 7, 8, and 10 | N |
| C | 08/09/05 | S. Shelton | Added paragraph about size in C-12. | 4 | N |
| B | 05/11/05 | L. Kunster | Adds ‘Supersedes QADI 2019’ in the Document History Record | 14 | N |
| A | 03/21/05 | D. Samuels | Add C-12 “Lead Free” | 3, 4 | N |
| / | 06/22/04 | T. Kidder | Supersedes Purchase Order Quality Control Clauses CF 4-5/9 Rev S. No content changes, format changes only. | All | N |