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Part 1: General Quality Requirements: These requirements apply to every Purchase Order.

Quality Management System	The supplier shall maintain a quality system meeting the requirements of ISO 9001 or AS9100. Third-party registration by an accredited registrar is preferred. Suppliers declaring compliance with no formal accredited registration may require review. The manufacture shall be responsible for maintaining certified personnel, facilities, processes, and procedures in accordance with their Quality Management System. For suppliers not meeting these specifications, EMLinQ will review and determine if system implemented is sufficient based upon the nature and levels of control required by the parts, materials or services.
Design and/or Process and/or Material Changes	The supplier shall not implement any changes to EMLinQ drawings and/or specifications and/or materials without written approval from EMLinQ in the form of a EMLinQ-approved Request for Deviation, available from EMLinQ Purchasing or Quality Assurance.
Submission of Nonconforming Material to EMLinQ	Items not in conformance with the requirements of the Purchase Order, EMLinQ drawings, specifications, and industry standards referenced therein, or that cannot be corrected through continuation of the original manufacturing process or by rework, shall not be submitted without prior written approval from EMLinQ in the form of an approved Request for Deviation, available from EMLinQ Purchasing or Quality Assurance. Submittals shall include supplier-recommended disposition(s) with sufficient technical, quality, and reliability justification.
Resubmission of Material	Nonconforming items returned from EMLinQ which are subsequently resubmitted by the supplier shall include indication of resubmission on the accompanying paperwork and shipping documents. Reference shall be made to the EMLinQ rejection documentation and evidence presented to demonstrate that the causes for rejection have been corrected.
Notification of Previous Delivery of Defective Material	In the event the supplier / special processor determines that material previously delivered to EMLinQ was defective, written notification to the EMLinQ Purchasing representative is required upon discovery.
Corrective Action	When requested by EMLinQ, the supplier shall investigate nonconformities to determine the root cause(s) of failures, and take effective action(s) as appropriate to correct the items and prevent future failures. Unless otherwise requested by EMLinQ, such corrective action(s) may be documented in the supplier's format.
Supplier's Calibration System & Calibration Services	<p>The Supplier shall perform all inspection and testing activities where Accept / Reject dispositions are made, using only Calibrated Equipment that has been certified by a third party accredited calibration laboratory. Calibration Certificates for the equipment used to procure this Purchase Order must be retained by the supplier and provided to EMLinQ upon request. If the supplier discovers that product delivered to EMLinQ was accepted with equipment later found to be Out of Tolerance, the supplier shall notify EMLinQ buyer immediately and include the equipment Out Of Tolerance report for proper assessment and or positive recall.</p> <p>Calibration Services must be traceable to the National Institute of Standards (NIST). A certificate of calibration that conforms to either ISO/EIC 17025, A2LA or ANSI/NCSL shall be provided. Calibration shall be performed to the original equipment manufacturers specification. When an "Out of Tolerance" indication is discovered. the information concerning the out of tolerance condition shall be provided in writing, and the affected item shall be properly tagged and segregated from the items found within</p>

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	tolerance at the time of calibration service completion or delivery.
Statistical Techniques For Process Control	If the supplier chooses to use statistical techniques based on Acceptable Quality Levels, the same shall be in accordance with ANSI/ASQ Z1.4 or ANSI/ASQ Z1.9. However, all items produced or procured as part of the EMLinQ Purchase Order or Contract, can only be accepted based on Zero defects regardless of the method or standard used. Received orders at EMLinQ will only be accepted based on Zero defects when AQL is applied.
Preservation & Packaging	The supplier shall use best commercial practices for preservation and packaging of items supplied to EMLinQ, except for items or products that are susceptible to Electrostatic Discharge (ESD) damage and or Moisture Sensitive Devices (MSD). These type of products must be preserved and packaged in accordance with the requirements of ANSI/ESD S20.20 and J-STD-033 respectively.
Flow Down of Requirements	The supplier must ensure that EMLinQ's requirements are communicated internally at all applicable levels to promote compliance. Emphasis shall be made to promote and ensure products' safety and ethical behavior due to the criticality of products provided to the Aerospace Industry. The same requirements and expectations must be flowed down to sub-tier suppliers, including key characteristics, materials selection, first article inspection, process controls where required.
Traceability	The supplier shall maintain internal traceability to the raw material level, and shall be able to provide such traceability within a reasonable time frame if requested by EMLinQ.
Record Retention	Suppliers and special processors, as well their subcontractors, shall maintain records to substantiate product compliance to the EMLinQ purchase order requirements and must be capable of furnishing copies of these records upon request of EMLinQ, EMLinQ customers, and government / regulatory representatives as applicable. Such records shall be maintained for a minimum of 10 years after date of delivery to EMLinQ.
Surveillance & Right of Entry	Representatives of EMLinQ, its customers, Government, and/or regulatory agencies (if applicable) reserve the right to visit the supplier and its suppliers with the intent of performing surveillance activities including inspections, surveys, audits, resolution of product quality issues, etc.
Foreign Object Detection	All materials, parts, and assemblies must be protected from the intrusion of foreign object debris that could potentially cause damage. As appropriate, the supplier shall develop and implement a Foreign Object Damage/Foreign Object Debris Prevention Program guided by National Aerospace Standard 412.
Electro-static Discharge Sensitive (ESDS) Materials	If applicable, the supplier shall maintain an ESD Program meeting the requirements of ANSI/ESD S20.20 for the control, handling, packaging, preservation and identification of ESDS parts and materials. Improper or defective packaging will be cause of rejection and re-packaging will be performed at the supplier's expense.
Moisture Sensitive Devices (MSD)	If applicable, the supplier shall process all MSD's meeting the requirements of J-STD-033 and or component OEM requirements for the control, handling, packaging, preservation and identification of MSD's components. Improper or defective packaging will be cause of rejection and re-packaging will be performed at the supplier's expense.
Certificate of Conformance	A legible "Certificate of Conformance" (C of C) statement shall be provided with each shipment submitted to EMLinQ. The C of C shall be in the supplier's format and may either be a separate document or may be included within the packing list. The C of C

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	statement shall state that the items were produced in conformance with requirements as specified in the EMLinQ purchase order. As a minimum, the C of C shall note 1) the manufacturer or distributor's name and address; 2) the EMLinQ purchase order number; 3) the part number(s) and revision(s) when applicable; 4) traceability information including serial numbers, lot codes, or date codes as appropriate; 5) shelf-life expiration dates if applicable; and 6) signature of the supplier's authorized representative.
Inspection and Test Data	The supplier shall provide inspection and test data with the subject item(s). Such test data shall include individual or summary parameter measurements as appropriate.
Supplier Interactions & Communications	All communication, technical guidance and instructions having contractual impact shall be accomplished directly between EMLinQ's Buyer and the Supplier's Authorized Representative. No contract or specification deviations shall be made without the written authorization from the Buyer.
Counterfeit Parts & Materials	Supplier shall have a counterfeit parts avoidance, detection, mitigation, and disposition program meeting the requirements of Aerospace Standard AS5553. Seller shall only deliver authentic components, devices, pieces, material, modules, assemblies, subassemblies, goods, etc. that are manufactured by or obtained from original equipment manufacturers (OEMs), original component manufacturers (OCMs), or authorized distributors. Seller shall make available to EMLinQ documentation that authenticates and provides traceability of the Parts to the applicable OEM or OCM. Seller must notified the buyer if substitution of broker material will be shipped on the PO.
Refurbished and Reused Items	Supplier shall NOT provide refurbished or re-used EEE parts, components, hardware, or materials.
Change of Facility or Ownership	The supplier shall notify EMLinQ when manufacturing operations being performed in support of this purchase order are moved to another facility with a separate street and/or city address. Supplier shall also notify EMLinQ if ownership of the supplier has changed.
EMS Requirements	The supplier shall follow all guidelines and compliance for waste water and e-waste disposal. Hazardous waste shall be disposed per city, state, and/or federal requirements.
MSDS Sheets	Material Safety Data Sheets are required for the product identified on this line of the Purchase Order. Please include these sheets in an envelope that is identified on the outside as the MSDS sheets with the packing list.
EMLinQ Furnished Material	If applicable, supplier shall certify that material used in fabrication is the material furnished by EMLinQ. Certification shall reference EMLinQ's Purchase Order of the material being supplied.
Limited Shelf Life Materials	The supplier shall provide with each shipment the required storage conditions, lot number, date of manufacture (DOM) and shelf life expiration dates (DOE) (if applicable). This information shall be listed on the packing slip or Certificate of Compliance and on the material individual container (jar, bottle, can, tube, etc.) When materials with limited shelf life are received by EMLinQ, said materials shall 95% of the useful life remaining. Materials with less than 75% shelf life remaining sent to EMLinQ without written authorization from the buyer will be rejected.
UL Marking	If applicable, mainly on the Printed Wiring Boards supplier shall put their UL mark/logo, voltage ratings, company name or trade name or file number and type designation to certify that material and process used in fabrication approved by UL (Underwriters Laboratories).
Process	One copy of any reports of all special processes and inspection verification results must

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Certifications	be furnished with each shipment of processed components.
Contract Number	The Prime Contract number listed on the EMLinQ P.O. will be recorded on all subcontracts PO's. All items shown on this P.O., including all applicable records, are subject to surveillance and inspection at your facility at the option of Government, regulatory agencies, and/or EMLinQ Customer Representative. EMLinQ will provide sufficient notice to schedule surveillance.
Ethical Behavior	Ethical behavior must be practiced as a core value of the supplier's company. This includes the practice of honesty, integrity, and good faith, as well as incorporation of doing the right thing in all business decisions.

Part 2: Specific Quality Clauses. These requirements apply to each Purchase Order or Contract as specified on the same by line item.

SQC 1: Supplier First Article Inspection	Supplier shall perform a First Article Inspection (FAI) on one piece chosen at random from the first lot presented for EMLinQ acceptance. The FAI shall be performed and documented per the requirements of SAE AS9102, or the supplier's equivalent format. A copy of the FAI report shall be submitted to EMLinQ with the shipment. If discrepancies are noted during the FAI, the supplier shall promptly notify the EMLinQ purchasing representative for guidance. NOTE: First article inspection is not required for supplier part numbers, OEM parts and materials, commercial off-the-shelf items (nuts, bolts, wire, piece parts), QPL parts, etc. Generally FAI's apply to items fabricated to EMLinQ drawings. If uncertain, contact EMLinQ purchasing representative for guidance. Full or delta FAI's shall be required as appropriate for: 1) Revision change since the previous FAI (delta). 2) Changes to supplier's process (delta or full depending on change(s)). 3) Break in production exceeding 18 months (full). 4) Change of facility (full)
SQC 2: EMLinQ First Article Inspection	EMLinQ may perform First Article inspection per SAE AS9102 under the following conditions: 1) new supplier; 2) new part number; 3) revision change; 4) same manufacturer but lapse between production runs; 5) verification of implementation of corrective & preventive actions; 6) new facility; or 7) change of ownership.
SQC 3: EMLinQ-Directed Source	The Supplier shall use only those sources of goods or services that have been approved by af0705 EMLinQ. Such direction is generally provided on the EMLinQ purchase order.
SQC 4: Solderability	Component leads, terminations, lugs, terminals, and wires shall be capable of meeting the solderability requirements of IPC/EIA J-STD-002. Printed wiring boards shall be capable of meeting the solderability requirements of IPC/EIA J-STD-003.
SQC 5: Material from Different Lots	The Supplier may furnish material from different heats, lots, or batches, as applicable. Where shipments contain parts with different cure dates or are from different heats, lots, or batches, sub-lot separation with a separate certification for each sub-lot is required.
SQC 6: Single Lot / Date Code Traceability	Parts and materials provided against this line item shall be from one lot, manufactured and/or processed at the same time, and shall be traceable to the same raw material lot(s). For example, machined parts shall be manufactured in the same production run and utilize raw material from the same lot.
SQC 7: Mercury Exclusion	The items supplied under this Purchase Order shall contain no metallic mercury or mercury compounds and must be free from mercury contamination. During manufacturing, testing, or inspection, the items supplied shall not come in contact with mercury or any of its compounds nor with any mercury-containing devices employing only a single boundary of containment. Note: A single boundary of containment is one not backed by a second

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	seal or barrier to prevent contamination in the event of an accidental rupture of the primary seal or barrier. In the event this requirement cannot be met, contact the EMLinQ Buyer.
SQC 8: Date Codes > 5 Years	Shipment of electronic components with manufacturing date codes in excess of 8 years is not allowed. Should it not be possible to meet this requirement, supplier must contact EMLinQ purchasing representative for direction.
SQC 9: Traceability –Part Serial Number (If Applicable)	Each part, component, or assembly specified on this Purchase Order shall be identified with a distinct serial number. Serial numbers shall not be duplicated for one part, component, or assembly number when manufactured in sequential lots and noted on shipment documentation.
SQC 10: Printed Circuit Boards, Class 3	Unless otherwise specified on the EMLinQ fabrication drawing, printed circuit boards (PCB's) shall meet the workmanship requirements of IPC-A-600, Class 3. When specified on the Purchase Order, independent testing is required prior to shipping the printed wiring boards. All test results and test specimens shall accompany shipments.
SQC 11: IPC-6012	Fabricate to the requirements of IPC-6012, Class 3 per IPC-6011. Acceptance requirements shall be in accordance with IPC-A-600, Class 3.
SQC 12: Printed Circuit Boards, Class 2	Unless otherwise specified on the EMLinQ fabrication drawing, printed circuit boards (PCB's) shall meet the workmanship requirements of IPC-A-600, Class 2. When specified on the Purchase Order, independent testing is required prior to shipping the printed wiring boards. All test results and test specimens shall accompany shipments.
SQC 13: Harnesses and Cables	Class 3 Requirements and Acceptance for Cable and Wire Harness Assemblies. The manufacture shall be responsible for maintaining certified personnel, facilities, processes, and procedures in accordance with the latest revision of IPCWHMA-620. Trainers must possess IPC (registered) approved certificates. The manufacturer further agrees to EMLinQ surveys / audits to verify compliance.
SQC 14: Printed Wiring Boards	When specified on the Purchase Order, independent testing is required prior to shipping the printed wiring boards. All test results and test specimens shall accompany this shipment.
SQC 15: PWB Supplier Certification	Suppliers of printed wiring boards must be certified to MIL-PRF-55110, MIL PRF 31032, or MIL-P-50884 as applicable
SQC 16: Parts Obsolescence Program	<p>1) The Supplier represents that it has procured or will maintain, during the performance of this order, sufficient components and materials necessary to perform this order, including obtaining commitments from its suppliers required to meet all option requirements.</p> <p>2) The Supplier represents that it has or will flow down and manage this requirement with its suppliers to ensure they can meet the Supplier's obligations.</p> <p>3) For a period of 24 months after completion of this order, the Supplier agrees to maintain an obsolescence procedure adequate to ensure that the Supplier and its suppliers can provide the Buyer adequate notice that components and material necessary to supply additional new-order quantities of the articles furnished hereunder can be purchased through the Supplier by placing on order within 90 days of receiving said notice. Further, the Supplier agrees to supply the Buyer with such additional articles or components of said articles which are due to be discontinued subject to the Buyer agreeing to compensate the Supplier for its reasonable cost plus profit for such additional orders.</p>
SQC 17: Government Contract Orders	When DPAS rating is flowed down in the purchase order, the supplier is required to flow down the rating to the EEE parts suppliers for priority allocation.

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(DPAS)	
SQC 18: Nadcap-Approved Special Processors Required	The supplier shall utilize Nadcap-approved special processors to perform special processes as defined by Nadcap (primarily codes CP for chemical processes and HT for heat treating). Nadcap-approved special processors are listed in the eAuditnet Online QML at: https://www.eauditnet.com/eauditnet/ean/user/login.htm
SQC 19: Export Control	Export Control Notice. This Purchase Order / Contract contain technical data whose export, transfer, and /or disclosure may be controlled by the U.S. International Traffic and Arms Regulation (ITAR) 22 CFR part 120-130 or the Export Administration Regulations Commerce. The supplier must provide evidence of current ITAR compliance certification prior to accepting this Purchase Order, and must notify EMLinQ's buyer immediately in the event there has been a change in the status of their ITAR certification that occurred prior to or after Purchase Order / Contract acceptance.
SQC 20: Special Process Control	Only sources approved by EMLinQ customers may be used to satisfy this P.O. flow-down requirement (as required on the purchase order).
SQC 21: Key Characteristics	This part of assembly has Key Characteristics (KC) or Interface Key Characteristics. KC's require a 100% dimensional inspection record.

7.0 History Change

DATE	Description of Change	REVISION		APPROVAL
		FROM	TO	
08/21/2014	Initial release	-	A	J. Simonoff
11/07/2017	Update clauses IAW AS9100 standard to address Supplier interactions, Use of Statistical Techniques, Communication of Requirements and overall gap analysis to cover Preservation of Products (ESD/MSD), ITAR, and document formatting for supplier distribution.	A	B	J. Simonoff
1/17/2020	Updated general and specific quality requirements to fully comply with all AS9100 requirements.	B	C	A. Fischer
2/17/2020	Added statement to counterfeit parts and	C	D	N. Santos

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	materials referencing handling of broker materials			
7/19/2021	Added EMS requirements into the document	D	E	N. Santos
12/30/2023	Revised Date Code requirement to 8 years	E	F	N. Santos

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