1.0 OVERVIEW

1.1 PURPOSE & SCOPE

This document defines the IMS level harmonized Quality Clauses (Q Clauses) that will be communicated to suppliers and their sub-tiers. The Q Clauses will be listed on the Order for clear and easy visibility. Q Clauses will be issued to Orders based on life cycle stage, commodity type, supplier rating, part complexity, supplier history, customer requirements, etc. at the discretion of L3Harris.

1.2 KEY TERMS

The following terms are used through this Manual. Additional Key Terms are defined in the applicable Section.

Term	Description
Purchase Order (PO)	This term is aligned to the term "Contract" in CHQ SC-01 and refers exclusively to contractual agreements where L3Harris is the buyer. A written agreement that imposes obligations on both parties to do or not to do something and that is intended to be enforceable by law. Unless otherwise specified within a section or subsection, as used in this Policy the term is a collective label which includes, but is not limited to, corporate purchasing agreements, blanket purchase orders, basic ordering agreements, purchase orders, subcontracts, intra-company orders and inter-company orders.
SignIt	L3Harris electronic approval system
Supplier	The individual, association, partnership, corporate, or other entity that agrees to perform in accordance with the Agreement. As used in this Policy the term is a collective label which includes, but is not limited to, Vendors, Subcontractors, Sellers, and Independent Contractors. Suppliers may be classified as "strategic," "preferred," or "approved" as defined by corporate or IMS segment.
Active Components	An electronic component that contains semiconductor junctions. Examples of active components include monolithic microcircuits, hybrid microcircuits and semiconductor devices such as diodes, silicon controlled rectifiers and transistors.
AIA	Aerospace Industries Association
AML	Approved Manufacturer List
ANSI	American National Standards Institute
APQP	Advanced Product Quality Planning is a structured industry wide process used to ensure customer satisfaction with new items or processes.
ASL	Approved Supplier List
Authorized Distributor/Seller	A distributor/seller authorized in writing by an Original Manufacturer to distribute product within the terms of a contractual agreement. The term Franchised Distributor is synonymous with Authorized Distributor.
Company	L3Harris Technologies, Inc
Buyer(s)	All IMS Supply Chain personnel with procurement signature authority who are authorized to make commitments with Suppliers on behalf of L3Harris. As used in this Procedure the term is a collective label which includes, but is not limited

	to, job or functional titles referring to Buyers, Procurement Associates, and Subcontract Managers.
CAGE	Commercial and Government Entity
CCA	Circuit Card Assembly
CE	Conformité Européenne (European Conformity)
CFE	Customer-furnished equipment acquired by the Customer and delivered or otherwise made available to the contractor as part of a contractual requirement.
CFM	Customer-furnished material acquired by the Customer and delivered or otherwise made available to the contractor as part of a contractual requirement.
CI	Critical Item
CofA	Certification of Authenticity
CofC	Certification of Conformance
COTS	Commercial Off The Shelf
Counterfeit Item	"Counterfeit Item" means (1) an unauthorized copy, imitation, substitute, or modified part, which is knowingly misrepresented as a specified genuine part of the original manufacturer, or (2) a previously used Electrical, Electronic, and Electromechanical Part that has been modified and is knowingly misrepresented as new without disclosure to L3Harris that it has been previously used. Examples of a Counterfeit Part include, but are not limited to, the false identification of grade, serial number, date code, or performance characteristics. NOTE: This definition shall be read so as not to conflict with the definition for "counterfeit electronic part" cited in DFARS 252.246-7007 (Contractor Counterfeit Electronic Part Detection and Avoidance System), where that definition shall govern to the extent that clause applies.
CSI	Critical Safety Item
CTQ	Critical to Quality: An attribute or feature whose variation has a significant effect on item fit, form, function, performance, service life, or producibility, that requires specific actions on the purpose of controlling variation. This may also be called KC (Key Characteristic).
DFARS	Defense Federal Acquisition Regulation Supplement
D of I	Declaration of Incorporation
DOM	Date of Manufacture
DPA	Destructive Physical Analysis
Electronic Components/Assemblies	"Electrical, Electronic, and Electromechanical Part" or "EEE Part" means a component designed and built to perform specific functions using electricity and is not subject to disassembly without destruction or impairment of design use. Examples of an electrical part include but are not limited to resistors, capacitors, inductors, transformers, and connectors. Examples of an electronic part include but are not limited to active devices, such as monolithic microcircuits, hybrid microcircuits, diodes, and transistors. An electromechanical part is a device that has electrical inputs with mechanical outputs, or mechanical inputs with electrical outputs, or combinations of each, including but not limited to motors, synchros, servos, and relays. Although some electromechanical parts may typically be referred to as assemblies, for the purpose of these terms, they are considered to be electromechanical parts.
ERAI	An information services organization that monitors, investigates, reports and mediates issues affecting the global supply chain of electronics
ESD	Electrostatic Discharge
EU	European Union
expo	L3HARRIS supplier performance management portal
FAA	Federal Aviation Administration
FAI	First Article Inspection

FAIR	First Article Inspection Report
FOD	Foreign Object Debris/Damage
Franchised Distributor	See Authorized Distributor above
GIDEP	Government Industry Data Exchange Program
GSFC	Goddard Space Flight Center
ID	Independent Distributor - Any source that is not authorized by the OEM or OCM to sell its product lines.
IPC	Institute for Printed Circuits
ITAR	International Traffic in Arms Regulation
Item	Means broadly all parts, including EEE Parts, products, materials, chemicals, assemblies, subassemblies, hardware, and all other components or pieces of components that may go into an Item. An Item can also be a Part.
JEDEC	Joint Electron Device Engineering Council
KC	Key Characteristic: An attribute or feature whose variation has a significant effect on item fit, form, function, performance, service life, or producibility, that requires specific actions on the purpose of controlling variation. This may also be called CTQ (critical to quality).
L3Harris	The legal entity which is the contracting party with Seller with respect to the Order.
Material	Materials used to create products typically raw metals, plastics, elastomers, adhesives, etc.
MRO	Maintenance, Repair, or Overhaul
NADCAP	National Aerospace and Defense Contractor Accreditation Program
NASA	National Aeronautics and Space Administration
Non-Franchise Distributor	An entity that supplies services, products, or materials to the Seller without expressed authorization by the OEM/ODM.
NIST	National Institute of Standards and Technology
OCM	“Original Component Manufacturer” or “OCM” means an entity that designs and/or engineers a Part and is entitled to any intellectual property rights to that Part. The Part and/or its packaging is typically identified with the OCM’s trademark. OCMs may contract out manufacturing and/or distribution of their Part. Different OCMs may produce or supply Parts for the same application or to a common specification
ODA	Organization Delegation Authorization
OEM	“Original Equipment Manufacturer” or “OEM” means a company that manufactures and assembles Parts that it has designed from purchased materials/components and sells those Parts identified and labeled under the company’s brand name.
Order	This term refers to contractual agreements where L3Harris is the buyer. As used in this Procedure the term is a collective label which includes, but is not limited to, corporate purchasing agreements, blanket orders, basic ordering agreements, orders, subcontracts, intra-company orders and inter-company orders.
Passive Component	An electrical and/or electromechanical component that does not contain semiconductor junctions. Examples of passive components include resistors, capacitors, inductors, transformers and connectors.
PCB	Printed Circuit Board
PPAP	Production Part Approval Process or PPAP is an output of APQP confirming that the production process has demonstrated the potential to items produced that consistently fulfill all requirements at the customer demand rate.
Product	Products are an aggregate of material and services transformed into components, assemblies, and other tangible items

PWB	Printed Wiring Board
QML	Qualified Manufacturer's List
QMS	Quality Management System. The managing structure, responsibilities, procedures, processes, and resources to effectively achieve the quality and overall objectives of an organization in order to satisfy customer needs and expectations.
QPL	Qualified Products List
REACH	Registration, Evaluation, Authorization and Restriction of Chemicals
Repair	Action on a nonconforming product or service to make it acceptable for the intended use, but does not make it meet print
Rework	Action on a nonconforming product or service to make it conform to the requirements
RoHS	Restriction of Hazardous Substances
SAE	Society of Automotive Engineers
SCN	Supplier Change Notification
SDR	Supplier Deviation Request
SDS	Safety Data Sheet aka MSDS
Seller	The legal entity which is the contracting party with L3Harris with respect to the Order.
Service	Services are manufacturing operations, consulting, skilled labor, utilities and other commodities
SIR	Supplier Information Request
SMT	Surface Mount Technology
Special Process	Processes where resulting output cannot be verified by use of visual or common measuring techniques.
SSR	Supplier Support Request – A form (record) within the expo Supply Chain portal used for the submission of a SIR, SDR, SCN and to submit a FAI to L3Harris. A Supplier Support Request (SSR) is required for each shipment where a written approval to a deviation to a contractual requirement is needed. If the Supplier has opened any SSRs requiring information, review, deviation and/or approval to L3Harris contractual requirements, those SSRs shall be approved prior to delivery of product to L3Harris. • **SSR within expo *(not all L3Harris sites use expo)*** ▪ FAI (First Article Inspection) Submit an SSR-FAI First Article Inspection Report (Reference AS9102) when the Drawing specifies or if the Q-Clause is on the Order (Notes). The FAI documentation can be attached in the SSR-FAI record prior to submitting for approval, then submit the SSR-FAI for approval in the expo system. All SSRs are specific to a single part number, quantity, Order number, and Order line item. The same SSR shall not be referenced for any other Order number and line item. ▪ SCN (Supplier Change Notification) Submit an SSR-SCN Supplier Change Notification when the supplier wants to notify L3Harris of a change which will affect the contractual requirements of the Order. This may include but is not limited to these examples: Drawing Revision changes, Material changes, Location of Manufacture change, Process and/or equipment change, etc. Dimension and test data shall be provided on electronic media (read-only format via CD or DVD). This media shall contain data of ALL parameters listed on the Order as well as dimensional data selected by the Seller to demonstrate product conformance. Data MUST reference, at a minimum, Order number, Part Number, Lot identification and Serial

	Number (if applicable) on media delivered. All SSRs are specific to a single part number, quantity, Order number, and Order line item. The same SSR shall not be referenced for any other Order number and line item. ▪ SDR (Supplier Deviation Request) Deviation request if the parts/product do not meet the L3Harris contractual requirements from the supplier, an SDR shall be submitted. This request is made when parts/product are in process and/or finished. All SSRs are specific to a single part number, quantity, Order number, and Order line item. The same SSR shall not be referenced for any other Order number and line item. SIR (Supplier Information Request) Information request for a print change, clarification to Order requirements such as drawings, specifications, etc., or approval of documentation that is required to the start of production or prior to shipment to L3Harris. This request shall be made before parts are built. All SSRs are specific to a single part number, quantity, Order number, and Order line item. The same SSR shall not be referenced for any other Order number and line item.
Special Test Equipment (STE)	"Special test equipment" means either single or multipurpose integrated test units engineered, designed, fabricated, or modified to accomplish special purpose testing in performing a contract. It consists of items or assemblies of equipment including foundations and similar improvements necessary for installing special test equipment, and standard or general-purpose items or components that are interconnected and interdependent so as to become a new functional entity for special testing purposes. Special test equipment does not include material, special tooling, real property, and equipment items used for general purposes or property that with relatively minor expense can be made suitable for general purpose use.
UL	Underwriters Laboratory Certification
Special Tooling (ST)	"Special tooling" means jigs, dies, fixtures, molds, patterns, taps, gauges, and all components of these items including foundations and similar improvements necessary for installing special tooling, and which are of such a specialized nature that without substantial modification or alteration their use is limited to the development or production of particular supplies or parts thereof or to the performance of particular services. Special tooling does not include material, special test equipment, real property, equipment, machine tools, or similar capital items.
Use-As-Is	Permission to use or release a nonconforming product or service without additional rework or repair
WHA	Wiring Harness Assembly
XRF	X-Ray Fluorescence

2.0 REFERENCES

Reference	Title	Description
IMS-QA-02.31.F1	IMS Harmonized Quality Clauses Formatted for SAP Upload	Excel based version of IMS Harmonized Quality Clauses that are formatted for uploading to a business system.
https://www.l3harris.com/supply-chain	L3Harris Website	Location of IMS Quality Clauses

3.0 QUALITY CLAUSE ORDER OF PRECEDENCE

Q Clauses apply to an Order following the hierarchy list below:

1- Program Specific Q Clauses *(Program defined and maintained)*
2- Site Specific Q Clauses *(Site defined and maintained)*
3- IMS Harmonized Q Clauses *(Segment defined and maintained)*
4- Corporate Supplier Quality Manual QA-01.1 *(Corporate defined and maintained)*

4.0 QUALITY CLAUSE MANAGEMENT

Quality Clauses are managed in the following way.

1. Q Clauses are harmonized at the IMS Segment level via this document. The intent is to capture standardized clauses that can be utilized across the IMS Segment. If new Q Clauses are required that can be utilized by any site, Segment Supplier Quality will manage the addition and implementation via this document.
2. If a Q Clause is site specific, site Supplier Quality Engineering will create and maintain a list of Q Clauses at the site level to be used on Orders issued by the Supply Chain.
3. If a Q Clause is program specific, site Supplier Quality Engineering along with Program Quality Engineering will create and maintain a list of Q Clauses at the program level to be used on Orders issued by the Supply Chain.

5.0 SUPPLIER QUALITY CLAUSES

Category	Number
Standard IMS Quality Clauses	IMSQC1
Quality Management Systems and Programs	IMSQC002 through IMSQC049
Inspections and Witnesses	IMSQC050 through IMSQC079
Product Realization	IMSQC080 through IMSQC099
Deliverables with Product	IMSQC100 through IMSQC149
Packaging & Identification	IMSQC150 through IMSQC199
Shelf Life	IMSQC200 through IMSQC249
Records and Traceability	IMSQC250 through IMSQC299
Miscellaneous	IMSQC300 through IMSQC349

STANDARD QUALITY CLAUSES

IMSQC1: Standard IMS Quality Clauses

These Standard Quality Clauses (Q-Clauses) are applicable to all Orders placed by L3Harris, unless explicitly stated on the Order. Individual Q-Clauses are assigned as necessary and are in addition to the requirements of this Q-Clause.

For COTS product only the following Standard IMS Quality Clauses apply:

- Clause A
  - QA-01.1: Section 2.1.1
  - QA-01.1: Section 2.1.2
  - QA-01.1: Section 2.1.4
  - QA-01.1: Section 2.2.4
  - QA-01.1: Section 2.3
  - QA-01.1: Section 2.5
  - QA-01.1: Section 2.6
  - QA-01.1: Section 2.9
  - QA-01.1: Section 2.13
  - QA-01.1: Section 2.14
  - QA-01.1: Section 2.17
  - QA-01.1: Section 2.18
  - QA-01.1: Section 2.19
  - QA-01.1: Section 3.0
- Clause B
- Clause C
- Clause D
- Clause E

A. L3HARRIS Supplier Quality Manual
All sections of L3HARRIS Supplier Quality Manual (QA-01.1) apply unless otherwise stated on the Order.

B. Q Clause Order of Precedence
These Q clauses are part of the "General Terms and Conditions" referenced in the "Purchase of Items and Services and Order of Precedence" term of this Order. In the event of conflict in the Q Clauses, the following order of precedence applies:

1. Site Program Specific Q Clauses *(Site)*
2. Site Specific Q Clauses *(Site)*
3. IMS Harmonized Q Clauses *(Segment)*
4. Corporate Supplier Quality Manual QA-01.1 *(Corporate, latest revision online)*

C. Right of Entry
L3Harris, its customer, and/or their authorized inspection agency or regulatory authorities shall have the right to send representatives to the Supplier's facilities on a non-interference basis to determine order compliance. Compliance may be determined by auditing, monitoring, witnessing, and/or performing such activities as inspections, test witness, process, and/or product evaluations and verifications as necessary to determine product acceptability to contractual requirements. The type, necessity, and degree of demonstration of conformance shall be at the sole discretion of L3Harris, taking into consideration such factors as product complexity, the environment where the product is used, the ability to determine product quality after receipt, and past Supplier performance.

Without additional charges, the Supplier and/or their sub-tier shall make their facility and applicable records available for these activities. They will also provide all reasonable support for the safety

and convenience of these representatives during their stay at the Supplier's and/or their sub-tier plants and facilities.
Note: Verifications accomplished by L3Harris or its customer shall neither be used as evidence of effective control of quality by the Supplier nor shall they preclude subsequent rejection by L3Harris or its customer.

D. L3Harris Audit
The Supplier is subject to an audit by the L3Harris in relation to the product being manufactured or provided for this Order.

E. Counterfeit Parts Audit
The Supplier is subject to an audit of their Counterfeit Parts Mitigation Program by L3Harris.

F. Special Process Audit
The Supplier is subject to an audit of their special process(es) by the L3Harris.

G. Special Processes (L3Harris Approved)
Special processes performed either by the Supplier or their Sub-tiers shall be approved by the L3Harris. Special processes are defined as processes where resulting output cannot be verified by use of visual or common measuring techniques. L3Harris considers the following to be special processes: chemical processing (anodizing, painting, etc…), heat treating, soldering, welding, composites, gasketing, coatings, non-destructive testing, material testing laboratories, castings, additive manufacturing, non-conventional machining and surface enhancements.

H. Sub-Tier Flow-down Clause
If sub-tier suppliers are used in support of this Purchase Order, the Seller shall ensure the contract requirements, including quality requirements are part of the flow-down in sub-tier contracts. Seller shall meet the following:

- Sellers documented Quality System shall provide for the review of the Purchase Order to ensure applicable requirements are flowed down to sub-tiers including Quality Requirements and Terms and Conditions.
- Seller shall notify the Buyer when any of their sub-tiers are found to be non-compliant to Seller's specification, disapproved by Seller and/ or a government/industry data exchange program (GIDEP) alert is required.
- Seller's documented Quality System shall include procedures for determining the capability of sub-tier suppliers, prior to issuance of Seller's purchase order to any sub-tier supplier.
- Seller shall define and establish a program for determining the need for periodic re-evaluation of Seller's sub-tier suppliers to ensure compliance with the Purchase Order requirements.
- Seller shall include in its purchase orders to sub-tiers the applicable revision or amendment level for referenced Buyer's specification or other documents.
- Seller shall maintain a documented receiving inspection function to ensure material received from Sellers's sub-tiers is inspected to and meets the requirements of the Purchase Order. Material shall be identifiable to the Purchase Order.
- Seller shall ensure the content of this clause or equivalent provisions are flowed down to all suppliers and sub-tiers associated with delivery of items that will be included in or furnished as work to the Buyer.

I. Process Change Notification
The Supplier shall promptly notify L3Harris of any design or process changes. This includes changes to materials, processes, procedures, design interfaces, inspection or test equipment, software, sources of supply (products or services), or facility location (including location changes within facility), which affects the form, fit, function, safety, reliability, maintainability, testing, weight, or any other requirement or specified, implied, or advertised characteristic of the product or service. The Supplier shall submit

approval requests in writing to L3Harris. A copy of approved requests shall be provided with delivered product(s).

J. Serialization

Serial numbers are assigned to individual units within a Configuration Item (CI) family. Once assigned, serial numbers provide the audit trail for an item's complete life cycle. Serial numbers shall be unique, consecutive, and non-duplicating for all items within a specific configuration item family's root number. Serial numbers shall be assigned to specific units at the start of their manufacturing cycle. Once assigned to a unit, the serial number shall not be changed, and shall not be re-used. Where L3Harris defines serial number format it shall be specified in the contracting documentation.

K. Key Characteristics (KC) Management

If KCs are identified on the L3Harris drawing the following requirements apply:

- Supplier shall develop and maintain a Variation Management Program in accordance with AS9103.
- Supplier procedures shall include Process Control Documents (PCDs) which detail how KCs are manufactured, critical process steps identified, and how variation shall be analyzed, evaluated, and controlled.
- Supplier shall submit to L3Harris, control charts, histograms and/or other analytical charts upon request.
- Supplier shall provide evidence of analysis of data and actions taken in response to identified variations, outside of established statistical control limits.
- Supplier shall flow down to sub-tier suppliers the applicable requirements in the purchase order, including KCs, when the control of KCs are a requirement of this order.
- When a design document (i.e. drawing, data package, etc.) identifies raw material as a KC, the Supplier shall source a 3rd party to validate the accuracy of the raw material test reports.
- In absence of a Level 4 PPAP for Parts Containing KCs identified in their product definition, 100% inspection of KC shall be continuously performed by the manufacturer. Test records shall be stored in compliance with record retention requirements and made available upon request
- Unless due to customer contractual requirements or agreed upon by L3Harris SQE and the Supplier, this flow-down does not apply to:
    - Lab-scale, pilot or pre-production processes
    - Commercial Off The Shelf (COTS) Parts and Standard Catalogue Items.

L. Electrostatic Discharge (ESD) Control Program

The Supplier shall implement an Electrostatic Discharge Control (ESD) program in accordance with the current revision of ANSI/ESD S20.20. Electrostatic Sensitive Devices shall be packaged and handled to preclude damage to devices. The device packaging must also be clearly marked with ESD caution symbols that comply with ANSI/ESD S8.1.201, Symbols – ESD Awareness.

M. Calibration Control Program

Calibration of inspection equipment shall be in accordance with a nationally or internationally recognized standard (i.e. ISO/IEC 17025, ANSI NCSL Z540 or ISO 10012) to the extent necessary to maintain required levels of accuracy. This as well is subject to L3HARRIS approval. If production tooling such as jigs, fixtures, templates, and patterns are used as a media of inspection, a calibration plan shall also be established. When required, the Supplier's measuring and test equipment shall be made available for use by the L3Harris representative to determine conformance of product(s) with order requirements. In addition, if conditions warrant, Supplier's personnel shall be made available for operation of such devices and for verification of their accuracy and condition. Supplier must notify L3Harris of any out of tolerance calibration. A risk/impact assessment will be delivered in a form of a quality notification.
Traceability of calibration of equipment and gauges shall be performed in accordance with an industry recognized calibration standard, unless stated otherwise in the Order.

N. Product Safety & Ethics

Suppliers shall have a process in place to ensure that persons are aware of:

1. Their contribution to product or service conformity
2. Their contribution to product safety
3. The importance of ethical behavior

O. Notification of Potential Safety Issues

The product provided to L3Harris is defined as a Critical Safety Item (CSI), and the Supplier shall report nonconformance(s) in full compliance with Defense Federal Acquisition Regulation Supplement (DFARS) 252.246-7003.

P. Prohibited Materials

P1 - Metals

Unless otherwise specified on the drawing or Order, the use of zinc, cadmium, beryllium, magnesium, mercury, or pure tin (>97% Sn) is expressly prohibited. The Supplier shall communicate these restrictions to their Sub-tiers as required.

P2 - Prohibited Materials - Plating

Piece parts, hardware, and assemblies (including internal hardware) shall have NEITHER internal nor external surfaces plated with pure Cadmium, Cadmium alloys containing greater than 5% Cadmium by weight, pure Zinc, Zinc alloys containing greater that 10% Zinc by weight, or tin, without being over-plated by an approved material. Electronic part terminals and leads coated with a tin alloy shall contain a minimum of 3 percent (3%) lead (Pb) or silver (Ag). The Supplier shall provide a C of C with each shipment, along with a copy of the OEM certificate, which attests that the products contained therein meet the specified minimum 3% lead/silver requirement and the requirements of the Order.

P3 - Prohibited Materials – Pink Poly

This Pink Polyethylene material is prohibited from use in any form (e.g., bags, bubble, wraps, trays, bottles, foam, connector caps, etc.) on all products delivered to the L3Harris.

Q. Electrical/Electronic (CCA/PCB, WHA, etc.) Design & Manufacturing Standards

The following IPC Standards apply, as required, when designing and manufacturing components, parts and/or assemblies. In the event there is a conflict between the following requirements and requirements contained within the drawing or statement of work the order of precedence is as follows:

1. Drawing
2. Statement of Work
3. Purchase Order or Subcontract

Q1 - IPC Standards for Printed Circuit Board Design and CAD (IPC-2220)

Electrical design requirements for Printed Board Design shall meet the requirements of IPC-2220.

Q2 - Requirements for Surface Mount Design and Land Pattern Standard (IPC-7351B)

Electrical design requirements for Surface Mount and Land Pattern shall meet the requirements of IPC-7351B.

Q3 - Specification for Base Materials for Rigid and Multilayer Printed Boards (IPC-4101)

Printed Circuit Cards shall meet the Class 3 requirements of IPC-4101. Coupons shall be captured for each run and analyzed prior to commencing work on the CCA. Suppliers and sub-tier Suppliers shall have inspectors certified to IPC-A-600 and the ability to validate PCB compliance including micro section evaluation.

Q4 - Specification for High Density Interconnect (HDI) and Microvia Materials (IPC-4104)
Printed Circuit Cards that include High Density Interconnects and Microvia Materials shall meet the Class 3 requirements of IPC-4104. Coupons shall be captured for each run and analyzed prior to commencing work on the CCA. Suppliers and sub-tier Suppliers shall have inspectors certified to IPC-A-600 and the ability to validate PCB compliance including micro section evaluation.

Q5 - Cover and Bonding Material for Flexible Printed Circuitry (IPC-4203)
Printed Circuit Cards that include Flexible Printed Circuity shall meet the Class 3 requirements of IPC-4203. Coupons shall be captured for each run and analyzed prior to commencing work on the CCA. Suppliers and sub-tier Suppliers shall have inspectors certified to IPC-A-600 and the ability to validate PCB compliance including micro section evaluation.

Q6 - Generic Performance Specification for Printed Boards (IPC-6011)
Printed Circuit Cards shall meet the Class 3 requirements of IPC-6011. Coupons shall be captured for each run and analyzed prior to commencing work on the CCA. Suppliers and sub-tier Suppliers shall have inspectors certified to IPC-A-600 and the ability to validate PCB compliance including micro section evaluation.

Q7 - Qualification and Performance Specification for Rigid Printed Boards (IPC-6012)
Rigid Printed Boards shall meet the Class 3 requirements of IPC-6012. Coupons shall be captured for each run and analyzed prior to commencing work on the CCA. Suppliers and sub-tier Suppliers shall have inspectors certified to IPC-A-600 and the ability to validate PCB compliance including micro section evaluation.

Q8 - Qualification and Performance Specification for Flexible Printed Boards (IPC-6013)
Flexible Printed Boards shall meet the Class 3 requirements of IPC-6013. Coupons shall be captured for each run and analyzed prior to commencing work on the CCA. Suppliers and sub-tier Suppliers shall have inspectors certified to IPC-A-600 and the ability to validate PCB compliance including micro section evaluation.

Q9 - Acceptability of Printed Boards (IPC-A-600)
Suppliers of printed boards' design and workmanship criteria shall be in compliance with IPC-A-600 Class 3 acceptability requirements, unless otherwise stated on the Order.

Q10 - Acceptability of Electronics Assemblies (IPC-A-610)
Suppliers of electronic assemblies' design and workmanship criteria shall be in compliance with IPC-A-610 Class 3 acceptability requirements, unless otherwise stated on the Order.

Q11 - Requirements and Acceptance for Cable and Wire Harness Assemblies (IPC/WHMA-A-620)
Suppliers of cables and harnesses' design and workmanship criteria shall be in compliance with IPC/WHMA-A-620, Class 3 acceptability requirements unless otherwise stated on the Order.

Q12 - Requirements for Soldered Electrical and Electronic Assemblies (IPC J-STD-001)
Suppliers of soldered electrical and electronic assemblies' design and workmanship criteria shall be in compliance with J-STD-001 Class 3 acceptability requirements, unless otherwise stated on the Order. NOTE: *Where IPC J-STD-001 & IPC-A-610 "Class 3" conflict, use IPC-A-610 "Class 3"*

Q13 - Solderability for Leads and Terminations
Solderability of leads and terminations shall comply with the requirements of J-STD-002, Typical Coating Durability for Tin and Tin-Lead Finish Electronic Component Leads, Terminations, Solid Wire, Lugs and Tabs. Any parts delivered that are over 2 years old from date of manufacture shall be accompanied by a CofC that documents that parts have been re-certified to meet above requirements. Solderability of Printed Wiring Boards shall be performed and evaluated to the requirement of J-STD-003, Solderability

Tests for Printed Boards. The shelf life of products meeting the requirement of J-STD-003 will be 1 year from date of manufacture for tin/lead fused finished and 6 months for hot air leveled products. Material delivered will have a minimum of 80% of the shelf life remaining. Residual materials with less than 80% of the designated shelf life remaining will not be acceptable for delivery.

R. Barcoding

Seller shall provide barcoded product identification on the packaging and associated documentation for contract-identified deliverables. The labels shall be interpretable/readable by a barcode scanner and placed in a manner to prevent folds, creases, or damage**.** If there is a conflict between this requirement and the marking requirements on the item drawing, the drawing takes precedence.

S. Government Industry Data Exchange Program (GIDEP) Participation

Participation with the Government Industry Data Exchange Program (GIDEP) program. Is strongly suggested for North American suppliers ONLY, in accordance with the requirements of the GIDEP S0300-BT-PRO-010 and S0300-BU-GYD-010. The Supplier shall be responsible for monitoring and reporting GIDEP Alerts for impact to items delivered to L3Harris, and shall take action to eliminate or mitigate any negative effect to an acceptable level. The Supplier shall generate the appropriate failure experience data report(s) (GIDEP ALERT, GIDEP SAFE-ALERT, GIDEP Problem Advisory) whenever failed or nonconforming items are discovered.

T. Independent Distributor Buys

The Supplier shall only purchase or acquire all Parts directly from Authorized Sources, such as Original Equipment Manufacturers (OEM), Original Contract Manufacturers (OCM) or Authorized Distributor. The Supplier SHALL NOT purchase part from or use Independent Distributors to supply parts without the prior written consent from L3Harris.

U. Test Laboratory Testing Requirements

Independent Distributor's procedures shall meet the requirements of AS6171, AS6081, IDEA-STD-1010 and ANSI ESD S20.20. Quality Management System Shall be certified to AS9120 and/or AS9100.

Minimum Inspections and tests shall be conducted in accordance with AS6171, Moderate Risk Level, Model 2 with additional tests as required based on component type and solderability testing.

Manufacturer specifications and parameters shall be used for part requirements as applicable. Recorded evidence of all testing performed shall be included with each shipment. When available, OEM, OCM and/or or Authorized Distributors Certificates of Conformance (C of C's) shall also accompany each shipment.

Test requirements has been defined by the corporate policy.

QUALITY MANAGEMENT SYSTEMS AND PROGRAMS

IMSQC002: Software Quality Management System (AS9110 Certified)
Supplier shall maintain a quality management system that is 3rd party certified to the current revision of AS9110 for performing Maintenance, Repair or Overhaul (MRO) activity on product or services for which they are not the Original Equipment Manufacturer (OEM). OEMs with AS9100 certification must have a Scope of Approval that includes MRO activity if AS9110 certification is not held. L3Harris reserves the right to conduct supplier surveys or audits of the Supplier's quality system. The Supplier shall immediately notify L3Harris in writing of any change to:

1. The quality management system that may affect the inspection, conformity or safety of the product
2. Quality leadership
3. Quality management system status

IMSQC003: Software Quality Management System (ISO9115 Certified)
Supplier shall maintain a quality management system that is 3rd party certified to the current revision of ISO9115. L3Harris reserves the right to conduct supplier surveys or audits of the Supplier's quality system. The Supplier shall immediately notify L3Harris in writing of any change to:

1. The quality management system that may affect the inspection, conformity or safety of the product
2. Quality leadership
3. Quality management system status

IMSQC004: Software Quality Management System (AS9120 Certified)
Supplier shall maintain a quality management system that is 3rd party certified to the current revision of AS9120. L3Harris reserves the right to conduct supplier surveys or audits of the Supplier's quality system. The Supplier shall immediately notify L3Harris in writing of any change to:

1. The quality management system that may affect the inspection, conformity or safety of the product
2. Quality leadership
3. Quality management system status

IMSQC005: Software Quality Management System (AS9115 Certified)
Supplier shall maintain a quality management system that is 3rd party certified to the current revision of AS9115. L3Harris reserves the right to conduct supplier surveys or audits of the Supplier's quality system. The Supplier shall immediately notify L3Harris in writing of any change to:

1. The quality management system that may affect the inspection, conformity or safety of the product
2. Quality leadership
3. Quality management system status

IMSQC006: Foreign Object Debris (FOD) Program (AS9146 Compliant)
The Supplier shall maintain a documented Foreign Object Debris (FOD) prevention program compliant to the current version of AS9146 to ensure work is processed or manufactured in a manner preventing foreign objects or materials from entering and remaining in deliverable items. L3Harris reserves the right to conduct supplier surveys or audits of the Supplier's FOD program.

IMSQC007: Classified Program
This parts, product and/or services supplied on this Order are for a classified program. See Supplier Quality and L3Harris Security for DD254 Information.

IMSQC008: Special Processes (NADCAP Certified or L3Harris Approved)
Special processes performed either by the Supplier or their Sub-tiers shall be accredited by National Aerospace and Defense Contractors Accreditation Program (NADCAP). In the event that the Supplier or the Sub-tier supplier performing special processes are not NADCAP certified, the Supplier or the Sub-tier performing the special process shall be approved by the L3Harris. Special processes are defined as processes where resulting output cannot be verified by use of visual or common measuring techniques. L3Harris considers the following to be special processes: chemical processing (anodizing, painting, etc…), heat treating, soldering, welding, composites, gasketing, coatings, non-destructive testing, material testing laboratories, castings, additive manufacturing, non-conventional machining and surface enhancements.

IMSQC009: Special Processes (Raytheon Approved)
All Special processes performed either by the Supplier or their Sub-tiers shall be approved by Raytheon. Special processes are defined as processes where resulting output cannot be verified by use of visual or common measuring techniques. Raytheon considers the following to be special processes: chemical processing (anodizing, painting, etc…), heat treating, soldering, welding, composites, gasketing, coatings, non-destructive testing, material testing laboratories, castings, additive manufacturing, non-conventional machining and surface enhancements. The list of Raytheon approved Special Process Suppliers is available at: ***http://qnotes.raytheon.com***

IMSQC010: Special Processes (Lockheed Martin Approved)
All Special processes performed either by the Supplier or their Sub-tiers shall be approved by Lockheed Martin or be NADCAP certified. Special processes are defined as processes where resulting output cannot be verified by use of visual or common measuring techniques. Lockheed Martin considers the following to be special processes: chemical processing (anodizing, painting, etc…), heat treating, soldering, welding, composites, gasketing, coatings, non-destructive testing, material testing laboratories, castings, additive manufacturing, non-conventional machining and surface enhancements. The list of Lockheed Martin approved Special Process Suppliers is available at: ***http://www.myexostar.com***

IMSQC0011: Special Processes (Boeing Approved)
All Special processes performed either by the Supplier or their Sub-tiers shall be approved by Boeing. Special processes are defined as processes where resulting output cannot be verified by use of visual or common measuring techniques. Boeing considers the following to be special processes: chemical processing (anodizing, painting, etc…), heat treating, soldering, welding, composites, gasketing, coatings, non-destructive testing, material testing laboratories, castings, additive manufacturing, non-conventional machining and surface enhancements. The list of Boeing approved Special Process Suppliers is available at: ***http://www.boeing.com/companyoffices/doingbiz/d14426/index.html***

IMSQC012: Special Processes (Northrop Grumman Approved)
All Special processes performed either by the Supplier or their Sub-tiers shall be approved by Northrup Grumman or be NADCAP certified. Special processes are defined as processes where resulting output cannot be verified by use of visual or common measuring techniques. Lockheed Martin considers the following to be special processes: chemical processing (anodizing, painting, etc…), heat treating, soldering, welding, composites, gasketing, coatings, non-destructive testing, material testing laboratories, castings, additive manufacturing, non-conventional machining and surface enhancements. The list of Northrup Grumman approved Special Process Suppliers is available at: ***https://www.northropgrumman.com/suppliers/tools/***

IMSQC013: Special Processes (NASA Approved)
All Special processes performed either by the Supplier or their Sub-tiers shall be approved by NASA or be NADCAP certified. Special processes are defined as processes where resulting output cannot be verified by use of visual or common measuring techniques. NASA considers the following to be special processes: chemical processing (anodizing, painting, etc…), heat treating, soldering, welding, composites, gasketing, coatings, non-destructive testing, material testing laboratories, castings, additive manufacturing, non-conventional machining and surface enhancements. The list of NASA approved Special Process Suppliers is available at: ***https://www.nasa.gov/osbp/nasa-vendor-database***

IMSQC014: DFARS Compliance
This Clause prohibits Seller and all Seller's sub-suppliers from incorporating into military parts, components, systems, subsystems, and/or end item deliverables "specialty metals" (identified in the clause, including titanium and stainless steel) which have been melted outside the United States, its possessions, or Puerto Rico, unless certain limited exceptions set forth in the clause or DFARS 225.7003-3 apply. One such exception is for specialty metals melted in a qualifying country or incorporated into an article manufactured in a qualifying country. Those countries are listed at DFARS 225.872-1(a) or (b). If a qualifying country exception applies, the source for specialty metals melted outside the United States must be listed in an applicable Qualified Products List (QPL).

IMSQC015: SUBSAFE
Material on this Order is defined as SUBSAFE. It is utilized in a critical safety marine application where product failure in service could result in loss of life.

- SUBSAFE material stored at the supplier's facility must be segregated to preclude intermingling with non-SUBSAFE material.
- SUBSAFE material must be positively identified to a Heat/Lot through all phases of manufacture. In the event material traceability is questioned or compromised, the supplier shall immediately notify L3Harris for direction.
- 100% inspection is required. No sampling is permitted. All dimension actuals must be recorded with corresponding gage number utilized. Calibration due date of the gage must also be recorded.
- All internal threads shall be formed by cutting. Cold forming of internal threads is not acceptable.
- If L3Harris has supplied SUBSAFE Material to manufacture items on this Order, the Supplier must return all residual material, properly identified as initially received, to L3Harris upon completion of the order.
- Supplier shall ensure that all parts are received with SUBSAFE identification tags.
- Traceability of unique identification numbers (heat no. or boule no.) must be maintained throughout the manufacturing process.
- Supplier shall ensure that these tags remain with the parts throughout the manufacturing process.

INSPECTIONS AND WITNESS

IMSQC050: L3HARRIS In-Process Source Inspection
L3Harris Quality Assurance or an approved 3RD Party delegate will perform in-process inspection of the material, process, or service identified on the Order at the Supplier's facility. Prior to the beginning of the build process the Supplier shall coordinate with the L3Harris' Quality Representative to establish specific inspection stop point(s). In-process source inspection approval or acceptance by the L3HARRIS Quality Representative shall not constitute final approval or acceptance by L3Harris of the items covered by this Order, nor shall it relieve the Supplier of their responsibility to furnish acceptable product. The Supplier shall notify the L3Harris Buyer a minimum of 7 working days prior to the date the source inspection is required.

IMSQC051: L3HARRIS Final Source Inspection
L3Harris Quality Assurance personnel or an approved 3RD Party delegate will perform final inspection of the material, process, or service identified on the order at the Supplier's facility. The Supplier shall notify the L3Harris Buyer a minimum of 7 working days prior to the date the source inspection is required.

IMSQC052: L3HARRIS Organization Designation Authorization (ODA) Inspection
ODA conformity inspection is required prior to shipment. Arrangement for conformity by an L3Harris Organization Designation Authorization Representative must be coordinated through the Buyer a minimum of 3 working days prior to date of conformity inspection.

IMSQC053: Government Source Inspection
Government inspection of the purchased product is required prior to shipment from the Supplier's facility. Upon receipt of the Order, the Supplier shall promptly notify the Government Representative(s) who normally service the supplier's facility to establish a plan for government source inspection. The Government Representative and L3Harris Buyer shall be notified a minimum of 2 working days in advance of the time articles or materials are ready for inspection or test.

IMSQC054: NASA Source Inspection
All work on this Order is subject to inspection and test by the Government at any time and place. The Government Quality Representative who has been delegated by NASA Quality Assurance on this procurement shall be notified immediately upon receipt of this order. The Government Representative and L3Harris Buyer shall be notified a minimum of 2 working days in advance of the time articles or materials are ready for inspection or test.

IMSQC055: Buyer's Customer Source Inspection
L3Harris' customer will perform final inspection at the Supplier's facility prior to shipment of product. The Supplier shall notify the L3Harris Buyer a minimum of 10 working days prior to the date the source inspection is required.

IMSQC056: MRB Containment Source Inspection
The parts on this Order are under L3Harris MRB Containment due to a supplier caused issue. L3Harris Quality Assurance personnel or 3rd party source inspection representative will perform final inspection of the material, process, or service identified on the order at the Supplier's facility. The Supplier shall notify the L3Harris Buyer a minimum of 7 working days prior to the date the source inspection is required.

IMSQC057: L3Harris Validation First Article Inspection
The Supplier shall conduct First Article Inspection (FAI) that is equivalent to AS9102 for any parts built to L3Harris specifications, including modifications to COTS parts. The Supplier shall use a representative item from the first production run of a new product to verify that the production processes, production documentation, and tooling have the capability to produce products that meet established requirements. This process shall be repeated, when changes occur that invalidate the original results (e.g., engineering changes, manufacturing process changes, tooling changes, lapse in production for 2 years, change in location). Supplier developed first article inspection processes and/or forms may be used with prior approval by L3Harris. The First Article Inspection Report (FAIR) shall be validated at the Supplier's facility or remotely by an L3Harris Quality Representative who shall sign the customer approval section of the form. The FAIR shall be shipped with the product to L3Harris. The Supplier shall notify the Buyer a minimum of 10 working days prior to the anticipated date of validation to allow for scheduling.

IMSQC058: L3Harris Validation First Article Inspection (AS9102)
The Supplier shall conduct First Article Inspection (FAI) that meets the requirements of AS9102 and L3Harris for any parts built to L3Harris specifications, including modifications to COTS parts. The Supplier shall use a representative item from the first production run of a new product to verify that the production processes, production documentation, and tooling have the capability to produce products that meet established requirements. This process shall be repeated, when changes occur that invalidate the original results (e.g., engineering changes, manufacturing process changes, tooling changes, lapse in production for 2 years, change in location). First Article Inspection may be full or partial as defined in SAE standard AS9102 or agreed to with L3HARRIS in writing if different than AS9102. The FAI shall be done using the current revision of SAE AS9102 forms 1, 2 and 3. The FAI shall contain a ballooned drawing to verify all drawing notes. In the event there are multiple instances of the same tools, dies, molds, etc… used to create the product, inspection results from each item potentially used in manufacturing shall be included in the FAI. The First Article Inspection Report (FAIR) shall be validated at the Supplier's facility or remotely by an L3Harris Quality Representative who shall sign the customer approval section of the AS9102 Form. The FAIR shall be shipped with the product to L3HARRIS. The Supplier shall notify the L3Harris Buyer a minimum of 10 working days prior to the anticipated date of validation to allow for scheduling.

IMSQC059: Supplier Validation First Article Inspection
The Supplier shall conduct First Article Inspection (FAI) that is equivalent to AS9102 for any parts built to L3Harris specifications, including modifications to COTS parts. The Supplier shall use a representative item from the first production run of a new product to verify that the production processes, production documentation, and tooling have the capability to produce products that meet established requirements. This process shall be repeated, when changes occur that invalidate the original results (e.g., engineering changes, manufacturing process changes, tooling changes, lapse in production for 2 years, change in location). Supplier developed first article inspection processes and/or forms may be used with prior approval by L3Harris. The First Article Inspection Report (FAIR) shall be shipped with the product to L3Harris.

IMSQC060: Supplier Validation First Article Inspection (AS9102)
The Supplier shall conduct First Article Inspection (FAI) that meets the requirements of AS9102 for any parts built to L3Harris specifications, including modifications to COTS parts. The Supplier shall use a representative item from the first production run of a new product to verify that the production processes, production documentation, and tooling have the capability to produce products that meet established requirements. This process shall be repeated, when changes occur that invalidate the original results (e.g., engineering changes, manufacturing process changes, tooling changes, lapse in production for 2 years, change in location). First Article Inspection may be full or partial as defined in AS9102 or agreed to with L3HARRIS in writing if different than AS9102. The FAI shall be done using the current revision of AS9102 forms 1, 2 and 3. The FAI shall contain a ballooned drawing to verify all drawing notes. In the event there are multiple instances of the same tools, dies, molds, etc… used to create the product, inspection results from each item potentially used in manufacturing shall be included in the FAI. The First Article Inspection Report (FAIR) shall be shipped with the product to L3Harris.

IMSQC061: Qualification Test Witness
The L3Harris Quality Representative shall witness qualification tests at the Supplier's or Supplier's sub-tier's facility. The Supplier shall coordinate the test schedule, a minimum of 3 weeks prior to test date with the L3Harris Quality Representative.

IMSQC062: Acceptance Test Witness
The L3Harris Quality Representative shall witness acceptance tests at the Supplier's or Supplier's sub-tier's facility. The Supplier shall coordinate the test schedule, a minimum of 3 weeks prior to test date with the L3Harris Quality Representative.

PRODUCT REALIZATION PROCESSES

IMSQC080: APQP Required
In accordance with AS9145, Seller shall begin implementation of APQP at the time of order or prior to start of production. Seller shall submit an APQP as defined by elements listed below, a minimum of (5) days prior to shipping for review and approval. Further APQP elements can added, as required, by Supplier Quality and will be agree upon by the supplier for inclusion in the APQP Package. The APQP Package shall be submitted to site Supplier Quality and approved prior to the shipment of hardware. Seller shall not ship parts from a production run for L3Harris inspection prior to L3Harris' acceptance of the associated APQP Package.

- Design Failure Mode and Effect Analysis (DFMEA) *(only applicable if seller has design authority)*
- Key Characteristics (KC) Management *(if KCs defined on the drawing)*
- Process Flowchart(s)
- Process Failure Mode and Effects Analysis *(PFMEA)*
- Control Plan(s)
- Measurement Systems Analysis *(Gage R&R)*
- First Article Inspection *(if not already required by contract)*

IMSQC081: PPAP Required
In accordance with AS9145, Seller shall begin implementation of PPAP at the time of order or prior to start of production. Seller shall submit a PPAP as defined by elements listed below, a minimum of (5) days prior to shipping for review and approval. Further PPAP elements can added, as required, by Supplier Quality and will be agree upon by the supplier for inclusion in the PPAP Package. The PPAP Package shall be submitted to site Supplier Quality and approved prior to the shipment of hardware. Seller shall not ship parts from a production run for L3Harris inspection prior to L3Harris' acceptance of the associated PPAP Package.

- Key Characteristics (KC) Management *(if KCs defined on the drawing)*
- Process Flowchart(s)
- Control Plan(s)
- First Article Inspection *(if not already required by contract)*

IMSQC082: Supplier Production Readiness Review (PRR) Required
The Seller shall begin implementation of PRR at the time of order and shall prepare and submit PRR results a minimum of (4) weeks prior to start of fabrication for L3Harris Supplier Quality review and approval. Further PRR elements can added, as required, by Supplier Quality and will be agree upon by the supplier for inclusion in the PRR Package. The PRR documentation will be submitted to L3Harris Supplier Quality and the review will be scheduled at the appropriate location. Approval by L3Harris is required prior to production of the procured item(s). L3Harris approval of manufacturing plans shall not relieve Seller of Seller's requirement to comply with the terms of this Order.

DELIVERABLES WITH PRODUCT

IMSQC100: Certification of Conformance (Basic C of C)
The Supplier shall provide a Certificate of Conformance (C of C) certifying that product conforms to the requirements of the Order package including applicable drawings, specifications, processes etc. referenced in the Order. The C of C may be a separate document or included on the packing sheet.

Nonconforming material may not be shipped to L3Harris without prior written approval. In the event L3Harris approves a deviation from the requirements, it must be clearly documented on the C of C and a copy of the approval must accompany the shipment.

IMSQC101: Certification of Conformance (Comprehensive C of C)
The Supplier shall provide a Certificate of Conformance (C of C) certifying that product conforms to the requirements of the Order package including applicable drawings, specifications, processes etc. referenced in the Order. The C of C may be a separate document or included on the packing sheet. The C of C shall accompany each shipment on the Order and shall provide at a minimum:

1. Supplier Name and Address
2. L3Harris Order Number, Contract Line Item Number, L3Harris and/or Manufacturers Part Number and Revision as applicable, and Quantity
3. Traceability information to the Original Equipment Manufacturer & Address, if different than Supplier
4. Lot number, Date Code and/or Serial Numbers as applicable
5. Signature, Title, and Date by the authorized representative of the issuing organization

Nonconforming material may not be shipped to L3Harris without prior written approval. In the event L3Harris approves a deviation to the requirements, it must be clearly documented on the C of C and a copy of the approval must accompany the shipment.

IMSQC102: Special Process Certification of Conformance (C of C)
The Supplier shall provide a Certificate of Conformance (C of C) certifying that special process(es) performed at the Supplier or their Sub-tiers conforms to the requirements of the Order package including applicable drawings, specifications, processes etc. referenced in the Order. Certifications shall be traceable to lot/batch/serial numbers of the product. The C of C may be a separate document or included on the packing sheet.

IMSQC103: Material Certificate of Authenticity/Analysis (C of A)
The Supplier shall provide actual chemical, physical (elasticity, hardness, etc…), and/or mechanical test data to substantiate the materials provided by the Supplier and their Sub-tiers meet the requirements of the engineering drawing or specification. The tests shall be provided with the first lot and whenever requested thereafter and minimally whenever a material is changed. Material certifications shall be traceable through lot/batch/serial numbers to the original mil documentation. Orders that are under DFAR regulations shall include the Country of Origin on the C of A.

IMSQC104: Qualification Test Data
The Supplier shall furnish with each shipment a qualification test report/data sheet. Qualification data shall reflect actual readings (variable data) taken during test, or a check-off sheet when attribute (Go/No-Go) type test equipment is used. Qualification data sheets shall list the parameters tested in each case. The data shall reference the product number, the Order number and product tracking number (e.g. serial number, batch number), if applicable. If the Supplier is not the original manufacturer, the Supplier shall furnish the manufacturer's test report as described above.

IMSQC105: Product Test Data
The Supplier shall furnish with each shipment an acceptance test report/data sheet. Acceptance data shall reflect actual readings (variable data) taken during test, or a check-off sheet when attribute (Go/No-Go) type test equipment is used. Acceptance data sheets shall list the parameters tested in each case. The data shall reference the product number, the Order number and product tracking number (e.g. serial number, batch number), if applicable. If Seller is not the original manufacturer, Seller shall furnish the manufacturer's test report as described above.

IMSQC106: Dimensional Inspection Data
The Supplier shall provide objective evidence with each shipment that the deliverable item(s) conforms dimensionally to the Order requirements. This shall include Key Characteristics (KCs) as identified on engineering drawings, specifications for entire lot of parts, and sampling results of the Supplier's selected key characteristics that are used to monitor the process based upon part complexity, tight tolerance features, machine capability, tool controls, error-proofing, materials, historical issues, and the Supplier's process knowledge. (Note: Supplier's operator inspection logs may be used in lieu of final inspection reports). AQL Sampling is allowed for the parts delivered. Objective evidence records shall at minimum include hard copies of:

1. L3Harris Order number
2. L3Harris Part number and revision
3. Supplier Part Number and revision (if applicable)
4. Date of test(s) performed
5. Serial number(s) and /or lot number(s) as required
6. AQL used for the inspection
7. Delivery number of run if known (e.g. 1 of 3)
8. Required dimensions and associated tolerances
9. Results Actual dimensions recorded during inspection
10. Identity of person that performed inspection(s)
11. Any additional data required by the Order

IMSQC107: Optical Inspection Data
The Supplier shall provide objective evidence with each shipment that the deliverable item(s) conforms dimensionally to the Order requirements. This shall include Key Characteristics (KCs) as identified on engineering drawings, specifications for entire lot of parts, and results of the Supplier's selected key characteristics that are used to monitor the process based upon part complexity, tight tolerance features, machine capability, tool controls, error-proofing, materials, historical issues, and the Supplier's process knowledge. (Note: Supplier's operator inspection logs may be used in lieu of final inspection reports). 100% Inspection is required for all parts delivered (AQL sampling is not permitted). Objective evidence records shall at minimum include hard copies of:

1. L3Harris Order number
2. L3Harris Part number and revision
3. Supplier Part Number and revision (if applicable)
4. Date of test(s) performed
5. Serial number(s) and /or lot number(s) as required
6. Raw material certification(s)
7. Geometrical inspection data (including any lower level details)
8. Transmission and reflectance chart(s)
9. Surface power and irregularity measurements
10. Surface map of defects (scratches, digs, stains, etc.) deemed to be within drawing tolerances
11. Results of environmental and durability testing of coating(s)
12. Identity of person that performed inspection(s)
13. Any additional data required by the Order

IMSQC108: Certificate of Calibration
A Certificate of Calibration that meets the requirements of ANSI-Z-540, ISO 10012-1 or other applicable standard is required to be provided for this item. Supplier shall maintain records that ensure that the product is properly controlled while it is in their possession.

IMSQC109: Witness Sample/Test Bars/Specimens
The Supplier shall submit with each shipment, witness samples, test bars, test specimens, or test coupons specific to the process being performed:

- **Optical Coatings**: The Supplier shall submit one (1) sample to be used for environmental and durability tests. Inspection and tests results must be traceable to the samples tested.
- **Test Bars**: The Supplier shall submit test bars representative of original material. Testing and quantity of test bars required shall be in accordance with the applicable specification or as detailed in the Order. Appropriate inspection/test results are required and must be traceable to the sample tested.
- **Specimens:** Specimens representing plating, painting, heat treating, or as specified in the applicable specification or Order, shall be supplied with each shipment. Appropriate inspection/test results are required and must be traceable to the sample tested.
- **PCB Coupons:** Test coupon, as detailed in the specification, drawing or Order, must be included with each shipment.

IMSQC110: Failure Analysis Report
The unit associated with this order has failed either in L3Harris assembly/test or after delivery to the L3Harris Customer and is being returned for repair or replacement. A detailed failure analysis report is required to be provided with the repaired/reworked unit. This analysis shall be of sufficient detail to pinpoint the exact failure mode and mechanism.

IMSQC111: UL Certification
Evidence of UL certification listing for the part number on this order is required to be provided with each delivery.

IMSQC112: Declaration of Incorporation (D of I)
Under the Machinery Directive 2006/42/EC, for all partly completed machinery that is not CE marked, the Supplier shall provide a Declaration of Incorporation in accordance with EN ISO 17050-1:2004. The Declaration of Incorporation must contain the following particulars:

1. L3Harris Order Number
2. Business name and full address of the manufacturer of the partly completed machinery and, where appropriate, the manufacturer's authorized representative
3. Description and identification of the partly completed machinery including, function, model, type, serial number and commercial name
4. A statement declaring which essential health and safety requirements are applied and fulfilled, and, where appropriate, a sentence declaring the conformity of the partly completed machinery with other relevant EU Directives.
5. A statement that the partly completed machinery must not be put into service until the final machinery into which it is to be incorporated has been declared in conformity with the provisions of the Directive, where appropriate
6. The place and date of the declaration
7. The identity and signature of the person empowered to draw up the declaration on behalf of the issuing organization.

IMSQC113: RoHS Compliance
All products shipped with this Order shall be RoHS complaint. The Supplier to provide a Certificate of RoHS compliance that includes:

1. Supplier Name
2. Reference to the RoHS Directive or amendment Directive
3. Reference to the part number(s) or article(s) being certified
4. Clearly state any RoHS technical exemptions or state No Exceptions
5. Signature of Compliance Certifier

IMSQC114: REACH Compliance
All products shipped with this Order shall be REACH complaint. The Supplier to provide a Certificate of REACH compliance that includes:

1. Supplier Name
2. Reference to the date of certification per the current SVHC list, (i.e. June 2018)
3. Reference to the part number(s) or article(s) being certified
4. Clearly state if any SVHCs are in the product along with their weights or state that no SVHCs are in product and that all components are REACH compliant
5. Signature of Compliance Certifier

IMSQC115: Statement of Conformity
The Supplier shall provide an FAA form 8130-9 “Statement of Conformity” with each first article, and subsequent revision changes, and shall be signed by an authorized company representative.

IMSQC116: Airworthiness Tags
The Supplier shall provide a FAA Form 8130-3 “Airworthiness Approval Tag” with each individual unit.

IMSQC117: Radiographic Inspection Data
The material on this Order requires inspection by a certified X Ray Laboratory. Each radiograph shall include the image of the part number, part serial number, identification of the area radiographed, and identification of the view direction. The Supplier's techniques are subject to prior approval by L3Harris. The laboratory shall interpret films and the findings reported on an appropriate form. Three copies of the Laboratory report, the radiographic technique, the radiographic sketch, and the radiographs shall accompany the material. In addition, each item shall be stamped with the certified Radiographer's Identification Symbol.

IMSQC118: Destructive Physical Analysis (DPA) Report Required
A Destructive Physical Analysis (DPA) report is required with the delivery of this material. DPA shall be performed to the latest revision of MIL-STD-1580 unless otherwise specified to the extent required by the individual part type’s detailed requirements and procurement specifications..

IMSQC119: Destructive Physical Analysis (DPA) Required – 1 Piece
Destructive physical analysis (DPA) shall be performed to the latest revision of MIL-STD-1580 unless otherwise specified (one piece prohibited materials analysis required) to the extent required by the individual part type’s detailed requirements and procurement specifications. The DPA sample size for each device date code shall be QTY one (1).
In addition, prohibited materials analysis for pure tin, zinc, and cadmium shall be performed as part of each DPA. Upon completion of the DPA, the following shall be provided; the DPA samples and/or any residual parts, a hard copy of the DPA report, a digital copy of the DPA report.

IMSQC120: Destructive Physical Analysis (DPA) Required – 2 Piece
Destructive physical analysis (DPA) shall be performed to the latest revision of MIL-STD-1580 unless otherwise specified (one piece prohibited materials analysis required) to the extent required by the individual part type's detailed requirements and procurement specifications. The DPA sample size for each device date code shall be QTY two (2).

In addition, prohibited materials analysis for pure tin, zinc, and cadmium shall be performed as part of each DPA. Upon completion of the DPA, the following shall be provided; the DPA samples and/or any residual parts, a hard copy of the DPA report, a digital copy of the DPA report.

IMSQC121: Destructive Physical Analysis (DPA) Required – 3 Piece
Destructive physical analysis (DPA) shall be performed to the latest revision of MIL-STD-1580 unless otherwise specified (one piece prohibited materials analysis required) to the extent required by the individual part type's detailed requirements and procurement specifications. The DPA sample size for each device date code shall be QTY three (3).

In addition, prohibited materials analysis for pure tin, zinc, and cadmium shall be performed as part of each DPA. Upon completion of the DPA, the following shall be provided; the DPA samples and/or any residual parts, a hard copy of the DPA report, a digital copy of the DPA report.

IMSQC122: Deliverable Laser Damage Threshold Testing Data
The material on this Order requires Laser Damage Threshold Testing (LDT) to be provided as part of the shipment. The part/parts sent for LDT testing must be a representative piece from the lot of parts or product manufactured. Failure of LDT testing may result in rejection of the whole lot at the discretion of L3HARRIS.

IMSQC123: Deliverable ATP Data
Supplier shall prepare and submit an Acceptance Test Procedure (ATP) for L3Harris review and approval prior to the first shipment of parts.
As a minimum the ATP shall include:

- ATP Number
- ATP Revision
- Part Number of item to be tested
- Part Name to be tested (If applicable)
- Issue Date and/or Revision Date
- Test Equipment to be used
- Alternate Test Equipment specified (If applicable)
- Indicates tests to be performed
- Test Conditions (Environmental if applicable)
- Indicates parameters and limits
- Page Numbers and Total Page Numbers
- Preparation and Approval Signatures

Each data sheet shall include:

- Objective Evidence of compliance
- Part Name, Part Number, and Serial Number
- Test Document paragraph correlation
- Date Tested, Final Acceptance and Acceptor Identification

PACKAGING & IDENTIFICATION

IMSQC150: CE Marking
Commercial Off The Shelf (COTS) equipment shall be specified to be compliant with the European Directives by having the CE marking on the product.

IMSQC151: Engineering/Prototype Identification
The Supplier shall mark on the product and packing list the words “Prototype - Engineering Use Only”. Marking on the product may be by stencil, label, or attached tag. If product cannot be marked due to the lack of marking space or the marking would have a detrimental effect on the product, the marking shall be applied to the supplemental container (bag, box, etc…). Prototype and production product shall not be co-mingled.

IMSQC152: Identification of Manufacturer
The Supplier of the product being delivered against this Order shall provide the name, address and cage code, when applicable, of the manufacturer (mark on shipper and/or the smallest unit container). Use of other manufacturers or distributors does not relieve the Supplier of their responsibility of meeting all of the requirements of this Order.

IMSQC153: OEM Marking
The Supplier shall include on the packing list the name of the OEM and the OEM’s part number.

IMSQC154: Lot / Date Code Separation
The Supplier shall ensure each lot/date code shipped is identified and packaged separately. Lot/date codes shall not be co-mingled. The shipping document and individual part containers shall list lot/date codes and quantity. Each tape and reel package shall consist of one lot/date code only.

IMSQC155: Lead Free Identification
All lead free material must be marked as “Pb-free” or “Lead-free” on the component carrier (i.e., SMT Reel).

IMSQC156: Optical Film Packaging
Each piece of optical film shall be individually placed into a bag to prevent contamination. Once film is in the bag, place a rigid piece of cardboard on either side of bag. Cardboard shall then be secured with tape on at least two edges of the cardboard and shall be labeled with optical film part number. The packaging sequence shall be as follows: cardboard/bagged film/cardboard/cardboard/bagged film/cardboard. Place material flat into a container to prevent deformation.

IMSQC157: Electrostatic Discharge (ESD) Packaging
Static sensitive devices shall be packed in a manner that protects/shields the devices from the hazards of ESD in accordance with ANSI/ESD S541 and ANSO/ESD STM 11.31. The device packaging must also be clearly marked with ESD caution symbols that comply with ANSI/ESD S8.1.201, Symbols – ESD Awareness. All unterminated connectors shall be protected with ESD dust caps.

IMSQC158: Moisture/Reflow Sensitive Devices Packaging
The handling, packing, identification, shipping and use of Moisture/Reflow sensitive Surface Mount Devices shall comply with the requirements of IPC/JEDEC J-STD-033. Moisture/Reflow Sensitivity classification for non-hermetic solid state Surface Mount Devices shall comply with the requirements of IPC/JEDEC J-STD-020.

IMSQC159: Adhesive Gaskets Packaging
Adhesive gaskets shall be packaged with cardboard inserts between each part to prevent damage. Parts shall be packaged flat in a box to prevent deformation.

IMSQC160: Tape & Reel Packaging
Tape and reel packaging and processing shall be performed in accordance with the latest revision of ANSI/EIA-481.

IMSQC161: Zener Diode Packaging
Components shall be packaged for shipment so that the cathode terminal is free standing and no stress can be imparted to these terminals during shipment. Packaging using cardboard vertical separators without supporting cathode or loosely bagged in bulk is NOT acceptable.

IMSQC162: Packaging Underwater Range Cables
Cable Delivered on Reels
Cables weighing more than 8,000 pounds must be on steel reels. Cable reel marking shall be waterproof, securely fastened to the reel and include: Manufacturer Name, Reel Identification Number, Reel Gross Weight, Cable Identification Number(s), and actual Cable length(s). The bottom end and both ends of any intermediate layer of each cable shall have a minimum of 2 meters available to pull out of the reel for testing. The cable shall be identified on each end with a waterproof factory cable identification number, traceable to data package.

Cable Delivered in Containers
Cable(s) shall be panned in an appropriately sized container so that the minimum bend radius of the cable is not violated and is cribbed with welded steel cribbing so that the cable cannot shift during shipment. The bottom end and both ends of any intermediate layer of each cable shall have a minimum of 30 meters of cable available to pull out of the container for testing. The cable shall be identified on each end with a waterproof factory cable identification number, traceable to data package.

Cable Delivered in Pans
Cable(s) shall be panned in steel pans. The pans for truck shipment shall be a maximum of 144 inches wide. The bottom end and both ends of any intermediate layer of each cable shall have a minimum of 30 meters of cable available to pull out of the pan for testing. The cable shall be identified on each end with a waterproof factory cable identification number, traceable to data package.

SHELF LIFE

IMSQC200: Age of Electronic Components (2 years)
All electronic components shall be from lots manufactured no more than two (2) years from the date ordered. Exceptions to this must be approved by L3Harris.

IMSQC201: Age of Electronic Components (3 years)
All electronic components shall be from lots manufactured no more than three (3) years from the date ordered. Exceptions to this must be approved by L3Harris.

IMSQC202: Age of Electronic Components (5 years)
All electronic components shall be from lots manufactured no more than five (5) years from the date ordered. Exceptions to this must be approved by L3Harris.

IMSQC203: Age of Electronic Components (variable)
All electronic components shall be from lots manufactured no more than the time period specified on this Order from the date ordered. Exceptions to this must be approved by L3Harris.

RECORDS AND TRACEABILITY

IMSQC250: Supplier Record Retention (10 years)
The Clause of this Order titled "Quality Control and Non-Conformance" is revised to change the period of Supplier's record retention FROM "six (6) years following the completion of the Order" TO "10 years following the completion of the Order." Documents, including previous revisions, shall be filed in a protected, retrievable manner. Previous revisions of documents shall not be present where work is being performed. Supplier records can include, but are not limited to: Supplier manufacturing & inspection records, material certs, special process records, L3Harris supplied drawings & specifications. If parts are QPL/QML qualified, that record retention requirement shall take precedence.

IMSQC251: Supplier Record Retention (20 years)
The Clause of this Order titled "Quality Control and Non-Conformance" is revised to change the period of Supplier's record retention FROM "six (6) years following the completion of the Order" TO "20 years following the completion of the Order." Documents, including previous revisions, shall be filed in a protected, retrievable manner. Previous revisions of documents shall not be present where work is being performed. Supplier records can include, but are not limited to: Supplier manufacturing & inspection records, material certs, special process records, L3Harris supplied drawings & specifications. If parts are QPL/QML qualified, that record retention requirement shall take precedence.

IMSQC252: Supplier Record Retention (Lifetime)
The Clause of this Order titled "Quality Control and Non-Conformance" is revised to change the period of Supplier's record retention FROM "six (6) years following the completion of the Order" TO "lifetime record retention following the completion of the Order." Documents, including previous revisions, shall be filed in a protected, retrievable manner. Previous revisions of documents shall not be present where work is being performed. Supplier records can include, but are not limited to: Supplier manufacturing & inspection records, material certs, special process records, L3Harris supplied drawings & specifications. If parts are QPL/QML qualified, that record retention requirement shall take precedence.

IMSQC253: Single Lot / Date Code
All material must be from one lot number or date code. All material shall be identified by the manufacturer's CAGE Code and lot number or date code either on the part itself, on the packing list, or Certificate of Conformance. Multiple lots, batches, manufacturer's batches or date codes will not be accepted unless approved in writing by L3Harris prior to shipment.

IMSQC254: Two Way Traceability
Components used in this procurement shall be traceable, by part number, lot / date code, and Supplier at a minimum, from the bill of materials to the assembly and from the assembly to the bill of material to provide L3Harris S the ability to recall specific assemblies or to identify specific parts on the assembly.

IMSQC255: Validation of Raw Materials
The Supplier shall periodically validate test reports and/or perform testing to validate raw materials as well as raw materials used to produce fabricated (machined) purchases. The Supplier shall maintain the raw material validation results and provide objective evidence upon request.

MISCELLANEOUS

IMSQC300: Drop/Direct Shipments
This item is being drop shipped to a location other than L3Harris. The following documentation shall be provided to L3HARRIS:

1. Certificate of Conformance
2. Packing Slip
3. Proof of Delivery (Waybill)
4. Drop Ship Form
5. Required documents as applicable: first article inspection report, material certificate of analysis, special process certification, dimensional inspection data, acceptance test data, test coupons, pictures of the product showing general condition and identification of the product and other unique documentation as requested by L3Harris
6. Documentation showing verification that all L3HARRIS delegated activities for product release have been completed by the Supplier, including activities performed by sub-tier suppliers. A checklist is encouraged.

IMSQC301: Anonymity
No subcontract, orders or internal work transfers which involve design, manufacture, production, assembly, inspection or test, in a location not in the United States, of equipment, assemblies or parts which are not covered by the specification or a standard listed in MIL-E-16400, MIL-P-11268, or MIL-E-5400 shall be made under this contract without specific approval by the contracting officer. All 98230 code identification, and all 0nxxxxxx marking, when required, will be performed by the Supplier at an in-country facility. Orders and drawings provided to offshore sources will not carry any 98230 or 0nxxxxxx identification, nor will they reveal the contract number or program name. The Supplier further agrees to include this clause in all subcontracts or Orders placed on Sub-tiers under this contract for equipment, assemblies, accessories or parts. The Supplier shall inform the L3Harris Buyer in advance of any offshore procurement or internal work transfers on this Order. This anonymity clause requirement is in addition to any ITAR restrictions imposed on the Order.

IMSQC302: Red Plague Protection
Wires and Cables supplied on this Order shall be packaged for shipment and storage to protect the silver coated or annealed copper conductors from Red Plague (cuprous/cupric oxide corrosion) in accordance with IPC J-STD-001 Space Addendum.

1. Packaging/Preservation for Silver-Plated Ethylene-Tetrafluoroethylene (ETFE) insulated wire:
    a. Wire and cable ends shall be capped with heat shrinkable end-caps conforming to SAE-AMS-DTL-23053/4, or sealed with a material such as an insulating electrical varnish for a length of approximately 25 mm (1 in.).
    b. The wire shall be wrapped with plastic material that is taped or tied then wrapped with cushioning material.
    c. Wire shall not be stored in air-tight sealed containers/bags.
2. Packaging/Preservation for Silver-Plated Non - ETFE insulated wires and Silver-Plated Braid wire:
    a. Wire shall be shipped and stored in sealed water-vapor-proof packaging (i.e.: Moisture Barrier Bag, dry pack, etc.), activated desiccant, and humidity indicator card.
        i. Water-vapor-proof protection packaging shall meet MIL-STD-2073-1E Method 51. Moisture Barrier Bags (MBB) shall meet MIL-PRF-81705, TYPE 1.
        ii. The bagged, activated desiccant shall conform to MIL-D-3464 Type 2 or equivalent. The minimum quantity of desiccant to be used (unit packs) shall be based on the protective package's interior exposed surface area, in accordance with MILSTD-2073-1E, Method 50, Formula 1, or equivalent.
        iii. The humidity indicator card shall be either an Irreversible Indication (50-60-70-80-90% RH) card or a combination Irreversible/Reversible Humidity Indicator (50-60-70-80-90% RH) card conforming to MIL-I-8835 or equivalent.

b. Wire received with a humidity indicator card with equal to or greater than 70% RH is unacceptable.

IMSQC303: Lot Homogeneity
A lot, identified by a single Order, shall be manufactured from materials from a single heat, melt, or blow. If it is necessary to use materials from more than one heat, melt, or blow to complete this order, the items shall be segregated by heat, melt, or blow number and be fully traceable to the heat, melt, or blow number of any particular item. In all cases, traceability shall be maintained by the Supplier of the hardware.

IMSQC304: L3Harris Approved Supplier/Manufacturer's List/Qualified Parts List (ASL/AML/QPL)
Only materials from an L3Harris Approved Supplier/Manufacturer's List (ASL/AML) may be supplied on this Order, unless L3Harris provides written authorization to deviate from the ASL/AML. Sources of supply listed in the AML take precedence over sources of supply listed in the drawing when in conflict.

CHANGE LOG

Ver	Date	Details
1	12/30/2023	Initial Release
2	3/12/2024	• Added Critical to Quality term • Added Key Characteristics term • Added Key Characteristic Management clause to IMSQC001 Standard Quality Clauses • Cleaned up spelling for release to L3Harris external website for visibility to suppliers • Added page breaks so clauses do not span across multiple pages
3	10/14/2024	• Added clarification for COTS suppliers for which IMSQC001 clauses apply • Clarified description for Independent Distributors • Aligned Standard clauses S and U to corporate policies for Counterfeit Parts Protection • Swapped IMSQC014 and IMSQC015 to align to SAP Q-Clause workbench • Added to IMSQC001/K: In absence of a Level 4 PPAP for Parts Containing KCs identified in their product definition, 100% inspection of KC shall be continuously performed by the manufacturer. Test records shall be stored in compliance with record retention requirements and made available upon request.