

Axiom Electronics LLC

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1.0 PURPOSE

- 1.1 To demonstrate and define the First Article Inspection (FAI) requirements per SAE AS9102C performed by suppliers for Axiom Electronics. The document is focused on providing clarity, guidance, and structure to satisfactorily meet all the applicable sections of AS9102C and serve as a resource for suppliers to utilize when drafting, integrating, or modifying their First Article Inspection process. Suppliers' attainment in meeting the provisions of the Purchase Order will require the synchronous use of AS9102C and this document.
- 1.2 Axiom is a contract manufacturer and makes product designed by customers. Therefore, when an FAI is required, the FAI will reflect Axiom's customer's part number and data.
- 1.3 When Axiom's customer flows down FAI requirements, Axiom's customer FAI document will take precedence. When Axiom's customer has NOT provided an FAI document, this document will be followed.

1.2 Scope

- 1.2.1 This procedure applies when an AS9102C First Article is required per the Purchase Order.
- 1.2.2 This procedure does not apply to commercially available off-the-shelf (COTS) products controlled by a manufacturer's part number (e.g., A30, E75 part numbers).

2.0 APPLICATION

Organizations affected by this document are Axiom Suppliers and shall be flowed down to sub-tier suppliers.

The process owner of this document is the Axiom Quality Director

3.0 DEFINITIONS

FAIR: First Article Inspection Report

Assembly First Article Inspection – A first article that consists of several first article inspection reports and/or commercially available off-the-shelf component hardware (COTS). If additional hardware is required to make the part Form 1, Fields 15 thru 18 will be completed. Items listed on Form 1 fields 15 thru 18 require first article inspection reports. COTS items do not require first article reports.

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Attribute Data – Results from a characteristic or property that is appraised only as to whether it does or does not conform to a given requirement (e.g., go/no-go, accept/reject, pass/fail).

Authorized Distributor (AD) – A distributor authorized in writing by an Original Manufacturer to distribute product within the terms of a contractual agreement. The term Franchised Distributor is synonymous with AD.

Ballooned Document – An aid used in FAI to identify all the design characteristics, including all documents e.g., drawings, Purchase Order, Digital Product Definition (DPD) – typically sequentially numbering the design characteristics and putting a circle around or highlighting the numbered design characteristics.

Baseline Part Number – Refers to the previous First Article Inspection (FAI) part number or approved configuration, including revision level, to which a partial FAI is performed. The FAI requirements may be satisfied by a partial FAI that addresses only the changes from a baseline part number provided all other characteristics were conforming on the previous FAI and are produced by the original production processes.

Commercially available off-the-shelf (COTS) – Items that are commercially available to, any and all, customers without any special modifications. These items are intended by design to be procured and utilized without modification (e.g., common electronic components). Any item or assembly meeting all the following requirements:

- a) Defined by industry, manufacturer, military, or recognized specifications or standards.
- b) Without design modification, specifically for a customer.
- c) Customarily used by the public or industries.
- d) Offered for sale to the public, through catalogues, price list, brochures, stores, or websites.

Conditionally Required (CR) – These fields are depicted in bold italic font and shall be completed, when applicable to the product or required by the customer (e.g., serial number shall be entered when the product has an associated serial number).

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Design Characteristics – Those dimensional, visual, functional, mechanical, and material features or properties, which describe and constitute the design of the product. These characteristics can be measured, inspected, tested, or verified to determine conformance to the design requirements as specified on the parts list, purchasing document drawing, or Digital Product Definition (DPD), to which the product is to be produced. Dimensional design characteristics include in-process locating features (e.g., additive manufacturing, target-machined or forged/cast dimensions on forgings and castings, weld/braze joint preparation necessary for acceptance of finished joint). Material design characteristics include processing output variable (e.g., plating or coating thickness/runout, material hardness/conductivity). These provide assurance of intended characteristics that could not be otherwise defined.

Detail Part – Article/part produced to engineering definition that does not include assembly processes (i.e., processes that join two or more parts together). Detail parts may include processing, finishes, and/or special process(es).

Digital Product Definition (DPD) -Requirements of any digital data files that disclose, directly or by reference, the physical or functional requirements, including data files that disclose the design or acceptance criteria of a product. Examples of DPD include the following:

- The digital definition and fully dimensioned two-dimensional (2D) drawing sheets.
- Three-dimensional (3D) data model and simplified or reduced content 2D drawing sheets.
- The 3D model with design characteristics displayed as text.
- Any other data files that define a product in its entirety.

First Article Inspection (FAI) - A planned, complete, independent, and documented inspection and verification process to ensure that prescribed production processes have produced an item conforming to engineering drawings, Digital Product Definition (DPD), planning, Purchase Order, engineering specifications, and/or other applicable design documents.

First Article Inspection Report (FAIR) – Forms, supporting documents, ballooned characteristics, determined by First Article Inspection planning for a part number (e.g., detail part, sub-assembly, or assembly) that proves the item has been manufactured to the required specifications.

First Article Inspection Samples - Parts inspected from production processes used to evaluate if all (100%) of the requirements are met.

First Production Run – The initial group of one or more parts that are the result of a planned process designed to be used for future production of the same parts.

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Full First Article Inspection - Includes all design characteristics and verifies that the production processes, production documentation, and tooling have the capability to produce products that meet the established requirements. Forms 1, 2 and 3 as defined in AS9102C Appendix B shall be used for the initial/full FAI.

Optional (O) – These fields are depicted in standard font and is provided for convenience; the field may be identified as N/A.

Modified Commercially available off-the-shelf – A COTS or Standard Catalogue item that has a change made to it from its original designed configuration.

Partial FAI - Addresses only the changes from a previously approved FAI, provided that all other characteristics are produced by the original production processes approved. Form 1 is required for partial FAIRs but must use forms 2 or 3 if it is required to document the change (i.e., characteristic, or plating/special process changes) Form 1, Field 14 “Baseline Part Number” is required.

Required (R) – These fields are depicted in bold font and is mandatory information.

Special Process – Special processes refer to a set of linked procedures that lead to the creation of items and services whose end results would not otherwise be measured, monitored, or verified before being released to Axiom Electronics. Special processes that may not be fully verifiable at completion, shall be completed in accordance with drawings and Purchase Order requirements. The Supplier shall ensure that its suppliers or subcontractors are qualified, and records exist to support compliance with all special process provisions.

Statement of Work (SOW) – A contractual description of all the work required for successful development or production of goods to be delivered or services to be performed by the Supplier.

Supplier – Legal entity performing work pursuant to an order and, if the context requires, its employees, officers, agents, and others acting at its direction and control or under contract to it.

Technical Data Package (TDP) – The unabridged collection of technical engineering documents, specifications, and requirements essential to defining the design intent. The Technical Data Package may include, but not limited to the following:

- Engineering drawings
- Parts Lists
- Digital Product Definition (DPD) material, as defined herein
- Supplemental design specifications

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Variable Data – Quantitative measurements taken on a continuous scale (e.g., the diameter of a cylinder, the gap between mating parts).

4.0 ASSOCIATED DOCUMENTS

Supplier Quality Codes AWI000072

5.0 RECORDS

Refer to AOP000002 for records

6.0 PROCEDURE

6.1 FAI Requests.

6.1.1 Axiom driven FAI Requests.

6.1.2 At any point in time, Axiom reserves the right to request a FAI (e.g., revision changes).

6.2 Supplier Driven FAI Requests

6.2.1 Suppliers shall initiate and provide L3Harris FAI for the following but not limited to events or changes which present risk to product conformance:

6.2.2 Process change(s) at the supplier location or sub-supplier location.

6.2.3 A change in engineering definition affecting design characteristics.

6.2.4 A change in manufacturing source(s), process(es), inspection method(s), tooling, materials/alternate materials, or location of manufacture.

6.2.5 A change in the numerical control program or translation to another media.

6.2.6 A natural or man-made event, which can adversely affect the manufacturing process.

6.2.7 An implementation of corrective action required to complete a previous FAI.

6.2.8 A lapse in production for two years for any characteristics that may be impacted. This lapse is from the completion of the last production operation to the actual restart of production. 2.1.3 An approved First Article Inspection Report (FAIR) is required prior to the shipment of parts to L3Harris when a FAI is requested.

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- 6.3 A First Article Inspection Report (FAIR) is required with the shipment of parts to Axiom. Axiom reserves the right to require that the FAIR be delivered prior to part shipment. This requirement would be flowed down in the PO.
- 6.4 Order of Precedence. In the event of conflicting requirements during the FAI process, the following order of precedence shall be adhered to:
- 6.4.1 Purchase Order
 - 6.4.2 Technical Data Package
 - 6.4.3 Statement of Work
 - 6.4.4 Customer's FAI procedure
 - 6.4.5 Axiom's FAI procedure (this document)
 - 6.4.6 AS9102C
- 6.5 FAI Planning. The Supplier shall have a documented process to plan for FAI in accordance with AS9102C Section 4.1.
- 6.6 Performing/Documenting of FAI
- 6.6.1 FAIs will reflect Axiom's customer's part number and data, not Axiom part numbers.
 - 6.6.2 For FAIs, a representative part from the first production run shall be used to verify that the production processes, production documentation, and tooling have the capability to produce products that meet the established requirements.
 - 6.6.3 Any element of the process that does not constitute the final production process shall be identified and documented on the First Article Inspection Report. Some examples of this are New Product Introduction, interim/pre-production setup, tooling, or fixtures. An additional FAIR may be requested for the production-intent process.
 - 6.6.4 100% of dimensions, specifications, test requirements, and notes, defined in the Technical Data Package shall be evaluated/validated and reported.

Note: A Partial FAIR may be used when a part number has a minor deviation (i.e., new paint color, new label, additional component in a kit, etc.) from an existing part number submitted by the same supplier. The supplier shall reference the original part number and SSR number used as the baseline in identifying the changes/deltas.
 - 6.6.5 Any exemptions and deviations shall be clearly identified on the FAIR.
 - 6.6.6 The part(s) being measured shall be identified and the First Article Inspection results traceable to the part being measured.

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INDEX of part numbers or sub-assembly numbers required to make the assembly noted a			
15. Part Number:	16. Part Name:	17. Part Serial Number:	18. FAI Report Number:
3303822-001	PRINTED WRG BD	SN: 007-001 DC: 3821A	FAIR# T#47888 DC:3821A

6.6.7 Measurement techniques, test methods and equipment used to verify compliance shall be identified on the FAIR and are uniquely identified and traceable to their calibration records.

5. Char No.	6. Reference Location	7. Characteristic Designator	8. Requirement	GD&T Symbols	9. Results	10. Design / Qualified Tooling
13	S1 B-2	Minor	Note: INSTALL STANDOFF, FN 8, FAR SIDE. TORQUE TO 5.50 +/- .50 IN-1BS ABOVE RUNNING TORQUE. INSTALL STANDOFF, FN 8, FAR SIDE. TORQUE TO 5.50 +/- .50 IN-1BS ABOVE RUNNING TORQUE.	N/A	5.30 In-Lbs	Torque Driver ID # 243 Due: 9/07/2023

5. Char No.	6. Reference Location	7. Characteristic Designator	8. Requirement	GD&T Symbols	9. Results	10. Design / Qualified Tooling	11. Non-Conformance Number	14. Additional Data / Comments
36	S9 B-5	Minor	Flag Note: 11 CONFORMAL COAT USING FN 6, IAW IPC-CC-830C TYPE UR.	N/A	3.5 Mil.	AXION MYCRONIC SN: MYC50EFC005	N/A	Secondary Side. Coupon B. 3.5 mil. Refer to Certificate of Conformal Coat for SN:0056

6.6.8 When conformance to a requirement is provided by a third party or to Axiom Electronics directly, (e.g., environmental test results, functional test results etc.) the supplier shall obtain evidence of conformance to the requirement from Axiom Electronics and include that evidence in the FAI.

6.6.9 When a raw material or special process is identified in the specification/drawing, detailed raw material and special process certifications calling out the correct specification, material type, conditions, and approvals shall be included in the FAI.

6.6.10 When a machine readable (i.e., barcode, 2D matrix, etc.) label/marking is identified in the specification/drawing, an evaluation of the output shall be provided.

6.6.11 Suppliers are permitted to use their own forms if they can be submitted electronically. The supplier is responsible to ensure the forms contain the minimum necessary fields to the standard AS9102C, Form 1, 2 & 3 or and Axiom Electronics specific requirements prior to submission.

6.6.12 The following information is provided as instructions to complete the associated forms 1, 2, and 3 per AS9102C. Conditionally Required (CR) fields, depicted in bold italic font per AS9102C and in this document, shall be completed as applicable. Fields not applicable shall be filled in as "N/A" to demonstrate the FAI has been completely reviewed by the Supplier. Blank fields are not permitted.

6.6.12.1 Multiple design characteristics within a note shall have a unique identifier assigned for each characteristic. Sub-balloons will be individually listed and accounted for on Form 3.

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NOTES, UNLESS OTHERWISE SPECIFIED.

1. ① APPLICABLE STANDARDS/SPECIFICATIONS:
- A. DRAWING INTERPRETATION: ASME Y14.100 ①.1
 - B. LOGIC/SCHEMATIC DIAGRAM 3337165 ①.2
 - C. REFERENCE DESIGNATIONS, ELECTRICAL AND ELECTRONIC PARTS AND EQUIPMENTS: 7016735 ①.3

6.6.12.2 Basic dimensions shall have their variable data recorded on the FAI form 3.

6.6.12.3 If a part exceeds the specification for true position but is acceptable using the drawing bonus tolerance, then the supplier shall document this by the actual true position along with the words "Accept with Maximum Material Condition/Least Material Condition" in the results column.

6.6.12.4 If the drawing / specification allows the use of multiple methods or alternate details, ensure the actual method /detail used is clearly indicated on Form 3. (Example: "Part marking per Method 8 or 9", indicate which method is used on Form 3)

6.6.12.5 Flag notes and find numbers shall be uniquely identified. This includes a unique characteristic number for each location within the notes and within the field of the drawing. Form 3, block 8 shall include the flag note/find number and the specified requirement for the Design Characteristic (i.e., the requirements as listed in the note or the detail part number). This is required to uniquely account for each application of the design requirement.

6.6.12.6 Traceability is an unbroken record of documentation that includes a means to uniquely identify a particular part (i.e., s/n, lot date code, etc.). For raw materials, full traceability to the original mill / OEM is required.

6.6.12.7 AS9102C Forms requirements and instructions included:

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FORM	Field #	Requirement	Description
FORM 1	Field 1	(R) – Required	Complete part number as defined on the Purchase Order
	Field 2 2. Part Name:	(R) – Required	Name of the part
	Field 3	<i>(CR) – Conditionally Required</i>	Serial number of the FAI part; unique identifier assigned to a detail part, sub-assembly, or assembly by the organization or customer.
	Field 4 4. FAIR Identifier:	(R) – Required	Reference number to the FAIR. Axiom Electronics Requirement: Blank or N/A is not permitted, supplier shall assign a unique identifier.
	Field 5	<i>(CR) – Conditionally Required</i>	Part revision level. N/A for detail parts that do not have a part level revision.
	Field 6 6. Drawing Number:	<i>(CR) – Conditionally Required</i>	Drawing number
	Field 7	<i>(CR) – Conditionally Required</i>	Drawing revision level
	Field 8 8. Additional Changes:	<i>(CR) – Conditionally Required</i>	Additional changes Provide reference numbers of any changes that are incorporated in the product, but not reflected in referenced drawing/part revision level (e.g., change in design, engineering changes, manufacturing changes, deviation, or exclusion from certain drawing or DPD requirements).
	Field 9	(R) – Required	Manufacturing process reference (Work Order number, router, etc.).
	Field 10 10. Organization Name:	(R) – Required	Organization name performing FAI
	Field 11	(R) – Required	Supplier code provided by Axiom Electronics
	Field 12 12. P.O. Number:	(R) – Required	P.O. Number and line item

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FORM	Field #	Requirement	Description
FORM 1 <small>(cont.)</small>	Field 13	(R) – Required	Select Detail Part if no parts are assembled to make the part, or Assembly FAI if several parts are required to make the part. (Complete fields 15 to 18 in this case).
	Field 14 <div style="border: 1px solid black; padding: 2px; margin: 5px 0;"> 14. Full FAI <input type="checkbox"/> Partial FAI: <input type="checkbox"/> Baseline Part Number (including revision level): Reason for Full / Partial FAI: </div>	(R) – Required	Full FAI or Partial FAI: Check the appropriate box. For a partial FAI, provide the previous part number, including revision level. Baseline Part Number (including revision level): For a partial FAI, provide the previous FAI part number or approved configuration (including revision level). Reason for Full/Partial FAI: Describe the reason [e.g., new part number, lapse in production, changes in design, process, or manufacturing location].
	Field 15	(CR) – Conditionally Required	Enter the detail part number or next level sub-assembly part number.
	Field 16 <div style="border: 1px solid black; padding: 2px; margin: 5px 0;">16. Part Name:</div>	(CR) – Conditionally Required	Enter part name
	Field 17	(CR) – Conditionally Required	Enter whether the part is a detail part, sub-assembly, software, standard catalogue item, or COTS (or equivalent).
	Field 18 <div style="border: 1px solid black; padding: 2px; margin: 5px 0;">18. FAIR Identifier:</div>	(CR) – Conditionally Required	Enter FAIR # for the item in Field 15. Axiom Electronics Requirement: For Standard, off-shelf, COTS, Industry ctd items (e.g., MS, NAS, AS, etc.), List/C of C number
	Field 19 <small>Does FAIR contain a Documented nonconformance? Yes NO</small>	(R) – Required	When a nonconformance(s) has been documented in the FAIR, check "Yes" (Based on section 6.20 Nonconformance requirements of this document).
	Field 20 <div style="border: 1px solid black; padding: 2px; margin: 5px 0;">20. FAIR Verified By:</div>	(R) – Required	Legible identification of the person verifying the evaluation activities
	Field 21	(R) – Required	Printed name or unique id, and signature of the person reviewing FAI.
	Field 22 <div style="border: 1px solid black; padding: 2px; margin: 5px 0;">22. FAIR Reviewed/Approved By:</div>	(R) – Required	Legible identification of the person from the organization who reviewed and approved the FAIR. Should not be the same individual identified in field 20.
	Field 23	(R) – Required	Date when field 22 was populated.
	Field 24 <div style="border: 1px solid black; padding: 2px; margin: 5px 0;">24. Customer Approval:</div>	N/A	For customer use only
Field 25	N/A	For customer use only	
Field 26 <div style="border: 1px solid black; padding: 2px; margin: 5px 0;">26. Comments:</div>	(O) – Optional	Provide any supporting comments (e.g., associated nonconformance information, identification of associated documentation).	

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FORM 2	Field 1	(R) – Required	Complete part number as defined on the Purchase Order
	Field 2 2. Part Name:	(R) – Required	Name of the part
	Field 3	(CR) – Conditionally Required	Serial number of the part
	Field 4 4. FAIR Identifier:	(R) – Required	Reference number to the FAIR. Axiom Electronics Requirement: Blank or N/A is not permitted, supplier shall assign a unique identifier.
	Field 5	(CR) – Conditionally Required	Name of applicable materials and/or special processes.
	Field 6 6. Specification Number:	(CR) – Conditionally Required	Material specification, material form (e.g., sheet, bar) special process specification, including class (if applicable), standard non-modified COTS. ** Non-modified standard catalogue items, when part of an assembly, are listed on Form 1.
	Field 7	(O) - Optional	Any required code from the customer for material or process listing, as applicable.
	Field 8 8. Supplier:	(CR) – Conditionally Required	Identify organization (internal or external) performing special processes or supplying material. Name, Address, Cage Code (when available).
	Field 9	(CR) – Conditionally Required	Yes = "if approved", N/A = if customer approval is NOT required. Note: The majority of the time this will be N/A. When NADCAP approved suppliers are required, enter "Yes".
	Field 10 10. Certificate of Conformance Number:	(CR) – Conditionally Required	The applicable certificate number (e.g., special process completion certification, raw material test report number, modified standard catalogue item compliance report number, traceability number). When certification number is recorded, include applicable certification in FAIR package.
	Field 11	(CR) – Conditionally Required	Functional Test Procedure number identified as a design characteristic.
	Field 12 12. Acceptance Report Number:	(CR) – Conditionally Required	The functional test certification indicating that test requirements have been met.
	Field 13	(O) - Optional	Provide supporting comments, as applicable.
	Field 14 14. Signature	(R) – Required	Printed name or unique id, and signature of the person preparing the FAI.
	Field 15	(R) – Required	Date completed
FORM	Field #	Requirement	Description
	Field 1	(R) – Required	Complete part number as defined on the Purchase Order

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FORM 3	<div style="border: 1px solid black; padding: 2px; display: inline-block;">1. Part Number:</div>		
	Field 2	(R) – Required	Name of the part
	<div style="border: 1px solid black; padding: 2px; display: inline-block;">2. Part Name:</div>		
	Field 3	(CR) – Conditionally Required	Serial number of the part
	Field 4	(R) – Required	Reference number to the FAIR.
	<div style="border: 1px solid black; padding: 2px; display: inline-block;">4. FAIR Identifier:</div>		L3Harris Requirement: Blank or N/A is not permitted, supplier shall assign a unique identifier.
	Field 5	(R) – Required	Unique, assigned number for each design characteristic that correlates to ballooned document.
	<div style="border: 1px solid black; padding: 2px; display: inline-block;">5. Char. No</div>		
	Field 6	(CR) – Conditionally Required	Location of the design characteristic [e.g., drawing zone (page number and section), DPD model location, specification callout].
	<div style="border: 1px solid black; padding: 2px; display: inline-block;">6. Reference Location</div>		
	Field 7	(CR) – Conditionally Required	As applicable, a unique identification for special requirements, Key characteristics, Critical components (may require additional process control).
	<div style="border: 1px solid black; padding: 2px; display: inline-block;">7. Characteristic Designator</div>		
Field 8	(R) – Required	Complete requirement as defined per drawing, DPD, etc. * The organization shall record the software revision for embedded or deliverable software.	
<div style="border: 1px solid black; padding: 2px; display: inline-block;">8. Requirement</div>			
Field 9	(R) – Required	List measurement(s) obtained for the design characteristics. For multiple characteristics list each as individual values or list once with the minimum and maximum of measured values attained. Include evidence of measurements from exportable report.	
<div style="border: 1px solid black; padding: 2px; display: inline-block;">9. Results</div>			
Field 10	(CR) – Conditionally Required	Record the tool identification number when design tooling or specially designed tooling. This includes when Numerically Controlled (NC) programming is used as a method of inspection for acceptance of the characteristic. • When qualified tooling is used for attribute acceptance, record the gauge value or range.	
<div style="border: 1px solid black; padding: 2px; display: inline-block;">10. Designed / Qualified Tooling</div>		Axiom Electronics Requirement: When no designed / qualified tooling is used, record the gauge type and calibration ID.	
Field 11	(CR) – Conditionally Required	If the characteristic is found to be nonconforming, follow in accordance with Section 6.20 of this document and record a nonconformance document reference number (NCR reports are to be closed upon FAIR submittal).	
<div style="border: 1px solid black; padding: 2px; display: inline-block;">11. Nonconformance Number</div>			
Field 12	(O) – Optional	Provide any supporting comments or information.	
<div style="border: 1px solid black; padding: 2px; display: inline-block;">12. Additional data/ comments</div>			

6.6.12 When design requirements are in a DPD (Digital Product Definition) format and traditional 2D drawing information is not available for all applicable design requirements, DPD design characteristics required for product realization shall be extracted, verified, and included in the FAIR. The preferred method is to use software that can extract the DPD design characteristics and clearly identify them in the FAIR as objective evidence. As a general guideline, most drawings are provided as Simplified Drawings or Limited Dimension Drawings and only critical part features are defined on the drawing. Refer to the notes section on the drawing which will specify the specific tolerances for features that are not defined on the drawing. To ensure accurate and standardized measuring techniques between suppliers, the following minimum point density chart for feature types should be followed for touch probe measurement.

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Feature Type	Feature Size	Point and Level Density
Plane	Plane/Surface < 5 in ²	5 points per 1 in ²
	Plane/Surface ≥ 5 in ²	2 points per 1 in ²
Cylinder	Length < 1in	2 levels minimum, Top, and bottom
	Length ≥ 1in	3 levels minimum, Top and Bottom
Diameter	Diameter < .500in	5 points per level
	Diameter .500in – 6.0in	8 points per level
	Diameter >6.0in	12 points per level
Radius	< .500in	Manual measurement
	≥ .500in	5 points minimum
Sphere	All sizes	3 levels minimum
Cone	Length < .500in	5 points per level, 2 levels minimum
	Length ≥ .500in	8 points per level, 3 levels minimum
Slot	< .500in	Manual measurement of radius. Refer to plane for width and depth. Refer to radius when slot is curved.
	≥ .500in	5 points minimum. Refer to plane for width and depth. Refer to radius when slot is curved.

6.6.13 Providing conforming results to the general Profile of a Surface callout and associated specific feature tolerance is acceptable when the supplier provides objective evidence that all design characteristics have been measured and correctly applied to the applicable tolerance on the drawing.

6.6.14 How suppliers extract this data will vary depending on the supplier's available inspection equipment, personal skills or capabilities, and the specific design requirements of the components and is ultimately up to the supplier to establish a process that extracts, verifies, and documents this data. If manual measurement verification is the suppliers preferred or only method for inspection, objective evidence shall be included in the FAIR which defines each DPD design characteristic, tooling used for inspection and the respective inspection results.

6.7 Balloon Document

6.7.1 The FAI report package shall include a ballooned document which assigns a unique number to each design characteristic that is traceable to Form 3, Field 5 (Characteristic Number), to facilitate review and approval.

6.8 FAI Submission

6.8.1 All FAIRs shall be submitted electronically to Axiom Electronics' Buyer.

6.8.2 The supplier may only submit a FAIR for a single part number.

6.8.3 FAIR submission should be submitted as specified in the Purchase Order.

6.8.4 Approval of the First Article by Axiom Electronics shall not relieve the supplier of the responsibility to consistently provide products that conform to the requirements.

6.9 FAIR Documentation

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- 6.9.1 Completed AS9102C Forms 1, 2 & 3 or equivalent (all 3 forms are required for both full and partial FAIs).
- 6.9.2 Subassembly or component part FAIRs per section 6.17.
- 6.9.3 Ballooned document required for full FAI and partial FAI, if applicable.
- 6.9.4 Photograph or replication of all marking (required for full and partial FAIs, if applicable)
- 6.9.5 All part marking as indicated on drawing must be accounted for.
- 6.9.6 For 2D part marking, a legible copy of the 2D matrix marking and the human readable print out shall be included. For 2D matrix / machine readable requirements, a legible copy of the 2D matrix mark, the human readable content, UID/2D marking objective evidence must be part of the FAI package to verify and validate readability and content.
- 6.9.7 All Hardware, Material, and Process Certifications shall be included.
- 6.9.8 Copies of approved nonconforming material documentation (Deviations, Waivers, etc.) as applicable to the FAI.
- 6.9.9 Acceptance Test Data (or other test documents) including results of testing, test equipment and test equipment identification number(s).
- 6.9.10 If requested by Axiom Electronics, completed manufacturing or inspection records (e.g., Inspection reports or Traveler with operator/inspection signoff for FAI part.).

6.10 Specifications on Drawings

- 6.10.1 Supplier shall review all the specifications called out on the drawing and Purchase Order. This is inclusive of any specifications embedded within other specifications noted on the drawing and the supplier will retain the responsibility in meeting the applicable provisions defined in the respective specifications.
- 6.10.2 Embedded specifications, (Nondestructive Testing, supplemental inspection plans, etc.) which have measurable final dimensions or acceptance criteria on the finished product and delineated in the callout of the requirement (Specified plating thickness, continuity acceptance testing, NDT scan plans, etc.), shall be considered a characteristic, ballooned, and documented within the FAIR package.

6.11 Design Specifications Called Out on a Drawing

- 6.11.1 It is very common for engineering to utilize design specifications in conjunction with the manufacturing drawing to define features in whole or partially. If

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characteristics are defined in the released engineering document by referring to a design specification (Thread Insert Specification, AS5202 Port specifications, AS1098 end fittings, etc.) then these characteristics shall be extracted and accounted for on the FAI.

6.11.2 All applicable characteristics must be accounted for on Form 3 by ballooning the actual design specification or clearly identifying the appropriate design specification characteristics on Form 3.

6.11.3 Title Block, Engineer Signoff table, Tolerance requirements, Third Angle Projection, Application, ITAR Notes, CAD Maintenance and Revision History table do not require a characteristic.

6.12 COTS and Modified COTS

6.12.1 Unless otherwise specified by Axiom Electronics, commercially available off-the-shelf (COTS), Mil-Spec items and Reworked hardware that was returned to the supplier from Axiom Electronics, are excluded from this FAI requirement.

6.12.2 Modified COTS shall adhere to all applicable sections of this document for all features that deviate from the Original Equipment Manufacturer (OEM) design requirements. Modified COTS are not considered similar parts and cannot be satisfied by a previous approved FAI of the derived baseline part number.

6.13 Superseded or Canceled Specifications

6.13.1 The applicable revision of all specifications, military specifications and standards, test practices, guides, technical bulletins, etc. associated with this order is the revision in effect at the time of Purchase Order/last supplement date unless otherwise noted in the requirements. In the event that a superseded specification is called out on an engineering document, attach evidence of supersession. Note: The revised specification shall be available for review, however it does not need to be included in the FAI documentation package.

6.13.2 If a canceled specification is called on an engineering document, the supplier shall notify Axiom Electronics for direction to ensure a suitable replacement has been made and in the event that the specification was replaced, to verify it still meets or exceeds the requirements of the preceding specification and component design.

6.14 Assemblies

FAI's shall be performed to the engineering drawing and digital product definition on all assemblies and detail parts which are manufactured or purchased. For detail FAI's where sub-component part numbers and components are defined on the assembly parent drawing or DPD files, the following information is required:

6.14.1 If the supplier manufacturers an assembly that contains parent-sub-component part numbers, a full detail FAI is required on each sub-component part number

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they manufacture if the parent (Baseline) part number is different than the FAI part.

- 6.14.2 For any assembly, a separate, detailed configuration list shall be supplied as part of the FAI package. For any assemblies built to engineering drawings, the supplied parts list shall satisfy this requirement.
- 6.14.3 If a sub-component part number is source controlled for an assembly, the supplier shall provide a Certificate of Conformance from the source-controlled provider and an approved FAI as objective evidence for part conformity.
- 6.14.4 For any sub-component part numbers that are supplied by Axiom Electronics, the supplier shall provide the packing slip, shipping authorization or any other supporting documentation provided by Axiom Electronics which endorses that the parts were conveyed to the respective supplier. The aforementioned documentation shall be used to provide a traceability number and recorded in Form 1, Field 18.
- 6.14.5 Any gaskets, O-rings, seals, or epoxies that list shelf life or expiration dates shall be included in the FAI documentation package with the manufacturers or distributors Certificate of Conformance that lists the expiration date.
- 6.14.6 A First Article Inspection Report (FAIR) is required with the shipment of product to Axiom. Axiom reserves the right to require that the FAIR be delivered prior to product shipment. This requirement would be flowed down in the PO.
- 6.14.7 First Article Inspections for source controlled drawings shall be completed for all design characteristics depicted on the engineering drawing.
- 6.14.8 The suppliers internal FAI shall include objective evidence of a Bill of Materials (if applicable) and configuration management control.
- 6.14.9 The supplier shall verify and validate that all the parent and sub-component part numbers that are listed on Form 1 of the respective FAI, meets all the design requirements of the applicable configuration.

6.15 Authorized Distributor (AD) FAI Requirements

Authorized Distributors for Axiom Electronics are required to flow down all First Article Inspection requirements (as applicable) to the pertinent manufacturer. The AD is permitted to submit the manufacturers First Article Inspection Report to Axiom Electronics if the manufacturer completed the FAI to the engineering drawing and meets all applicable sections of this document. If not, the AD will retain the responsibility to furnish a conforming FAI to this standard. Additionally, if the AD uses the manufacturers completed FAI, the distributor shall complete their own individual Form 1, with fields 15, 16, 17 and 18 referencing the manufacturers FAIR and furnish a copy of the manufacturers Purchase Order when submitting the FAI package to Axiom Electronics for approval. If the AD completes the FAI, it shall meet all the applicable requirements per AS9102C.

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6.16 Non-conformance Requirements

6.16.1 When a nonconformance is identified during or after the initial FAI, which requires Axiom Electronics disposition, the supplier shall be responsible for ensuring that the nonconformance is documented in accordance with AS9102C Section 4.5 Nonconformance Handling. If the supplier is submitting an FAI with nonconformances, the supplier shall notify Axiom Electronics and define the design characteristic(s) that are nonconforming and provide reference to the respective nonconforming FAI submission. Regardless of the Axiom Electronics disposition, the organization shall submit a partial FAI for all affected characteristics on the next production run after implementation of all corrective actions. A full FAI may be done in lieu of a partial FAI.

6.17 RECORD RETENTION

The Supplier shall ensure all records and traceability are in accordance with AWI000072 Supplier Quality Codes, Axiom Electronics Terms and Conditions and this document.

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