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REVISION HISTORY				
Revision No.	**Date**	**Revision Description**	**Point of Contact**	**Pages Modified**
Initial	11/7/2022	Initial Release	Ken Huggins	N/A
ADM (A)	9/19/2023	Replaced Martin UAV / MUAV with Shield AI	Ken Huggins	All
B	2/24/2024	Updated SQAR code list and verbiage throughout the document	Will Carcedo & Zach Nixon	All
C	6/21/2024	Updated SQAR codes to add detail and remove ambiguity.	Will Carcedo & Matt Crane	All
D	5/6/2025	Adjusted SQAR table to fit on page within correct section 8. Updated SQAR 06 for FAI requirements	Jared Tonge	5, 7, 8
E	10/22/2025	Updated the SQAR 06 requirements to align with the SOP-SCM-0045 requirements	Jared Tonge	7, 8
F	2/10/2026	Updated SQAR to Quality Clauses (SQ). Moved SQAR 00-03, 05, 10-11, 17, 19-20 to Supplier Quality Manual, POL-SCM-10008(A). Renumbered and added clauses. Alphabetized List of Acronyms	Caroline McGlynn	All
G	04/02/2026	Added QC16 and QC 17. Added Grandfather statement for SQAR.	Jared Tonge	All

		Added clarifying statement that the language within the QC is interpreted as beginning with a "when flowed on PO then…" Added expectation statement for NDAA 848 statement on paperwork submitted. Clarified COO flowdown. Updated QC 5 to clarify the source inspection expectation. Updated QC 8 to clarify the no paperwork required statement. Updated formatting, removed unused acronyms, removed excess spacing.		
H	05/04/2026	Corrected QC11 to say 10 instead of 9	Jared Tonge	
I	10/28/2026	Updated QC14 to require 3rd party raw material verification Added QC18	Jared Tonge	16, 17

TITLE: Quality Clauses

1.0 Purpose

This document contains the Quality Clauses (QC) which will be delineated by part or service. The QC code may be specified in the purchase order (PO) provided to the Supplier by Shield AI, hereinafter referred to as SAI. Supplier understands and acknowledges that with the acceptance and order acknowledgement of every SAI PO, the QCs are in full effect for the duration of that purchase order.

NOTE: As of Rev F all quality clauses were updated from SQAR codes to QC codes. The intent is for purchase orders to adopt the QC codes as new purchase orders are released. If issued a purchase order form Shield AI that contains the SQAR codes, this is still acceptable per Rev E. If you would like a copy of Rev E and/or have any questions please reach out to your Shield AI contact.

2.0 Scope

All purchase orders that reference this document, in whole or in part are within the scope of requirements outlined in this standard operating procedure

3.0 Authority and Accountability

The Supplier Development Engineer (SDE) has the authority to develop and modify this document and is responsible for ensuring the process delivers the intended results.

4.0 Supplier Acknowledgement

The supplier understands and acknowledges that all previous terms and conditions are hereby superseded with this QC document. SAI ensures the adequacy of requirements prior to generating a PO to suppliers. SAI reserves the right to modify these quality clauses without written notice to suppliers. The revision history for this supplier quality clause guide will always be incorporated into this document for transparency.

TITLE: Quality Clauses

5.0 Responsibilities

Department/Role	Responsibility
Supplier Development Engineer (SDE)	Collaborate with Suppliers and SAI Procurement to ensure the QCs outlined in the document are met.
Procurement	Maintain communication with Suppliers to ensure requirements are understood and met.
Supplier	It is the responsibility of the Supplier to read and comply with those requirements specified in the PO and contact SAI's authorized Purchasing Representative with any questions. The Supplier is responsible for ensuring that this document is reviewed and applied during all phases of performance under the PO.

6.0 List of Acronyms

AQL – Acceptable Quality Limit

CoC – Certificate of Conformance

DOM – Date of Manufacture

ESD – Electrostatic Discharge

FAI – First Article Inspection

FAIR – First Article Inspection Report

FOD – Foreign Object Debris

IUID – Item Unique Identification

MTS – Made to Specification

PO – Purchase Order

QC – Quality Clause

SDE – Supplier Development Engineer

SDR – Supplier Deviation Request

UAI – Use-As-Is

TITLE: Quality Clauses

7.0 Procedure

SAI may assign parts a Commodity Code based on good, product and/or service type provided. The purpose of the Commodity Code is to ensure that relevant Quality Clauses are flowed down to Suppliers. The Commodity Code is in no way a reflection of the Supplier's score or rating.

QC Codes shall be clearly notated on every Purchase Order when required by Shield AI.

Language within all the QC Codes below should be interpreted as "when flowed on the purchase order line then..."

8.0 Quality Clauses

QC Number	Requirement
QC 1	CERTIFICATE OF CONFORMANCE
QC 2	FIRST ARTICLE INSPECTION (FAI)
QC 3	DELTA FAI
QC 4	INSPECTION AND INSPECTION REPORT (FURNISHED WITH SHIPMENT)
QC 5	SOURCE INSPECTION
QC 6	FUNCTIONAL TESTS
QC 7	SPECIAL PROCESS CERTIFICATION
QC 8	PRODUCT SERIALIZATION
QC 9	ELECTROSTATIC DISCHARGE (ESD)
QC 10	MATERIAL SHELF LIFE
QC 11	NDAA 848 REQUIREMENTS
QC 12	LOT CONTROL REQUIREMENTS
QC 13	MATERIAL TRACEABILITY
QC 14	MATERIAL TEST RESULTS
QC 15	PCBA MANUFACTURING AND QUALITY REQUIREMENTS
QC 16	PCB MANUFACTURING AND QUALITY REQUIREMENTS
QC 17	PCB FIRST ARTICLE INSPECTION REQUIREMENTS FOR QUALIFICATION

TITLE: Quality Clauses

QC 1: CERTIFICATE OF CONFORMANCE

Certificate of Conformance shall state that the supplied material, part, or service was made/delivered and tested in accordance with required specifications and provides for traceability back to the original source for all procured items.

For Shield AI IP part numbers, CoC should identify at minimum:

1. Manufacturer's name and address
2. SAI purchase order number and line item
3. Purchase order quantity and quantity shipped
4. SAI drawing number and revision
5. SAI part number (and manufacturers part number, if applicable)
6. Traceability (if applicable)
7. Supporting documentation of compliance to contract or purchase order requirements (such as Supplier Deviation Requests)
8. Seller's part number and revision when specified as part of SAI drawing requirement
9. Signature/stamp, title, and date by an authorized representative of the supplier

For Supplier IP part numbers, a packing list is sufficient but should identify at minimum:

1. Supplier's name
2. SAI purchase order number and line item
3. Material quantity
4. Supplier's part number
5. Traceability (if applicable)

Expectation: Fulfilling this QC requires physical and/or electronic paperwork to be provided with the shipment.

TITLE: Quality Clauses

QC 2: FIRST ARTICLE INSPECTION (FAI)

FAIs shall be performed by Suppliers on build to print parts to verify that all items conform to SAI specifications. If Supplier is manufacturing this part number and/or part revision for the first time, one part (first article) shall be submitted to SAI for approval prior to shipment of the remaining order.

The Supplier shall perform a First Article Inspection (FAI) in accordance with AS9102 latest revision, or in a format agreed upon with the Supplier Development Engineer, for this purchase order if one of the following apply:

1. First time submission (part or supplier)
2. Revision change affecting form, fit, function (see **QC 3**)
3. Manufacturing process change including but not limited to:
    i. Changing machines
    ii. Different cutters
    iii. Temp/cure profiles
4. Change in materials, subcomponents, sub-tier changes up to tier 2
5. Change in manufacturing location
6. At SAI request

FAI results shall be recorded during the production build process. The completed FAI report shall contain:

1. AS9102 forms 1, 2 & 3 (or equivalent)
2. Bubbled drawing
3. CoC, material & special process certification
4. Approved Supplier Deviation Request (SDR) (if applicable)
5. IUID quality report for all IUID labels as specified by the drawing

Supplier shall deliver a complete copy of the SAI approved FAI report and supporting data with the shipment containing the first article part(s). Any features/details such as crimped, soldered pins, shielded terminations and solder splices or other components concealed by connectors such as heat shrink, Expando, braided shield, potting, etc., must be

photographed and submitted with the first piece (FAI). SAI reserves the right to witness FAI(s).

In addition, First Article Inspection Reports (FAIR) and supporting documents shall be submitted electronically to the respective SAI Supplier Development Engineer (SDE) and respective buyer prior to shipment of First Article parts. These documents should be submitted, reviewed, and signed off by the SAI SDE at least one week prior to shipment. Taking exception to this must be mutually agreed upon by both the supplier and SDE.

Expectation: Fulfilling this QC requires physical and/or electronic paperwork to be provided with the shipment

QC 3: DELTA FAI

When there is a revision change for any part that affects form, fit, and/or function, a Delta FAI shall be submitted to SAI. The requirements of this FAI shall be determined by the Supplier Development Engineer, and may include the following:

1. Updated bubbled drawing
2. Inspection/Dimensional report
3. Functional test data
4. CoC, material & special process certification

Expectation: Fulfilling this QC requires physical and/or electronic paperwork to be provided with the shipment.

QC 4: INSPECTION AND INSPECTION REPORT (FURNISHED WITH SHIPMENT)

Supplier is required to submit inspection report with each shipment that ensures all parts are machined in accordance with SAI drawing specifications. Supplier shall record (after final finish) all mechanical/dimensional features on one part from each lot/batch shipped against purchase order.

Actual dimensions for each mechanical/dimensional feature, the minimum and maximum tolerance range, gauge/tool, and calibration dates for said gauge/tool must be part of the inspection report. Inspection reports must denote actual measurement values.

TITLE: Quality Clauses

This inspection report document shall be signed and/or stamped by a member of the supplier's quality assurance group.

The remainder of the lot shall be inspected in accordance with ANSI General Inspection Level II, AQL=1.5%.

Risk-Based AQL Level (%)	0.10	0.65	1.5	4.0
Lot Size	Sample Size (A = All)			
1 to 8	A	A	A	3
9 to 15	A	A	8	3
16 to 25	A	20	8	3
26 to 50	A	20	8	5
51 to 90	A	20	8	6
91 to 150	125	20	12	7
151 to 280	125	20	19	10
281 to 500	125	47	21	11
501 to 1,200	125	47	27	15
1,201 to 3,200	125	53	35	18
3,201 to 10,000	192	68	38	22
10,001 to 35,000	294	77	46	25
35,001 to 150,000	294	96	56	29
150,001 to 500,000	435	119	74	29
500,001 and over	345	143	64	29

The acceptance of product using statistical sampling does not relieve the supplier from the responsibility of delivering all products conforming to SAI specification/drawing requirements.

Expectation: Fulfilling this QC requires physical and/or electronic paperwork to be provided with the shipment.

QC 5: SOURCE INSPECTION

Source inspection is required prior to shipment of articles from the Supplier's facility. Upon receipt of this order and prior to commencing work, promptly notify the SAI Supplier Development Engineer or Procurement Representative so the appropriate inspection plan can be coordinated. SAI reserves the right to perform in-process inspection, in-process surveillance, and audits for the duration of this purchase order.

TITLE: Quality Clauses

When source inspection is required by contract or purchase order, the Supplier shall notify SAI's authorized Purchasing Representative and Quality Representative ten (10) business days prior to the inspection of articles or materials. Source inspection shall be conducted by the Quality Representative at Supplier's facility or where designated in the purchase order.

The Supplier shall facilitate the product inspection and acceptance process at their site with SAI and provide evidence that all product requirements have been met. The Supplier shall make available all applicable drawings, specifications, procedures, statements of work, SAI's purchase order, test software and changes thereto, related inspection and/or test equipment, and such other information as may be required to satisfactorily perform the inspections and tests required under this order.

Evidence of source inspection shall be provided with each shipment. If a completed source inspection checklist is provided at the time of the inspection activity, this document shall be included with the shipment.

Source inspection does not relieve the Supplier of responsibility for nonconforming hardware found at SAI's facility. Final acceptance of product delivered under this subcontract occurs at SAI's facility.

Expectation: Fulfilling this QC requires physical and/or electronic paperwork to be provided with the shipment that shows approval from Shield AI for the source inspection.

QC 6: FUNCTIONAL TESTS

Each completed part/assembly delivered must be functionally and/or electrically tested, as applicable, as stated in the drawing, and/or as agreed upon between supplier and SAI. Each test data package shall reflect the actual results of each parameter tested. Test data must be signed and dated by the test conductor, as certification that the item(s) shipped have been functionally tested and meet all the requirements of the functional test. A copy of this data packet must accompany each item being delivered.

Expectation: Fulfilling this QC requires physical and/or electronic paperwork to be provided with the shipment.

TITLE: Quality Clauses

QC 7: SPECIAL PROCESS CERTIFICATION

Special processes are defined as any process for production outlined on the purchase order or drawing(s) such as plating, anodization, heat treating, paint, chemical coating, etc. The Supplier shall include in each shipment a signed/stamped

certification for each associated special process. The special process certification shall identify at a minimum:

1. Manufacturer's name
2. SAI part number and revision
3. The special process specification, grade, class, and type
4. Quantity
5. Date special process was performed
6. Hardness test result(s) (if applicable)

If the Supplier is not the manufacturer, the Supplier shall provide a legible copy of the original manufacturer's special process certification.

Expectation: Fulfilling this QC requires physical and/or electronic paperwork to be provided with the shipment.

QC 8: PRODUCT SERIALIZATION

Suppliers shall maintain traceability to the original source of components. Serial number schemes shall be developed, controlled, and implemented by Supplier, unless otherwise specified, and approved by authorized Purchasing Representative. The Supplier shall maintain documented procedures for identification of product from receipt through processes of production (if required) and delivery.

When serialized, each deliverable part, assembly, or end item shall be serialized sequentially and consecutively. Serial numbers shall be unique for each part number and must be used once only.

Expectation: This should be physically reflected on the part and a list of serial numbers to be shipped must be printed on the packing slip or delivery attachment.

QC 9: ELECTROSTATIC DISCHARGE (ESD)

Supplier shall document and implement an ESD control program in accordance with ANSI/ESD-S20.20, ESD association standard for the development of an electrostatic discharge control program for protection of electrical and electronic parts, assemblies, and equipment (excluding electrically initiated explosive devices). Parts must be properly packaged and identified as required in ANSI/ESD-S20.20.

All Electrostatic Discharge-sensitive goods shall be placed in conductive or static-dissipative packages, tubes, carriers, conductive bags, etc., for shipment. The packaging must be clearly labeled to indicate that it contains electrostatic sensitive goods. Electrical parts or assemblies that are used or shipped in conjunction with ESD sensitive parts shall be treated as ESD sensitive.

Expectation: This should be physically reflected on the part and/or process. No paperwork required.

QC 10: MATERIAL SHELF LIFE

Each container of limited shelf-life material shall have the shelf-life expiration date clearly marked on the container and/or annotated in certifications provided with the material. Material furnished in kits consisting of two or more components must have equal shelf-life dates.

Material shipped with less than 75% of the shelf life remaining shall result in the rejection of the material. Supplier shall deliver on its certificate of conformance the following information regarding any consumable with a date of expiry.

1. Date of manufacture
2. Lot and/or batch number
3. Expiration date

Expectation: Fulfilling this QC requires physical and/or electronic paperwork to be provided with the shipment.

TITLE: Quality Clauses

QC 11: NDAA 848 Requirements

All parts and/or materials that have this code must meet the criteria stated in section 848 of the FY20 NDAA, which bans purchase or operations of UAS with critical components manufactured in a covered country (expanded via FY23 NDAA, Section 817). A covered country means China, Russia, Iran, and North Korea. There are 10 categories of critical components:

1. Flight controller: The combination of embedded software on computing hardware, that issues commands to actuators based on the difference between the desired and actual position of a UAS.
2. Radio: A device that enables communication by packaging, transmitting, and/or receiving modulated signals into or from electromagnetic waves in the radio frequency (RF) spectrum.
3. Data transmission device: Electronic hardware that actively transfers electronic information from one digital system to another.
4. PCB/PCBA: Printed Circuit Boards and Assemblies.
5. Camera: A device that converts focused light onto a photosensitive sensor for the purpose of recording or transmitting visual images in the form of photographs, film, or video signals.
6. Gimbal: A mechanism, typically consisting of electromechanical actuators and a mechanical frame, which rotates about one or more axes to stabilize and properly orient cameras or other sensors.
7. Ground control system: An electronic mechanism that enables a human operator to transmit data to influence the actions of an aerial vehicle remotely.
8. Operating software: A program that directs a computer's basic functions, such as scheduling tasks, executing applications, and controlling peripherals.
9. Network connectivity: The hardware and software required for communication between computers over the internet or other distributed and separately administered systems, for example, with routers, switches, and gateways.

10. Data storage: The collective methods and technologies that capture and retain digital information on electromagnetic, optical, or silicon-based storage media.

Expectation:

- Fulfilling this QC requires physical and/or electronic paperwork to be provided with the shipment.
- Paperwork shall clearly allow the reviewer to confirm compliance against NDAA 848. This may take the form of an explicit statement of NDAA compliance, clearly indicating the country of origin/manufacture on the documentation, or pointing back to compliance against the purchase order/contract requirements when NDAA is flowed on the purchase order.

QC 12: LOT CONTROL REQUIREMENTS

All parts and/or materials and applicable documents must be identified by a manufacturing lot or batch number by the supplier or manufacturer. A lot is the quantity that has been manufactured during an uninterrupted period of manufacturing, following a standard process, and using the same equipment in the same facility.

When lot controlled, each deliverable part, assembly, or end item must be identifiable by a lot or batch number. Lot numbers shall be unique for each lot or batch and must be used once only, for this and any follow-on orders. A list of lot numbers to be shipped must be printed on the delivery sheet, packing slip or attachment.

Expectation: This should be physically reflected on the part and/or process. No paperwork required.

QC 13: MATERIAL TRACEABILITY

The Seller shall furnish a complete set of material certifications traceable to lot, batch, block, or heat number of the mill or original material manufacturer, along with its location. Certifications generated by the supplier shall be signed by the material supplier's authorized quality representative, and indicate the representative's title.

Certification to conflicting forms of material is forbidden.

TITLE: Quality Clauses

Seller shall provide material to specification with no exceptions or addendums. Material shall not be provided as "chemistry only," "capable," "heat-treatable," or with other specified exceptions unless explicitly requested on the controlling purchase order, drawing, or specification as appropriate.

When specified on the purchase order, raw material such as titanium, aluminum, etc. must have the appropriate heat lot identified on each piece for heat lot traceability. All remnant material returns must clearly retain all traceability.

Expectation: Fulfilling this QC requires physical and/or electronic paperwork to be provided with the shipment.

QC 14: MATERIAL TEST RESULTS

For non-proprietary materials, the Seller shall provide a Material Certificate of Analysis report that proves the material used in the order meets the required material specification.

For metallic material and composite materials, this Material Certificate of Analysis report must be from an independent/3rd party source separate from the original material manufacture or mill. A Material Certificate of Analysis from the mill alone is not sufficient.

Such reports shall be traceable to the lot, batch, block, or heat lot number of the original material manufacturer or mill.

All test results traceable to the materials supplied must be kept on file for a minimum of seven (7) years unless otherwise specified by the SAI purchase order.

Expectation: Fulfilling this QC requires physical and/or electronic paperwork to be provided with the shipment.

QC 15: PCBA MANUFACTURING AND QUALITY REQUIREMENTS

SAI designed PCBAs shall be built in accordance with SPEC-SCM-10002. This document outlines the qualification requirements and deliverables for electronics assemblies built by contract manufacturers.

QC16: PCB MANUFACTURING AND QUALITY REQUIREMENTS

TITLE: Quality Clauses

SAI designed Printed Circuit Board Fabrications (PCBs Fabs) shall be built in accordance with SPEC-SCM-10003. This document outlines the qualification and reliability deliverables for PCBs built by PCB fabrication suppliers.

QC17: PCB FIRST ARTICLE INSPECTION REQUIREMENTS FOR QUALIFICATION

SAI designed Printed Circuit Board Fabrications (PCBs Fabs) shall be built and qualified in accordance with SPEC-SCM-10004. This document is to be treated as supplemental to SPEC-SCM-10003 (PCB Manufacturing and Quality Requirements) for the purpose of defining the First Article Inspection requirements on flight pedigree hardware.

Expectation: Fulfilling QC requires physical and/or electronic paperwork to be provided with shipment

QC18: GENERATOR MANUFACTURING AND QUALITY REQUIREMENTS

SAI designed Generators, Rotors, and Stators shall be built and qualified in accordance with SAI-SPC-10008.

Expectation: Fulfilling QC requires physical and/or electronic paperwork to be provided with shipment