

Supplier Quality System Requirements

Document Number: SQP- 701

Current Revision: A10

1.0 SCOPE

The purpose of this document is to provide basic quality system requirements for Amphenol Network Solutions (ANS) Suppliers of components and/or customized components and/or parts and/or contract manufacturing. These requirements are needed to provide overall evidence of product and procedures meeting all of ANS specifications, regulatory, workmanship, and industry standards. ANS Suppliers must maintain ISO 9001:2000 registration to and/or operate in compliance with the requirements of TL9000 or ISO 9001:2000 Quality Management System Standards.

2.0 ISSUED BY/OWNER

Supplier Quality Engineer

3.0 DEFINITIONS

Telect, Inc. - is the legal entity for brand names including **Amphenol Telect**, **All Systems Broadband (ASB)**, and **Amphenol Network Solutions (ANS)**.

Amphenol Network Solutions (ANS) - is a brand name representing the legal entity of Telect, Inc., and/or its designated affiliates. Quotes, order acknowledgments, and packaging will reflect our Amphenol Network Solutions brand. All purchase orders and payments should be submitted to Telect, Inc.

4.0 PROCESS

4.1 Contract Review

4.1.1 ANS Suppliers must have a documented process for contract review that adequately addresses:

- Bill of Materials
- Drawings
- Approved Vendor List
- Regulatory Requirements
- Workmanship and Industry Standards
- Revision Control
- Supply Sources
- Process and Test Equipment Requirements
- Purchasing/ Production Capacity/ Planning
- Packaging
- Labeling
- Inventory/Storage

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- Shipping/ Logistics
- Lead times

4.1.2 Any conflicts regarding specifications must be resolved and agreed upon by both ANS and Supplier before build. The Supplier is expected to alert the ANS Buyer or Supplier Quality Engineer of any specifications that have not been defined by ANS documents but is deemed critical by the Supplier.

4.2 Material/Color Requirements

4.2.1 Approved materials and manufacturers for paint, powder coat, ink, and resin are identified on ANS drawings and/or ANS Workmanship Standards (TWS).

TWS-903 – Color and Plastic Material Specification

TWS-903a – Approved Paint Colors

4.2.2 All materials and coatings used to manufacture ANS products and parts must be RoHS and REACH compliant unless otherwise agreed upon in writing by the Amphenol Telect Buyer.

4.3 Document and Revision Control

4.3.1 Supplier is required to have an adequate system in place for documentation and drawing revision control to ensure use of the correct one. This system must include all areas such as Incoming inspection, Engineering, assembly, and final test and inspection.

4.4 Supplier Delivery and Quality Performance Report

4.4.1 ANS Suppliers are expected to monitor their Delivery and Quality Performance Report provided by the ANS representative.

4.5 Product Serialization System

4.5.1 Unless otherwise specified in the Technical Purchase Specifications (TPS) or drawing, Contract manufacturers are responsible for applying and maintaining a twelve (12) digit serialization system using ANS Purchase Order number as the first numeric characters and sequential numbering system for box builds and subassemblies. The numeric sequence must be representative as to when the unit was produced during the manufacturing process.

Example: Purchase Order 1234567 for 10 units would be 123456700001 through 123456700010.

4.5.2 Supplier is responsible for preventing duplication of serial numbers. If another order is placed using the same Purchase Order, the numbers need to be sequential starting with the number left off from previous order.

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Example: Purchase Order 1234567 for 10 more units would be 123456700011 through 123456700021.

4.6 Traceability of Raw Materials Used in Manufacturing (Job Kitting)

4.6.1 The Supplier is required to have materials/item traceability throughout the entire assembly and manufacturing processes. This applies to all raw materials, subassemblies and finished products. Records will be kept referencing the assigned job/serial number (ANS Purchase Order).

- Raw Materials - Upon receipt of raw materials, the item number and date of receipt need to be identified and tracked.
- Subassemblies - The following will be identified and tracked in processing material: item number, product identifier—job number or serial number, date/time, test results, and specific packaging for product.
- Finished Product - The finished product will have: a printed label identifying job number, date of manufacturing (DOM), and applicable product information as required by regulations, bill of materials, and/or drawing requirements. Traceability to individual serial number is required for finished goods.
- All jobs will be traceable to the raw materials used to product the product. Documentation will at a minimum include:
 - ANS part number
 - Manufacturer/Supplier
 - Date of manufacture
 - Purchase Order number/batch or lot number
 - Records must be easily accessed in case of product recall or for verification of processes.

4.7 First Article Process

4.7.1 First Articles are required for any part provided by a new Supplier, or when there are significant changes to molds or tooling, process and/or materials. This also applies to any new supply sources for the Supplier.

4.7.2 ANS requires Suppliers to perform all measurements, tests, and inspections per drawings, artwork files, materials, controlled color chip, regulations, industry standards and Workmanship Standards.

4.7.3 The Supplier is to ensure that all First Articles pass all specified requirements prior to shipping to ANS for approval.

4.7.4 The document controlled First Articles Form and instructions are available to the Supplier from the ANS Quality or Purchasing.

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NOTE: If Supplier is unable to meet all of ANS First Article requirements, Supplier must immediately notify the ANS Quality Assurance and/or Purchasing to expedite resolution.

4.8 Supplier Qualification and Monitoring System

4.8.1 ANS Suppliers must have a documented supplier qualification process that includes the following:

- Confirmation that supplier is not listed on the OFAC website:
<https://home.treasury.gov/policy-issues/office-of-foreign-assets-control-sanctions-programs-and-information>
- An Approved Supplier List (AVL)
- Compliance with ANS Approved Supplier List
- Defines Supplier Qualification Requirements
- Defines First Article and First Lot Inspection
- Monitoring of Delivery and Quality Performance
- Supplier's Corrective Action process
- Method of communicating and verifying ANS product requirements
- Document and Revision Control
- Process change notifications

NOTE: Suppliers on this list have been associated with terrorist support or activity. DO NOT USE ANY SUPPLIER ON THIS LIST!

4.9 In-line Process Controls

4.9.1 Critical processes that could affect quality during manufacturing or assembly of ANS parts or product need to be identified. Check points need to be applied to address defective parts at the earliest opportunity. Supplier is expected to ensure:

- their personnel have the correct information describing product requirements, and that processes are maintained within controlled conditions, and documented; and
- all necessary work instructions are readily retrievable; and
- the use and maintenance of suitable equipment is completed in a timely manner, including test fixtures; and
- all discrepancies are documented and monitored at appropriate intervals; and

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- the use of limit samples/Go-No Go Gauges, and jigs as needed to improve process consistency and prevent defects from moving on through the process; and
- the use of the appropriate electrical static discharge (“ESD”) equipment/clothing/ training/housekeeping per industry standards during handling for products requiring ESD protection and training; and
- product/parts are not released to next stage until all process activities are conducted.

4.10 Preventative Maintenance

4.10.1 ANS Suppliers are to maintain a list of equipment/tools used for producing Amphenol Telect product and maintenance scheduled detailing the tasks and timeframe for each. Supplier is required to document preventative maintenance activities. Adequate maintenance should be performed to help increase the life of equipment and tools and to prevent assembly line shutdowns.

4.11 Calibration System

4.11.1 Any measuring tools or test equipment that are used to validate that ANS product meets specification, must be identified and a schedule must be in place for periodic calibration by an authorized source and method. Supplier is to maintain these records and ensure test equipment/ tools are labeled with calibration date and next calibration due date. Any equipment/tools found to be out of calibration shall be visibly labeled as such to prevent use. Devices that do not require calibration will be also identified.

4.11.2 Approved Test Procedure/Equipment and Quality Test Plan

4.11.3 All test instructions, test equipment and Supplier’s quality test plan must be reviewed and approved by an ANS Test Engineer prior to use in production.

4.12 Traceability of Test Records to Product Serial Number

4.12.1 All test results need to be recorded and traceable to the serial number and date of manufacture. The records must be available upon ANS request.

4.13 Segregation and Identification of Non-Conforming Parts/Products

4.13.1 Product that does not conform to ANS product requirements will be identified and controlled to prevent unintended use. The controls, responsibilities, and disposition of the non-conforming product must be documented by Supplier in a Non-Conforming Procedure.

4.14 Corrective Action System

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4.14.1 ANS Suppliers need to have a Corrective Action process which ensures:

- Suspected inventory is identified and isolated to prevent shipping.
- Alerts ANS of any in-transit non-conforming product/ parts
- Elimination of causes and prevention of recurrences

4.15 Advance Waiver Process

4.15.1 Supplier must submit a completed ANS Supplier Advance Waiver Request Form to the ANS Quality Assurance for any parts that do not meet ANS specifications. Supplier should contact the ANS Quality Assurance to obtain this Advance Waiver Request Form.

4.15.2 Supplier must have ANS approval prior to shipping any parts that do not meet ANS specifications. A copy of the approved Supplier Advance Waiver Request must accompany each box of parts and is only valid for the one Purchase Order and quantity or date range specified. Prior to further shipments, the Supplier is expected to correct the process problem which produced the non-conforming parts.

4.16 Process Change Notification and End of Life Alerts

4.16.1 Supplier shall not make any of the following changes without obtaining prior written consent from the Amphenol Network Solutions buyer:

- changes to the raw material of the product;
- changes to any aspect affecting the form, fit, or function of the product;
- changes to manufacturing or assembly process(es);
- intent to discontinue manufacturing

4.17 Inventory Controls

4.17.1 ANS Suppliers are required to have inventory controls in place to:

- ensure parts/ product is used in a "First In, First Out" (FIFO) system.
- identify parts as Electrostatic Discharge Sensitive (ESD) and special handling requirements.
- monitor inventory determined to have a Shelf Life such as PCBs, adhesives, and chemicals, to prevent use after expiration date.

4.18 Storage and Handling

4.18.1 Storage areas, equipment, and stock rooms need to be designed to prevent deterioration and damage of product pending use or delivery. Appropriate methods should be available for authorizing receipt of material and proper dispatch to and from such areas. The condition of the stock will be assessed at appropriate intervals.

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4.19 Country of Origin Marking Requirement

4.19.1 ANS Suppliers must maintain identification of all parts and products through all stages of production and during transportation, per **TWS-917** - Part Country of Origin Marking Requirements.

4.20 Packaging

4.20.1 All packaging materials for ANS products and parts must be RoHS compliant unless otherwise agreed upon in writing by the ANS.

4.20.2 All corrugated packaging must have an approved Box Manufacturer Certificate (BMC) mark or equivalent certification based on the commodity shipping and the weight per box. Information can be accessed at <http://www.nmfta.org/Pages/NMFCPackaging.aspx>

4.20.3 All wood packaging or pallets must comply with the International Plant Protection Convention (IPPC) standards and International Standard for Phytosanitary Measure 15 (ISPM15). Information can be accessed at <http://www.ippc.int>

4.20.4 Mixed Purchase Orders in the same box are not allowed.

4.20.5 Closures on units shall not be made with staples, glue or in a way that the container cannot be opened for inspection, material handling and storage purposes.

4.21 Shipping Labels/Packing Slips

4.21.1 Master box labels/ packing slips/ commercial invoices must have the following information:

- Vendor Name
- ANS Purchase Order number
- ANS part number
- Revision Level
- Part Description
- Lot/ Date Manufactured
- Unit of measure
- Quantity
- Country of Origin
- Number of cartons
- Freight Payment Terms (where applicable)
- Individual Packaging Label

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- Non-Amphenol Telect, ANS, ASB, ABS Branded Boxes
- 4.21.2 All individual packaging requires the information below unless otherwise specified on ANS drawings or Engineering documentation.
- ANS Purchase Order Number with release number, line number, and shipment number. **Example: 163593-0-1-2**
 - ANS Part Number
 - ANS Part Description
 - Revision
 - Unit of Measure (UOM)
 - Quantity
 - Lot ID Number/ Manufactured Date
 - Country of Origin
- 4.21.3 Below is an example of an acceptable label. The information is bar-coded and clearly printed for easy reading and processing. Affix labels at the end of each container.
- 4.21.4 Bar Code Symbology Code 39 – The Code Symbology 39 shall be in accordance with (AN)USS-39 Symbol Specification.

Sample of ANS/Amphenol Telect Barcode requirements:



4.21.5 ANS Branded Boxes

- Parts ordered that require the use of specific ANS branded boxes per the bill of materials, BOM, are required to label the box with an ANS product label.

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- The Specification for this label, is part # **146438**. This document would be the controlling document unless otherwise specified on product drawings or BOM.
- ANS Suppliers are responsible for ensuring any copies or translations of the Product Box Label Specification are updated reflecting the revision on the product documentation package (BOM or drawing).
- Supplier's personnel responsible for contract review, planning, manufacturing, quality, inspection and test, inventory, or logistics, should have access to those documents necessary to meet ANS specifications and requirements.
- Affix labels at the end of each container.

4.22 Shipping

4.22.1 All shipments should be shipped per ANS Routing Guide and/or per instructions provided on ANS Purchase Order. Questions regarding shipping terms should be directed to the appropriate ANS Purchasing.

4.23 CTPAT Requirements

4.23.1 As an ANS business partner we require that Suppliers mirror the security criteria of the U.S. "Customs Trade Partnership Against Terror (C-TPAT)" program. The three main security criteria are:

- (1) Facility Security
- (2) Personnel Security; and
- (3) Conveyance Security. Information about the criteria can be found at U.S. Customs Border and Protection website:

<https://www.cbp.gov/border-security/ports-entry/cargo-security/ctpat>

4.23.2 Suppliers must complete and return the SUPPLIER C-TPAT SECURITY QUESTIONNAIRE as provided in the ANS Supplier Qualification Documents packet.

4.24 Supplier Code of Conduct

Supplier warrants that it will comply with Amphenol Supplier Code of Conduct (SCOC) Policy posted at

https://www.amphenol.com/pdfs/APH_Supplier_Code_of_Conduct_%28EN%29.pdf

Amphenol Network Solutions may: (a) perform, have its designee perform or Third party entity, unannounced audits at any time during the Term to validate whether Supplier is in compliance with this Section 4.24 and, (b)

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immediately terminate or suspend performance under this Agreement if Supplier breaches this Section 4.24.

4.24 Product Compliance

Without limitation, Supplier will be responsible for collecting, directly from each of its suppliers and manufacturers, all test reports, declarations, certifications, and other documentation and materials necessary or useful to ensure environmental compliance of the Product (collectively, "Environmental Documentation"). This will include collecting these items for **ROHS, REACH, California Proposition 65, Conflict Minerals/ 3TG, Cobalt, and all other applicable environmental laws and regulations.** Upon ANS request, Supplier shall provide all documentations to ANS Compliance or Supplier Quality Engineer or email to complianceans@amphenol-ns.com within 30 days of request. Supplier will gather any additional information or documentation from suppliers and/or manufacturers, subcontractors requested by ANS in connection with ANS environmental or other compliance efforts.

5 REVISION HISTORY

Rev	Date	Approved by	Description
01	May 2007	Kelly Jones Charlie Bingham	Document Released
02	July 2007	Kelly Jones Charlie Bingham	Added CTPAT requirements
03	Oct. 2007	Kelly Jones Charlie Bingham	Changed name of document, added Country of Origin requirements, updated Telect Supplier and Delivery Performance Report to reflect switch to https://www.telect.com/simplify/Home2.aspx , Added End of Life alert requirement, added packaging and labeling requirements Added Revision History Block.
04	Jan 2013	Mark Courtney	Update links and review changes to reflect current process.
A5	Jun 2014	John Olsufka	Updated format, links, & product Id label /box requirements
A6	10/7/2014	Patricia Lee	Updated header/footer format
A7	10/15/2015	Gary Kougl	Updated format & punctuation
A8	07/07/2016	Barbara Buch	Formatted paragraphs, updated procedure numbers. Updated header/footer, added "As displayed..." to footer
A9	02/23/2018	Barbara Buch	Update format
A10	10/01/2020	Michael Bartolome	Updated format, added TWS references, added Amphenol SCOC compliance, Product Compliance