

ST Engineering iDirect, Supplier Quality Requirements

iSQR
Q0000260



Revision History

The following table shows all revisions for this document. Please always go to Agile “iDirect TL9000 Quality System” to receive and download the latest version of this document. Contact quality@idirect.net with any questions.

Revision	Date Change(s) Submitted	Reason for Change(s)	Who Changes
A	12/21/2015	Initial release	Ann Kong
B	7/2/2018	Added Q000017 under section 1.2; Changed “general” to “COTs” in section 1.4; Removed Hardware General from Q100s, Custom Hardware from Q200s; modified Q201; Replaced Q209 (quality plan) with Q209 (product traceability)	Ann Kong
C	1/10/2020	Update section Q202 for FAIR statement. Update RoHS statement to remove old directive “2011/65/EU”. Change VT iDirect to ST Engineering iDirect.	Cuc (Jen) Nguyen

1.0 Introduction

ST Engineering (STE) iDirect recognizes the very important role that our Suppliers have in assuring the value we offer to our customers. We rely on our Suppliers to provide material, product and services that meet all the requirements of STE iDirect contracts, applicable specifications, and the quality requirements outlined in this document.

1.1 PURPOSE/OBJECTIVES

The Purpose of this document is to inform STE iDirect Suppliers of the core expectations we have regarding the Supplier's quality management systems, design requirements, and manufacturing process controls required for doing business with STE iDirect.

1.2 RELATED DOCUMENTS

Related documents are available on STE iDirect's website:

<http://www.idirect.net/Partners.aspx>

- Q0000181** Cosmetic Acceptance Criteria
- FORM0017** Supplier Corrective Action Report (SCAR) Form
- FORM0003** RMA Failure Analysis and Corrective Action Report
- Q0000017** Supplier Quality Management

1.3 Definition of Terms

- ESD** Electrostatic Discharge
- FAIR** First Article Inspection Report
- Hardware COTS** Commercially available "off the shelf" products. Supplier holds all authority over design and specifications.
- Hardware Custom** Products that are built or designed to STE iDirect controlled print or specifications. Includes private label products.
- RMA** Returned Material Authorization
- ROHS** Restriction of Hazardous Substances
- REACH** Registration, Evaluation, Authorization and Restriction of Chemicals, REGULATION (EC) No 1907/2006
- SCAR** Supplier Corrective Action Request

1.4 APPLICABILITY

Item Category*	Quality Requirement Applicability						
	GEN	Q100s	Q200s	Q300s	Q400s	Q500s	Q600s
All Products and Services	X						
Hardware - COTs	X	X					
Hardware - Custom	X	X	X				
Hardware - Aerospace	X	X	X	X			
Services	X				X		
Software - Off The Shelf	X					X	
Software - Custom	X					X	X

*See definition section for definitions of specific categories.

1.4.1 Any deviation from these requirements shall be approved in writing from STE iDirect.

GEN - General Quality Requirements

Conformance

Conformance. Supplier shall be responsible for meeting all documented quality, reliability and safety requirements for their hardware, software, and services provided to STE iDirect. Nonconformance is defined as any hardware, software, or service item that does not fully meet all requirements as defined by a spec sheet, statement of work, or regulatory requirements

Approval and notification. Suppliers shall receive a written approval from STE iDirect prior to shipping nonconforming hardware. Supplier shall notify STE iDirect immediately for any nonconformance discovered after shipment of hardware, delivery of software, or provision of service

Certificate of Conformance

Upon request, a Certificate of Conformance (C of C) shall be provided to STE iDirect. Supplier to maintain acceptance test and inspection reports to support conformance to requirements to be provided to STE iDirect upon request.

Certification shall include the following at minimum:

- PO Number
- Part number, revision, serial number , Date Code and lot number where applicable
- Authorized signature and date

Acceptance Test Reports

Upon request, results of supplier acceptance testing shall be provided to STE iDirect. Reports shall include date, serial number, pass/fail results, and variables measurement as taken. Records shall be maintained for a minimum of seven (7) years from date of manufacture unless otherwise agreed upon by STE iDirect.

Supplier Corrective Action Request (SCAR)

- The supplier shall respond to all requests for corrective action on or before the required due date
- Unless otherwise approved by STE iDirect, the response must be submitted using the STE iDirect "Corrective and Preventive Action Form" (FORM0017)
- Supplier may request a time extension at least forty eight (48) hours prior to the assigned due date. Request must be in writing with adequate justification documenting the status of the investigation

Q100s

Q101 Quality Management System

The supplier shall maintain a certified quality management system to ISO 9001 or equivalent industry standard. Supplier shall notify STE iDirect of any change in scope or status of certification within ten (10) days. A quality management system that is not certified may be accepted at STE iDirect's sole discretion and must be authorized on STE iDirect company letterhead.

Q102 Measurement and Inspection System

- Supplier shall establish a documented calibration procedure to ensure equipment used to manufacture and test product are properly calibrated and maintained
- Calibration activities shall be performed by an accredited calibration service traceable to NIST (National Institute of Standards and Technology, USA) or applicable national standardization laboratory

Q103 Acceptance of Goods or Materials

- Source Inspection. If source inspection is required on the purchase order, supplier shall notify STE iDirect at least five (5) business days prior to goods being ready to ship to schedule inspection. Supplier shall make available space and tools required for such inspection
- Acceptance of Goods. After Materials have been delivered to STE iDirect's premises pursuant to a Purchase Order, STE iDirect will be entitled to inspect or test the Materials to determine if such Materials conform to the Acceptance Criteria. Vendor will provide (at no additional cost to STE iDirect) such assistance as STE iDirect may reasonably require to conduct such acceptance tests. If the period or procedures for

the acceptance test are not specified on the Purchase Order, then (i) STE iDirect will have thirty (30) days from the date the Materials was installed (or forty-five (45) days from the date the Materials was delivered if no installation is required for the Materials) to conduct the test; and (ii) STE iDirect may use its own internal test procedures and any sample input.

Q103 Packaging Requirements

- Packaging must be designed and tested to meet ISTA 3A packaging standard unless otherwise approved by STE iDirect.
- Suppliers are responsible for packaging products to prevent damage during normal transportation and handling
- Packaging must include protection from environmental conditions which could result in corrosion or contamination
- Stretch wrapping shall be attached to the pallet to prevent shifting of the load during transit, banding added per industry standard
- When mixing part numbers on a single pallet, supplier shall clearly mark all part numbers
- Containers/boxes must not overhang any side of the pallet

Q104 Packaging Label Requirements

Label shall contain at minimum the below information:

- STE iDirect PO number
- Part number
- Product Description
- Serial Number
- Country of origin
- External labels must be bar code scannable in an industry standard format such as code 39 or code 128.

Q105 Material Return

Suppliers shall provide RMA # on all returns and complete a "Failure Analysis and Corrective Action Report (FORM0003) if requested

Q106 Change Notification

Supplier shall notify STE iDirect ninety (90) days in advance for all changes that affect fit, form, or function of products

Q107 Right of Entry

Supplier shall allow representatives of STE iDirect to conduct audits to verify compliance to requirements at the Supplier's location(s).

Q108 Configuration Management

Supplier shall maintain configuration control on all hardware or software items provided to STE iDirect, to include revision/version control.

Q109 Conflict Minerals Declaration

Supplier is required to undertake a Reasonable Country of Origin Inquiry (RCOI) with respect to all conflict minerals as defined by H.R. 4173 Section 1502 in the products they supply and to produce a standard Electronic Industry Citizenship Coalition (EICC) annual report detailing that information.

Q110 ESD

All electrostatic sensitive devices shall be packed, marked and handled in compliance with ANSI/ESD S20.20 (or equivalent).

Q111 Shelf life Control

No materials with a defined shelf life shall be shipped to STE iDirect with less than eighty percent (80%) of the full shelf life remaining as determined by the original manufacturer.

Q112 Counterfeit Requirements

Seller represents and warrants each of the following to STE iDirect

- i) That only new and authentic materials are used in goods delivered to STE iDirect;
- ii) That the goods or services delivered or sold to STE iDirect contain no counterfeit Items;
- iii) That Seller shall only purchase materials or goods for resale to STE iDirect from Authorized Sources.

Counterfeit Prevention Policy and Program.

Supplier agree at all times to maintain, and make available to STE iDirect upon request, a documented system, policy, procedure, or other documented approach that is intended to prevent Counterfeit parts from reaching STE iDirect. At a minimum, such approach must require prior written approval from STE iDirect prior to the procurement of any good intended for resale to STE iDirect from a source other than the original manufacturer or such manufacturer's authorized distributors. Seller agrees, upon request for up to 5 years from STE iDirect's receipt of a good from Seller, to promptly provide STE iDirect with documentation authenticating traceability of all goods sold to STE iDirect to the applicable original manufacturer.

"Authentic" shall mean (aa) genuine, (bb) from the legitimate source claimed or implied by the marking and design of the product offered; and (cc) manufactured by, or at

the behest and to the standards of, the manufacturer that has lawfully applied its name and trademark for that model/version of the material or good.

ii) "Authorized Source" means (aa) the original manufacturer, (bb) the original manufacturer's authorized distributor, or (cc) any other source where STE iDirect has approved of such source in writing and in advance of Seller's purchase from such source.

iii) "Counterfeit Item" shall mean a good, component, part, module, or assembly whose origin, material, source of manufacture, performance, or characteristics are misrepresented. This term includes but is not limited to, (aa) items which have been (re)marked to disguise them or falsely represent the identity of the manufacturer, (bb) defective parts and/or surplus material scrapped by the original manufacturer, and (cc) previously used parts pulled or reclaimed and provided as "new".

Q113 Hazardous Materials

Handling

Seller shall provide, when applicable, a list of product ingredients and/or a Hazardous Materials Data Sheet, MSDS (Material Safety Data Sheet) and/or drawings and specifications of the product and packaging, supplied to STE iDirect.

Seller shall notify STE iDirect of any special hazards associated with the handling, storage and use of the product. Seller shall advise STE iDirect if any ingredient of the product appears on the U.S. Department of Labor's Carcinogen List or Hazardous Data Sheet. All electrical equipment and goods must have UL and OSHA approval.

RoHS

Supplier is responsible for ensuring product is fully compliant to the current Restriction on Hazardous Substances directive.

REACH Declaration

For applicable products supplier is responsible for ensuring product is fully compliant to the REACH Regulation 1907/2006 on Registration, Evaluation, Authorization, and Restriction of Chemicals (REACH), Annex XVII, REACH Declaration shall be provided upon request.

Q114 Green / Sustainability

STE iDirect is committed to green manufacturing / sustainability efforts. Supplier is responsible for undertaking green sustainability initiatives in the areas of emissions, energy consumption, recycling, and waste controls as appropriate for industry and product types. Failure to undertake efforts in this regard will result in a less preferential treatment in supplier selection.

Q200s

Q201 Initial Production Qualification

Supplier shall provide objective evidence showing the product and manufacturing processes have been qualified prior to production release. Objective evidence shall include manufacturing process instructions, test plans (incoming, in process, and final), FMEA (Failure Modes and Effects Analysis), control plans, process capability studies, Gage R&R, or others as agreed upon by both parties.

Q202 First Article Inspection

Supplier may be required to submit a first article inspection report capturing all product requirements with initial shipment of product for STE iDirect approval.

Full First article inspection report may be updated and submitted for approval when the following conditions apply:

1. Revision change (as per Change Order)
2. A change in manufacturing source(s), processes, inspection method(s), location, tooling or materials with the potential of affecting fit, form or function
3. When required as part of corrective action for a part number with repetitive rejection history (typically, a part with three repeated rejections or as required by STE iDirect)
4. A lapse in production for two years

Partial First article inspection reports may be accepted as long as the FAIR documentation at the previous revision has been accepted. Partial FAIRs are confirming only the deltas between current revision and previous revision. Supplier to send all FAIRs to fairs@idirect.net.

Q203 Cosmetic Acceptance and Workmanship Criteria

Supplier shall ensure product meets all cosmetic requirements defined in STE iDirect cosmetic acceptance specification Q0000181 unless allowed by the product specification.

Unless otherwise specified on the drawing or product specification all printed circuit board assemblies must comply with IPC-A-610 class II. All wire harness or cable assemblies must meet IPC-A-620 class II.

Q204 Change Management

Supplier shall obtain STE iDirect approval in advance for supplier initiated changes that affect manufacturing location, product specification, form, fit or function.

STE iDirect initiated change orders to a custom product are to be reviewed within 3 business days of notification and implemented within supplier configuration management

systems per change order instructions. If not otherwise indicated in the change order all changes are to be implemented within 10 business days unless otherwise approved by STE iDirect in writing. In cases of conflict specific instructions in the change order will take precedence over this general requirement.

Q205 Control of Quality Records

Supplier shall maintain all records related to the procurement, manufacturing, testing, inspection and shipment of parts supplied to STE iDirect for a minimum of 7 years.

Q206 Failure Analysis Requirement

Products returned under warranty will be analyzed and repaired per STE iDirect documented RMA repair instructions.

Q207 Moisture Sensitive Parts

Supplier shall handle, store and package all moisture sensitive parts prior to solder reflow per J-STD-033.

Moisture sensitive parts in sealed bags exceeding maximum shelf life shall be baked prior to reflow. For IC components iDirect considers the maximum shelf life to be no more than two years from the date code marked on the IC.

Bake profile should incorporate a ramp from ambient room temperature with a ramp rate of no more than 2C per minute.

Q208 Safety Compliance Requirement

Supplier is responsible for ensuring products conform to sourcing, manufacturing and testing requirements related to safety as defined by STE iDirect specifications and any applicable laws or regulations. Safety agency audits may be conducted on site as required.

Q209 Product Traceability

Supplier is required to maintain traceability records for major sub-assemblies of the final product as agreed upon by the supplier and STE iDirect.

Future sections

Q300 - Hardware Aerospace

Q400 - Services

Q500 – Software Off The Shelf

Q600 – Software Custom