Intelligent Epitaxy Technology
Supplier Quality Manual

Intelligent Epitaxy Tech.
1250 E Collins Blvd.
Richardson Tx. 75081
Phone: 972-234-0068

Table of Contents

Revision History

Rev	Name	Change	Date
1	Jerry Sinnie	Initial Version	9/21/2015

1. Purpose and Scope

1.1. Purpose

The purpose of this manual is to define the basic quality system and business procedures required of the suppliers who currently or potentially supply source materials or substrates to Intelligent Epitaxy.

1.2. Scope

This procedure applies to Intelligent Epitaxy suppliers of level 1 Source Materials and Substrates that will directly affect quality of the finished product.

2. Acronyms / Terminology and Description / Definition

Approved

The supplier status is such that Intelligent Epitaxy may buy qualified products from that supplier.

ASL

Approved Supplier List

Certificate of Analysis

Signed document that provides quantitative data for the items being delivered that certifies that the product conforms to all purchase order requirements and referenced specifications.

Certificate of Conformance

Document certifying that delivered products conform to purchase order requirements and specifications.

Disqualified

The supplier performance has proven unacceptable such that no future orders may be placed.

Fitness for Use

Product or Service that meet IntelliEPI's defined purpose under anticipated or specified operational conditions.

Level 1 Source Material or Substrate

Materials used in the growth of product and directly affects the function and quality of the finished product.

RMA

Return Materials Authorization: Requirement for returning nonconforming products to the supplier.

SCAR

Supplier Corrective Action: formal request for improvement issued by any member of team.

Sub Tier Supplier

Supplier used by the supplier.

3. Supplier Expectations

3.1 Intelligent Epitaxy's Policies and Objective

It is the policy of Intelligent Epitaxy that materials and services used in the production of IntelliEPI's products be procured in a professional and ethical manner that results in achieving the lowest total cost of ownership for IntelliEPI and for customers. Further, all purchased materials and services must be in compliance with agreed upon requirements, be delivered on time and have competitive lead time.

3.2 Confidentiality

Confidentiality shall be strictly maintained in accordance with supplier terms and conditions of purchase outlined in purchase agreement.

3.3 Regulatory Agency Compliance

It is IntelliEPI's responsibility to ensure that their product is in compliance with all application regulatory and product safety requirements and claims including that stated in supplier published product advertising, catalogues and data sheets. The supplier must be prepared at all times to substantiate compliance by providing copies of test reports and making records available for review if requested.

3.4 Sustainability

All Level 1 suppliers must provide a sustainability plan. The plan can be simple but must be signed by companies CEO.

3.5.1 Banned and Restricted Substances

IntelliEPI will notify all suppliers of restricted materials that will not be allowed to be shipped to IntelliEPI.

3.5 Risk Management Policy

The supplier shall have an up to date documented Risk Management Policy ensuring that in the event of disaster or inability to perform, the supplier has to take necessary action in order to minimize and or eliminate such risk, from IntelliEPI.

3.6 Notification of Product Quality or Delivery Issues

In the event that delivered product or service fails to meet IntelliEPI's requirement that has been agreed upon by supplier. IntelliEPI will contact supplier by phone call or email.

3.6.1 Non-Conforming Product

Delivery of product to IntelliEPI not meeting internal specifications for measurements as identified on acceptance criteria and IntelliEPI's specifications requires:

- Supplier to review non-conformance though a cross functional Review Board to determine acceptability of shipping to IntelliEPI.
- Provide IntelliEPI's Quality Manager with a Non-conforming material report specifying the nature of the issue, associated data, and why supplier believes that the issue will not impact IntelliEPI's product performance, quality or yield.
- Approval to ship material must be granted by IntelliEPI's Quality Department.

3.6.2 Deviations and Waivers

Supplier may be granted a waiver or deviation by IntelliEPI's TRB if the following apply.

- For planned product or process change affecting a limited quantity of product till a certain date.
- For a planned variation from a documented requirement.
- For a change that occurred inadvertently and will only affect a limited quality of product.

3.7 Product / Process Change

Supplier shall have a process to manage and track changes (Process Change Notification)

When submitting a Process Change Notice, the supplier must provide a Process Change Document that clearly identifies the requested change. Also details on any other products that may be affected by proposed change.

3.8 Product Identification

The supplier shall have a system of manufacturing control such as a route card, run card, or control software, used for identification of products with regard to type, lot or serial number and their status during all stages of production and test.

3.9 Product Traceability

The supplier shall have a system for ensuring finished product traceability back to the raw materials. Traceability shall be achieved by means of date code, lot number or serial number.

3.10 Quality Plan

Each supplier will be **responsible for defining critical process and having a plan to carry out necessary functions to support critical process.**

3.10.1 Quality System

Suppliers are expected to have an effective quality system in place that assures consistent on-time delivery of conforming materials. Registration by an accredited third party certification body is strongly recommended. Such as the following:

- ISO 9001
- TS 16949

Note: All third party certificates must include a valid certification body accreditation mark.

3.10.2 Process Control

The supplier shall carry out manufacturing processes under controlled conditions that shall include:

- The use and development of control plans.
- The use of documented work instructions available at point of use.
- The use of suitable equipment supported by a preventive maintenance program.
- The use of equipment for test, inspection and measuring of products. This equipment shall require Gage reproducibility and repeatability studies to demonstrate the capability of the equipment and measuring process.

3.10.3 Purchasing

The supplier shall have a defined process for their purchasing process that includes:

- The use of approved sub tier suppliers for procurement of materials and /or services that directly affect function or reliability of materials.
- A supplier development program that emphasizes the flow down of the requirements set forth to suppliers.
- The generation of purchasing information that clearly describes the product being purchased.
- Sub tier supplier performance monitoring.

3.10.4 Failure Mode and Effect Analysis (FMEA)

It is strongly recommended that the supplier develop a Process or Product FMEA and use those results to determine the appropriate test and inspection points as well as appropriate control methods.

3.10.4 Corrective Action and Failure Analysis

IntelliEPI will use Supplier Corrective Action Request (SCAR) as the trigger to engage the supplier for a request for containment, root cause analysis and verification. All responses from supplier need to be in 8D format. The supplier should have a formal, 8D process with evidence that key personnel have been trained.

The initial response (3D) needs to be provided within 3 business day receipt of request. The root cause analysis and corrective action plan (5D) shall be provided within 10 business days of the receipt of request. The actual deployment and verification of corrective action (6D through 8D) may take longer based on the complexity of the problem.

3.10.5 Maverick Lots

IntelliEPI encourages suppliers to have a Maverick Lot program. Where applicable, supplier shall use statistical methodology to set maverick limits.

3.10.6 Document Control System

IntelliEPI requires suppliers to have a Document Control system in place. Suppliers must ensure that the latest IntelliEPI specifications, work instructions, and other related documents are maintained in this system.

3.10.7 Internal Quality Audit

Supplier shall perform internal quality audits in accordance with documented frequency procedures. The supplier shall review audit results, plan corrective action and perform follow-up audit verification of corrective action effectiveness.

The supplier will publish the frequency of internal audits performed in in the supplier facility. Periodically the supplier may be requested to share details of the internal audits and follow-up items with IntelliEPI Quality Manager.

3.10.8 Work Environment

Supplier shall determine and manage the aspects of work environment needed to achieve conformity to product requirements. Aspects include but not limited to temperature, humidity, and cleanliness.

3.10.9 Reports

All shipments must be accompanied by a certificate of conformance and /or certificate of analysis traceable back to the items being delivered.

The supplier may be requested to provide periodic reports or summary reports of inspection or test results. IntelliEPI's may review the metrics and reporting formats and frequency. Additionally the supplier may be requested by IntelliEPI's Quality manager to provide summary reports of Failure Analysis and evaluation results on SCARs / RMAs.

3.10.10 Calibration Reports

Calibrations shall be performed in accordance with manufactures specification unless proven method has been documented in-house and data shared with IntelliEPI. The calibration report shall include as a minimum the following information:

- Equipment identification
- Date of calibration
- Next calibration due date
- Standard ID used for calibration
- Person that performed calibration
- Frequency of calibration

3.10.11 Supplier Self Survey

Survey and Audit Questionnaire shall be completed by the supplier during the initial supplier qualification and will be kept on file by IntelliEPI. An updated survey may be requested by IntelliEPI later if deemed necessary.