



First Source Electronics, LLC

Quality Manual

In conformance with:

ISO 2000 Standards

First Source Electronics, LLC

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Introduction

First Source Electronics, LLC developed and implemented a Quality Management System in order to document the company's best business practices, better satisfy the requirements and expectations of its customers and improve the overall management of the company.

The Quality Management System of First Source Electronics, LLC meets the requirements of the international standard ISO 9001 (2000). This system addresses the design, development, production, installation, and servicing of the company's products.

The manual is divided into eight sections that correlate to the Quality Management System sections of ISO 9001 - 2000. Each section begins with a policy statement expressing First Source Electronics, LLC's obligation to implement the basic requirements of the referenced Quality Management System section. Each policy statement is followed by specific information pertaining to the procedures that describe the methods used to implement the necessary requirements.

This manual describes the Quality Management System, delineates authorities, inter relationships and responsibilities of the personnel responsible for performing within the system. The manual also provides procedures or references for all activities comprising the Quality Management System to ensure compliance to the necessary requirements of the standard.

This manual is used internally to guide the company's employees through the various requirements of the ISO standard that must be met and maintained in order to ensure customer satisfaction, continuous improvement and provide the necessary instructions that create an empowered work force.

This manual is used externally to introduce our Quality Management System to our customers and other external organizations or individuals. The manual is used to familiarize them with the controls that have been implemented and to assure them that the integrity of the Quality Management System is maintained and focused on customer satisfaction and continuous improvement.



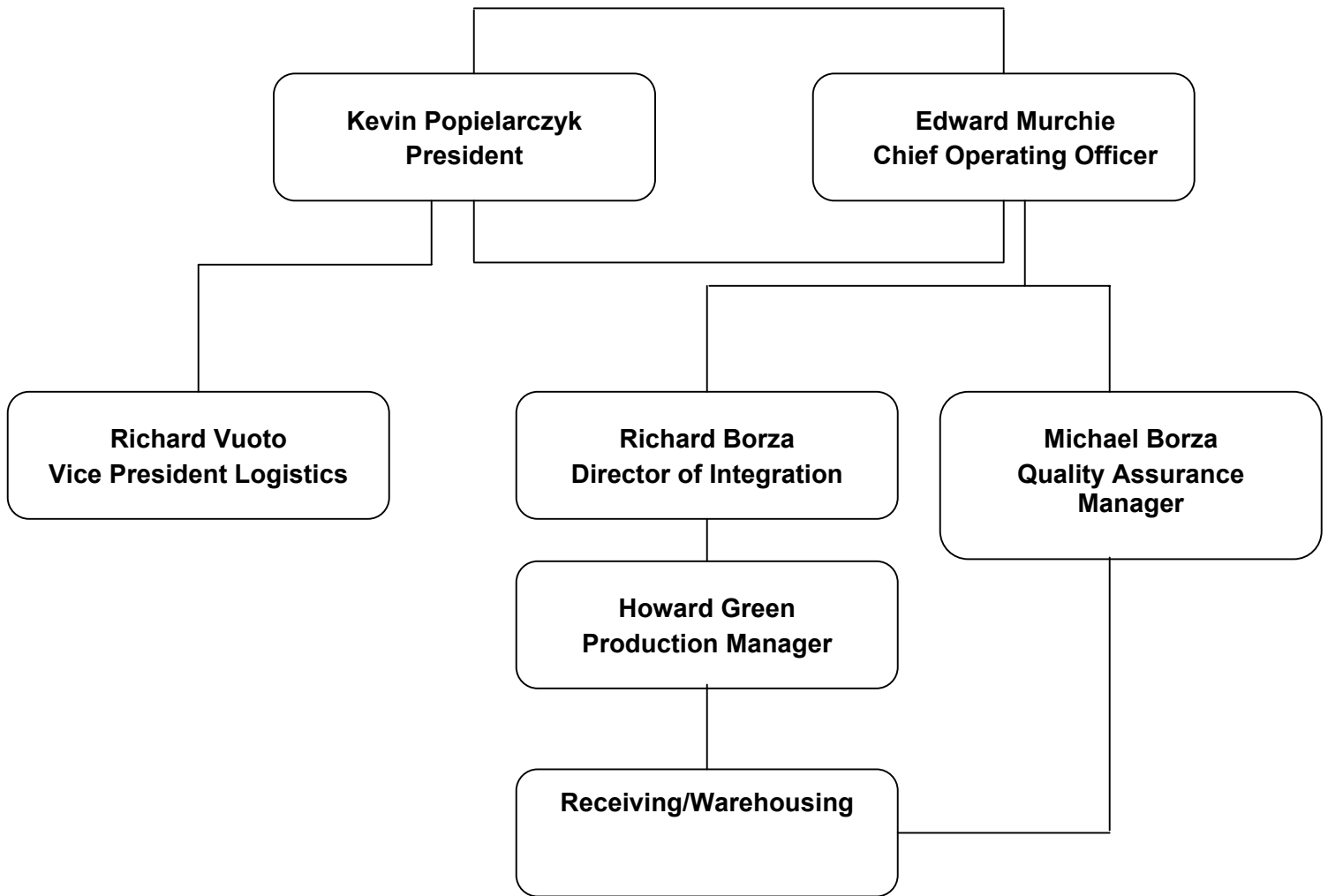
Quality Manual Distribution

The Quality Manual shall be distributed to the following:

Quality Manager
Management Representative
Manufacturing

First Source Electronics, LLC

Organizational Chart



Section 1: Scope

1.1 General

The scope of First Source Electronics LLC is: Supply chain management to include assembly and testing of electronic equipment.

1.2 Application

First Source Electronics, LLC has determined that the following requirements are not applicable to the operations at this site and are documented as exclusions:

- 7.3 Design and Development-

The purpose of this document is to state that by virtue of its business model, First Source Electronics, LLC. does not conduct product design and development.

Section 2: Normative Reference

2.0 Quality Management System References

The following documents were used as reference during the preparation of the Quality Management System:

- American National Standard ANSI/ISO/ASQ Q9000-2000, Quality Management Systems - Vocabulary.
- American National Standard ANSI/ISO/ASQ Q9001-2000, Quality Management Systems – Requirements
- American National Standard ANSI/ISO/ASQ Q9004-2000, Quality Management Systems – Guidelines for performance Improvements

Section 3: Definitions

3.0 Quality Management System Definitions

This section is for definitions unique to First Source Electronics, LLC.

- Capability – Ability of an organization, system, or process to realize a product that will fulfill the requirements for that product.
- Conformity – Fulfillment of requirement.
- Corrective action – Documented activity to eliminate the cause of a detected non-conformity or other undesirable situation.
- Customer owned property – Any type of instrumentation, accessories, manuals, or shipping containers that belong to a customer.
- Customer satisfaction – Customers perception of the degree to which the customers requirements have been fulfilled.
- Customer supplied product - Any type of service or material supplied to be utilized in the manufacture, modification or repair of customer-owned property.
- Effectiveness – Extent to which planned activities are realized and planned results achieved.
- Inspection – Conformity evaluation by observation and judgment accompanied as appropriate by measurement, testing, or gauging.
- Non-conformity – Non-fulfillment of requirement.
- Organization – Group of people and facilities with an arrangement of responsibilities, authorities, and relationships.
- Preventative action – Documented activity to eliminate the cause of a potential non-conformity or other undesirable potential situation.
- Procedure – Specified way to carry out an activity or a process.
- Process – Set of interrelated or interacting activities, which transform inputs into outputs.
- Product – The end item result of meeting all contract terms and conditions. (eg: manufactured goods, merchandise, services etc.)
- Quality Policy – Overall intentions and direction of an organization related to quality as formally expressed by top management.
- Quality Records – Documentation of those activities wherein records of said activities must be maintained will be specified in the procedure or work instruction level documents, as applicable

- Release – Permission to proceed to the next stage of a process.
- Repair – Action on a non-conforming product to make it acceptable for the intended use.
- Rework – Action on a non-conforming product on order to make it conform to requirements.
- Top Management – Person or group of people who direct and control an organization with regard to quality.
- Traceability – Ability to track the history, application, or location of that which is under consideration.
- Work environment – Set of conditions under which activities are performed.

Section 4: General Requirements

4.1 General requirements

First Source Electronics, LLC has established, documented and implemented a Quality Management System (QMS) in accordance with the requirements of ISO 9001:2000. The system is maintained and continually improved through the use of the quality policy, quality objectives, audit results, analysis of data, corrective and preventive action and management review.

To design and implement the QMS, First Source Electronics, LLC has:

- Identified the processes needed for the QMS and their application throughout the organization and documented them on the Process Flow Diagram at the end of this section of the Quality Manual
- Determined the sequence and interaction of these processes, and illustrated them on the Process Flow Diagram
- Determined criteria and methods needed to ensure that the operation and control of the processes are effective, and documented in the quality plan, work instructions and/or quality procedures and the Measuring, Monitoring and Analysis Table
- Ensured the continuing availability of resources and information necessary to achieve planned results and continual improvement of these processes
- Established systems to monitor, measure and analyze these processes, and
- Established processes to identify and implement actions necessary to achieve planned results and continual improvement of these processes

4.2 Documentation Requirements

4.2.1 General

The QMS documentation includes:

- A documented Quality Policy
- This Quality Manual
- Documented Procedures
- Documents identified as needed for the effective planning, operation and control of our processes, and
- Quality Records

4.2.2 Quality manual

This Quality Manual has been prepared to describe First Source Electronics, LLC's QMS. The scope and permissible exclusions of the QMS are described in

section one of this manual. Each section of the manual references documented QMS procedures relating to the requirements outlined in that section. The Process Flow Diagram at the end of section 4 provides a description of the interaction between the processes of the QMS system.

4.2.3 Control of documents

All of the QMS documents are controlled according to the Document Control Procedure (QP-423-001). This procedure defines the process for:

- Approving documents for adequacy prior to issue
- Reviewing and updating as necessary and re-approving documents
- Ensuring that changes and current revision status of documents are identified
- Ensuring that relevant versions of applicable documents are available at points of use
- Ensuring that documents remain legible and readily identifiable
- Ensuring that documents of external origin are identified and their distribution controlled, and
- Preventing the unintended use of obsolete documents and to apply suitable identification to them if they are retained for any purpose

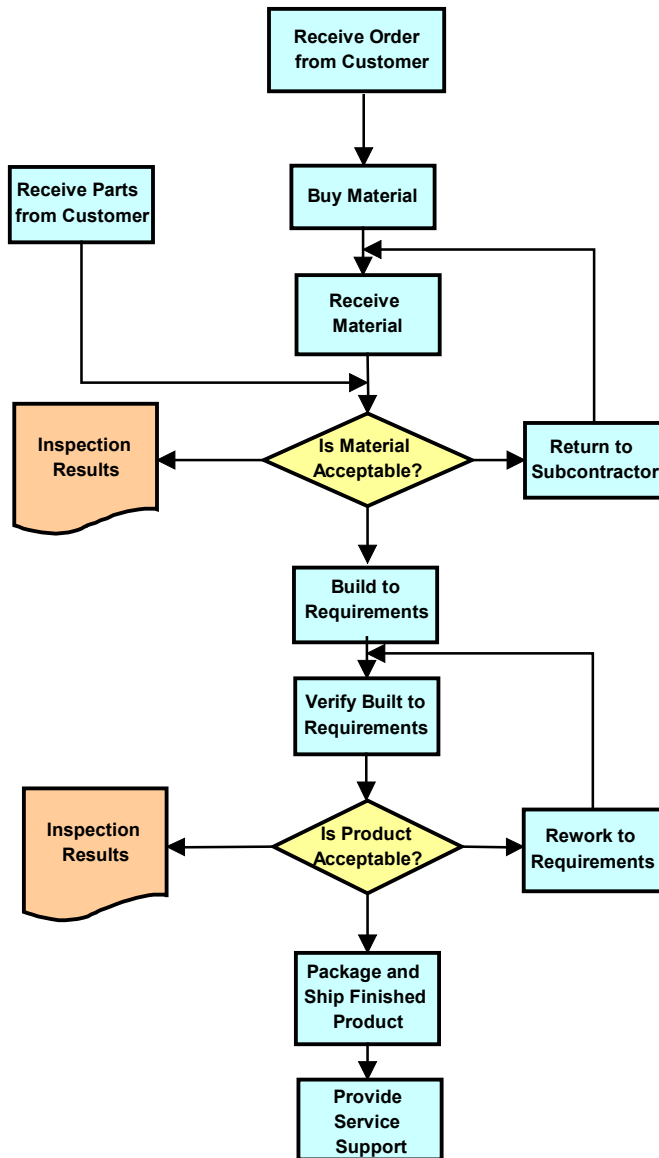
4.2.4 Control of quality records

Quality records are maintained to provide evidence of conformity to requirements and of the effective operation of the QMS. The records are maintained according to the Control of Quality Records Procedure (QP-424-001). This procedure requires that quality records remain legible, readily identifiable and retrievable. The procedure defines the controls needed for identification, storage, protection, retrieval, retention time and disposition of quality records.

Related Procedures

Document Control	QP-423-001
Control of Quality Records	QP-424-001

Example of a Manufacturing Process flow



Section 5: Management Responsibility

5.1 Management commitment

Top management has been actively involved in implementing the quality management system (QMS). It has provided the vision and strategic direction for the growth of the QMS, and established quality objectives and the quality policy.

To continue to provide leadership and show commitment to the improvement of the QMS, management will do the following.

- Communicate the importance of meeting customer, statutory, and regulatory requirements.
- Establish quality objectives
- Establish the quality policy.
- Conduct quarterly management reviews.
- Ensure the availability of resources.

5.2 Customer focus

First Source Electronics, LLC strives to identify current and future customer needs, to meet customer requirements and exceed customer expectations.

Top management ensures that customer requirements are understood and met, by requiring compliance with documented customer communication procedures. Customer requirements are determined, converted into internal requirements, and communicated to the appropriate people in our organization (SP-720-001).

5.3 Quality policy

Top management ensures that the quality policy is communicated to all employees. It is included in new employee training and training on the QMS. It is posted in prominent places throughout the facility to maintain high standards within our organization.

Management reviews the quality policy at each management review meeting to determine the policy's continuing suitability for our organization. The Quality Policy is documented on A-500-001, Quality Policy.

5.4 Planning

5.4.1 Quality objectives

Quality objectives are established to support our organization's efforts in achieving our quality policy and reviewed annually for suitability. Objectives have been established for each department to ensure that all customer/product requirements are met. Quality objectives are measurable, and reviewed against performance goals at each management review meeting.

Quality objectives are listed in the First Source Electronics, LLC Quality Policy.

5.4.2 Quality management system planning

The quality system has been planned and implemented to meet our quality objectives and the requirements of 4.1 of the ISO 9001 standard. Quality planning takes place as changes that affect the quality system are planned and implemented.

5.5 Responsibility, authority and communication

5.5.1 Responsibility and authority

An organizational chart has been established to show the interrelation of personnel in the organization. Job descriptions define the responsibilities and authorities of each of the positions on the organizational chart. Job descriptions and the organizational chart are reviewed and approved by top management for adequacy. These documents are available throughout the organization to help employees understand responsibilities and authorities. An organizational chart is located on page 4 of this manual.

5.5.2 Management representative

The Quality Assurance Manager been appointed by top management as management representative. As management representative, they have the following responsibility and authority:

- Ensure that processes needed for the quality management system are established and implemented.
- Report to top management on the performance of the quality management system, and note needed improvements.
- Promote awareness of customer requirements throughout the organization.
- Act as a liaison with external parties such as customers or auditors on matters relating to the QMS.

5.5.3 Internal communication

Processes are established for communication within the organization. Methods of communicating the effectiveness of the QMS include department and management meetings, management review, circulation of minutes of management review meetings, Internal Audit Closing meetings, and other routine business communication.

5.6 Management review

5.6.1 General

Top management reviews the QMS quarterly at management review meetings. This review assesses the continuing QMS suitability, adequacy and effectiveness, identifying opportunities for improvement and needed changes. Records are maintained for each management review meeting.

5.6.2 Review input

Assessment of the QMS is based on a review of information inputs to management review. These inputs include the following:

- Results of audits
- Customer feedback
- Process performance and product conformity
- Company level quality data
- Status of preventive and corrective actions
- Follow-up actions from previous management reviews
- Planned changes that could affect the quality management system
- Recommendations for improvement

5.6.3 Review output

During these review meetings, management will identify appropriate actions to be taken regarding the following issues:

- Improvement of the effectiveness of the quality management system and its processes
- Improvement of product related to customer requirements
- Resource needs

Responsibility for required actions are assigned to members of the management review team. Any decisions made during the meeting, assigned actions, and their due dates are recorded in the minutes of management review.

Related Procedures:

Customer Related Processes	SP-720-001
Management Review	AP-500-001
Planning of Product Realization Processes	MP-710-001

Section 6: Resource Management

6.1 Provision of resources

First Source Electronics, LLC has implemented a Quality Management System that complies with the ISO 9000 2000 standard. This implementation was achieved with management commitment and with sufficient resources for the implementation. To effectively maintain and continually improve the system, management determines and provides necessary resources.

6.2 Human resources

6.2.1 General

To ensure competence of our personnel, job descriptions have been prepared identifying the qualifications required for each position that affects product quality. Qualifications include requirements for education, skills and experience. Appropriate qualifications, along with required training, provide the competence required for each position.

6.2.2 Competence, awareness and training

Qualifications are reviewed upon hire, when an employee changes positions or the requirements for a position change. Human resources maintain records of employee qualifications. If any differences between the employee's qualifications and the requirements for the job are found, training or other action is taken to provide the employee with the necessary competence for the job. The results are then evaluated to determine if they were effective. Training and evaluation are conducted according to the Training procedure. (AP-662-001)

All employees are trained on the relevance and importance of their activities and how they contribute to the achievement of the quality objectives.

6.3 Infrastructure

To meet quality objectives and product requirements First Source Electronics, LLC has determined the infrastructure needed (EP-630-001). The infrastructure has been provided, and includes buildings, workspace, utilities, process equipment and supporting services. As new infrastructure requirements arise, they will be documented in quality plans. Existing infrastructure is maintained to ensure product conformity. Maintenance requirements are documented in:

- Preventive maintenance plans
- Sanitation plans
- Building maintenance plans

6.4 Work Environment

A work environment suitable for achieving product conformance is maintained. Requirements are determined during quality planning and documented in the quality plan. The work environment is managed for continuing suitability. Data from the quality system is evaluated to determine if the work environment is sufficient for achieving product conformance, or if preventive or corrective action related to the work environment is required.

Related Documents

Competence, Awareness and Training	AP-622-001
Infrastructure	EP-630-001

Section 7: Product Realization

7.1 Planning of product realization

Quality planning is required before new products or processes are implemented. The quality planning may take place as a design project, or according to the Planning of Product Realization procedure (MP-710-001). During this planning, management or assigned personnel identify:

- The quality objectives and requirements for the product,
- Processes, documentation and resources required
- Verification, validation, monitoring, inspection and test requirements, and
- Criteria for product acceptance

The output of quality planning includes documented quality plans, processes, procedures and design outputs.

7.2 Customer-related processes

7.2.1 Determination of requirements related to the product

First Source Electronics, LLC determines customer requirements before acceptance of an order. Customer requirements include those:

- Requested by the customer
- Required for delivery and post-delivery activities
- Not stated by the customer but necessary for specified use or known and intended use
- Statutory and regulatory requirements related to the product
- Additional requirements determined by First Source Electronics, LLC

Customer requirements are determined according to the Customer Related Processes Procedure. (SP-720-001)

7.2.2 Review of requirements related to the product

First Source Electronics, LLC has a process in place for the review of requirements related to the product (SP-720-001). The review is conducted before the order is accepted. The process ensures that:

- Product requirements are defined

- Contract or order requirements differing from those previously expressed are resolved
- First Source Electronics, LLC has the ability to meet the defined requirements
- Records are maintained showing the results of the review and any actions arising from the review
- Where a customer does not provide a documented statement of requirement, the customer requirements are confirmed before acceptance
- When product requirements are changed, First Source Electronics, LLC communicates changes to relevant personnel and amends relevant documents

7.2.3 Customer communication

First Source Electronics, LLC has implemented an effective procedure (SP-720-001) for communicating with customers in relation to:

- Product Information
- Enquiries, contracts and order handling, including amendments
- Customer Feedback, including customer complaints

7.3 Design and Development

- N/A

7.4 Purchasing

7.4.1 Purchasing process

A documented procedure (AP-740-001) is followed to ensure that purchased product conforms to the specified purchase requirements. The procedure outlines the extent of control required for suppliers. Suppliers are evaluated and selected based on their ability to supply product in accordance with requirements as outlined in the procedure. Criteria for selection, evaluation and re-evaluation are documented in the procedure. Records of the evaluation and any necessary actions are maintained as quality records.

7.4.2 Purchasing information

Purchasing information describes the product to be purchased, including where appropriate:

- Requirements for approval of product, processes and equipment
- Requirements for qualification of personnel
- Quality management system requirements

The purchasing documents are reviewed to ensure the adequacy of requirements before orders are placed with the supplier.

7.4.3 Verification of purchased product

The Purchasing procedure (AP-740-001) describes the process used to verify that purchased product meets specified purchase requirements. If First Source Electronics, LLC or the customer will perform verification at the supplier's premises, the verification arrangements and method of product release are documented in the purchasing information.

7.5 Production and Service Provision

7.5.1 Control of production and service provision

First Source Electronics, LLC plans and carries out production and service provision under controlled conditions according to documented procedure (MP-750-001). Controlled conditions include, as applicable:

- The availability of information that describes the characteristics of the product
- The availability of work instructions
- The use of suitable equipment
- The availability and use of monitoring and measuring devices
- The implementation of monitoring and measurement
- The implementation of release, delivery and post-delivery activities

7.5.2 Validation of processes for production and service provision

First Source Electronics, LLC validates any processes for production and service provision where the resulting output cannot be verified by subsequent monitoring or measurement. This includes any processes where deficiencies become apparent only after the product is in use or the service has been delivered. Validation demonstrates the ability of these processes to achieve planned results.

First Source Electronics, LLC has documented the process for validation including:

- Defined criteria for review and approval of the processes
- Approval of equipment and qualification of personnel
- Use of specific methods and procedures
- Requirements for records
- Revalidation

7.5.3 Identification and traceability

First Source Electronics, LLC identifies the product throughout product realization according to the Identification and Traceability procedure (MP-753-001). Product is identified with respect to monitoring and measurement requirements.

First Source Electronics, LLC controls and records the unique identification of the product where ever traceability is a specified requirement

7.5.4 Customer property

First Source Electronics, LLC exercises care with customer property while it is under the organization's control or being used. A procedure (MP-754-001) outlines the Identification, verification, protection and safeguarding of customer property provided for use. If any customer property is lost, damaged or otherwise found to be unsuitable for use, this is reported to the customer and records maintained.

7.5.5 Preservation of product

First Source Electronics, LLC preserves the conformity of product during internal processing and delivery to the intended destination per procedure (MP-755-001). This preservation includes identification, handling, packaging, storage and protection. Preservation also applies to the constituent parts of a product.

7.6 Control of monitoring and measuring devices

First Source Electronics, LLC has determined the monitoring and measurement to be undertaken and the monitoring and measuring devices needed to provide evidence of conformity of product to determined requirements. A documented procedure (MP-760-001) outlines the process used to ensure that monitoring and measurement to be carried out are carried out in a manner that is consistent with the monitoring and measurement requirements.

Where necessary to ensure valid results, measuring equipment is:

- Calibrated or verified at specified intervals, or prior to use, against measurement standards traceable to international or national measurement standards

- Adjusted or re-adjusted as necessary;
- Identified to enable the calibration status to be determined;
- Safeguarded from adjustments that would invalidate the measurement result;
- Protected from damage and deterioration during handling, maintenance and storage.

In addition, Quality Assurance Manager assesses and records the validity of the previous measuring results when the equipment is found not to conform to requirements. First Source Electronics, LLC takes appropriate action on the equipment and any product affected. Records of the results of calibration and verification are maintained

When used in the monitoring and measurement of specified requirements, the ability of computer software to satisfy the intended application is confirmed. This shall be undertaken prior to initial use and reconfirmed as necessary.

Related Documents

Planning of Product Realization Processes MP-710

Customer Related Processes	SP-720-001
Purchasing	AP-740-001
Control of Production and Service Provision	MP-750-001
Identification and Traceability	MP-753-001
Customer Property	MP-754-001
Preservation of Product	MP-755-001
Control of Monitoring and Measuring Devices	MP-760-001

Section 8: Measurement, Analysis and Improvement

8.1 General

First Source Electronics, LLC has plans and implements the monitoring, measurement, analysis and improvement processes as needed

- To demonstrate conformity of the product,
- To ensure conformity of the quality management system, and
- To continually improve the effectiveness of the quality management system.

These processes are identified in documented procedures and include determination of applicable methods, including statistical techniques, and the extent of their use.

8.2 Monitoring and Measurement

8.2.1 Customer Satisfaction

As one of the measurements of the performance of the quality management system, First Source Electronics, LLC monitors information relating to customer perception as to whether the organization has fulfilled customer requirements. The method for obtaining and using this information is identified in the Customer Related Processes (SP-720-001) and the Management Responsibility procedures (AP-500-001).

8.2.2 Internal Audit

First Source Electronics, LLC conducts internal audits at planned intervals to determine whether the quality management system

- Conforms to the planned arrangements (see 7.1), to the requirements of this International Standard and to the quality management system requirements established by the organization
- Is effectively implemented and maintained.

An audit program has been designed and implemented and identifies an audit schedule based on the importance of the areas to be audited, as well as the results of previous audits. The audit criteria, scope, frequency, methods, responsibilities and requirements for planning and conducting audits, and for reporting and maintaining results, are defined and documented in the Internal Audit procedure (QP-822-001). All elements will be audited at least once annually.

The management responsible for the area being audited is responsible for ensuring that actions are taken without undue delay to eliminate detected nonconformities and their causes. Follow-up activities include the verification of the actions taken and the reporting of verification results.

8.2.3 Monitoring and measurement of processes

First Source Electronics, LLC applies suitable methods for monitoring and, where applicable, measurement of the quality management system processes. These methods demonstrate the ability of the processes to achieve planned results. When planned results are not achieved, correction and corrective action is taken, as appropriate, to ensure conformity of the product. The process for identifying and carrying out the required monitoring and measuring of processes is documented in the Monitoring, Measuring and Analysis of Product Realization Processes (MP-824-001) and Management Responsibility procedures (AP-500-001).

8.2.4 Monitoring and measurement of product

First Source Electronics, LLC monitors and measures the characteristics of the product to verify that product requirements are fulfilled. This is carried out at appropriate stages of the product realization process identified in Monitoring, Measuring and Analysis of Product Realization Processes (MP-824-001).

Evidence of conformity with the acceptance criteria is maintained. Records indicate the person authorizing release of product. Product release and service delivery does not proceed until all the planned arrangements have been satisfactorily completed, unless otherwise approved by a relevant authority, and where applicable by the customer.

8.3 Control of Nonconforming Product

First Source Electronics, LLC ensures that product which does not conform to product requirements is identified and controlled to prevent its unintended use or delivery. The controls and related responsibilities and authorities for dealing with nonconforming product are defined in the Control of Nonconforming Product procedure (QP-830-001).

8.4 Analysis of Data

First Source Electronics, LLC determines, collects and analyses appropriate data to demonstrate the suitability and effectiveness of the quality management system and to evaluate where continual improvement of the quality management system can be made. The process for determining, collecting and analyzing this data is defined in the Management Responsibility procedure (AP-500-001). Appropriate data includes data generated as a result of monitoring and measurement and from other relevant sources.

The analysis of data provides information relating to

- Customer satisfaction
- Conformance to product requirements

- Characteristics and trends of processes and products including opportunities for preventive action
- Suppliers

8.5 Improvement

8.5.1 Continual improvement

First Source Electronics, LLC continually improves the effectiveness of the quality management system through the use of the quality policy, quality objectives, audit results, analysis of data, corrective and preventive actions and management review.

8.5.2 Corrective action

First Source Electronics, LLC takes action to eliminate the cause of nonconformities in order to prevent recurrence. Corrective actions are appropriate to the effects of the nonconformities encountered.

A documented procedure (QP-852-001) defines requirements for

- Reviewing nonconformities (including customer complaints),
- Determining the causes of nonconformities,
- Evaluating the need for action to ensure that nonconformities do not recur,
- Determining and implementing action needed,
- Records of the results of action taken (see 4.2.4), and
- Reviewing corrective action taken.

8.5.3 Preventive action

First Source Electronics, LLC determines action to eliminate the causes of potential nonconformities in order to prevent their occurrence. Preventive actions are appropriate to the effects of the potential problems.

A documented procedure (QP-853-001) defines requirements for:

- Determining potential nonconformities and their causes
- Evaluating the need for action to prevent occurrence of nonconformities
- Determining and implementing action needed

- Records of results of action taken
- Reviewing preventive action taken

Related Documents

Management Responsibility	AP-500-001
Customer Related Processes	SP-720-001
Monitoring, Measuring and Analysis of Customer Satisfaction	AP-821-001
Internal Audits	QP-822-001
Monitoring and Measuring of Product and Realization Processes	MP-824-001
Control of Nonconforming Product	QP-830-001
Corrective Action	QP-852-001
Preventive Action	QP-853-001

QUALITY SYSTEM MANUAL REVISIONS

REV.	SECTION	SUB-SEC.	PARA.	CHANGE REQUEST #	DATE	AUTHORIZED BY
1					6/16/03	EMM
2	1.2, 8.2.2			000001	7/22/03	EMM
3	1.1			000002	7/22/03	EMM
4	1.1			000003	7/22/03	EMM
A	All			000005	10/6/03	EMM