

QUALITY MANUAL

QM0492

REV. BA

INTRODUCTION:

Avnet is committed to ensuring customer satisfaction while meeting all customer and applicable legal, statutory and regulatory requirements. This is accomplished by ensuring that the Quality Management System (QMS) and Environmental Management System (EMS), as applicable is implemented, effective and continually improving to meet the ever changing needs of our customers, community, and Avnet.

Top Management is committed to lead the organization using the eight (8) Quality Management Principles:

- 1. Customer Focus
- 2. Leadership
- 3. Involvement of People
- 4. Process Approach
- 5. System Approach to Management
- 6. Continual Improvement
- 7. Factual Approach to Decision-making
- 8. Mutually beneficial supplier relationships

This Quality System Manual defines the policies and procedures used to ensure that products and services meet the customer requirements.

Maintenance of this manual is the responsibility of the VP Global Quality, Bob Brenner. All questions regarding this manual should be directed to him.

Approval:

Robert Brenner Sr. V.P., Global Quality

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AVNET EM AMERICAS &

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ELEMENTS OF EMS & INTERACTION

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1.0 PURPOSE:

- 1.1 This manual defines the policies and procedures used at Avnet to document the: Quality Policies (QMS and EMS), Quality Objectives, Requirements of ISO 9001 and ISO 14001, Requirements for effective planning, operation and control of processes, and Records maintained.
- 1.2 Supplement I of this manual defines the requirements of ISO/TS16949.
- 1.3 Supplement II of this manual defines the requirements of AS 9100.
- 1.4 Supplement III of this manual defines the requirements of ISO13485.

2.0 SCOPE:

- 2.1 This manual defines the QMS and EMS requirements, as applicable used at each Avnet North American facility defined in Appendix I.
 - 2.1.1 Appendix I reference to ISO 9001 registered facilities, activities and clauses not applicable at each location are listed on pages 1, 2, 3 and 4.
 - 2.1.2 Appendix I reference to AS9100 registered facilities, activities and clauses not applicable at each location are listed on page 5.
 - 2.1.3 Appendix I reference to ISO14001 registered facilities, and the scope of each facility are listed on page 6.
 - 2.1.4 Appendix I reference to ISO13485 registered facilities and the Scope of each facility are listed on page 7.

3.0 EXCLUSIONS:

- 3.1 Clause 7.3 of ISO 9001 and AS9100, Design and Development, is not performed within Avnet EM Americas and Avnet Logistics, since all locations distribute, program and/or assemble electronic components/computer products for franchised suppliers.
- 3.2 Clause 7.5.2 of ISO 9001, Production and Service Operations, is not applicable. No processes exist that cannot be verified by subsequent measurement or monitoring.
 - 3.2.1 Clause 7.5.2 is addressed by Supplement III for ISO 13485.
- 3.3 Clauses that are not applicable to a specific location are specified on the ISO Registered Facilities List, Appendix I.

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- 3.4 Clause 7.5.1.1 of AS9100, Production Process Verification is not applicable for Connector Assembly. Avnet is the QPL assembler for Connector Manufacturers and assemble the connectors for customer orders to manufacturer's instructions.
- 3.5 Clause 7.5.1.5 of AS9100, control of Service Operations is not applicable in facilities registered to AS9100. Servicing is not applicable to Avnet's distribution, assembly, or value-add business.
- 3.6 Clause 7.3 of ISO13485, Product Design is the responsibility of the customer in ISO13485 registered facilities.

4.0 RELEVANT DOCUMENTS:

- 4.1 ISO 9001:2008 Quality Management Systems Requirements
- 4.2 ISO/TS16949:2009 Quality Management Systems Particular Requirements for the Application of ISO 9001:2008 for Automotive Production and Relevant Service Part Organizations.
- 4.3 AS9100C Quality Management Systems Aerospace Requirements
- 4.4 ISO14001:2004 Environmental Management Systems Requirements with Guidance for Use
- 4.5 ISO13485:2003 Medical Devices Quality Management Systems Requirements for Regulatory Purposes

5.0 MANAGEMENT RESPONSIBILITY:

- 5.1 Top management for each division has established the Quality and Environmental Policies, as applicable and Quality Objectives.

 Top management ensures that the Quality and Environmental Policies are appropriate to the purpose of the organization, that they include their commitment to comply with requirements and continually improve the effectiveness of the QMS and EMS, are communicated and understood within all levels of the Organization, are reviewed for continuing suitability and that they provide the framework for establishing and reviewing Quality Objectives and Environmental Objectives and Targets.
- Top management has defined the Quality and Environmental Policies. The Environmental Policy will be made available to the public upon request.

5.2.1 Quality Policy:

"Each Avnet employee will provide defect-free services and products that fully meet established requirements to our internal and external customers, and is committed to continually improve the effectiveness of the Quality Management System. We will achieve this through the process of defining and understanding, as well as agreeing and conforming, to customer requirements."

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5.2.2 Environmental Policy:

"Avnet is committed to practicing environmentally responsible business processes. Our goal is continual improvement, prevention of pollution, and compliance with applicable legal and other requirements relating to our environmental aspects."

- 5.3 Top management communicates to the organization it's commitment to the QMS and EMS through system news, news letters, broadcasts, etc.
- 5.4 Management in all areas communicates to their organization at all levels the effectiveness of the QMS and the importance of meeting customer as well as legal, statutory and regulatory requirements.
- 5.5 Top management has defined measurable objectives for quality for the applicable division, which are derived from the objectives set by Executive Management. These objectives include product requirements, are consistent with the Quality Policy, and are measurable. Quality Objective Measurements are documented using scorecards. The Quality Objectives and scorecards are located on the applicable business unit web site.

http://myavnet/sites/lgQuality/default.aspx

http://myavnet/sites/tsQA/Web%20Pages/Quality%20Assurance%20Home.aspx

5.5.1 Environmental objectives and targets are facility specific.

Management at each location registered to ISO14001 has
established and documented the locations environmental
objectives and targets, assigned responsibility for
achieving objectives and targets and methods, resources and
time-frame by which they are to be achieved. The
objectives and targets are measurable, where practicable,
and the achievement of the objectives and targets is
included in management review.

6.0 ORGANIZATION:

6.1 The organization is comprised of:

Marketing/Sales
Human Resources
Purchasing
Logistics
Value Add (Programming, Integration, Connector & Cable Assembly)
Quality Assurance
Information Services

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- 6.2 Organization charts that show the relationship of the organizations to the corporate management structure and the relationship of the various functions to each other is maintained on the Avnet Intranet. The corporate organization is shown in Appendix II and is comprised of the Product Business Groups and Sales for the three major product types represented by EM Americas, Broadline and Memec (Integrated Circuits and Semiconductors), and IP&E Interconnect, Passive and Electro Mechanical). Also, represented is ATS Americas, which is comprised of Sales & Marketing, Purchasing, Materials, Support Operations and Integration. Located within the Logistic Center Group are the warehouses, value add assembly and programming centers that support EM Americas and ATS Americas.
- 6.3 Employees within the organization have a clear understanding of their roles and responsibilities within the company through training and as defined in specific work instructions.
- 6.4 Job descriptions define each employee's general job requirements and are posted on the Avnet Intranet or maintained within job description manuals at each location. Annual goal setting to define specific tasks and responsibilities for the current year are given to each employee.

7.0 MANAGEMENT REPRESENTATIVE:

- 7.1 The President of Avnet Logistics, Jim Smith, has appointed a Management Representative, Bob Brenner, Sr. V.P., Global Quality to ensure that the QMS and EMS are established, implemented and maintained. The Management Representative is responsible for reporting to Top Management on the overall performance of the QMS and EMS and the need for improvement on an annual basis.
- 7.2 Management Representatives have been assigned for each registered location specified in Appendix I, for reviewing and reporting the performance of the QMS and EMS (as applicable) for that location and the need for improvement within that location on a quarterly and annual basis. The Management Representatives are responsible for ensuring that processes needed for the QMS and EMS are established, implemented, and maintained and for ensuring all employees are aware of the customer requirements. The Management Representatives also, have the responsibility to act as a liaison with external customers/suppliers on matters relating to the QMS and EMS, as applicable.

8.0 MANAGEMENT REVIEW:

8.1 A management review is performed by top management on an annual basis to ensure the QMS and EMS continues to be suitable, adequate, and effective using inputs from the quarterly and annual reviews performed by each facility's management representative. The management reviews includes:

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Results of compliance evaluations with legal requirements and with other subscribing requirements for EMS registered locations,
Results of customer surveys,
Facilities' Quality and Environmental Performance, as applicable,
Extent to which objectives and targets have been met in EMS registered facilities,
Product and process nonconformities,
Suppliers' quality performance,

Status of corrective and preventive actions, Communication(s) from external interested parties, including complaints, in EMS registered facilities,

Follow-up actions from previous management reviews,

Changes that could affect the QMS,

Results of internal audits performed,

Changing circumstances, including developments in legal and other requirements related to its environmental aspects in EMS registered facilities,

Recommendations for improvement

8.2 The management review is utilized by Top Management to ensure the quality and environmental policies and objectives continue to meet needs, identify areas for improvement/change of the QMS and its processes and the EMS, as applicable and product/service related to customer requirements and any additional resources needed.

9.0 CUSTOMER SATISFACTION:

9.1 Internal generated customer surveys, Industry Comparative Surveys, customer returns and customer corrective action requests are used as a means of evaluating the customer's perception of Avnet and whether the customer's requirements are met. This information gathered from surveys is evaluated, analyzed by the Avnet customer satisfaction team, and used to identify areas for improvement.

10.0 RESOURCES:

10.1 Top management has identified and provided the resources needed to implement, maintain, and continually improve the effectiveness of the QMS and EMS while enhancing customer satisfaction by meeting customer and regulatory requirements. Personnel have also been identified for the performance of work and verification activities. Management has identified the equipment, buildings, work environment, communication systems, transportation, utilities, information systems, security, computers, software and support services needed to ensure customers' requirements are consistently achieved.

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11.0 TRAINING:

- 11.1 Documented procedures for identifying training needs and providing for the training of all personnel performing activities affecting conformity to product requirements and/or that have the potential to cause a significant environmental impact have been established and maintained. Personnel performing specific assigned tasks are qualified based on appropriate education, training, and/or experience as required. If employees do not have the required education and/or experience, the necessary training is provided to ensure employees are competent to perform the assigned tasks. The training provided is periodically assessed to determine its effectiveness. Records of training and appropriate education or experience are maintained.
- 11.2 Employees working in an EMS registered facility will be made aware of the importance of conformity to the environmental policy and procedures and the EMS, the significant environmental aspects and related actual or potential impacts associated with their work and the benefits of improved personal performance, their roles and responsibilities in achieving conformity with the requirements of the EMS, and the potential consequences of departure from procedures.

12.0 PLANNING:

- 12.1 Planning is used as a method of achieving the Quality Policy and objectives and the Environmental Policy and objectives and targets; and as a means for meeting the requirements for products, projects, or contracts. Planning is consistent with documented requirements found throughout the quality and EMS systems. These requirements are found within, but not limited to documents known as quality plans, business plans, marketing plans, improvement plans, procedures, work instructions, Customer Inspection Instructions (CII's), Special Handling Codes (SHC's), statement of work (SOW), customer specifications and build procedures.
- 12.2 The Quality Manager at each EMS registered facility co-ordinates the identification of the environmental aspects of the facilities activities, products and services that it can control and those that it can influence and to determine those aspects that have or can have a significant impact on the environment. The environmental aspects, impacts and significance will be documented and kept up to date.
- Each location registered to ISO14001 has identified the legal and other requirements applicable for that location and how those requirements apply to its environmental aspects.

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13.0 CUSTOMER REQUIREMENTS:

13.1 Top Management ensures that customer requirements are determined and are met with an aim of enhancing customer satisfaction. Management has provided for a sales team that has the responsibility to communicate all information with the customers. Sales representatives receive customer's requirements electronically, verbally, or in writing. The customer's requirements are reviewed to determine if capability exists to meet the requirements and if the requirements are adequately defined prior to acceptance of a contract or order. This includes any statutory and regulatory requirements applicable to the product. Any differences between the actual contract or order requirements and those specified in the quote are communicated to the customer and resolved prior to accepting the order. Any changes to the order or contract are made via written deviations/waivers, purchase order changes or verbal communications and are communicated to concerned functions within the organization and with the customer in writing or by issuance of a new order or contract. Records of the results of the review are maintained by the applicable sales representative.

14.0 DOCUMENTATION:

- 14.1 Quality and environmental management systems have been established, documented, and maintained as a means of ensuring that product conforms to specified requirements and that the environmental scope is defined and applicable to each applicable location. This includes the preparation and effective implementation of documented quality and environmental management system procedures and instructions, as required.
- 14.2 The Process flow chart shown in Appendix III depicts the sequence and interaction of the processes included in the overall QMS.

 The process flow for each facility's processes has been developed and is controlled in that facility.
 - 14.2.1 The main elements of the EMS and their interaction and reference to related documents are shown in Appendix X.
- 14.3 The documentation outline is a three (3)-tier structure. A Quality Manual has been developed, which documents the requirements of ISO9001 and ISO14001. The second level Quality System and EMS (as applicable) Procedures, documents the requirements for accomplishing the objectives of the Quality System and the documents necessary to ensure effective planning, operation, and control of processes that relate to the significant environmental aspects. The third level provides further detail as needed for specific business operations and product lines and includes specific work instructions.
- 14.4 Quality and Environmental System procedures, plans, and work instructions have been formally documented and maintained as defined in second level procedures. The range and detail of the procedures are dependent on the complexity of the work, the

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methods used, and the skills and training needed by personnel involved in performing the activity. Reference to the Quality and Environmental Management System Procedures is as specified in Appendix IV.

14.4.1 Appendix XI is intended to bridge the QMS of the programming services organization recently acquired by Avnet Logistics, as this portion of the organization will temporarily operate on different ERP and shop floor control systems, processes and procedures.

15.0 DOCUMENT CONTROL:

- 15.1 Documented procedures have been established and maintained to control documents that relate to the requirements of the QMS and EMS, including documents needed to ensure effective planning, operation, and control of processes, and as applicable documents of external origin determined to be necessary for the planning and operation of the QMS, such as military standards, manufacturers/suppliers' standards/procedures, and customer drawings, and any other applicable legal, statutory or regulatory documents. Documents may be hard copy or electronic media.
- 15.2 Documents and data are reviewed and approved for adequacy by authorized personnel prior to issue.
- 15.3 Current revisions of appropriate documents are available at all locations where operations essential to the effective functioning of the quality and environmental (as applicable) system is performed. Invalid and/or obsolete documents are promptly removed from all points of issue and/or use. If obsolete documents are retained for legal and/or knowledge preservation, the documents are identified to prevent unintended use.
- 15.4 Documents are reviewed as required, changes made when required, and these incorporations are coordinated with the customer and /or regulatory authority, as applicable. Changes to documents are reviewed and approved by the same functions/organizations that performed the original review and approval, unless specifically designated otherwise prior to issuance.

16.0 CONTROL OF RECORDS:

16.1 Documented procedures for the identification, storage, protection, retrieval, retention time, and disposition of records have been established and maintained. The records are controlled, legible, readily identifiable, traceable and retrievable. Records are maintained to demonstrate conformance to specified requirements and the effective operation of the quality and environmental systems. When contractually specified by the customer, quality records are made available to the customer or the customer's representative for evaluation for an agreed period. Records may be in the form of any type of media, such as hard copy or electronic media.

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16.2 As a minimum, the following records are controlled:

Management Review,
Training (education, training, skills, and experience)
Inspection/test,
Contract Review and communications,

Supplier/subcontractor Evaluations,
Traceability (Unique ID of product)
Customer Supplied Product report of damage/loss to customer,
Calibration results and verification,
Internal Audit,
Inspector's Identification,
Nonconforming Product,
Results of corrective actions taken and follow up activities,
Results of preventive actions taken and follow up activities,
Periodic evaluation of compliance with applicable legal
requirements (EMS only),
Periodic evaluation of compliance with other environmental
requirements (EMS only)

17.0 PURCHASING:

- 17.1 Suppliers/subcontractors have been evaluated and selected based on their ability to meet product and quality requirements including quality system and any specific quality assurance requirements. Suppliers/subcontractors are periodically assessed and product quality reviewed as a means of controlling suppliers and subcontractors. This control is dependent upon the type of product, the impact of the supplied product/service on the quality of the final product and where applicable on quality audit reports and/or quality records of the performance of suppliers/subcontractors. Lists of acceptable suppliers and subcontractors are maintained.
 - 17.2 Purchasing documents contain information that clearly describes the product to be ordered. This information includes where applicable type, class, grade, or other precise identification, title or other positive identification and applicable issues of specifications, drawings, process requirements, inspection instructions and other relevant technical data, including requirements for approval or qualification of product, procedures, process equipment and personnel, and title, number and issue of any quality system standard to be applied.
 - 17.3 When it has been determined to verify purchased product/services at the supplier/subcontractor, the purchasing documents specify these verification arrangements and the method for release of product. When specified in a customer contract, the customer or his representative may verify at the supplier/subcontractor or upon receipt at Avnet that product conforms to specified requirements. Verification by the customer does not absolve Avnet of its responsibility to provide acceptable product nor does it preclude subsequent rejection by the customer. When customer or his designated representative elects to perform

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verification at the supplier/subcontractor's facility, such verification is not used as evidence of effective control of quality by the supplier/subcontractor.

18.0 CONTROL OF CUSTOMER SUPPLIED PRODUCT:

18.1 Any customer supplied product used for value-add processing/warranty repair/rework is identified, verified, protected, and safeguarded. Any customer supplied product that is lost, damaged or is otherwise unsuitable for use is recorded and reported to the customer.

19.0 PRODUCT IDENTIFICATION AND TRACEABILITY:

- 19.1 The product supplied is identified with the manufacturer's part number, an internal part number, and if applicable the customer's part/drawing number.
- 19.2 When the customer specifies traceability as a requirement, the unique identification of individual product or batches such as date codes/lot codes/serial numbers is provided. This identification is recorded on the applicable traceability quality record.
- 19.3 The status of the product throughout all processing including all monitoring and measurement is maintained by use of reject tags, acceptance labels, work orders, shippers, invoices, travelers, routers, shop tickets, etc. These documents include the identification of the employee performing the operation/inspection/test.

20.0 PROCESS CONTROL:

- 20.1 The distribution and production processes which directly affect quality and the operations that are associated with the significant environmental aspects have been identified and planned and are carried out under controlled conditions.
 - 20.1.1 Any processes that affect product conformity, which are outsourced are controlled via audits, procedures/work instructions, and/or inspections of the process and/or results of the process performed, as applicable.
- 20.2 Documented procedures/work instructions defining the requirements of the distribution, value add and the production/assembly processes have been developed and maintained at each location where the absence of such procedures could adversely affect quality. These procedures/work instructions include any required requirements from statutory and regulatory documents. Procedures and work instructions defining the requirements for support groups such as sales, purchasing and information services are maintained and controlled by the specific support group, as required using their own method of control.

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- 20.2.1 Documented procedure(s) have been established, implemented and maintained to control situations where their absence could lead to deviation from the environmental policy, objectives and targets and to stipulate the operating criteria.
- 20.2.2 Procedures have been established, implemented and maintained related to the identified significant environmental aspects of goods and services used and communicating these procedures and requirements to applicable suppliers and subcontractors.
- 20.3 Suitable distribution, value-add, production/assembly, and monitoring and measuring equipment is in use at each location. Preventive maintenance is performed on the required equipment to ensure continual operation.
- 20.4 Monitoring, measuring and control of suitable process parameters and product characteristics are performed, where applicable.
- 20.5 The work environment is controlled to the extent necessary to achieve conformity of product requirements or as specified in regulatory documents.

21.0 INSPECTION AND TESTING:

- 21.1 Documented procedures for inspection and testing activities have been established and maintained in order to verify that the specified requirements for the product are met. The required inspection and testing and the records to be established are detailed in these procedures.
- 21.2 An inspection is performed upon receipt of product from the suppliers. No material may be used or processed until it has been inspected or otherwise verified upon receipt as conforming to specified requirements.
- 21.3 In-Process Inspection and Testing is performed in accordance with established documented procedures as applicable to the operations being performed.
- 21.4 Final inspection and/or testing is performed in accordance with documented procedures to provide the evidence of conformance of the finished product to the specified requirements.

 Documented procedures for final inspection and testing require that all specified inspections and tests including those specified either upon receipt of product or in-process have been carried out and that the results meet specified requirements.
- 21.5 Records provide evidence that the product has been inspected and/or tested, clearly show that the product has passed or failed the inspection and/or test according to the defined acceptance criteria and identify the inspection authority responsible for the release of product.

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21.6 Any material rejected at Receiving, In-Process, or Final Inspection and Test, is positively identified, segregated from the flow of acceptable product, and processed in accordance with requirements specified in the Control of Nonconforming Product procedure. Documented procedures ensure that only after product has been subjected to all required inspections and tests, required data recorded and reviewed is the product identified as acceptable, and permitted to progress to the next process step. No product is dispatched until all the activities specified in the documented procedures have been satisfactorily completed and the associated data and documentation is available and authorized.

22.0 CONTROL OF MONITORING AND MEASURING EQUIPMENT:

- 22.1 Documented procedures to control, calibrate, and maintain inspection, measuring and test equipment (including test software) used to demonstrate the conformance of product to the specified requirements and/or used to monitor and measure key characteristics that can have a significant environmental impact, as applicable have been established and maintained. All measuring and test equipment that can affect product quality or is used to monitor and measure key characteristics that can have a significant environmental impact, has been identified, calibrated or verified or both, and/or adjusted at prescribed intervals, or prior to use, against certified equipment having known valid relationship to international or nationally recognized standards. If no such standards exist, the basis used for calibration is documented in calibration procedures.
- 22.2 The inspection, measuring and test equipment is documented in records and/or procedures, which include the details of equipment type, unique identification, location, frequency of checks, check method, acceptance criteria and the action to be taken when results are unsatisfactory. The equipment is identified with a sticker or other approved suitable indicator to show the calibration status and identification of equipment.
- 22.3 An assessment is made and documented on the validity of previous inspection and test results when inspection, measuring, or test equipment is found to be out of tolerance when calibrated. Appropriate action is taken on equipment and any product affected.
- 22.4 Inspection, measuring and test equipment, is calibrated/adjusted in the same environment as used and is protected from damage and deterioration during handling, maintenance, and storage. Safeguards are applied to inspection, measuring and test equipment, including both test hardware and test software, to prevent adjustments, which would invalidate the calibration setting.

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23.0 CONTROL OF NONCONFORMING PRODUCT:

- 23.1 Documented procedures have been established and maintained to ensure that product that does not conform to specified requirements is prevented from unintended use and the individuals who have the responsibility and authority for the disposition of the product is specified. Control is provided for identification, documentation, evaluation, segregation (when practical), and disposition and for notification to the functions concerned.
 - Documented procedures have been established, implemented and maintained for dealing with actual or potential nonconformities associated with environmental issues. The procedure defines the process for identifying and correcting the nonconformity and action(s) taken to mitigate its environmental impacts, investigating nonconformities, determining their causes and taking actions in order to avoid recurrences.
- 23.2 Nonconforming product may be reworked to meet the specified requirements, accepted with or without repair by waiver, rejected or scrapped. The proposed use or repair of product, which does not conform to specified requirements, is reported for waiver to the customer or customer's representative. Repaired and/or reworked product is re-inspected to ensure it complies with the specified requirements.
- 23.3 The use of a positive recall system is not in use; therefore, no material is allowed to move to the next operation/inspection/test until it has passed all of the specified acceptance criteria and has been identified as accepted.
- 23.4 Any product found to be defective after shipment to the customer may be returned for evaluation as authorized by the applicable sales and marketing representative.

24.0 CORRECTIVE ACTION AND PREVENTIVE ACTION:

- 24.1 Documented procedures for implementing corrective and preventive action have been established and maintained.
- 24.2 Corrective actions are taken when corrective action requests are received from customers, when problems occur in process, with product, process, quality or environmental system, or reported environmental issues and when audit findings are identified. The nonconformity identified is corrected, an investigation conducted to determine the root cause and an action implemented to prevent the recurrence of the nonconformity. Results of the investigation and the corrective action taken are documented and records maintained. Follow-up is performed on corrective action responses to ensure that the corrective action was implemented and effective in correcting the nonconformity.

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- 24.2.1 Actions taken for environmental issues or EMS nonconformities are appropriate to the magnitude of the problems and the environmental impacts encountered.
- 24.2.2 Any changes to the EMS are made, as necessary as a result of the actions taken for identified nonconformities.
- 24.3 Appropriate sources of information such as processes and work operations that affect product quality, waivers, audit results, quality and environmental records, and customer complaints are periodically reviewed to detect, analyze, and eliminate potential causes of nonconformities. The records maintained include the analysis performed in determining the preventive action identified, the steps needed to be performed for implementation, the controls to be applied to ensure it is effective and the review to determine effectiveness of the preventive action implemented.

25.0 HANDLING, STORAGE, PRESERVATION, PACKAGING AND DELIVERY:

25.1 Documented procedures for handling, storage, packaging, preservation, and delivery of product have been established and maintained in order to maintain conformity to requirements. The methods used to handle product prevents damage and/or deterioration. Designated storage areas and stockrooms to prevent damage or deterioration of product pending use and delivery are maintained. Appropriate methods for authorizing receipt to and dispatch from such areas are utilized. In order to detect deterioration, the condition of product is assessed at appropriate intervals.

26.0 INTERNAL AUDITS:

- 26.1 Documented procedures for planning and implementing internal quality and environmental system audits to verify whether the QMS and EMS and related activities and results comply with planned arrangements and to determine the effectiveness and implementation of the quality and environmental management systems have been established and maintained. Internal quality and environmental management system audits are scheduled on the basis of the status and importance of the activity to be audited and are carried out by personnel independent of those having direct responsibility for the activity being audited.
- 26.2 Results of audits are recorded and are brought to the attention of the personnel having responsibility for the area audited.

 Management personnel responsible for the area audited shall ensure that corrective actions and necessary corrections on deficiencies found during the audit to eliminate detected nonconformities and their causes are taken without undue delay. Follow-up audit activities to determine implementation and effectiveness of the corrective action taken are verified and recorded. The results of internal quality and environmental

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audits are reported to the management representative for inclusion in the management review.

27.0 STATISTICAL TECHNIQUES:

- 27.1 The need for statistical techniques required for establishing, controlling and verifying process capability, and product characteristics and to continually improve the effectiveness of the QMS has been identified. Avnet has established and maintains documented procedures to implement and control the application of the statistical techniques identified.
- 27.2 Data collected from processes and products is analyzed to demonstrate continual improvement of the effectiveness of the QMS and areas where continual improvement of the QMS can be made. Analysis of the data provides information on customer satisfaction, conformity to product requirements, characteristics and trends of processes and products including opportunities for preventive action and suppliers.
- 27.3 Each location compliant to ISO14001 will identify the monitoring and measuring to be performed on the identified key characteristics of its operation that can have a significant environmental impact.

28.0 CONTINUAL IMPROVEMENT:

28.1 Continual improvement of the effectiveness of the QMS and EMS is evaluated through the use of the quality and environmental policies, quality objectives, environmental objectives and targets, audit results, analysis of data, corrective and preventive actions and management review.

29.0 DESIGN AND DEVELOPMENT (WHERE APPLICABLE):

- 29.1 Design and development planning is used as the means to identify the scope of the project, assign responsibilities for the project, develop a timeline for the different phases of the project and the review, verification and validation for the different phases.
- 29.2 Design inputs relating to product requirements are reviewed for adequacy when received. Design outputs are verified against the design inputs and approved prior to release. Periodic reviews of the design and development project are as outlined in the project plan. These reviews include determining that the project meets requirements and identifying any problems and actions to be taken. Representatives from all required departments participate in the reviews.
- 29.3 Verification of the product is performed as specified in the plan to ensure that the design outputs have met the design inputs. Validation of the product is performed to ensure the product meets the specified requirements, if known. If practical, validation is performed before shipment.

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- 29.4 Any changes identified are reviewed, verified and validated (if applicable) and approved. The review of the changes includes evaluating the effect of the change on product in process and product already shipped.
- 29.5 Records are maintained of the design inputs, outputs, review, verifications, validation, if applicable, changes, and any actions taken during the different stages of the project.

30.0 EMERGENCY PREPAREDNESS AND RESPONSE

- 30.1 Procedures have been established, implemented and maintained to identify potential emergency situations and potential accidents that can have an impact on the environment and the method for responding to them. Any emergency situations or accidents will be responded to immediately to prevent or mitigate associated adverse environmental impacts.
- 30.2 A review is periodically performed, where necessary to revise emergency preparedness and response procedures, in particular, after an occurrence of an accident or emergency situation.
- 30.3 Where practicable, tests will be performed to check for emergency preparedness and response.

31.0 EVALUATION OF COMPLIANCE

31.1 Compliance with applicable legal and other requirements is periodically performed by a subcontractor knowledgeable in the applicable legal and requirements at each facility registered to ISO14001. A report is generated and corrective actions taken. The report of the evaluation results and the corrective actions taken are kept on file.

32.0 COMMUNICATIONS

- 32.1 Employees at all levels located in facilities registered to ISO14001 will receive EMS awareness training, which will include information on the facility identified environmental aspects and environmental programs.
- 32.2 Periodically employees will receive updates regarding the performance of the environmental programs and the achievement of the objectives and targets.
- 32.3 Requests for information received by the facilities regarding the significant environmental aspects and EMS will be forwarded to Avnet's legal department, as applicable.

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REGISTERED FACILITIES ISO 9001

LOCATIONS	FILE NO.	SCOPE
60 South McKemy Ave. Chandler, AZ 85226	001425	Head Office Support functions for all Avnet EM Americas locations. Top Management, Document Control, Corrective Action Center, Supplier Quality, Customer Satisfaction, Internal Quality System/EMS Audits, Purchasing, and Management/Review Responsibilities
		Activities: TM, Q, DC, C/A, HR, I/A, P, SQ, & CS. Location Clauses Not Applicable: Clause 7.2 Customer Related Processes is not performed at this location.
60 South McKemy Ave. Chandler, AZ 85226	026620	Distribution of Military/Commercial Semiconductors/IC's, Established Reliability/Commercial Passive Components, Connector Products Military/Commercial/Value Add, 3PL, Power Supply Assembly and Programming/ Modification
		Activities: PRM, Q, D, HR, P (Subcontracted Services), Location Clauses Not Applicable: Clause 7.2 Customer Related Processes is not performed at this location except quotes for Subcontracted Value Add work is performed.
Av Iteso 8900 Edif 1B Parque Industrial Tecnologics	013722	Programming and distribution of Integrated Circuits
Tlaquepaque, Jalisco Mexico 45080		Activities: D, PRM Location Clauses Not Applicable: Clause 7.4 Purchasing is not performed at this location.
1840 McCarthy Blvd. Milpitas, CA 95035	013147	Programming and distribution of Integrated Circuits.
Willpitas, CA 95055		Activities: D, PRM Location Clauses Not Applicable: Clauses 7.2 Customer Related Processes and 7.4 Purchasing are not performed at this location
26 Clinton Drive Hollis, NH 03049	1613578	Post manufacturing services to semiconductor devices including customer specified programming, testing, tape and reeling, material procurement and management and engineering analysis test services.
		Activities: D, PRM Location Clauses Not Applicable: None

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REGISTERED FACILITIES ISO 9001

LOCATIONS	FILE NO.	SCOPE
400 Franklin Road, Suite 260 Marietta, GA 30067	005485	Distributions of XYZ Products, Military Packaging, Sales, Marketing, and Purchasing
		Activities: S, P (IP&E & XYZ Only), Q, D, Location Clauses Not Applicable: Clause 7.5.4, Customer Property is not handled at this location
6700 W. Morelos Place Chandler, AZ 85226	1058174	Distribution of Computer Components, Networking Equipment to support value-added resellers and end-user markets in the computer technology sector
		Activities: Q, D Location Clauses Not Applicable: Clauses 7.2 Customer Related Processes and 7.4 Purchasing are not performed at this location
Calzada Industrial Nuevo Nogales #1061, Fraccionamiento: Parque Industrial Nuevo Nogales,	1609379	Assembly of electronic connectors, cables, and wiring harnesses.
Nogales, Sonora, MX C.P. 84094		Activities: Q, CBA, COA, DC Location Clauses Not Applicable: Clause 7.2, Customer Related Processes is not performed at this location.
1481 N. Industrial Park Drive, Suite 2	TBD	Assembly of electronic connectors, cables, and wiring harnesses.
Nogales, AZ 85621		Activities: Q, COA Location Clauses Not Applicable: Clause 7.1.e, Identification of resources to support operation and maintenance of the product is not applicable to distribution. Clause 7.2, Customer Related Processes is not performed at this location. Clause 7.5.1.1, Production Process verification is not applicable to Connector Assembly.
6700 W. Morelos Place Chandler, AZ 85226	1611724	Custom configuration, quoting, integration, and distribution, for OEM's, sub-system level computer components, Networking equipment, value added resellers and end user markets in the computer technology sector.
		Activities: E, ITG, P, Q, SQ, DC, HR, C/A, and I/A

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Location Clauses Not Applicable: 5.2, Customer Focus.

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REGISTERED FACILITIES ISO 9001

LOCATIONS	FILE NO.	SCOPE
8700 South Price Road Tempe, AZ85284	1611728	Custom configuration, quoting, integration, and distribution, for OEM's, sub-system level computer components, Networking equipment, value added resellers and end user markets in the computer technology sector.
		Activities: S, CF, P, QO, CS Location Clauses Not Applicable: 5.3, Quality Policy; 5.4, Planning; 5.6, Management Review; 7.1, Planning of Product Realization; 7.5, Production and Service Provision; 7.6, Control of Monitoring and Measuring Equipment; 8.2 Monitoring & Measurement.
6550 North Loop 1604 East San Antonio, TX 78247	1611730	Custom configuration, quoting, integration, and distribution, for OEM's, sub-system level computer components, Networking equipment, value added resellers and end user markets in the computer technology sector.
		Activities: S, CF, RM, HR, P, QO Location Clauses Not Applicable: 5.3, Quality Policy; 5.4, Planning; 5.6, Management Review; 7.1, Planning of Product Realization.
8 Craig Rd. Acton, MA 01720	1611729	Custom configuration, quoting, integration, and distribution, for OEM's, sub-system level computer components, Networking equipment, value added resellers and end user markets in the computer technology sector.
		Activities: E, ITG, QO, D Location Clauses Not Applicable: 5.3, Quality Policy; 5.6, Management Review: 7.2, Sales, 7.4, Purchasing.
326 Charcot Avenue San Jose, CA 95131	TBD	Custom configuration, quoting, integration, and distribution for OEM's, sub-system level computer components, Networking equipment, value added resellers and end user markets in the computer technology sector.
		Activities: E, ITG, QO, CF, TM, Q Location Clauses Not Applicable: 5.3, Quality Policy; 5.6, Management Review: 7.2, Sales, 7.4, Purchasing.
7626 Golden Triangle Dr Eden Prairie, MN 55344	TBD	Design of integration and distribution services for computer equipment.
QM0492		Activities: E, ITG, CF, TM, Q, DSN, D, P, Q, S Location Clauses Not Applicable: 5.3, Quality Policy Page 25 of 34

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$\frac{\textbf{REGISTERED FACILITIES}}{\textbf{ISO 9001}}$

LOCATIONS	FILE NO.	SCOPE
2100 NW 97 th Ave. #101 Miami, FL 33172	1621316	Distribution of Computer Products.
Wildlin, 1 E 33172		Activities: O, D
		Location Clauses Not Applicable: Clauses 7.2 Customer
		Related Processes and 7.4 Purchasing are not performed at this location
2110 Zanker Rd. San Jose, CA 95131	TBD	Distribution of Computer Products.
5411 3050, C11 33131		Activities: Q, D
		Location Clauses Not Applicable: Clauses 7.2 Customer
		Related Processes and 7.4 Purchasing are not performed at this location

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REGISTERED FACILITIES AS9100

026620

TBD

60 South McKemy Ave. Chandler, AZ 85226 Distribution of Military/Commercial

Semiconductors/IC's, Established Reliability/Commercial

Passive Components, Connector Products

Military/Commercial/Value Add, 3PL, Power Supply

Assembly and Programming/Modification.

Activities: PRM, Q, D, HR, P (Subcontracted Services). Location Clauses Not Applicable: Clause 7.2 Customer Related Processes is not performed at this location except quotes for Subcontracted Value Add work is performed. Clause 7.1.e, Identification of resources to support operation and maintenance of the product is not applicable to distribution.

Calzada Industrial Nuevo Nogales #1061, Fraccionamiento: Parque Industrial Nuevo Nogales, Nogales, Sonora, MX C. P. 84094

Assembly of electronic connectors, cables, and wiring harnesses.

Activities: Q, CBA, COA, DC

Location Clauses Not Applicable: Clause 7.1.e, Identification of resources to support operation and maintenance of the product is not applicable to distribution. Clause 7.2, Customer Related Processes is not performed at this location. Clause 7.5.1.1, Production Process verification is not applicable to Connector Assembly.

1481 N. Industrial Park Drive, Suite 2 Nogales, AZ 85621 Assembly of electronic connectors, cables, and wiring harnesses.

Activities: Q, COA

Location Clauses Not Applicable: Clause 7.1.e, Identification of resources to support operation and maintenance of the product is not applicable to distribution. Clause 7.2, Customer Related Processes is not performed at this location. Clause 7.5.1.1, Production Process verification is not applicable to Connector Assembly.

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REGISTERED FACILITIES ISO 14001

LOCATIONS	FILE NO.	SCOPE
60 South McKemy Ave. Chandler, AZ 85226	026620	Distribution of Military/Commercial Semiconductors/IC's, Established Reliability/Commercial Passive Components, Connector Products Military/Commercial/Value Add, 3PL, and Programming/Modification
6700 W. Morelos Place Chandler, AZ 85226	1058174	Distribution of Computer Components, Networking Equipment, Customer Configuration, Integration and Services for OEM's to support value-added resellers and end- user markets in the computer technology sector
Calzada Industrial Nuevo Nogales #1061, Fraccionamiento: Parque Industrial Nuevo Nogales, Nogales, Sonora, MX C. P. 84094	1609379	Assembly of electronic connectors, cables, and wiring harnesses.

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REGISTERED FACILITIES ISO 13485

LOCATIONS	FILE NO.	SCOPE
6700 W. Morelos Place Chandler, AZ 85226	1611724	Contract manufacture of computer systems used in medical devices.
		Activities: E, ITG, P, Q, SQ, DC, HR, C/A, I/A Location Clauses Not Applicable: 5.2, Customer Focus.
8700 South Price Road Tempe, AZ 85284	1611728	Contract manufacture of computer systems used in medical devices.
		Activities: S, CF, CS, P, QO, HR Location Clauses Not Applicable: 5.3, Quality Policy; 5.4, Planning; 5.6, Management Review; 7.1, Planning of Product Realization; 7.5, Production and Service Provision; 7.6, Control of Monitoring and Measuring Equipment; 8.2, Monitoring & Measurement.
7626 Golden Triangle Dr Eden Prairie, MN 55344	TBD	Design of integration and distribution services for computer equipment for the medical and related industries.
		Activities: E, ITG, CF, TM, Q, DSN, D, P, Q, S Location Clauses Not Applicable: 5.3, Quality Policy

Activity Codes: S=Sales

P=Purchasing

TM=Top Management

Q=Quality

E-Engineering SQ=Supplier Quality

DSN=Design and Development

MA=Motor Assembly CBA=Cable Assembly

DC=Document Control

D=Distribution

HR=Human Resources C/A=Corrective Action

QO=Quote Center (CBA & MA) PRM=Programming

COA=Connector Assembly CS=Customer Satisfaction I/A=Internal Qual Sys Audits

ITG= Integration

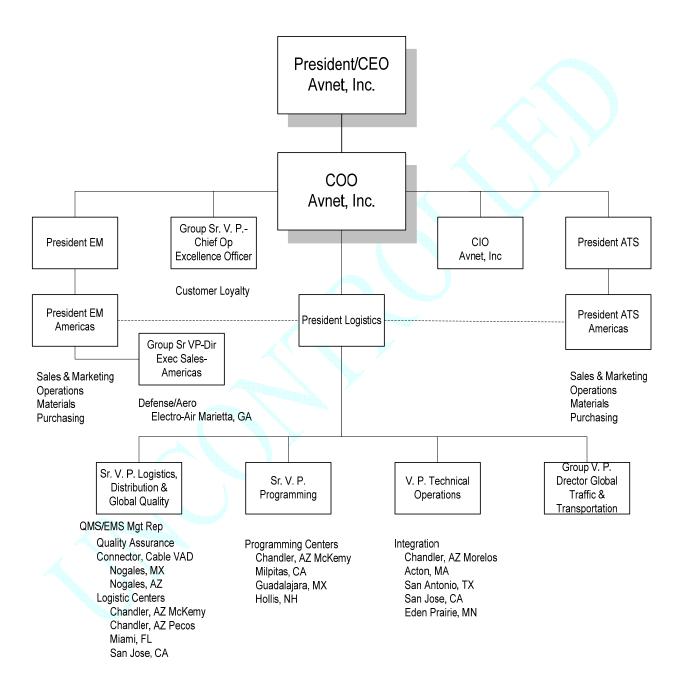
CF=Configuration Management

RM = **Re-marketing**

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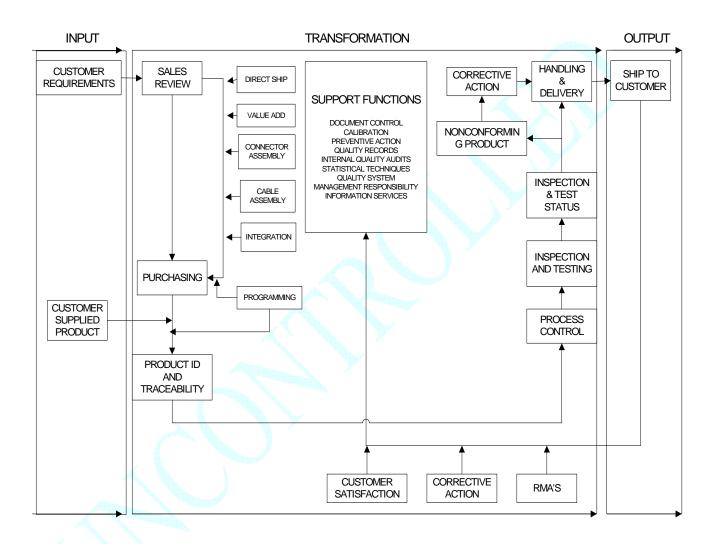
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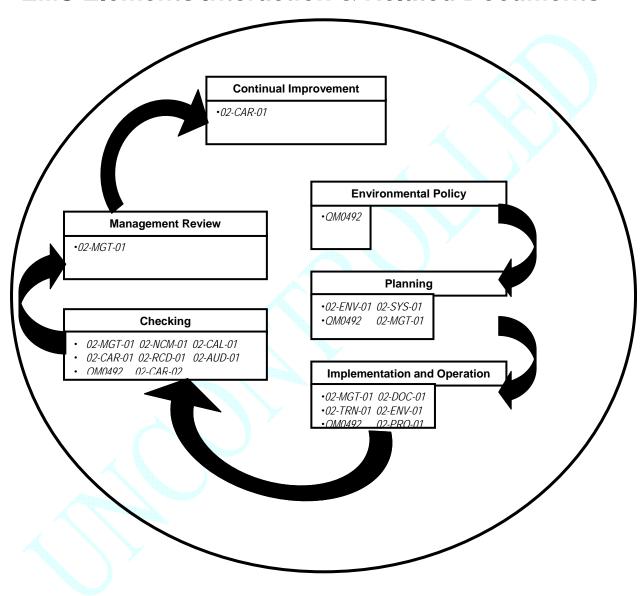
PROCESS FLOW



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QMS REQUIREMENT	MANUAL	TIER II PROC.
MANAGEMENT RESP.	QM0492	02-MGT-01
CUSTOMER SATISFACTION	QM0492	02-CST-01
QUALITY SYSTEM	QM0492	02-SYS-01
CONTRACT REVIEW	QM0492	02-CON-01
DOCUMENT CONTROL	QM0492	02-DOC-01
PURCHASING	QM0492	02-PUR-01
CUST. SUPPLIED PRODUCT	QM0492	02-PSP-01
PROD. ID & TRACEABILITY	QM0492	02-TRA-01
INSP. & TEST STATUS	QM0492	02-QID-01
PROCESS CONTROL	QM0492	02-PRO-01
INSPECTION & TESTING	QM0492	02-INT-01
CALIBRATION	QM0492	02-CAL-01
RECORDS	QM0492	02-RCD-01
INTERNAL AUDITS	QM0492	02-AUD-01
H., S., P., P., & DELIVERY	QM0492	02-HST-01
NONCONFORMING PROD.	QM0492	02-NCM-01
CORRECTIVE ACTION	QM0492	02-CAR-01
PREVENTIVE ACTION	QM0492	02-CAR-02
STATISTICAL TECHNIQUES	QM0492	02-SPC-01
DESIGN & DEVELOPMENT	QM0492	02-DSN-01
TRAINING	QM0492	02-TRN-01
VALUE ADD PROCESS		
DESIGN AND DEVELOPMENT	QM0492	02-DSN-02
ENVIRONMENTAL MANAGEMENT	QM0492	02 - ENV-01

EMS Elements Interaction & Related Documents



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APPENDIX XI

Rev. A

QMS REQUIREMENT	AVNET MANUAL	ACQUIRED PROGRAMMING HOUSE QAM	TIER II PROCEDURE
MANAGEMENT	QM0492	R-010	QAM Only
RESPONSIBILITY			
CUSTOMER SATISFACTION	QM0492	R-010	QAM Only
QUALITY SYSTEM	QM0492	R-010	1/058
CONTRACT REVIEW	QM0492	R-010	1400/001
DOCUMENT CONTROL	QM0942	R-010	1/002
PURCHASING	QM0942	R-010	1600/001
CUST. SUPPLIED PRODUCT	QM0942	R-010	QAM Only
PROD. ID & TRACEBILITY	QM0942	R-010	QAM Only
INSP. & TEST STATUS	QM0942	R-010	QAM Only
PROCESS CONTROL	QM0942	R-010	1/009
INSPECTION & TESTING	QM0942	R-010	QAM Only
CALIBRATION	QM0942	R-010	1/004
RECORDS	QM0942	R-010	1/017
INTERNAL AUDITS	QM0942	R-010	1/012
H., S., P., P. & DELIVERY	QM0942	R-010	1/015
NONCONFORMING PRODUCT	QM0942	R-010	1/010
CORRECTIVE ACTION	QM0942	R-010	1/006
PREVENTIVE ACTION	QM0942	R-010	1/006
STATISTICAL TECHNIQUES	QM0942	R-010	1/021
DESIGN & DEVELOPMENT	QM0942	R-010	1/038, 1400/001, 1700/002
TRAINING	QM0942	R-010	1/008
CONTINGENCY PLANS	QM0942	R-010	1/035
LABORATORY REQUIREMENTS	QM0492	R-010	1/039