Business System Manual

of the

Quality Management System

Revision	DATE	CDC		By:
Orig. Rel	June 18, 2008	N/A		JR
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B	July 2, 2009	30332		BB
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F	Sept 28, 2016	45353		RD
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SCOPE, PURPOSE and QMS Influences

SCOPE:

The Business/Quality Management System is a combined system structured to satisfy the requirements of AS9100, ISO9001 and additional customer requirements. It applies to all activities conducted at TMS locations (Wallingford, Connecticut and Mesa Arizona) related to the design and manufacture of high-performance, flexible and semi-rigid, coaxial cable, cable assemblies, connectors, interconnective systems, accessories and tools for RF transmission from HF through Microwave frequencies for aerospace, military, space and defense, and commercial applications. No exclusions are taken.

PURPOSE:

To demonstrate the ability of our organization to consistently provide products that meet or exceed our customers' requirements and enhance customer satisfaction.

To establish a set of procedures and processes whereby the effective application of the management system produces safe and reliable products with continual improvement opportunities and assurances of conformity to customer and applicable statutory and regulatory requirements.

Influences of the QMS:

TMS adopts and embraces the AS9100 business management system. TMS recognizes that the design and implementation of this QMS was influenced by several factors including: the organizational environment, it's size and structure, changes in that environment, and the risks associated with that environment and its varying needs, organizational needs and customer requirements, the products it provides, the processes it employs and its particular objectives. TMS refers to the quality management system as the Business Management System for the organization.

An organizational chart is maintained on a network drive to summarize and identify Top Management (also known as Senior Leadership Team, SLT) and the relationship of staff personnel and departments within the TMS BMS.

Controlled Circulation and Revision Changes:

The content of this Business System Manual has been developed by and is exclusively maintained by Times Microwave Systems (TMS). The Management Representative, the Director of Quality or their designee is responsible for processing all authorized changes, updating the master file, and for inserting amendment pages into official copies, and has authority to remove and dispose of obsolete pages of official copies to prevent their unintentional usage.

All authorized changes will be given a CDC (Controlled-Document-Change Process) number and identify changes to this manual. The approved, master copy of this manual shall be maintained electronically in controlled directories available for general viewing in a read only format. Only the Management Representative and designees shall have write-access privileges.

All employees can access the master copy of the Business System Manual from the network. Quality is responsible for any controlled copies of the Quality Manual listed above. Any printed and/or saved versions other than the master, electronically-controlled copy described above are considered to be "uncontrolled" copies, and are *"For Reference Only"* and are not subject to issue/revision amendments unless designated.

DEFINITIONS:

TMS	Times Microwave Systems
BSM	The TMS Business System Manual (aka Quality Manual)
BMS / QMS	Business/Quality Management System of TMS
AS9100	Established International Aerospace Standard for Quality Management Systems Requirements for Aviation, Space and Defense Organizations
Risk:	A potential undesirable situation or circumstance that has both a likelihood of occurring and a possible negative impact.
Risk Management:	An iterative process to identify, assess, reduce, accept, and control risks in a systematic, proactive, comprehensive and cost effective manner, taking into account the *business*, costs, technical, quality and schedule programmatic constraints.
Special Requirements:	Requirements identified by the organization or by the customer which have high risks of being achieved, and thus requiring their inclusion in the risk management process. Factors used in the determination of special requirements include product or process complexity, past experience and product or process maturity. Examples of special requirements include performance requirements imposed by the customer that are at the limit of the industry's capability, or requirements determined by the organization to be at the limit of its technical or process capabilities.
Critical Items:	Those items (e.g., functions, parts, software, characteristics, processes) having significant effect on the product realization and use of the product; including safety, performance, form, fit, function, producibility, service life, etc., which require specific actions to ensure they are adequately managed. Examples of critical items may include: safety critical items, fracture critical items, mission critical items, key characteristics, etc.
Key Characteristics:	The features of a material, process, or part whose variation has significant influence on product fit, performance, service life, or manufacturability.

Quality Plan:	A document specifying which procedures, processes and associated resources shall be applied by whom and when to a specific project, product, project or contract.
Quality Planning:	Part of Quality Management focused on setting quality objectives, goals and specifying necessary operational processes and related resources to fulfill the quality objectives.
Quality Policy:	Overall intentions and direction of an organization related to quality as formally expressed by the SLT.
Record:	Evidence of results achieved or activities performed and maintained for a desired time period.
SLT or Top Management:	(SLT) – Senior Leadership Team is those Managers/Leaders who direct and control the organization. This typically consists of the General Manager and his/her Direct Reports, which include to some extent: Functional Leads for supporting departments (e.g., Quality, Sales, Engineering, Operations, Production, Human Resources, Accounting / Finance, Supply Chain…etc) and/or as decided upon by the General Manager. Note: The standard applies the term "Top Management" to this group. The General Manager has the authority to delegate responsibility to a named alternate as a substitute in case of absence.
Direct Report:	A person who reports directly to a specified individual (eg, Supervisor, Group Leader, Manager, Director…etc).
Validation / Verification:	Confirmation, through the provision of objective evidence that the requirements for a specific intended use or application have been fulfilled. Used to designate the corresponding status and/or activities such as: Performing calculations, Comparing a new design specification with a similar proven design specification (Qualification by Similarity), Undertaking tests and demonstrations, and Reviewing documents prior to issue.
Work Environment	A set of conditions under which work is performed

SEQUENCE AND THE INTERACTION OF PROCESSES:

A Process Approach and Interaction of Key Processes

TMS utilizes a process approach for developing, implementing and improving the effectiveness of the BMS, and to enhance customer satisfaction by meeting customer requirements.

The TMS implemented process approach provides the linkage between the individual processes to produce the desired outcome and emphasizes the importance of: understanding and meeting customer requirements, obtaining results of process performance and effectiveness, and continual improvement of processes based on objective measurement.
The processes of the BMS and their interaction is shown in Figure 1 (page 8). The relationship between the requirements of the standards and key processes for TMS documented procedures is shown in Table 1 (page 9).

Key Objectives of the Business Management System

Key Processes for the Business Management System are Manufacturing / Production, Design and Development and Purchasing / Supplier Control.

All of these measurables are identified through the Quality Objectives of :
   (1) On-Time Delivery,
   (2) Product Quality as identified by: a) Internal Cable rejection data and b) Internal Cable Assembly rejection data.

There are many supporting metrics that are monitored and may have action plans associated.

Plan-Do-Check-Act

TMS utilizes the "Plan-Do-Check-Act" (PDCA) methodology for processes. Direct processes include management planning, external and internal customer relations, design and development of product, purchasing, and production. Indirect processes include document and records controls, management responsibility, resource management, and measurement, analysis, and improvement. These processes are described in the BSM and the associated procedures.

Plan (Planning)

The SLT provides general oversight and control of internal and outsourced processes and the authorization of the BSM, documents, and records required to ensure the BMS has the structure to achieve desired results.

The SLT operates the management responsibility process, which includes:

- Establishment and/or review of evidence of commitment, through ongoing customer focus initiatives, quality policy and quality objective reviews, and business management system planning;
- Assignment of responsibility and authority to key individuals to manage, operate, and verify all processes;
- Appointment of a management representative who has the responsibility and authority documented in the standard;
- Establishment of communication processes to members of the organization demonstrating the effectiveness of the BMS; and
- Review of the QMS, including outputs of the measurement, analysis, and improvement processes.

As a result of output decisions made during the management responsibility process, the SLT provides inputs to the resource management process to provide the necessary resources to implement, maintain, and improve the BMS system and to enhance customer satisfaction.
These provisions include:

- Human resources (including competence, awareness, and training needs)
- Infrastructure and Work environment

Do (Implementation)

After the SLT provides the outputs of necessary resources, improvement and planning inputs are provided to the production planning process. This includes high-level review of quality objectives and project-specific requirements to ensure production, test, inspection, and record-keeping processes are sufficient. The output of the planning may be a procedure, a manufacturing work instruction, a project design plan, or a combination of these.

Sales personnel operate the customer-related processes.
Engineering personnel control the design and development processes. These processes involve communicating with internal and/or external customers and suppliers to determine and review product requirements and to communicate with them during and after design and production in the event there are amendments to or complaints about meeting requirements.

Engineering personnel provide output of the customer-related and design and development processes as inputs to the Supply Chain process. Purchasing personnel monitor the suppliers to ensure the supply of products and services meet applicable purchasing needs. The purchasing process includes verification of supplied products or services.

Production personnel use purchased products and services from the outputs of the purchasing process as inputs to the production process.

Production:

- Controls the production processes through the use of procedures, manufacturing work instructions (MI's), proper equipment, and proper monitoring and measurement
- Exercises care with customer property (including intellectual property) while it is under the organization's control and record and report any lost, damaged, or unsuitable customer property;
- Preserves product information in such a manner that it retains its conformity to customer requirements

The outputs of the production processes are planned to meet and/or exceed customer expectations. The results of product realization are inputs to the measurement, analysis, and improvement processes.

Check (Monitor and Measure)

All TMS employees are responsible for contributions to the measurement, analysis, and improvement processes.

Sales/Contracts monitors the customer satisfaction process.

Quality is responsible for coordinating the internal audit process and the monitoring and measurement of internal and external rejections, and the nonconformance processes.

The SLT reviews data from the customer satisfaction process, the monitoring and measurement processes, corrective and preventive action processes, audits, and the purchasing process to determine the effectiveness of the BMS.

Act (Actions)

The outputs of the measurement, analysis, and improvement processes serve as inputs to the management responsibility process as the next step in the recurring process cycle. Decisions are made at management reviews to act upon continual improvement of processes. The continual cycle of planning, doing, and checking follow the high level "Plan-Do-Check-Act" cycle as applicable within each process.

Processes of the Business Management System

Context of the organization – In order to assure that the Business Management System is properly constructed, several factors must be understood.

- First is the strategic direction of the organization. Understanding the forward thinking aspirations of the business allows focus on the customers, employees, system structure and complexity, core capabilities, and business processes that are required.

  ➢ This is supplemented by a detailed assessment of the context of the organization. The internal and external factors that come into existence after the strategic direction is understood affect the contents of the BMS.

- The next evaluation is for the needs and expectations of internal and external interested parties relevant to the business management system. The business management system contents are further refined based on these understandings.

- Finally, the processes of the business management system can be detailed considering the inputs required and the outputs expected from these processes and the sequence and interaction of these processes. From this the criteria and methods for operation and control of these processes are applied, resources are made available, responsibilities are assigned. All controls over risks and opportunities that are known to exist (at this time) are built into the system (OP's, WP's, and SP's). New, unanticipated risks are managed as they occur. In order to review the systems performance and effectiveness regular evaluation of the system occurs through audits, reviews, corrective actions, control of changes and continual improvements.

Leadership from SLT (Senior Leadership Team, aka as top management) is key. SLT drives the implementation, maintenance, effectiveness, and continual improvement of the system by providing accountability, policy and objectives, integrating QMS practices with business practices, regularly managing risks and opportunities, reviewing performance, and supporting other management/organizational roles, responsibilities, and authorities. This is done so that there is a clear emphasis on the customer.

Planning – Planning of the business management system and our business processes is a constant effort to identify and mitigate risks, and identify and capitalize on opportunities. When these are known they are incorporated into the processes and documentation of our system and processes. When they arise unanticipated, they are resolved and the system and processes are changed for their control. When changes are needed, controlled implementation is accomplished via document revision, training, or other method.

Support – The resources needed for the establishment, implementation, maintenance and continual improvement of the business management system are systematically and regularly reviewed and provided as necessary. This includes the new or retrained personnel, maintenance of the infrastructure, creation and maintenance of a work environment suitable for the product and people. A measurement and calibration capability is maintained in accordance with ANSI-Z-540. Organizational knowledge is maintained and updated as necessary. Competence of personnel, their awareness of important system and business information, and communication regarding important system and business information is maintained. Documented procedures and records are established throughout office and manufacturing operations.

Customer orders – TMS employs a comprehensive process for responding to customer requests for quotes, review of customer purchase orders, resolution of any issues, order acknowledgement, and order entry. Information is retained in our Enterprise Resource Planning system (ERP System).
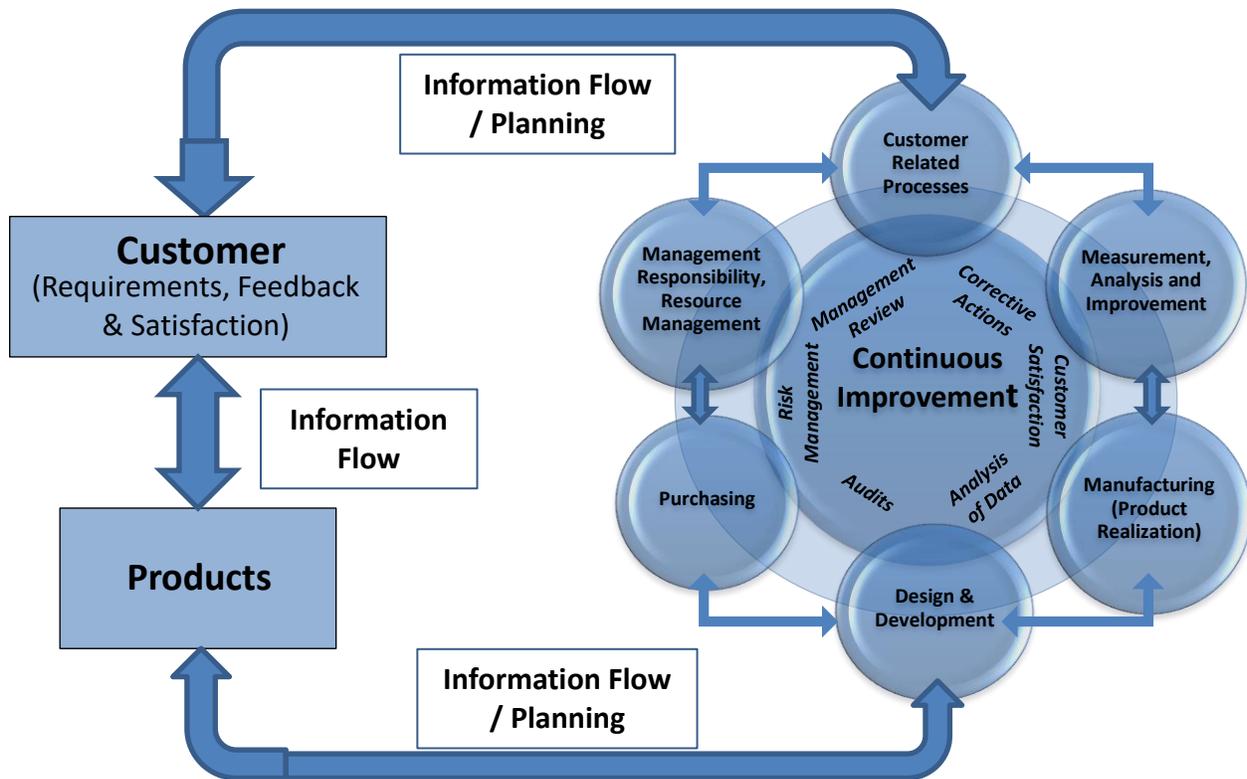
Design and Development – TMS maintains a comprehensive capability for design of products to customer specifications. The process is controlled using our CDC process as a tollgate approach. These tollgates are customer order launch, engineering launch, product design and implementation, TMS/customer design review, final design and procurement, release of MI for production, final pack and ship, and FAI or post order review.

Purchasing and supplier control – TMS has a process for selection, evaluation, monitoring, and re-evaluation of suppliers. All purchases are made from these approved suppliers and the approved supplier listing. All purchases require a purchase order that specifies (as applicable) the identification, configuration, quantity, due date, materials, processes, and terms and conditions of the purchase.

Manufacturing and Inspection – TMS receives raw materials and purchased products from external product and process suppliers and accounts for its quantity and quantity. This material is processed through fabrication, assembly, calibration, and testing operations as required by the customer requirements. When required, products are inspected for conformance to drawing requirements using calibrated gages. Nonconformances are controlled and dispositioned. Acceptable items are certified, packaged, and shipped.

Performance evaluation and improvement – Constant review of system and business performance information is maintained. This is done through performance to objectives review, internal audit results and resolution of findings, management reviews, correction and corrective action of nonconformances, and continual improvements.

Figure 1:   Pictorial Model of the Sequence and Interaction of Processes for a Process-Based Approach to the Business Management System

Context of the organization

EXTERNAL ISSUES	
ISSUE	**COMMENTS**
Investment Group Ownership	Profit requirements drive improvements: • Improvements in productivity are needed to reduce operating cost resulting in regular streamlining of the business management system. • Improvements in quality are needed for reduction in cost of poor quality resulting in regular streamlining of the business management system.
Commodity raw material suppliers	Raw materials are sourced from multiple sources. These suppliers require supplier selection and evaluation processes with little oversight.
Specialized raw material suppliers	Close relationships are needed with suppliers in this category. Selected suppliers receive regular feedback from regarding their performance.
Customer designated suppliers	No selection criteria apply for customer designated suppliers, but these suppliers may receive feedback from regarding their performance.
Outside service providers for product	Outside providers of calibration services that are ANSI-Z540, ISO-10001 or ISO-17025 certified require simple supplier selection and evaluation processes and little oversight. Outside providers of special processing may require feedback regarding their performance.
Populated location Skilled employees	The available labor pool positively impacts human resource availability in times of high employment. There is adequate skill level in this labor pool that positively affects the degree of training required for new employees.
Stringent and diverse customer inspection criteria	A wide variety of customer requirements and diversity in products made, require skilled personnel, detailed assembly instructions, comprehensive test plans, and thorough quality assurance. These features are built into our business management system.
Increasing product diversity	Requires increases in employee skill, production technology, and process capability. The business management system must evolve to meet these requirements.
Regulatory compliance	TMS is ITAR registered. Appropriated discipline and conformance to requirements is needed. TMS has UL Rated products. Appropriated discipline and conformance to requirements is needed.
AS9100 and customer specifications	Business sector and customer requirements require a business management system that satisfies multiple sets of requirements and regular upgrades to changes from revisions.

INTERNAL ISSUES	
ISSUE	**COMMENTS**
Rapid growth	Changes due to new customers, products, processes, systems, and personnel must be managed so that customer satisfaction, product conformity, and workplace satisfaction is maintained.
New Employees	Skill of new employees must be assessed to assure provision of appropriate training.
Performance to goals	Increasing customer and management expectations, as well as increasing activity in the aviation, space, and defense sectors requires cultural evolution towards improved attention to detail in our work, records, and results.
Lean manufacturing implementation	Changes from lean manufacturing implementation result in regular upgrades to the business management system
Growing supply chain	A supply chain that is constantly growing needs many types of oversight, from simple to comprehensive.

Needs and expectations of stakeholders - External

External Interested Parties	Needs and Expectations
Investors	Efficient, productive, and defect free operations.
Customer	Reasonable price Reasonable lead time Defect free On-time delivery Prompt and dependable problem resolution Courteous, accurate, and timely non-product service
Suppliers	Clear definition of purchased products and services Clear definition of delivery requirements Clear definition of associated flow-down requirements, terms and conditions Prompt and dependable problem resolution On-time payment
Registrars	Timely notification of: • The legal, commercial, organizational status or ownership • Organization and management (e.g. key managerial, decision-making or technical staff) • Contact address and sites • Scope of operations under the certified management system Major changes to the management system and processes
Regulatory	UL, Quarterly and Annual counter checks

Needs and expectations of stakeholders - Internal

Internal Interested Parties	Needs and Expectations
Owners	Efficient, productive processes, and defect free operations.
Management	Meaningful and fulfilling employment. Corporate strategy as guidance for performance. Fair, consistent, and understandable rules and instructions. Opportunity for growth. Provide training to ensure the health, safety, well-being and fair treatment for all employees. Provide a safe work environment
Employees	Meaningful and fulfilling employment. Company goals as guidance for performance. Fair, consistent, and understandable rules and instructions. Opportunity for growth.

Internal and external communications

TMS has determined the internal and external communications regarding the effectiveness of the business management system that are needed and has established the process by which these communications take place. Information regarding internal and external communications is shown in Table 2.

Risk and opportunity management

TMS strives to employ risk based thinking in all aspects of business management system activities.

- To accomplish this end TMS has identified activities for the management of all known risks and opportunities by incorporating them into our existing business management system documentation and/or activities.
- The complete inventory of OP's, WP's, and SP's, document the risks and opportunities known to exist at the time of the procedures revision.
- Further, a matrix of the most important operational risk and opportunity processes, along with the methods for evaluation of these risks and opportunities, and the actions taken to mitigate the risk or capitalize on the opportunities is shown in Table 3.

Unanticipated risks and opportunities are actively sought out by the planned activities listed below.

- Continuous Improvement activities (eg, 5S, Lean Manufacturing, Gemba walks)
- Management review,
- Tracking and reacting to performance objectives,
- Analyzing customer feedback,
- Correcting findings from internal and external audits,
- Capitalizing on opportunities for improvement identified in internal and external audits, and
- Creating action plans for unforeseen issues that may arise.

Cross reference (ISO 9001 vs. TMS documentation) - Information regarding the relationship between the TMS business management system documents and AS9100 requirements are shown in Table 1.

Table 1   Cross Reference Matrix for ISO9001, AS9100, TMS BMS

ISO 9001		Title only	AS9100D	
SEC.	**TITLE**		**Document Reference**	**PROCESS OWNER**
4	Context of the Organization			
4.1	Understanding the Organization and its Context		BSM	General Manager
4.2	Understanding the Needs and Expectations of Interested Parties		BSM	General Manager
4.3	Determining the Scope of the Business management System		BSM	General Manager
4.4	Quality management system and its processes			
4.4.1	Establish, implement, maintain, and continually improve a business management system		Entire system	General Manager
4.4.2	Maintain documented information		BSM, AS4.2-03	General Manager
5	Leadership			
5.1	Leadership and Commitment			
5.1.1	General		Entire system	Operations Manager(s)
5.1.2	Customer Focus			Customer-Related Process Owner(s)
5.2	Policy			
5.2.1	Establishing the quality policy		BSM	SLT
5.2.2	Communicating the quality policy		BSM	Quality Manager
5.3	Organizational Roles, Responsibilities, and Authorities		BSM	General Manager
6	Planning			

6.1	Actions to Address Risks and Opportunities		
6.1.1	Determine risks and opportunities	BSM, AS7.1-01	SLT
6.1.2	Take actions	Entire system	SLT
6.2	Quality Objectives and Planning to Achieve Them		
6.2.1	Establish quality objectives	BSM	General Manager
6.2.2	Achieve quality objectives	BSM	General Manager
6.3	Planning of changes	Entire system	General Manager
7	Support		
7.1	Resources		
7.1.1	General	Entire system	Operations Manager(s)
7.1.2	People	Manpower planning	Operations Manager(s)
7.1.3	Infrastructure	BSM	Operations Manager(s)
7.1.4	Environment for the operation of processes	BSM	Operations Manager(s)
7.1.5	Monitoring and Measuring Resources		
7.1.5.1	General	BSM	Quality Manager / Director
7.1.5.2	Measurement traceability	AS7.6.-01	Quality Manager / Director
7.1.6	Organizational Knowledge	Entire system	Operations Manager(s)
7.2	Competence	AS6.2-01	Operations Manager(s)
7.3	Awareness	AS6.2-01	Operations Manager(s)
7.4	Communication	BSM	General Manager
7.5	Documented information		
7.5.1	General	AS4.2-01	Quality Manager / Director
7.5.2	Creating and updating	AS4.2-01	Quality Manager / Director
7.5.3	Control of Documented Information		
7.5.3.1	Document control	AS4.2-01	Quality Manager / Director
7.5.3.2	Document control	AS4.2-01	Quality Manager / Director
8	Operation		
8.1	Operational Planning and Control	BSM	Operations Manager(s)
8.1.1	Operational risk management	AS7.1-01	SLT
8.1.2	Configuration management	AS7.3-01, AS4.2-01	Engineering Director
8.1.3	Product Safety	BSM	Operations Manager(s)
8.1.4	Prevention of counterfeit parts	AS7.1-04	Quality Manager / Director
8.2	Requirements for products and services		
8.2.1	Customer communication	AS7.2-01	Director of Sales
8.2.2	Determining the requirements for products and services	AS7.2-01, AS7.3-03	Director of Sales / Engineering
8.2.3	Review of Requirements related to Products and Services	AS7.2-01, AS7.3-03	Director of Sales / Engineering
8.2.3.1	Ability to meet requirements	BSM, AS7.3-03	Quality Manager / Director
8.2.3.2	Retain documented information	AS4.2-03	SLT / Quality Manager
8.2.4	Changes to Requirements related to Products and Services	AS7.3-01, AS4.2-02	Engineering Director
8.3	Design and Development of Products and Services	AS7.3-01, AS4.2-02	Engineering Director
8.3.1	General		Engineering Director
8.3.2	Design and development planning	AS7.3-01, AS4.2-02	Engineering Director
8.3.3	Design and development inputs	AS7.3-01, AS4.2-02	Engineering Director
8.3.4	Design and development controls	AS7.3-01, AS4.2-02	Engineering Director
8.3.4.1	Tests for verification and validation	AS7.3-01, AS4.2-02	Engineering Director
8.3.5	Design and development outputs	AS7.3-01, AS4.2-02	Engineering Director

8.3.6	Design and development changes	AS7.3-01, AS4.2-02	Engineering Director
8.4	Control of Externally Provided Processes, Products, and Services		
8.4.1	General	AS7.4-01	Purchasing Manager
8.4.1.1	External supplier control	AS7.4-01	Purchasing Manager
8.4.2	Type and extent of control	AS7.4-01	Purchasing Manager
8.4.3	Information for External Providers	AS7.4-01	Purchasing Manager
8.5	Production and service provision		
8.5.1	Control of production and service provision		Operations Manager(s)
8.5.1.1	Control of equipment, tools, and software programs		Operations Manager(s)
8.5.1.2	Validation and control of special processes	Excluded	Purchasing Manager
8.5.1.3	Production process verification	AS7.3-03	Operations Manager(s)
8.5.2	Identification and traceability	AS7.5-07	Operations Manager(s)
8.5.3	Property Belonging to Customers or External Providers	AS7-07	Director of Sales
8.5.4	Preservation	QSP-7.5.5 & QSP-7.5.5-200	Operations Manager(s)
8.5.5	Post-delivery activities		Operations Manager(s)
8.5.6	Control of Changes	AS4.2-02	Engineering Director
8.6	Release of products and services	BSM	Quality Manager
8.7	Control of Nonconforming Outputs		Production Supervision
8.7.1	Identification and control	AS8.3-01	Production Supervision
9	Performance evaluation		
9.1	Monitoring, Measurement, Analysis, and Evaluation		
9.1.1	General	BSM	General Manager
9.1.2	Customer Satisfaction	AS8.2-01	Sales Director(s)
9.2	Internal Audit		
9.2.1	Conduct internal audits	AS8.2-02	Quality Manager
9.2.2	Plan and implement internal audits	AS8.2-02	Quality Manager
9.3	Management review		
9.3.1	General	AS5.0-01	
9.3.2	Management review inputs	AS5.0-01	Quality Manager
9.3.3	Management Review Outputs	AS5.0-01	Quality Manager
10	Improvement		
10.1	General		
10.2	Nonconformity and Corrective Action	AS8.5-01	Quality Manager
10.2.1	Review and evaluate nonconformity	AS8.5-01	Quality Manager
10.2.2	Documented information of corrective action	AS8.5-01	Quality Manager
10.3	Continual Improvement		General Manager

Table 2   Internal and External Communications

The organization shall determine the internal and external communications relevant to the business management system, including:

Internal communications relevant to the Business Management System				
a) on what it will communicate	b) when to communicate	c) with whom to communicate	d) how to communicate	e) who communicates
Quality Policy	To all new hires at the beginning of employment To all employees periodically as deemed necessary	All employees	By a poster displayed in Quality board and location(s) as necessary Quality manual Personal communication	Quality Manager or designee
Relevant quality objectives	To all employees periodically as deemed necessary	All employees	Postings	Quality Manager or designee
Employee contribution to the effectiveness of the BMS, including the benefits of improved performance	To all employees periodically as deemed necessary	All employees	Personal communication	Department Supervisor, Quality Manager or designee
Implications of not conforming with the BMS requirements	To all employees periodically as deemed necessary	All employees	Personal communication	Department Supervisor, Quality Manager or designee
Performance to objectives	Typically (Quarterly)	SLT and all employees	All-Employee Meeting	General Manager or designee
Internal Audit findings	After each internal audit	SLT	Via email	Quality Manager
Corrective Actions	As they occur	Department Supervision	Via email	Quality Manager
Procedure revisions	As needed	Affected employees	Training	Author, affected Department Supervisor(s)
Customer problems	As needed	SLT, other as needed	Email, as needed	Quality Manager
Suitability of the BMS	Annual	SLT, other as needed	Management Review	Quality Manager

External communications relevant to the Business Management System

a) on what it will communicate	b) when to communicate	c) with whom to communicate	d) how to communicate	e) who communicates
Problems with vendors	As necessary	Affected vendor	Email notifications and/or SCAR form	Quality Manager
Customer requests for corrective action	As necessary	Customer Service Department Supervisor(s), Quality Manager	Customer / Internal CAR	Customer Service or Quality Manager
Significant changes to the BMS	As necessary	Registrar, Customer(s) as required	email (or as personal communication)	Quality Manager
Customer audits follow-up actions	As necessary	Customer, SLT, Department Supervisor(s)	email (or as personal communication)	Quality Manager
Registrar audit follow-up actions	Upon completion	Registrar	Letter or email	Quality Manager
Quality Policy	Whenever requested	Interested public	Web site, email	Quality Manager or Website Manager (IT)
Certificate of registration	Whenever requested	Interested public	Web site, email	Quality Manager or Website Manager (IT)
Business System Manual / Info.	As requested (Non-confidential)	Requesting Organization	email	Quality Manager

Table 3 – Risk Management Processes (as defined in AS7.1-01). Below table is typical. Risk Management and internal procedures govern actions. This table is for quick-reference guide only.

#	Activity	Responsibility	Risk Criteria	Communication	Action Mitigation	Disposition
1	Contract Negotiations	Sales Director(s) & General Manager	• New technology required • Delivery constraints not feasible • Infrastructure changes too demanding • Resource demands are not possible to fulfill • Liquidated damages to severe • Financial considerations not beneficial	SLT Staff meetings	As needed on a case by case basis	TMS may accept contract with risk issues still outstanding. All risk issues are recorded and mitigated as necessary.

#	Activity	Responsibility	Risk Criteria	Communication	Action Mitigation	Disposition
2	Contract Review	Sales Director(s)	• Delivery dates manageable? • Material availability • Production schedules	SLT Staff meetings	As needed on a case by case basis	Cross-Department review via CDC tool or email or as necessary
3	Order Processing	Customer Service Manager	Customer address Special instructions Delivery instructions Packaging instructions Quality requirements Exceptions Operation sheets Drawings Identification Certifications	Email notifications, staff meetings	As needed on a case by case basis	It is most desirable to have all discrepancies resolved prior to acceptance of the order, however, in efforts to expedite customer requests, TMS assumes pre-resolution risks related to open outstanding risks
4	New Product Release New Process Qualification	Engineering Director	New tooling required & available New gages required & available New processes evaluated OJT requirements defined	MI Release, CDC Release tool	As needed on a case by case basis	It is most desirable to have all discrepancies resolved prior to release to production, however, in efforts to expedite customer requests, TMS assumes risks related to pre-release products
5	Change Control	Engineering Manager	CDC tool process	email	As needed	Approval process via CDC tool
6	Software Control	Engineering Manager	Document control Operator training Software validation CDC tool	Procedure release, CDC tool	As needed on a case by case basis	Approval process via CDC tool
7	Validation and Control of Special Processes	Department Manager	Document control	Procedure release, CDC tool	As needed on a case by case basis	Approval process via CDC tool
8	Purchasing	Purchasing & Quality Manager	Receiving inspection	Email, staff meetings, I-Inspect webtool	As needed on a case by case basis	I-Inspect webtool
9	Supplier Control	Purchasing & Quality Manager	Approved supplier list	Staff meetings, emails, SCAR	As needed on a case by case basis	Supplier actions / disqualification
10	Supplier Evaluation, Selection and Development	Purchasing & Quality Manager	Supplier certification status Supplier performance	Supplier Metrics, Surveys, On-site Audits	Corrective action as required	Closure of corrective action

#	Activity	Responsibility	Risk Criteria	Communication	Action Mitigation	Disposition
12	Material properties over check	Engineering Manager	History of raw material problems Likelihood of new problems	Engineering staff meetings	As needed	TMS performs in-process validations as necessary. Test reports are verified for authenticity and accuracy
13	Production Planning	Production Manager	MI reviews	Meetings, emails, CDC tool, or As needed	As needed on a case by case basis	Revise MI
15	Production	Production, and Quality Manger	Receiving inspection Counterfeit product detection and prevention Nonconforming material control In-process inspection Final inspection Shipping inspection FOD Control Operator Training & Certification Vision testing Final product audit Shelf life control Line clearing (/FOD control)	Certificates of Compliance Test Reports NCR	As needed on case-by-case basis	NCR disposition
16	Production	Production and Quality Manger	Material Specifications Counterfeit product detection and prevention Nonconforming material control In-process inspection Final inspection FOD Control Operator Training & Certification Vision testing Data Collection Shelf life control Gage Calibration	Certificates of Compliance Test Reports Inspection Reports Data collection NCR	As needed	I-Inspect, Final Inspection, NCR closure, Acceptance of final product
17	Nonconforming Material / Process Control	MRB	Product non-conformance	MRB team, emails, engineering,	MRB disposition	Acceptance of NCR disposition

#	Activity	Responsibility	Risk Criteria	Communication	Action Mitigation	Disposition
				sales, as needed		
18	FAI	Quality Manager	Nonconforming product or process	NCR	As needed on case-by-case basis	NCR disposition and acceptance
19	Operational Performance	SLT, General Manager, Quality Manager	Internal Audits Nonconformance to customer requirements	Internal audit reports	Corrective actions	Management review
20	Operational Performance	General Manager	Business Performance Metrics	Monthly meetings	Assignments as needed	Monthly meetings and Management Review

THE BUSINESS / QUALITY MANAGEMENT SYSTEM (B/QMS)

Scope, Responsibility and Authority

The BMS has been established, documented, implemented, maintained and is continually improved in accordance with the requirements of ISO 9001 and AS9100. This manual describes the general processes of the business management system.

All employees have responsibility, freedom, and authority to carry out their work assignments as stated in the quality policy and in this business system manual and associated procedures and documentation in order to meet specified requirements. The Responsibility and Authority for carrying out business management and quality system activities been assigned to the Senior Leadership (or SLT) / Top Management.

In order to implement the business management system, the SLT has completed the following activities:

MANAGEMENT RESPONSIBILITY AND ROLE IN THE BMS/QMS

Management Commitment:

The SLT has established our Quality Policy to demonstrate our commitment to the B/QMS through established performance objectives with measurable goals, conducting regular reviews of our performance against those goals, providing the resources to achieve those goals, managing changes to the business that might impact the integrity of the structured business management system, and conduct regular reviews and assessments of the suitability and effectiveness of the system.

Customer Focus:

Senior Leadership has established procedures to ensure that customer requirements are understood and fulfilled with the focus on enhancing customer satisfaction.

Quality Policy and Quality Objectives:

Quality Policy:

> *Times Microwave Systems is committed to:*
> * *Meeting or exceeding our customer expectations by providing product and services of the highest possible standards for performance, safety, service and quality.*
> * *Continuous improvement of our processes and operations*

Quality Objectives:

On-Time Delivery (OTD) of Defect-Free product

Quality Principals:

SLT has established the following high-level principals that are at relevant functions and levels and support the BMS. Specific measurable targets are established and discussed at management reviews and may also be discussed at regular staff meetings.

The Quality Principals are:
- Achieve business growth and profitability through customer satisfying performance
- Provide products that perform in applications to customer expectations with minimal service requirements.
- Develop appropriate systems, processes and product measures to disclose opportunities for continuous improvement.
- Develop and maintain processes for on-going quality system self-evaluation.
- Develop and maintain processes to effectively resolve system non-conformities as well as system weaknesses that could potentially result in non-conformities.