

Quality Manual

Revision 20

Approvals

The President / CEO, Vice President of Operations, Vice President of Quality (backup to the President / CEO) and Business Unit Vice Presidents have electronically approved this manual within the document control database. Changes to this manual must be approved by these same functions.

Revisions

Rev	Name	Change	Date
1	Abdul Popalzai	Initial Release	01/17/03
2	Abdul Popalzai	Modified section 2.0 Skyworks Quality Policy and updated Referenced Documents under sections 7.2.3, 7.3.7, 7.4.2, 7.5.3, 8.5.4	03/03/03
3	Abdul Popalzai	Expanded the sub clauses under Table of Contents. Updated References: SQ02-0010 title (Competency and Training) and SQ02-0008 document number. Removed reference to SQ02-0007. Changed management review minimum interval terminology from biannual to twice a year under section 5.6.1	04/12/03
4	Abdul Popalzai	Included section 8.6 Interaction Between the Processes of the Quality Management System	05/01/03
5	Abdul Popalzai	Modified the Introduction section to include the following: Mexicali, design centers and current BU grouping, Quality Policy snapshot, reference to “applicable” Level 2 “quality” documents, statement that VP of Quality is the backup electronic approver for the President & CEO. Added SQ02-0031 under section 6.2. Included SQ02-0015 & SQ02-0017 in the 8.6 flow chart. Replaced most of the “should” with more affirmative “is” and are”.	12/01/03
6	Abdul Popalzai	Removed reference to SQ02-0031 Competency and Training for Indirect Labor, an obsolete document. Added notation to Skyworks Quality Policy such that sites whose primary language is something other than English may translate the Quality Policy accordingly.	06/07/04
7	Abdul Popalzai	Updated Introduction and 3.0 Organizational Chart: changed WD to LP (Linear Products). Reworded sections 7.3.6, 7.3.7, and 7.4.1.1 to reflect current practices. Deleted 7.5.1.1.	06/17/05
8	Abdul Popalzai	Deleted reference to SQ02-0017 (obsolete) under section 7.4.1.1.	07/22/05
9	Abdul Popalzai	Updated section 3.0 Organizational Chart to reflect major entities under Business Units: Mobile Platforms and Linear Products	01/20/06
10	Abdul Popalzai	Updated the formatting on pages 15-17, 20-22, and 25 to hide the tracking of the changes.	02/16/06
11	Daniel Le Saux	Complete rewrite to incorporate ISO/TS 16949 requirements.	11/28/06
12	Daniel Le Saux	Modified 1.2 Scope to define responsibilities and ownership of processes at different locations. Modified 5.4.1 Quality and business objectives to indicate that quality objectives are established at relevant functions within the organization. Modified 5.5.2.1 Customer representative to add that the customer quality managers, manufacturing quality managers and quality system managers promote the awareness of customer requirements throughout the organization. Changes language in 5.6.1 Management review general to clearly specify that management reviews take place at planned intervals and that these reviews assess improvement opportunities, identify required changes to the management	01/22/07

		system, quality objectives or the quality policy. Rewrote 6.2.2 Competency, awareness and training to clearly address requirements outlined in the standard. Modified 7.2.2 Review of requirements related to the product to clearly state that reviews are always performed and that changes are handled in a the same manner as the original review. Added requirements for product approval, relevant procedures, standards, special processes or equipment, qualification of personnel and quality management system requirements in 7.4.2 Purchasing information . Added pre-launch control plans to 7.3.3.1 Product design output and 7.5.1.1 Control plans .	
13	Daniel Le Saux	Amended section 1.2.2 ISO 9001 management system and 1.2.3 ISO/TS 16949 management system to include certification scope descriptions. Added missing sections 7.5.1.7 Feedback of information from service and 7.5.1.8 Service agreement with customers . Changed title of SQ04-0102 to Quality Management System Processes - ISO 9001 ISO/TS 16949 Element / Function / Standard Operating Procedure Matrix . Added reference to SQ04-0104 Skyworks Quality Management System Processes – Sequence and Interactions . Updated section 7.4.1.2 Supplier quality management system development to incorporate IAOB sanctioned interpretation.	3/6/07
14	Fernanda Barraza	Updated quality policy for continuing suitability. Modified section 1.2.2 ISO 9001 management system and 1.2.3 ISO/TS 16949 management system to redefine the scope of ISO 9001 and ISO/TS 16949 management system in order to include the core processes of the organization as described in SQ04-0104 - Skyworks Quality Management System Processes - Sequence and Interactions of Processes	9/28/07
15	Daniel Le Saux / Fernanda Barraza	Updated 1.2.3 ISO/TS 16949 management system scope to include customer quality in Irvine. Also added Trans-Tech and Mexicali locations. Updated section 2 associated documents .	3/25/08
16	Daniel Le Saux	Remove Trans Tech from scope (i.e. Trans Tech will manage their own Quality manual). Complete rewrite of 1.2 Scope due to business unit restructuring. Added requirement to include the regular reporting and evaluation of the cost of poor quality (e.g. cost of scrap) in section 5.6.1 General .	2/18/09
17	Daniel Le Saux	Removed reference to ISO 9001 and ISO/TS 16949 release dates (i.e. 2000 and 2002 respectively). Added External Manufacturing as a core business process. Extensive rewrite of 1.2 Scope . Complete rewrite of section 6.2.2 Competency awareness and training . Added reference to SQ02-0047 External Manufacturing in section 2.0 Associated Documents . Added section 4.1.1 Outsourced processes .	7/6/09
18	Daniel Le Saux	Modified section 1.2 Scope to outline the scopes of the five separate certificates. Also added RF/ Microwave Ceramics to Mexicali ISO 9001 scope.	3/4/10
19	Daniel Le Saux / Fernanda Lares	Updated cover page and added justification for exclusions under section 1.2 Scope . Added references to AIAG MSA	4/11/11

and FMEA manuals as well as customer specific requirements in section **2.0 Associated Documents**. Simplified section **1.2 Scope** to clearly differentiate ISO 9001 and ISO/TS 16949 certification schemes and added supplier quality and FA/Reliability to Singapore location.

- 20 Fernanda Lares Added Management core business process to Andover scope under section 1.2
- Dan Lesaux Updated section 1.2 to include ISO/TS 16949 core business process interactions to FA/Reliability in Newbury Park
- Robert Nye Added Business Planning and Human Resources core business process to Cedar Rapids and Ottawa in section 1.2

Table of contents

Approvals	1
Revisions	2
Table of contents	5
Skyworks Quality Policy	9
1 Scope and purpose	9
1.1 Purpose	9
1.2 Scope	9
2 Associated documents	10
3 Acronyms, terminology, description and definition	11
4 Quality management system	11
4.1 General requirements	11
4.1.1 Outsourced processes	11
4.2 Documentation requirements	11
4.2.1 General	11
4.2.2 Quality Manual	12
4.2.3 Document control	12
4.2.3.1 Documents of external origin	12
4.2.4 Record control	12
4.2.4.1 Record retention	12
5 Management responsibility	13
5.1 Management commitment	13
5.2 Customer focus	14
5.3 Quality policy	14
5.4 Planning	14
5.4.1 Quality and business objectives	14
5.4.1.1 Business plan	14
5.4.2 Quality management system planning	14
5.5 Responsibility, authority and communication	14
5.5.1 Responsibility and authority	14
5.5.1.1 Responsibility for quality	14
5.5.2 Management representative	14
5.5.2.1 Customer representative	15
5.5.3 Internal communication	15
5.6 Management review	15
5.6.1 General	15
5.6.2 Management review input	15
5.6.3 Review output	16
6 Resource management	16
6.1 Provision of resources	16
6.2 Human resources	16
6.2.1 General	16
6.2.2 Competency, awareness and training	16
6.2.2.1 Product design skills	16

6.2.2.2	Training	16
6.2.2.3	Training on-the-job	16
6.2.2.4	Employee motivation and empowerment	16
6.3	Infrastructure	17
6.3.1	Plant, facility and equipment planning	17
6.3.2	Contingency plans	17
6.4	Work environment	17
6.4.1	Personnel safety to achieve product quality	17
6.4.2	Cleanliness of premises	17
7	Product realization	17
7.1	Planning of product realization	17
7.1.1	Customer requirements	17
7.1.2	Acceptance criteria	18
7.1.3	Confidentiality	18
7.1.4	Product / process change control	18
7.2	Customer related processes	18
7.2.1	Determination of Requirements Related to the Product	18
7.2.1.1	Customer designated special characteristics	18
7.2.2	Review of Requirements Related to the Product	18
7.2.3	Customer communication	19
7.3	Design and development	19
7.3.1	Design and development planning	19
7.3.2	Design and development inputs	19
7.3.2.1	Product design input	19
7.3.2.2	Manufacturing process design input	19
7.3.2.3	Special characteristics	20
7.3.3	Design and development outputs	20
7.3.3.1	Product design output	20
7.3.3.2	Manufacturing process design output	20
7.3.4	Design and development review	20
7.3.4.1	Monitoring	20
7.3.5	Design and development verification	21
7.3.6	Design and development validation	21
7.3.6.1	Supplemental	21
7.3.6.2	Prototype program	21
7.3.6.3	Product approval process	21
7.3.7	Control of design and development changes	21
7.4	Purchasing	21
7.4.1	Purchasing process	21
7.4.1.1	Regulatory conformity	22
7.4.1.2	Supplier quality management system development	22
7.4.1.3	Customer approved sources	22
7.4.2	Purchasing information	22
7.4.3	Verification of purchased product	23

7.4.3.1	Incoming product quality	23
7.4.3.2	Supplier monitoring	23
7.5	Production and service provision	23
7.5.1	Control of production and service provision	23
7.5.1.1	Control plans	23
7.5.1.2	Work instructions	24
7.5.1.3	Verification of job set-up	24
7.5.1.4	Preventive and predictive maintenance	24
7.5.1.5	Management of production tooling	24
7.5.1.6	Production scheduling	24
7.5.1.7	Feedback of information from service	24
7.5.1.8	Service agreement with customers	24
7.5.2	Process validation	24
7.5.3	Identification and traceability	25
7.5.3.1	Inspection and test status	25
7.5.4	Customer property	25
7.5.5	Preservation of product	25
7.5.5.1	Storage and inventory	25
7.5.5.2	Handling	25
7.5.5.3	Packaging and Labeling	25
7.6	Control of monitoring and measurement devices	26
7.6.1	Measurement system analysis	26
7.6.2	Calibration records	26
7.6.3	Laboratory requirements	26
7.6.3.1	Internal laboratories	26
7.6.3.2	External laboratories	27
8	Measurement, analysis and improvement	27
8.1	General	27
8.1.1	Statistical tools	27
8.1.2	Knowledge of basic statistical concepts	27
8.2	Monitoring and measurement	27
8.2.1	Customer satisfaction	27
8.2.2	Internal audit	27
8.2.2.1	Quality systems audit	28
8.2.2.2	Manufacturing process audit	28
8.2.2.3	Product audit	28
8.2.2.4	Audit plans	28
8.2.2.5	Auditor qualification	28
8.2.3	Monitoring and measurement of quality management system processes	28
8.2.3.1	Monitoring and measurement of manufacturing processes	28
8.2.4	Monitoring and measurement of product	29
8.2.4.1	Dimensional and functional testing	29
8.3	Control of nonconforming product	29
8.3.1	Unidentified or suspect status	29

8.3.2	Control of reworked product	29
8.3.3	Customer notification	29
8.4	Analysis of data	29
8.5	Improvement	29
8.5.1	Manufacturing process improvement	30
8.5.2	Corrective action	30
8.5.2.1	Problem solving	30
8.5.2.2	Error proofing	30
8.5.2.3	Impact on similar processes	30
8.5.2.4	Returned product verification and failure analysis	30
8.5.3	Preventive action	30

Skyworks Quality Policy

Skyworks is committed to the never ending quest for perfect quality:

- No field failures
- No customer returns
- No reliability failures
- No yield loss

Note: Skyworks sites whose primary language is other than English, have translated the Skyworks Quality Policy accordingly

1 Scope and purpose

1.1 Purpose

This manual defines the Skyworks Solutions, Inc (Skyworks) approach to and assignment of responsibilities for, the company quality system. This quality system manual is the foundation of the Skyworks quality system.

This manual is based on ISO 9001 *and* ISO/TS 16949 and follows the same section numbering format. The Skyworks quality system strives for continual improvement beyond these requirements.

Changes to this manual must be approved by the President / CEO, Vice President of Operations, Vice President of Quality (backup to the President / CEO) and Business Unit Vice Presidents.

1.2 Scope

This manual applies to all Skyworks sites listed below. Sections in *italic* apply to the ISO/TS 16949 management system only.

Exclusion to element 7.3 is taken when design and development activities are not performed by a particular site.

The table below indicates the core processes applicable to the sites that are managed under ISO 9001 *and* ISO/TS 16949 management systems.

	Business Planning	Design and Development	Failure Analysis/Reliability	Supplier Quality	Wafer Fabrication	Assembly	Test, Tape and Reel	Magnetics	External Manufacturing	Human Resources	Supply Chain	Sales / Marketing	Customer Quality	Management	Audit / Continuous Improvement
Andover, MA	○	○												○	○
Cedar Rapids, IA	○	○								○					○
Greensboro, NC		○													○
Hong Kong, CH											○	○	○		○
Irvine, CA	○	○	○	○					○	○	○	○	○	○	○
Mexicali, MX			⊙	⊙		⊙	⊙	○		⊙	⊙		⊙	⊙	⊙
Newbury Park, CA	○	○	⊙	⊙	○		○			⊙	⊙		⊙	⊙	⊙
Ottawa, ONT	○	○	○							○					○
Singapore, SP			⊙	⊙							⊙	○			⊙
Woburn, MA	⊙	⊙	⊙	⊙	⊙				⊙	⊙	⊙	⊙	⊙	⊙	⊙

○ ISO 9001

⊙ ISO/TS 16949

2 Associated documents

The following documents contain provisions which, through reference in this document, constitute provisions of this manual. The latest edition of the documents referred to apply.

External Documents

ISO 9001	International Organization for Standardization	Quality management systems - Requirements
ISO/TS 16949	<i>International Organization for Standardization</i>	<i>Quality management systems - Particular requirements for the application of ISO 9001 for automotive production and relevant service part organizations</i>
ISO/IEC 17025	<i>International Organization for Standardization</i>	<i>General requirements for the competence of testing and calibration laboratories</i>
ISO 19011	<i>International Organization for Standardization</i>	<i>Guidelines for quality and/or environmental management systems auditing</i>
APQP	<i>Automotive Industry Action Group</i>	<i>Advanced Product Quality Planning and Control Plan</i>
PPAP	<i>Automotive Industry Action Group</i>	<i>Production Part Approval Process</i>
FMEA	<i>Automotive Industry Action Group</i>	<i>Potential Failure Mode Effects Analysis</i>
MSA	<i>Automotive Industry Action Group</i>	<i>Measurement Systems Analysis</i>
-	<i>Automotive Customers</i>	<i>Customer Specific Requirements (i.e. that have been accepted and mutually agreed upon by Skyworks)</i>
JESD46	JEDEC Solid State Technology Association	Customer Notification of Product / Process Changes by Semiconductor Suppliers

Internal Documents

SQ02-0001	Managing Product and Process Changes and Customer Notifications
SQ02-0002	Management Procedure
SQ02-0003	Supply Chain Management
SQ02-0004	Document And Data Control
SQ02-0005	Inspection and Test Procedure
SQ02-0006	Product Control Procedure
SQ02-0008	Product Realization Process - PRP
SQ02-0009	Sourcing
SQ02-0010	Competency and Training
SQ02-0011	Calibration
SQ02-0012	Internal Audits
SQ02-0013	Qualification Standard
SQ02-0014	Continuous Improvement / Corrective and Preventive Action
SQ02-0015	Skyworks World Wide Facilities

SQ02-0016	Statistical Process Control
SQ02-0018	Customer Satisfaction
SQ02-0020	Supplier Quality Manual
SQ02-0029	Technology Reliability Standard
SQ02-0035	Business Continuity / Disaster Recovery Planning
SQ02-0043	Wafer Fabrication
SQ02-0044	Assembly
SQ02-0045	Test, Tape & Reel
SQ02-0047	External Manufacturing
SQ04-0104	Skyworks Quality Management System Processes - Sequence and Interactions of Processes

3 Acronyms, terminology, description and definition

For the purposes of this manual, the terms and definitions given in ISO 9001 *and* ISO/TS 16949 apply.

4 Quality management system

4.1 General requirements

Skyworks has established, documented, implemented and maintains a quality management system and continually improves its effectiveness in accordance with the requirements of ISO 9001 *and* ISO/TS 16949.

4.1.1 Outsourced processes

Reference: SQ02-0047 External Manufacturing

Skyworks ensures control over outsourced manufacturing processes and maintains responsibility of conformity to all customer requirements.

4.2 Documentation requirements

Reference: SQ02-0004 Document and Data Control

4.2.1 General

Reference: SQ04-0104 Skyworks Quality Management System Processes - Sequence and Interactions of Processes

This manual outlines the quality system designed to ensure continual improvement through the dedicated efforts of all employees in the ongoing pursuit of achieving customer satisfaction.

This manual is a part of a hierarchy of documentation that is established to ensure uninterrupted quality from all levels of Skyworks. The sequence and interaction of the quality management system processes is outlined in **SQ04-0104 Skyworks Quality Management System Processes - Sequence and Interactions of Processes**.

Level II - Standard Operating Procedures

Skyworks policies and procedures that define the different tasks that make up the processes needed to meet the requirements of the Quality Systems Manual, the ISO 9001 *and* ISO/TS 16949 standards. The scope of Standard Operating Procedures impacts all sites, business units, and organizations.

Level III - Work Instructions

Site, business unit or organizational procedures that define how the tasks referenced in the Level II documents are performed.

Level IV - Forms

Site, business unit or organizational document that provides a means to record results achieved or evidence of activities performed.

Note: A form becomes a record after information has been recorded onto it.

4.2.2 Quality Manual

This level I quality manual defines the scope of the Skyworks Quality Management System (SQMS), establishes the documented procedures that are part of the SQMS, and describes the interaction between the processes of the SQMS. There is only one Level I document in the SQMS, and applicable Level II quality system documents are referenced in this manual.

4.2.3 Document control

Reference: SQ02-0004 Document and Data Control

Documents are reviewed and approved for adequacy by authorized personnel prior to issue. A system of document control and release, together with a readily available master list is used to ensure that:

- Pertinent current issues of documents are available at all locations where operations essential to the effective functioning of the quality system are performed
- Changes and the current revision status of documents are identified
- Invalid and/or obsolete documents are promptly removed from all points of issue or use, or otherwise assured against unintended use
- Documents are legible and are readily identifiable
- Any obsolete documents retained for legal or knowledge/preservation purposes are suitably identified

4.2.3.1 Documents of external origin

Documents of external origin (i.e. customer specifications, drawings, industry standards) are controlled and distributed as described in section 4.2.3 above. *Updates to these documents are reviewed within two working weeks and the implementation date is recorded. If the document change affects the production part approval process, an update of the customer production part approval record occurs.*

4.2.4 Record control

Skyworks establishes and maintains a documented procedure for identification, collection, storage, retention, maintenance and disposition (disposal) of quality records to ensure that:

- conformance to specified requirements and the effective operation of the quality management system are demonstrated
- quality records are legible, readily retrievable, and stored in a suitable environment to prevent damage or deterioration and prevent loss
- quality records retention times are in compliance with government and/or customer requirements. All specified retention times are considered “minimums”, but records are eventually disposed.
- when contractually agreed, the customer or the customer’s representative makes quality records available for evaluation.

4.2.4.1 Record retention

The control of records satisfies regulatory and customer requirements.

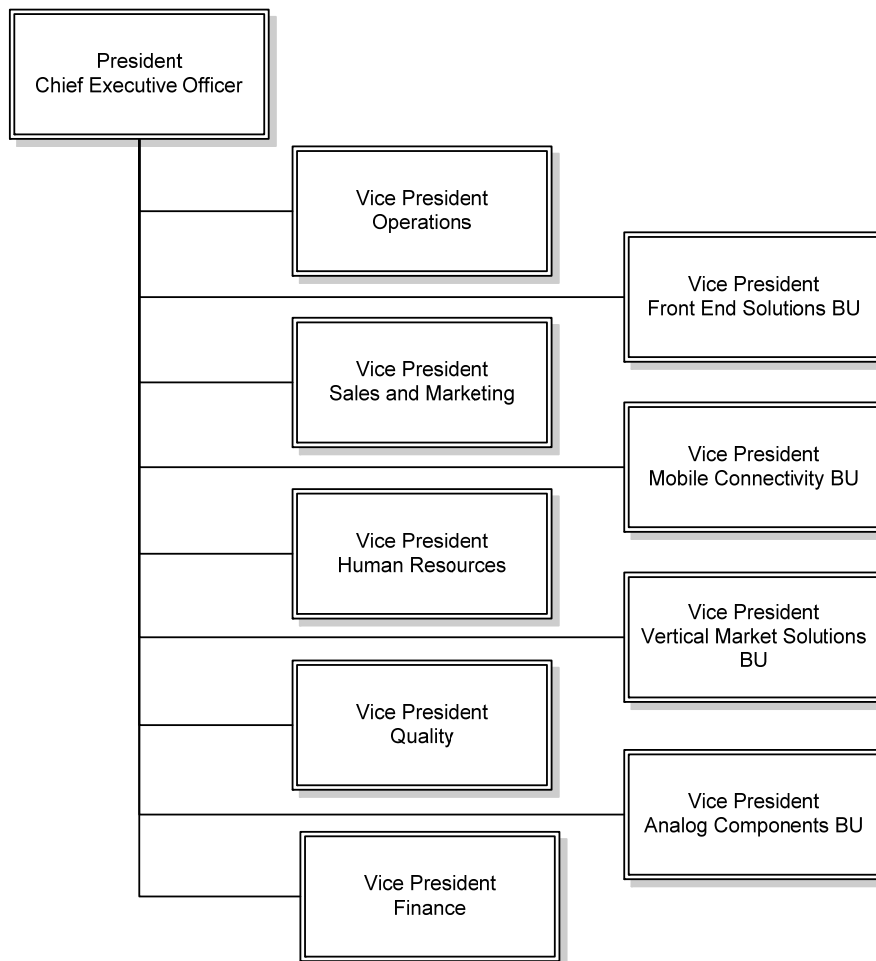
5 Management responsibility

5.1 Management commitment

The President and Chief Executive Officer of Skyworks have overall responsibility to customers for the quality of Skyworks' products. This commitment transcends all levels of senior management, who develop and implement the quality management system and ensure its effectiveness by:

- communicating to the organization the importance of meeting customer as well as statutory and regulatory requirements
- establishing the quality policy
- ensuring that quality and business objectives are established
- conducting management reviews
- ensuring the availability of resources
- reviewing the product realization process and support processes to assure their effectiveness and efficiency

Senior Management Organizational Structure



5.2 Customer focus

Reference: SQ02-0018 Customer Satisfaction

Skyworks senior management ensures that customer requirements are determined and are met with the aim of enhancing customer satisfaction. This requirement is supported further in sections 7.2.1 and 8.2.1.

5.3 Quality policy

The Skyworks Quality Policy is stated in the Quality Policy section of this manual. Skyworks Quality Management has the responsibility for reviewing the quality policy to ensure that it is reviewed for suitability and remains consistent with the purpose of the organization.

All levels of management and other support departments ensure that this policy is communicated, understood, implemented, and maintained throughout the organization.

The Skyworks Quality Policy may be translated to facilitate communication to those individuals whose primary language is not English.

5.4 Planning

5.4.1 Quality and business objectives

Senior management establishes quality, business and operational performance objectives that are measurable and consistent with requirements of products, customers and the quality policy. These objectives are established at relevant functions within the organization (i.e. business unit, operations and support functions). These objectives are compared with actual performance and lead to decision-making activities, long-term planning and continual improvement.

5.4.1.1 Business plan

The senior management from the Business Unit includes these quality objectives in their business plan.

5.4.2 Quality management system planning

Refer to section 7.1 of this manual.

5.5 Responsibility, authority and communication

5.5.1 Responsibility and authority

The senior management of each Business Unit, Manufacturing and Support Organization defines and documents the responsibility, authority, and interrelation of personnel who manage, perform, and verify work that affects quality. The achievement of "Customer Satisfaction" is the primary responsibility of every employee. All employees are empowered to represent the needs of the customer in internal functions in addressing ISO 9001 and ISO/TS 16949 requirements (e.g., setting quality objectives, training, corrective & preventive actions and process development).

Personnel responsible for quality have the authority to stop production, if necessary to correct quality problems.

5.5.1.1 Responsibility for quality

Managers with responsibility and authority for corrective action are promptly informed of products or processes which do not conform to requirements. Production operations across all shifts are staffed with personnel in charge of, or delegated responsibility for, ensuring product quality.

5.5.2 Management representative

The Quality System Managers are designated as the management representatives for their respective sites and areas of responsibility and are responsible for ensuring that the processes needed for the quality management system are established, implemented, and maintained in accordance with this manual. The Quality Directors, Managers and their designated representatives report on the

performance and effectiveness of the quality management system for review and as a basis for improvement.

5.5.2.1 Customer representative

The customer quality managers, manufacturing quality managers and quality system managers are designated as the customer representatives for their respective sites and are responsible for ensuring that customer requirements are being addressed and to promote the awareness of customer requirements throughout the organization. This includes selection of special characteristics, setting quality objectives and related training, corrective and preventive actions, product design and development.

5.5.3 Internal communication

Each department manager ensures that systems are in place to facilitate communication, manage organizational interfaces and other appropriate activities during product and process design, development, manufacturing, delivery and the execution of an effective quality management system. A multi-disciplinary approach for decision-making is used.

All employees promptly inform management with responsibility and authority for corrective action when products or processes become noncompliant with specified requirements.

5.6 Management review

Reference: SQ02-0002 Management Procedure

5.6.1 General

The quality management system is reviewed at planned intervals to ensure its continuing suitability and effectiveness in satisfying the requirements of this manual, its customers and the quality policy. These reviews assess improvement opportunities; identify required changes to the management system, quality objectives or the quality policy. *Also included is the regular reporting and evaluation of the cost of poor quality (e.g. cost of scrap).*

- The quality management system is reviewed by Business Unit and Manufacturing organizations at Operations Reviews. Systemic issues found at the business and manufacturing levels are communicated to the appropriate department management representative(s) for appropriate action(s).
- Information from business unit and operations reviews is rolled up into an executive level review. Systemic issues found at this executive review are communicated to the appropriate executive level leader(s) for appropriate action(s).

Records of management reviews are maintained and retained.

5.6.2 Management review input

The input to management review includes but not limited to information on:

- results of audits
- customer feedback
- process performance and product conformity
- status of preventive and corrective actions
- follow-up actions from previous management reviews
- changes that could affect the quality management system
- recommendations for improvement
- *analysis of actual and potential field failures and their impact on quality, safety or the environment*

5.6.3 Review output

The output of management reviews includes any decisions and actions related to:

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

6 Resource management

Reference: SQ02-0010 Competency and Training

6.1 Provision of resources

The management of each Business Unit, Manufacturing and Support Organization identifies and provides adequate resources, including the assignment of trained personnel (see 6.2) for the management, the performance and the verification of work affecting quality, and implementation of the quality management system.

6.2 Human resources

6.2.1 General

It is the policy of Skyworks to continually upgrade the skills and value of all employees.

6.2.2 Competency, awareness and training

Each Business Unit, Manufacturing and Support organization establishes competency needs for personnel performing activities affecting quality. Training or other actions are taken as required to satisfy these needs. The effectiveness of these actions is evaluated. Appropriate records of training, education, skills and experience are maintained and retained.

6.2.2.1 Product design skills

Personnel with design responsibility are competent to achieve design requirements and are skilled in appropriate tools and techniques that have been identified by Skyworks.

6.2.2.2 Training

Skyworks maintains a documented procedure for identifying training needs and providing training to personnel at all levels of the organization performing activities affecting product quality. Customer satisfaction is emphasized.

6.2.2.3 Training on-the-job

Skyworks maintains an employee certification program that includes on-the-job training for jobs affecting product quality. This includes temporary or contract personnel. These employees are informed about the consequences to the customer when procedures are not followed.

6.2.2.4 Employee motivation and empowerment

Skyworks maintains a process to motivate employees to:

- *achieve quality objectives*
- *make continual improvements*
- *create an environment to promote innovation*

This process includes the promotion of quality and technological innovation.

Skyworks measures the extent to which personnel are aware of the relevance and importance of their activities and how they contribute to the achievement of quality objectives.

6.3 Infrastructure

Reference: SQ02-0015 Skyworks World Wide Facilities

It is the policy of Skyworks to determine, provide and maintain the infrastructure needed to achieve conformity to product or customer requirements including all:

- buildings, workspaces and utilities
- process equipment (both hardware and software)
- supporting services such as transportation and communication

6.3.1 Plant, facility and equipment planning

Skyworks uses a multidisciplinary approach for developing plant, facility and equipment plans. To the extent possible, plant layouts optimize material travel, handling and value-added use of real estate and facilitates synchronous flow. The effectiveness of existing operations is evaluated and monitored.

6.3.2 Contingency plans

Reference: SQ02-0035 Business Continuity / Disaster Recovery Planning

Skyworks has prepared a business continuity / disaster recovery plan to satisfy customer requirements in the event of an emergency.

6.4 Work environment

Reference: SQ02-0015 Skyworks World Wide Facilities

Skyworks senior management manages all work environments, clean rooms, laboratories and workstations needed to achieve conformity to product requirements.

6.4.1 Personnel safety to achieve product quality

Safety is paramount at Skyworks. As a result, processes are developed and maintained that minimize potential risks to all employees while still meeting quality requirements.

6.4.2 Cleanliness of premises

Skyworks maintains all work environments, clean rooms, laboratories and workstations in a state of order, cleanliness and repair consistent with the product and manufacturing process needs.

7 Product realization

7.1 Planning of product realization

Reference: SQ02-0008 Product Realization Process - PRP

Each Business Unit, Manufacturing and Support Organization with responsibility for defining product requirements documents new and changed product and process introduction requirements.

Consideration is given to activities from product design, development, incoming materials, manufacturing, shipping and warehousing, as appropriate, in meeting the specified requirements.

The Skyworks new product development and introduction process is based on the concepts outlined in the AIAG Advanced Product Quality Planning manual.

7.1.1 Customer requirements

Where applicable, customer requirements (i.e. technical specifications) are imbedded within the product realization process.

7.1.2 Acceptance criteria

Acceptance criteria are an output of the new product development and introduction process. Where attribute sampling is used, the acceptance level is zero defects.

7.1.3 Confidentiality

Skyworks enters into a non-disclosure agreement with the customer during the new product development and introduction process to ensure the confidentiality of data.

7.1.4 Product / process change control

Reference: SQ02-0001 Product / Process Change Notification; JESD46

Skyworks manages product and process change proposals within a cross functional change control board process. The effects of the change, including changes caused by a supplier, are assessed, verified and validated before being implemented in order to minimize the impact to our customers. A product / process change notification is provided to those customers that may be impacted by the change.

7.2 Customer related processes

7.2.1 Determination of Requirements Related to the Product

Each Business Unit, Manufacturing and Support Organization together with engineering and other technical support groups determines the performance and manufacturing requirements (including availability, delivery and support) related to the product or customer. These may include unstated requirements by the customer but are necessary for the specified or intended use of the product by the customer. Examples of these unstated requirements are:

- codes and standards from industry and/or government regulatory bodies
- applicable government, environmental regulations applied to the acquisition, storage, handling, recycling elimination or disposal of product.

To assure customer satisfaction it is necessary that these requirements be ascertained with the customer (on custom designs), internally understood, internalized into process, material or procedural documentation, agreed to and confirmed as achievable by Skyworks Business Unit and Manufacturing Organizations.

7.2.1.1 Customer designated special characteristics

Skyworks conforms to customer requirements for the designation, documentation and control of special characteristics.

7.2.2 Review of Requirements Related to the Product

Before planning and committing factory resources or the acceptance of an order from a customer, the appropriate Planning and Manufacturing organization reviews such orders to ensure that:

- the manufacturing order requirements are adequately defined, documented and agreed to internally before acceptance
- all product or customer requirements (if applicable) are met
- any differences between the manufacturing order requirements and the factory's capacity plan are resolved
- the manufacturing organization has the capacity to meet the manufacturing order requirements
- *the manufacturing organization has investigated the manufacturing feasibility of the product including a risk analysis*

These reviews are always performed and records of these reviews are maintained. Changes to the original customer order are reviewed in the same manner as the original review.

7.2.3 Customer communication

All Business Unit, Manufacturing and Support Organization managers and designated personnel involved in design and manufacturing planning for Skyworks provides the appropriate communications to Marketing, Quality or directly to the end customer on any technical, capacity, post delivery and other manufacturing planning and completion details to meet customer requirements. Skyworks communicates information, including data, in the customer specified language and format.

7.3 Design and development

References: SQ02-0008 Product Realization Process - PRP Process

7.3.1 Design and development planning

Each Business Unit has developed a phase gate new product development and introduction process that describes:

- the different phase gate stages
- the activities associated with each stage (i.e. opportunity management, planning, design, verification, validation)
- the roles, responsibilities and authorities

The responsible Business Unit manager provides adequate resources for this activity. The plans are updated as product design evolves.

A multidisciplinary approach is used during the product design and development activity including:

- the identification, finalization and monitoring of special characteristics
- the development of FMEAs and associated actions
- the development of control plans

7.3.2 Design and development inputs

Each Business Unit identifies, documents, and reviews product design input requirements for adequacy. Applicable statutory and regulatory requirements are included. Incomplete, ambiguous, or conflicting requirements are resolved with those responsible for imposing these requirements. Results of contract review activities are taken into consideration by the responsible design activity. Device and process simulation model robustness are validated periodically by the function responsible for maintaining the model.

7.3.2.1 Product design input

Skyworks identifies documents and reviews product design input requirements including:

- *customer requirements (i.e.. special characteristics, identification and traceability and packaging)*
- *information gained from previous designs*
- *competitor analysis*
- *supplier feedback*
- *field data*

7.3.2.2 Manufacturing process design input

Skyworks identifies, documents and reviews manufacturing process design input requirements including:

- *productivity targets, process capability and cost*
- *customer requirements if applicable*
- *experience from previous developments*

7.3.2.3 Special characteristics

Skyworks identifies special characteristics and incorporates these special characteristics in applicable process control documents (e.g. FMEA, control plan, process control instructions). Customer specified symbols are used when mandated

7.3.3 Design and development outputs

Each Business Unit documents product design output and expresses the output in terms that can be verified and validated against design input requirements.

Design output documents are reviewed by the appropriate cross-functional team before release. Each Business Unit/Manufacturing Organization produces data demonstrating that each product has been characterized to the corners of the process or per customer requirements/applications. Each Business Unit produces data demonstrating device packaging and transportation packaging meets requirements.

7.3.3.1 Product design output

Skyworks identifies, documents and reviews product design outputs including:

- *design FMEA*
- *pre-launch control plans*
- *reliability results*
- *product special characteristics and specifications*
- *product error proofing, if applicable*
- *drawings*
- *phase gate review data*

7.3.3.2 Manufacturing process design output

Manufacturing process design output includes:

- *specifications and drawings*
- *process flowcharts and layout*
- *process FMEAs*
- *process control plans*
- *work instructions*
- *process acceptance criteria*
- *quality and reliability data*
- *results of error proofing activities, if applicable*
- *rapid detection and feedback methods of process non-conformities*

7.3.4 Design and development review

Each Business Unit plans and conducts formal documented reviews of the product design results at appropriate stages. All appropriate personnel are included in each review. Records of design reviews are maintained and retained.

7.3.4.1 Monitoring

The effectiveness and efficiency of the design and development process is measured at specified stages of the phase gate process. The results are analyzed and reported with summary results as input to the business unit management review (e.g. quality risks, costs, lead-times, critical paths and others, as appropriate).

7.3.5 Design and development verification

Design verification is performed by each Business Unit at appropriate stages of product design to ensure that the design stage output meets the design stage input requirements. Design verification results are recorded and retained.

7.3.6 Design and development validation

Reference: SQ02-0013 Qualification Standard, SQ02-0029 Technology Reliability Standard

Each Business Unit coordinates the performance of design validation on all product designs to ensure that product conforms to specified product or customer requirements. Subsequent validations are performed if deemed necessary. Design rule modification results when the design is no longer robust under current process conditions, or alternatively, the process is modified to allow the continued use of existing design rules.

Design failures are documented in the validation records. Procedures for corrective and preventive action are followed in addressing such design failures.

7.3.6.1 Supplemental

Validation is performed in accordance with customer requirements if applicable, including program timing.

7.3.6.2 Prototype program

A prototype program and control plan is used when required by the customer. In this case Skyworks uses the same suppliers, tooling and manufacturing processes as will be used in production. Performance-testing activities are monitored for timely completion and conformity to requirements. If services are outsourced, Skyworks maintains responsibility for the outsourced services, including technical leadership.

7.3.6.3 Product approval process

If requested by the customer, Skyworks conforms to the AIAG Production Part Approval Process manual. Suppliers may also be expected to conform to this product approval process.

7.3.7 Control of design and development changes

Reference: SQ02-0004 Document and Data Control

Once the design has been validated, each Business Unit ensures subsequent design changes are identified, documented, reviewed and approved by authorized personnel before their implementation.

Each Business Unit determines whether a proposed design change requires customer approval.

If required or when contractually agreed, the Business Unit ensures that all changes to designs which impact form, fit, function, performance, and/or reliability are communicated and agreed to, with the customer, so that all effects can be properly evaluated.

7.4 Purchasing

Reference: SQ02-0009 Sourcing

It is the policy of Skyworks to continually develop business partnerships with suppliers.

Together, the Quality and requesting department ensures that purchased material, process equipment and services directly affecting product quality conform to specified requirements. Documented procedures are established and maintained to ensure implementation and compliance to product and manufacturing requirements.

7.4.1 Purchasing process

Appropriate Quality, Purchasing, and/or Engineering departments or groups:

- evaluate and select suppliers on the basis of their ability to meet purchase requirements including any specific quality assurance requirements;

- establish criteria for selection, evaluation and re-evaluation of existing suppliers
- define the type and extent of control over suppliers considering factors such as type of material or service, impact of supplied material or service on the quality of Skyworks' product, and where applicable, prior quality audit reports and/or quality records of previously demonstrated capability and performance of suppliers
- establish and maintain quality records of approved suppliers and retain those records

7.4.1.1 Regulatory conformity

Skyworks ensures that materials used in product conform to applicable regulatory requirements.

7.4.1.2 Supplier quality management system development

Reference: SQ02-0020 Supplier Quality Manual

Appropriate Skyworks Quality and Manufacturing personnel perform supplier development. Criteria for supplier selection, evaluation and re-evaluation are established. Supplier audits are performed on an as-needed basis by Skyworks representatives as part of supplier or subcontractor development. More in-depth supplier development reviews may also be conducted as part of the supplier development process.

Skyworks has developed a supplier quality manual that describes expectations for those suppliers that provide materials or services that affect customer requirements.

Suppliers are expected to have an effective quality system in place that assures consistent on-time delivery of conforming product.

Skyworks performs supplier quality management system development with the goal of supplier conformity to ISO/TS 16949. The prioritization of suppliers for development depends upon the supplier's quality performance and the importance of the product supplied.

Conformity with ISO 9001 (i.e. demonstrated by certification by an accredited third party certification/registration body or through a second party audit process) is the first step in achieving this goal.

*When supplier audits are performed, the audit process is consistent with the automotive process approach, including evidence of planning, supplier readiness and supplier performance (reference principles outlined in **ISO 19011 Guidelines for quality and/or environmental management systems auditing** sections 5, 6 and 7). Records of the audits are maintained. After the initial audit, the second party surveillance audits are conducted at least annually.*

Skyworks has developed decision criteria for determining "specially designated suppliers" wherein certain specified elements of ISO 9001 or ISO/TS 16949 are waived. Records of the established criteria and decision taken are maintained.

*Registration to **ISO/IEC 17025** is required for calibration and testing laboratories.*

7.4.1.3 Customer approved sources

Skyworks purchases materials and services from customer approved sources when mandated by contractual agreement. When this is the case, Skyworks is ultimately responsible for the quality of these materials and services.

7.4.2 Purchasing information

Purchasing documents contain data clearly describing the material, process, specification, equipment or service ordered. Where appropriate, the purchasing document also references requirements for:

- product approval, relevant procedures, standards, special processes or equipment
- qualification of personnel
- quality management system requirements

The purchasing department reviews and approves purchasing documents for adequacy of specified requirements prior to release.

7.4.3 Verification of purchased product

Reference: SQ02-0005 Inspection and Test Procedure

Purchased materials, process equipment or services requiring inspection or qualification prior to release to production are inspected and qualified by trained and responsible Skyworks personnel to ensure that they meet specified purchase requirements.

Where purchased material, process equipment or service is verified by Skyworks personnel at the supplier's or subcontractor's premises, verification arrangements are specified in the purchasing documents.

7.4.3.1 Incoming product quality

Skyworks assures the quality of purchased product *using one or more of the following methods:*

- *receipt and evaluation of statistical data*
- *receiving inspection and/or testing*
- *second or third-party assessments of supplier sites coupled with records of acceptable delivered product quality (i.e. certificate of conformance or certificate of analysis)*
- *part evaluation by an approved laboratory*

7.4.3.2 Supplier monitoring

Supplier performance is monitored using the following indicators:

- product quality
- on-time delivery including unplanned use of premium freight
- customer complaints caused by poor supplier product quality (i.e. field failures and special status notifications)

7.5 Production and service provision

Reference: SQ02-0043 Wafer Fabrication, SQ02-0044 Assembly and SQ02-0045 Test, Tape and Reel

7.5.1 Control of production and service provision

Departments or groups directly responsible for manufacturing plan and ensure that production processes that directly affect product quality are carried out under controlled conditions that include:

- the availability and compliance to information that describes the characteristics of the product, reference standards/codes, control plans and/or documented procedures
- the availability and use of work instructions, as necessary
- the use of suitable equipment and working environment

7.5.1.1 Control plans

Skyworks develops and maintains pre-launch and process control plans with input from design and/or process failure mode effects analysis. The control plan format is consistent with the AIAG Advanced Product Quality Planning and Control Plan manual. These plans are updated when changes occur affecting the manufacturing process and/or measurement.

7.5.1.2 Work instructions

Skyworks develops and maintains documented work instructions for employees having responsibility for processes that affect product quality. These instructions are referenced within the standard operating procedures or manufacturing execution system and are available at their point of use.

7.5.1.3 Verification of job set-up

Verification is performed after job set-up in accordance with documented instructions.

7.5.1.4 Preventive and predictive maintenance

Skyworks identifies key process equipment and provides resources for machine/equipment maintenance. A documented total preventive maintenance system is in place that includes the following:

- planned maintenance activities
- packaging and preservation of equipment, tooling and gauging
- availability of replacement parts for key manufacturing equipment

The system is continuously evaluated and monitored in order to improve overall equipment effectiveness. *Predictive maintenance methods are also used to continually improve the effectiveness and the efficiency of production equipment.*

7.5.1.5 Management of production tooling

Skyworks provides resources for tool and gauge design, verification and as applicable, fabrication. A system is implemented for tooling management that includes:

- maintenance and repair facilities and personnel (internal or external)
- tool identification, storage, recovery and set-up
- provisions for perishable tool exchange
- tool documentation with revision control

7.5.1.6 Production scheduling

Reference: SQ02-0003 Supply Chain Management

Skyworks maintains an order-driven production scheduling system in order to meet customer requirements. Production scheduling is supported by an enterprise and manufacturing execution system that provide access to information at key stages of the process.

7.5.1.7 Feedback of information from service

Reference: SQ02-0014 Continuous Improvement / Corrective and Preventive Action

Skyworks captures and communicates service concerns from customers (e.g. customer complaint processing) to appropriate functions within the organization and takes actions accordingly.

7.5.1.8 Service agreement with customers

Skyworks does not currently maintain any service agreements with customers.

7.5.2 Process validation

Skyworks validates all manufacturing processes. The process validation arrangements include:

- *defined criteria for review and approval of the process*
- *the generation of records*
- *defined criteria and requirements for revalidation*

7.5.3 Identification and traceability

Reference: SQ02-0006 Product Control Procedure

Each department or group directly responsible for product manufacturing:

- identifies product by suitable means from receipt and during all stages of production and delivery including traceability information (e.g. raw material, tool, shift, process)
- establishes and maintains documented procedures for unique identification of individual product or batches and maintains identification records

7.5.3.1 Inspection and test status

Each department or group responsible for product manufacturing maintains the identification and test status of product and material throughout the production flow as defined by documented procedures. Identification and test status of product is identified by suitable means indicating the conformance or nonconformance with regard to inspection and tests performed and are recorded as quality records for traceability purposes. Only product and material that have passed the required inspections and tests or accepted under approval is released for further processing.

7.5.4 Customer property

If applicable the quality department establishes and maintains documented procedures for the control of storage, verification and maintenance of customer property provided to Skyworks for use in meeting contractual requirements whether used into the product or not.

Any customer property that is lost, damaged or is otherwise unsuitable for use is recorded, reported to the customer, and records of reporting retained.

7.5.5 Preservation of product

Departments or groups responsible for product or material handling establish and maintain documented procedures for handling, storage, packaging, preservation, and delivery of product or material.

7.5.5.1 Storage and inventory

Appropriate storage methods and designated areas or stock rooms are used to prevent damage or deterioration of product or material, pending use or delivery. The condition of product in stock is assessed at a predefined frequency.

In order to maximize inventory turns and optimize stock rotation, Skyworks utilizes a first-in-first-out (i.e. FIFO) inventory management system.

Appropriate methods for authorizing receipt to, and dispatch from such areas are specified. The condition of product or material in stock is assessed at appropriate intervals to detect deterioration.

Appropriate methods of safeguarding, preservation and segregation are used while the product or materials are under Skyworks control.

7.5.5.2 Handling

Methods of handling product or material prevent damage or deterioration. Proper ESD control (i.e. equipment, personnel, and product movement media) are established and maintained.

7.5.5.3 Packaging and Labeling

Packing, packaging, and labeling processes (including materials used) are controlled to the extent necessary to ensure conformance to Skyworks requirements. This requirement applies to transfers between Skyworks and its subcontractors, between operations organization and business groups, as well as to the customer. Transportation packaging meets ESD requirements, makes appropriate use of dry pack / desiccant and prevents product physical damage. When contractually agreed, customer unique packaging and labeling requirements are met.

7.6 Control of monitoring and measurement devices

Reference: SQ02-0011 Calibration

In order to provide evidence of conformity to requirements, Skyworks identifies the monitoring and measurements to be taken and acquires the devices needed to perform these measurements. In order to ensure valid results, these devices are:

- calibrated or verified at specified intervals, or prior to use, against measurement standards traceable to national measurement standards (where no such standards exist, the basis used for calibration is recorded).
- adjusted or re-adjusted as necessary
- identified to enable the calibration status to be determined
- safeguarded from adjustments that would invalidate the measurement results
- protected from damage and deterioration during handling, maintenance and storage

When the equipment is found not to conform to requirements, Skyworks assesses and records the validity of previous measurement results and takes appropriate action on the device and any product affected.

Test software used in the monitoring and measurement of specified requirements is validated before use and revalidated when updated. Records of test software validation are maintained.

7.6.1 Measurement system analysis

Skyworks conducts statistical studies using customer approved analytical methods and acceptance criteria on measurement and test equipment systems referenced in the control plans (i.e. pre-launch and production).

7.6.2 Calibration records

Skyworks generates and maintains calibration records that indicate the following:

- equipment identification number
- measurement standard used
- as-received condition (including any out-of-tolerance results)
- assessment of validity of previous measurement results / notification to customer if suspect material has been shipped (if applicable)
- statement of conformity to specification after calibration

7.6.3 Laboratory requirements

7.6.3.1 Internal laboratories

Reference: SQ02-0013 Qualification Standard

Skyworks laboratories have a defined scope that includes its capability to perform required measurement and test. Technical requirements are specified and implemented including:

- *adequacy of laboratory procedures*
- *competency of laboratory personnel*
- *product measurement and testing*
- *capability to perform the measurement and tests traceable to a relevant standard (i.e. internal or industry standard)*
- *review of reports and records*

7.6.3.2 External laboratories

Where Skyworks does not possess the capabilities, external laboratories used to perform calibration, measurement or testing are accredited to ISO/IEC 17025.

If a qualified testing laboratory is not available, customer waiver is obtained. If a qualified calibration laboratory is not available, calibration services may be performed by the original equipment manufacturer.

8 Measurement, analysis and improvement

8.1 General

Each Business Unit, Manufacturing and Support Organization plans and implements the measurement, monitoring, analysis and improvement activities used to assure conformance to product and customer requirements and continual improvement of the quality management system.

Measurement, monitoring, analysis and improvement activities are supported by the best available methodologies for data recording and analysis (statistically based whenever applicable) and fact based decision-making and communication techniques.

8.1.1 Statistical tools

Reference: SQ02-0016 Statistical Process Control

Skyworks establishes and maintains a documented procedure to implement and control the application of statistical techniques. Skyworks determines the appropriate statistical tools during the planning process and includes these in the control plans.

8.1.2 Knowledge of basic statistical concepts

Skyworks employees are aware of basic statistical concepts and apply these where appropriate.

8.2 Monitoring and measurement

8.2.1 Customer satisfaction

Reference: SQ02-0018 Customer Satisfaction

Each Business Unit, Manufacturing and Support Organization monitors and documents key indicators of internal (as well as external if applicable) customer satisfaction and dissatisfaction. These indicators are based on customer related information, such as meeting needs and expectations, requirements, pricing and delivery performance. Additional information on survey results, competitive benchmark, direct customer complaints, etc. are used as applicable

Measurement and monitoring of these “voice of the customer” indicators are reviewed and used by top management for continual product and process improvement.

Skyworks monitors customer satisfaction using the following performance indicators:

- *delivered part quality*
- *field returns*
- *customer disruptions*
- *on-time delivery including unplanned use of premium freight*
- *special status notifications*

8.2.2 Internal audit

Reference: SQ02-0012 Internal Audits

Skyworks maintains a dynamic audit program to provide feedback to management on the effectiveness of the quality management system. Records are maintained and prompt corrective action is taken to

eliminate nonconformities detected during the audits. Follow up activities take place to verify the effectiveness of these corrective actions.

8.2.2.1 Quality systems audit

Skyworks conducts quality system audits to ensure conformity to the requirements of ISO 9001 *and ISO/TS 16949*. The audit process compares actual practice to these standards and internal system documentation. *Additional (i.e. customer specific) quality management system requirements are deployed within the quality system documentation and assessed as a result of the audit process.*

8.2.2.2 Manufacturing process audit

Skyworks audits each manufacturing process to determine its effectiveness.

8.2.2.3 Product audit

Product audits are conducted at a defined frequency at appropriate stages of production to verify conformity to specified requirements. (e.g., dimensions, functionality, packaging, labeling).

8.2.2.4 Audit plans

An audit plan is developed that covers all processes, activities related to the quality management system across all shifts. The plan considers the status and importance of these processes and activities and increases audit coverage if warranted. The audit plan defines:

- type (system, process or product)
- area to be audited
- date
- scope (applicable elements)
- criteria (checklists)
- auditor name ensuring independence and impartiality
- auditee names

The plan covers all elements of the quality management system annually.

8.2.2.5 Auditor qualification

Skyworks trains internal auditors to ensure their qualification and competency.

8.2.3 Monitoring and measurement of quality management system processes

Each Business Unit, Manufacturing and Support Organization identifies and uses process metrics in the review and continual improvement of all manufacturing processes and the quality management system. Metrics are used in the control, evaluation and management of daily operations as well as long-term projects, critical to the achievement of this organization's strategic objectives.

8.2.3.1 Monitoring and measurement of manufacturing processes

Reference: SQ02-0016 Statistical Process Control

Skyworks performs process studies on all new manufacturing processes to ensure the process is capable. The results of these studies are used to enhance process controls (e.g. work instructions, acceptance criteria, and preventive maintenance instructions).

Manufacturing process capability specified by customer part approval requirements is maintained. The manufacturing organization adheres to the process control plan. Significant process events such as tool change or machine repair are recorded.

When a process becomes statistically unstable or incapable, the reaction plan prescribed in the control plan is followed.

8.2.4 Monitoring and measurement of product

Reference: SQ02-0005 Inspection and Test Procedure

Departments or groups directly responsible for manufacturing perform inspection and testing according to documented procedures to ensure conformance to product requirements. Records of product inspection and testing are appropriately maintained.

Product release does not proceed without the completion of planned processes and requirements unless otherwise approved by the relevant authority or by the customer.

8.2.4.1 Dimensional and functional testing

Reference; SQ02-0013 Qualification Standard

Skyworks performs dimensional and functional verification of product in accordance with customer engineering requirements in accordance with applicable industry standards.

8.3 Control of nonconforming product

Reference: SQ02-0006 Product Control Procedure

Each department establishes and maintains documented procedures to ensure that product or material that does not conform to specified requirements is prevented from unintended use. Responsibilities for authorizing disposition of nonconforming product or material are defined. The system provides for identification, documentation (record keeping), evaluation, segregation (when practical), disposition of nonconforming product or material, and for notification of the functions concerned. Nonconforming product or material is removed from production and immediately placed in a status that prevents reintroduction into the production flow.

Visual identification of nonconforming or suspect material or product, and any quarantine areas are provided.

8.3.1 Unidentified or suspect status

Product with unidentified or suspect status is classified as nonconforming product.

8.3.2 Control of reworked product

Instructions for rework are generated and utilized. These instructions include re-inspection requirements.

8.3.3 Customer notification

Customers are promptly notified in the event nonconforming product has been inadvertently shipped.

8.4 Analysis of data

Skyworks believes in the importance of data analysis and the application of such analysis towards continual improvement. Each department or group identifies and analyzes appropriate data (from various internal and external sources) and assesses performance against plans, objectives and other goals in order to drive continual improvement. This analysis leads to actions that support prioritization and longer term planning of customer related problems.

Information arising from product usage issues is reported and compared with those of competitors.

8.5 Improvement

Reference: SQ02-0014 Continuous Improvement / Corrective and Preventive Action

Skyworks is committed to a policy of continual improvement to support customer satisfaction. This policy involves all employees and encompasses all aspects of its business, including process, product, quality and cost. Skyworks has adopted the Six Sigma approach as a tool for continual improvement.

8.5.1 Manufacturing process improvement

Manufacturing process improvement continually focuses on process control, product and process variation reduction.

8.5.2 Corrective action

Skyworks establishes and maintains a documented procedure for implementing corrective and preventive action. Corrective or preventive action taken is commensurate with the magnitude of the problem and/or associated risk. Changes to documented procedures resulting from corrective and preventive action are implemented and recorded. The procedure for corrective action includes:

- the effective handling of customer complaints and reports of product nonconformities
- investigation of the cause of nonconformities relating to the product, the process, and/or the quality system
- determination of the corrective action needed to eliminate the cause of nonconformities
- application of controls to ensure that corrective action is taken and that it is effective.

The system tracks problem analysis completion time and uses this data for continuous improvement

8.5.2.1 Problem solving

Skyworks has a defined process for problem solving leading to the identification and elimination of root cause. When requested, the customer prescribed problem solving format is used.

8.5.2.2 Error proofing

Skyworks emphasizes error proofing when developing corrective actions.

8.5.2.3 Impact on similar processes

Skyworks assesses the impact on similar processes when developing corrective action.

8.5.2.4 Returned product verification and failure analysis

Skyworks ensures that:

- product returned from the customer is effectively analyzed
- records of these analyses are recorded, made available upon request, and retained
- where appropriate, corrective action is initiated and process changes made to prevent recurrence
- adequate failure analysis facilities are provided
- verification and failure analysis cycle times are monitored and minimized

8.5.3 Preventive action

Reference: SQ02-0014 Continuous Improvement / Corrective and Preventive Action

Skyworks has procedures for preventive action which include:

- the use of appropriate sources of information such as processes reviews audit results, quality records, and customer complaints to detect, analyze, and eliminate potential causes of nonconformities
- determination of steps needed to effectively resolve problems requiring preventive action
- initiation of preventive action and application of controls to ensure that it is effective