

宏捷科技股份有限公司

Advanced Wireless Semiconductor Comp.

文件標題： Supplier Quality Manual 供應商品質規範	頁數： 1 of 10	文件編號： AA-S-034	版本： 05
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文件變更記錄				
版本	頁數	生效日期	變更依據	變更內容
01				Initial Release
02	3	10-4-07	1-AA-709241-E	4.0 revise SCAR to MRR
	4			5.0 delete PPAP
	6			Delete: 6.2.3 Green Procurement Supplier specification.
	7			Delete: ISO/TS 16949 as the long-term goal. Registration to ISO/IEC 17025 is required for calibration and testing laboratories in 6.2.8.1
				Revise 6.2.8.4: The initial response (3D) needs to be within 24 hours.
				Delete: 6.2.9.4 Production Part Approval
03	8	05-18-10	1-AA-1005172-E	Add 6.2.9 Green Procurement Supplier specification
04	6	09-09-10	1-AA-1009081-E	Revise 6.2.8.1 Quality System
05	5			Revise 6.2.5.2 Product/Process Change
	9,10			Add 6.2.10 Conflict Minerals

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1.0 Purpose

The purpose of this manual is to define the basic quality systems and business procedures required of the suppliers who manufacture and/or supply production material and /or services to AWSC.

This manual, the Commercial Agreement, the Nondisclosure Agreement, and the AWSC purchase orders are intended as the agreement on all the terms and provisions. This manual supersedes any prior written or oral agreements concerning any of the subject matter of this manual.

2.0 Scope

This procedure applies to AWSC suppliers of Raw Materials and Critical Services that directly affect the form, fit, function, quality or reliability of the finished product.

3.0 Responsibility

None.

4.0 Definition

Approved

The supplier status is such that AWSC' Sourcing may buy qualified products from that supplier.

ASL

Approved Supplier List

Certificate of Conformance

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

Disqualified

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

Raw & Supply Material

Material used in the manufacture of finished product and directly affects the form, fit, function or reliability of the finished product.

Critical Service

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Service provided by an outside contactor that directly affects the form, fit, function or reliability of the finished product.

RMA

Returned Material Authorization: typically a requirement for returning nonconforming products to the supplier.

MRR

Material Review Report: formal request for improvement issued by any member of the team.

5.0 Reference

AWSC Documents

AA-P-002	Purchase Process
AA-S-007	Vendor Evaluation Process
QA-S-002	IQC Procedure
QA-P-002	Abnormal Handling Procedure

National and International standards

ISO/TS 16949	Quality management systems Particular requirements for the application of ISO 9001 for automotive production and relevant service organizations.
ISO 9001	Quality management systems Requirements
ISO / IEC	17025 General requirements for the competence of testing and calibration laboratories
SA8000	Social Accountability system
JESD-50A	Special Requirements for Maverick Produce Elimination
FMEA	Failure Mode Effects Analysis

6.0 Content

6.1 Supplier Qualification

AWSC supplier expectations are defined in section 5. Conformance to these requirements is verified by means of supplier surveys, requested self-appraisals, and on-site assessments performed by AWSC or a third party. All requirements in each applicable element shall be fulfilled for a supplier to be considered qualified to provide materials or services to AWSC.



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Detailed work instructions regarding this process can be found in AA-S-007 Vendor Evaluation Process.

6.2 Supplier Expectations

6.2.1 Corporate Policies and Objectives

6.2.1.1 Quality Policy

We are devoted to our customers' satisfaction on AWSC foundry service with high quality products and cost effective competition by continuous improvement.

6.2.1.2 Environment Policy

- Follow the standard of environment protection rules and related regulations.
- Consistently reduce the pollution and improve the working environment to eliminate or prevent from pollution.
- Perform the waste assortment, recycle and reduction as well as advocate the energy-saving policy.
- Elevate our employee Environment Protection knowledge by total employee training to strike for a real environmental management.

6.2.2 Regulatory Agency Compliance

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

6.2.3 Social Accountability

The Supplier shall be committed to ethical conduct, full compliance to applicable national and international laws and respect for human rights in the spirit of SA8000.

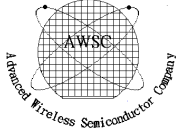
6.2.4 Risk Management Policy

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

6.2.5 Notification of Product Quality or Delivery Issues

6.2.5.1 Non-Conforming Product

Delivery of product to AWSC not meeting supplier's internal



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manufacturing specifications for measurements as identified on the control plan, acceptance criteria, outlier limits, or AWSC specifications requires:

- Supplier to review non-conformance through a cross functional Material Review Board (MRB) to determine acceptability of shipping material to AWSC.
- Issuance of a Material Non-Conforming Report to the AWSC' specifying nature of non-conformance, associated data with non-conformance, and supplier's MRB explanation of why supplier does not believe non-conformance will not impact AWSC ' product performance, quality or yield.
- Approval of the Material Non-Conforming Report by AWSC Quality Department.

6.2.5.2 Product/Process Changes

The supplier shall have a process to manage and track changes in requirements and product data. This shall include revision history documentation of the resulting changes in engineering documentation. The Supplier shall notify AWSC of product or process changes made after the product has been approved.

If there is a variation of the product specification, the qualified vendor should inform our company 3 months before change. The vendor should inform our company 6 months before change if there is a huge variation such as the company is going to be merged or stop manufacturing and providing this product because of some reasons, etc.

Change Types	Days of Notification before Change
Packaging Change	1 month
Labeling Change	1 month
Specification Change	3 months
Product Phase-Out	6 months
Factory Shut-Down	6 months
Company Mergence	6 months

6.2.6 Product Identification

The Supplier shall have a system of manufacturing control such as a route card, run card, control software, etc, used for the identification of products with regard to type,



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lot or serial number, and their status during all stages of production and test. The shipments containing finished products shall be labeled according to relevant AWSC specifications.

6.2.7 Product Traceability

The Supplier shall have a system for ensuring finished product traceability back to factory, date code and lot or serial number as specified by AWSC. The Supplier shall also have a system for identifying and tracing critical raw materials back to the source. When appropriate, requirements traceability shall be implemented at the request of AWSC.

6.2.8 Quality Plan

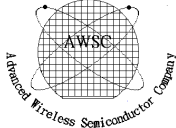
AWSC expects the following elements to be present with its Suppliers. In the event the supplier does not have an element of this plan, AWSC will at its discretion, decide if we want to work and assist the supplier develop the missing element. The Quality plan may be reviewed by the AWSC prior to a supplier being qualified. For existing suppliers, AWSC may work with supplier to document and/or develop an acceptable Quality Plan.

The requirement of the Quality Plan is one of the most critical steps in becoming an approved supplier to AWSC. AWSC intent is to purchase material from suppliers on a ship to Stock Program. This is a process where AWSC receives parts and materials from suppliers and uses them with a minimum of internal inspection and test costs, or losses resulting from the supplier fault non-conformances. AWSC will not accept the cost of excessive testing and poor quality, and will not pay the cost of our suppliers doing extensive testing or the resulting poor yields and escapes.

The intent is to emphasize process capability improvement and controls and/or monitors that will have the greatest impact on quality and reliability and ultimately zero defects, zero repeat issues and cost of ownership goals. Each supplier will be responsible for defining critical processes and if required, report to AWSC the measurement index as well as a continuous improvement plan.

The Quality Plan will normally consist of the following elements as a minimum; however, additional requirements may be requested by AWSC:

6.2.8.1 Quality System



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Suppliers are expected to have an effective quality system in place that assures consistent on-time delivery of conforming product. Registration to ISO 9001 by an accredited third party certification body is required.

In the event the supplier is not registered, a plan to achieve certification within two years will be required. This plan must be provided to the AWSC.

6.2.8.2 Process Flow Diagram

A critical element of the Quality Plan is a comprehensive flow diagram of the overall process from receipt of purchased material to shipping that includes:

- . All operations, inspection and test gates
- . Incoming material into the process
- . Critical inputs and outputs and the parameters defined to control quality of each process/part.
- . Statistical Control techniques used to control processes
- . Inspection or test methods and acceptance criteria
- . Equipment used for test, inspection and measurement of AWSC product require Gage reproducibility and repeatability(R&R) studies to demonstrate the capability of the equipment and measuring process. All such equipment with > 10% error needs to be reported to AWSC.

6.2.8.3 Failure Mode and Effect Analysis (FMEA)

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

6.2.8.4 Corrective Action and Failure Analysis

AWSC will use a supplier Material Review Report (MRR) as the trigger to engage the supplier for a request for containment, root cause analysis, corrective action and verification. All responses from supplier need to be in an 8D format. The initial response (3D) needs to be within 24 hours of receipt of the Material Review Report (MRR). The final report/analysis (8D) needs to be delivered to AWSC within 30 calendar days. In the event the supplier needs more time to complete the 8D report, the supplier will be required to request for a written extension from AWSC. Failure Analysis capabilities and support needs to be identified in the Quality Plan.



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6.2.8.5 Maverick Lot Program

AWSC encourages suppliers to have a Maverick lot program in the spirit of JESD-50A.

6.2.8.6 Document Control System

AWSC requires suppliers to have document control system in place. Suppliers must ensure that the latest AWSC specifications, work instructions, and other related documents are maintained in this system.

6.2.8.7 Internal Quality Audits

Supplier shall perform internal quality audits in accordance with documented procedures and control plans. The supplier shall review audit results, plan corrective action and perform follow-up verification of corrective action effectiveness. The supplier will publish in the Quality Plan, the frequency of internal audits done in the supplier facility. Periodically the supplier may be requested to share details of the internal audits and follow-up items with AWSC.

6.2.8.8 Problem Resolution, Escalation and Key Contacts

The Quality Plan will also define who has authority for resolving quality, technical and supply issues and the escalation process to the next level of management in the event that a decision can not be reached at any level.

The supplier is expected to designate a key contact person and will furnish their name, daytime phone number, pager/mobile number, and email address. This individual will be the owner for taking action on quality alerts and assuming all reports and corrective action request are rendered to AWSC in a timely fashion. The Supplier will be responsible for the assuring the availability of this individual or a back-up is available to AWSC at all times.

6.2.8.9 Reports

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

The supplier may be requested to provide periodic reports or summary reports of inspection or test results. The AWSC may review the metrics and reporting formats and frequency. Additionally the supplier may be requested by AWSC to provide periodic summary reports of FA and evaluation results on MRRs/RMAs. These will



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need to be in the format prescribed by AWSC Supplies Quality Engineer.

6.2.8.10 Capability Indices

The supplier shall establish a procedure to tighten all in-process specifications where a Cpk exceeds 2.3 for two consecutive quarters such that spec limits do not exceed 6 Sigma from the process median of the two quarters and tightened limits assure Cpk is > 1.67 . This procedure may be reviewed by the AWSC.

6.2.9 Green Procurement Supplier specification

AWSC is committed to the protection and preservation of the environment in AWSC its business operations. We strive to control impacts to the environment from business activities while promoting environmental improvement throughout our entities and associates. We have established specific requirements (AWSC document number IS-P-009 Hazardous Substance Management Procedure) to which all-Qualified Raw & Supply Material suppliers must comply with which ensure identified banned substances are not used in components or materials purchased by AWSC.

6.2.10 Conflict Minerals

Many industries, including the electronics industry, utilize the metals of tin, tantalum, tungsten, and gold. These metals are derived from minerals that are mined throughout the world. The Democratic Republic of Congo (DRC) is a region of the world providing some of the world's supply of these minerals. Mines to operate in the DRC are mines under the rule of non-government military groups or unlawful military factions. The illegal profits from these mines are contributing to significant human rights abuses including child and slave labor. Conflict minerals, as defined in sec. 1502 of the Dodd-Frank Wall Street Reform and Consumer Protection Act, are Columbite-tantalite (coltan), cassiterite, gold, wolframite, or their derivatives; or any other mineral or its derivatives determined by the Secretary of State to be financing conflict in the Democratic Republic of the Congo or and adjoining country. Metals derived from these minerals are **tin, tantalum, tungsten, and gold**. AWSC, along with industry groups including the Electronics Industry Citizenship Coalition (EICC) and the Global e-Sustainability Initiative (GeSI), wish to take appropriate measures ensuring these metals are sourced from "conflict-free" mines.



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AWSC expects its suppliers to evaluate their direct and indirect chains and demonstrate reasonable due diligence to verify these metals are derived from “conflict-free” mines. Suppliers must implement and maintain a system by which their supply chain is evaluated and monitored to avoid the sourcing of conflict metals. Suppliers shall provide AWSC, upon request, verification of such systems, or a plan of implementation with a completion date no later than **April, 2011**. Suppliers are prohibited from providing AWSC with any metals to be derived from a conflict region or designated as conflict metals. These provisions apply to all AWSC suppliers providing us the above listed metals, either directly, or contained within components or other materials.

7.0 Attachment

None.