Supplier Quality Manual

供应商质量手册

Revision History

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下表为本文档的所有修订版本。请前往 CXMT SRM 接收并下载最新版本的文档。如有任何问题，请联系 pub.sqe@cxmt.com 。

Revision	Date Changes Submitted	Reason for Change(s)	Approvals
A	7/26/2022	Initial release	Alexis Duan

Contents

1. Introduction

1.1 Purpose, Scope & Responsibilities 目标, 范围 & 职责

CXMT goal is to develop supplier partnerships based on trust, communication, and objective performance.

CXMT 致力于发展基于信任，沟通，以及目标达成的供应商伙伴关系。

This manual shall apply to suppliers who supply raw materials, local tools, parts or services to CXMT in directly or indirectly. The application scopes for special sections are noted and it shall be the responsibility of the Supplier Quality Engineering to monitor, audit and assess the compliance to this manual.

本手册适用于直接或者间接向 CXMT 提供原物料，设备，零部件等等软硬件产品或者服务的供应商，下述部分内容存在建议适用范围，会额外加以标示。供应商质量工程部门负责监控、审核和评估本手册的适用性。

Supplier shall establish document, implement and maintain a management system in accordance with CXMT requirements and applicable international/domestic/industrial quality, environmental and safety standards. For requirements with gaps, the supplier shall provide a time frame to meet the requirement.

供应商应根据 CXMT 要求和适用的国际，国内，或者所处行业的标准建立文件，实施和维护管理系统。对于差异部分，供应商应提供满足要求的时间。

SQE shall coordinate the review with the CXMT team where required and necessary. Similarly, for any gaps in qualify or audit process and other business activities, the supplier shall provide a time frame to meet the requirement.

SQE 应在需要时组织 CXMT 相关团队对供应商质量系统进行评审。同样，对于评审，稽核或者日常商业活动中发现的差距与不足，供应商应提供满足要求的时间。

1.2 Abbr. & Explanation 术语 & 解释

1.2.1 All abbreviations are given full spellings where they first mention so that suppliers can understand the meaning.

所有的缩写都在文中首次出现的时候备注了全拼以便于供应商理解其含义。

1.2.2 All restrictive requirements have been prefixed with the corresponding content to specify their scope of application.
所有限定性的要求均在相应内容前指定了其适用的范围。

1.2.3 At current stage, all requirements from IATF16949 are encouraged to be met by supplier, except for those specifically requested by CXMT.
除 CXMT 特殊要求的内容以外，其他来自于 IATF16949 的要求在当前阶段为非强制性要求。

2. General Management System Requirement 管理体系要求

2.1 General Quality Management System Requirement 质量管理体系要求

2.1.1 All parties concerned must contribute towards achieving and implementing the objectives of the CXMT quality policy and quality principles and must promote continual improvement. CXMT requires all our suppliers to develop, implement, and improve a quality management system certified to ISO 9001 in the actual valid revision. Suppliers are encouraged to obtain IATF16949 certification or to use the requirements from the IATF 16949 to continuously improve their internal quality management systems. Therefore, the following sequence should be applied to achieve this requirement:

所有相关方都应致力于实现和实施 CXMT 质量方针和质量原则的目标，并推动持续改进。CXMT 要求所有供应商开发、实施和改进经 ISO 9001 认证的实际有效版本的质量管理体系。CXMT 鼓励供应商获得 IATF16949 认证或使用 IATF16949 的要求来持续改进其内部质量。管理体系。因此，可按照以下优先级来实现该目标：

a. Certification to ISO 9001 through third-party audits; unless otherwise specified by CXMT, suppliers shall demonstrate conformity to ISO 9001 by maintaining a third-party certification issued by a certification body;
通过第三方审核获得 ISO 9001 认证；除非 CXMT 另有规定，否则供应商应通过保持认证机构颁发的第三方认证来证明符合 ISO 9001；

b. Certification to ISO 9001 with compliance to customer-defined QMS requirements through second-party audits;

通过第二方审核，获得 ISO 9001 认证，符合客户定义的 QMS 要求；

c. Certification to lSO9001 with compliance to IATF 16949 through second-party audits;
通过第二方审核获得 lSO9001 认证，符合 IATF 16949；

d. Certification to IATF 16949 through third-party audits.
通过第三方审核获得 IATF16949 认证

At the CXMT Supplier Selection and Supplier Evaluation process the Quality Management System, which is implemented at the supplier, might be taken into consideration. Suppliers must inform CXMT of changes of the status of their quality management system certification not later than one month after this change. Upon request, supplier shall provide CXMT copies of such certificates.

在 CXMT 选择和评估供应商的过程中，供应商实施的质量管理体系必须纳入其中。供应商必须在质量管理体系认证状态发生变化后的一个月内通知 CXMT。供应商应提交 CXMT 此类证书的副本。

2.1.2 The suppliers are encouraged to adhere to requirements and procedures defined in followings:

CXMT 鼓励供应商使用以下的工具和程序：

- Advanced Product Quality Planning and Control Plan (APQP)

- 产品质量先期策划和控制计划 (APQP)

- Production Part Approval Process (PPAP)

- 生产件批准程序 (PPAP)

- Measurement System Analysis (MSA)

- 测量系统分析 (MSA)

- Statistical Process Control (SPC)

- 统计过程控制 (SPC)

- 8D – Problem Solving in 8 Disciplines

- 8D 问题解决

2.1.3 CXMT requires Suppliers of products with firmware, drivers and/or embedded software to implement and maintain a process for software quality assurance for their products. A software development assessment methodology shall be utilized to assess the software development process. The suppliers are requested to retain documented information of a software development capability self-assessment.

CXMT 要求具有固件、驱动程序和/或嵌入式软件的产品供应商实施并维护其产品的软件质量保证流程。应使用软件开发评估方法指导软件开发过程。要求供应商保留软件开发能力自我评估的文件化信息。

2.1.4 Suppliers must also guarantee that sub-suppliers have provided for adequate quality-assurance measures and will commit themselves to fulfilling their obligations per this Supplier Quality Manual. Suppliers to CXMT are solely responsible for all purchased, outsourced manufactured subcomponents or service used in their products.

供应商还须保证次级供应商已采取足够的质量保证措施，并承诺按照本供应商质量手册的要求履行其义务。CXMT 的供应商对其产品中使用的所有外购、委外加工的子部件或者引入的外包服务全权负责。

3. CXMT Audits 审核

3.1 General requirements 基本要求

In accordance to ISO9001/IATF16949, applicable semiconductor industry standards and CXMT business objects, CXMT is responsible for the evaluation and selection of suppliers on their ability to supply products in accordance to requirements.

CXMT 评估和选择满足要求的产品的能力的供应商基于但不仅限于 ISO9001/IATF16949 体系及，半导体相关行业标准，实际应用需要等。

CXMT may audit its suppliers for:

CXMT 会对供应商审核包括但不仅限于以下内容：

Quality system procedures and implementation

质量体系程序和实施

Control of processes and product quality risk

过程和产品质量风险的控制

Continued compliance.

持续的符合性

ESH management system procedures and implementation

环境安全健康管理体系程序和实施

Supply chain safety and Business Continuous Plan

供应链安全和业务持续计划

Other technical review or requirements for better understanding.

其他基于实际应用或者管理需要的技术或要求

CXMT Supplier Quality Engineer (SQE) is responsible for developing the supplier audit schedule and performing supplier audits. It is the supplier's responsibility to address any requests for corrective actions that are generated as a result of the audit.

CXMT 供应商质量工程师（SQE）负责制定供应商审核计划并主导对供应商的审核。供应商应对审核后要求的采取纠正措施。

3.2 Audit types 审核类型

Audits can may be conducted for a variety of different reasons to address concerns that CXMT may have and may be triggered by the supplier's completion of the Supplier Assessment Survey or because of quality or delivery performance.

CXMT 可基于供应商调查问卷结果或质量/交付的绩效对供应商开展审核以解决可能引起 CXMT 现场端问题的风险。也可出于解决 CXMT 关心的议题展开定期或者不定期审核。

Before Product Approval/Release 产品导入前

• Initial development audit to evaluate a supplier's capability to meet CXMT requirements. Conducted on organizations that are not currently supplying to CXMT in order to identify what they are capable of doing and have implemented.

初始开发审核以评估供应商满足 CXMT 要求的能力。对当前尚未向 CXMT 供货的厂商进行审核以确定他们有能力做什么并已实施。

• Basic development preparation audit used primarily for new suppliers or for current suppliers who are making major process changes. The purpose is to review the supplier's mass production preparations and to request improvements before the processes and quality systems have been finalized.

供应商导入前审核主要用于新的供应商或正在进行重大工艺变更的现有供应商。其目的是审查供应商的量产准备工作，并在流程和质量体系最终确定之前要求改进。

• Mass production approval audit for new models and for domestic expansion development. During this type of audit the mass production and quality systems are audited to determine if the supplier is ready to start mass production.

针对新型号产品和国产化发展的量产批准审核。该审核主要关注供应商的量产及质量管理系统，以确定供应商是否准备好开始量产。

After Mass Production Approval 量产审核

• Mass production audit. There are two types of this audit:

量产审核分为以下两类：

Countermeasure Visit – The purpose of this visit is to follow-up quickly on a specific product problem shortly after its occurrence to verify the root cause and confirm countermeasures are in place.

措施考察 –指在特定的产品问题发生后不久迅速跟进，以核实根本原因并确认对策是否到位

Quality Management Audit – The purpose of this audit is to ensure that suppliers are conforming to CXMT's performance requirements. A failure to meet these requirements will result in a supplier audit. A team will be developed comprised of the appropriate CXMT members for the situation.

质量管理审核--该审核的目的是确保供应商符合 CXMT 的要求。审核通常面向未能满足 CXMT 要求的供应商，审核小组由合适的 CXMT 成员组成。

The following procedure may be utilized as an escalation procedure for meeting with suppliers that have chronic (two or more occurrences in a six-month period) issues or based on severity of the situation. If a supplier fails to comply with the performance requirements and/or fails to improve their supplier performance, CXMT will schedule a date to visit the supplier for an audit. This audit may include but is not limited to the following:

对于存在长期（六个月内发生两次或两次以上）问题的供应商，以下程序将作为升级程序，该程序也可根据情况的严重性来决定是否启用。如果供应商未能满足绩效要求和/或未能改善其绩效，CXMT 将对该供应商进行审核。该审核可能包括但不限于以下内容

- Manufacturing Processes 生产制造过程
- Change Control System 变更管理系统
- Written Documentation 书面文件
- Employee Training Records 员工培训记录
- Product Development Records 产品开发记录
- Maintenance Records 维护保养记录
- Inspection and Shipping Records 检验及出货记录

Following this supplier audit, CXMT and the Supplier will develop a strategic plan of action in order to improve the performance metrics. CXMT will give the supplier a list of improvement activities within 7 workdays of the initial visit that the supplier is expected to comply with. CXMT will then schedule a follow up visit with the supplier to ensure

that these measures that were not in compliance at the initial visit will have exhibited improvement. The goal of this audit is to ultimately realize a positive trend in supplier performance over time.

在审核完成后，CXMT 将与供应商沟通建立改善计划。CXMT 将在首次审核完成后的七个工作日内告知供应商改善的不符合清单。CXMT 后续即将根据需要安排追加的稽核和访问以确保这些不符合项完成改善。本审核的目标是最终实现供应商绩效的持续提升。

3.3 Audit procedure 审核程序

3.3.1 Supplier Quality Engineer shall prepare a supplier audit schedule utilizing input from CMXT internal requests, the corrective action system, supplier scoring & ratings etc.

供应商质量工程师将利用 CMXT 内部要求、CAR 系统、供应商打分评级等方面的信息，编制供应商审核行程表。

3.3.2 Supplier Quality Engineer shall coordinate the audit with the supplier to assure that agenda and key personnel will be available for the audit.

供应商质量部将与供应商协调审核内容，日程以及必要的参与人员以确保审核顺利进行。

3.3.3 The audit shall be performed utilizing the Supplier Audit Checklist. For each question addressed, the auditor(s) shall record personnel interviewed, and shall verify by examination and valuation of objective evidence to the depth necessary to determine compliance.

审核基于《供应商审核表》进行。对于所涉及的每个问题，审核员应记录应审人员，并通过检查和评估客观证据进行核实，以确定其符合性。

3.3.4 Potential findings and observations encountered during the audit shall be reviewed with supplier representatives.

应与供应商应审代表复审审核期间的潜在发现项和观察项。

3.3.5 Upon completion of the audit, the SQE shall summarize the results. The SQE shall prepare an audit report within 7 workdays of the close meeting.

审核完成后，SQE 负责汇总审核结果，并在七个工作日内完成审核报告.

The audit report shall include:

审核报告的内容包括：

1) Notice of audit. 审核通知

2) Audit team members 审核组成员

3) Completed Supplier Audit Checklist 已完成的供应商审核检查表

4) Any comments/findings. 审核发现项及意见

5) Others in need. 其他审核或者后续合作相关内容，如需要额外提供的资料或者报告等。

The Lead Auditor shall distribute copies of the audit report to:

审核报告将由审核组长发布至：

1) Supplier Representative 供应商代表

2) Quality Manager 质量经理

3) Others involved in the audit 其他相关人员

The original copy shall be maintained by Supplier Quality Engineer as a quality record.

审核报告须由供应商质量工程师作为质量记录保存。

4. Change Management 变更管理

For this part, please follow specification requirements based on the product/service supplier provide to CXMT.

Tool supplier - <Tool vendor PCN management instruction> requirements.

Material supplier - <The supplier PCN management instruction>

Parts supplier – Refer to specific change control requirements, such as <CMP PAD supplier PCN management instruction>.

请基于供应商提供的产品及服务遵循相对应的规范要求。

设备供应商 -《设备供应商 PCN 管理指导书》

物料供应商 -《供应商 PCN 管理指导书》

零部件供应商 – 参考具体产品的变更管理要求，如《CMP PAD 供应商 PCN 管理要求》

5. Quality Assurance in all Phases of Cooperation 合作周期内的品质保证

In all phases of cooperation, from concept-phase to product and process development-phases, and finally to mass production, all necessary actions to assure quality need to be performed at the supplier.

在合作的所有阶段，从概念到产品和工艺开发，验证到量产，供应商应采取所有保证品质的必要行动。

5.1 Quality Assurance in the Concept Phase 概念阶段品质保证

In the concept phase, the supplier is obligated to check the requirements from CXMT with respect to product and process requirements, manufacturability, time schedule, capacity and quality targets for feasibility.

在概念阶段，供应商应确认 CXMT 在产品和工艺要求、可制造性、时间安排、能力和质量目标方面的要求的可行性。

5.2 Quality Assurance in the Phase of Product- and Process-Development and Verification 产品及工艺开发验证阶段品质保证

5.2.1 During product and process development, the supplier must consider special characteristic/parameters as defined by CXMT. The special characteristic/parameters must be highlighted in appropriate documents, like FMEA, control-plan etc. For designated special characteristic/parameters,

quality records must be retained by the supplier for 100% of the product produced. These records must be made available to CXMT upon request.

在产品和工艺开发过程中，供应商必须考虑 CXMT 所定义的特殊特性/参数。必须在适当的文件中明确这些特殊特性/参数，如 FMEA、控制计划等。对于指定的特殊特性/参数，供应商必须 100%保留所生产产品的质量记录。如果要求，这些记录须提供给 CXMT。

5.2.2 During the product and process development phase, the supplier is expected to mitigate risk by utilizing risk rating and risk management tools. Applicable risk management tools are:

在产品和工艺开发阶段，供应商应通过利用风险评级和风险管理工具来降低风险。适用的风险管理工具有：

- APQP
- FMEA, including DFMEA & PFMEA
- PPAP
- Sub-supplier development and management

5.2.3 All relevant activities in this phase must be scheduled, executed and verified. The project plan must include proper risk mitigation activities and back-up plans. In case of schedule delays or development issues, a suitable recovery plan must be crafted and executed leading to project success. Project scope, division of responsibilities, technical requirements and project schedule should be determined as early as possible. Aiming at on-time approval of tool/product release, it's recommended supplier control the project through the use of an APQP process.

该阶段的所有相关活动必须排期、执行和验证。项目计划必须包括适当的风险规避和备份计划。当出现项目进度延误或开发问题时，供应商须制定并执行合适的恢复计划以保障项目成功交付。项目范围、责任分工、技术要求和项目进度应尽早确定。为了按时交付机台/产品，建议供应商通过使用 APQP 流程来管控项目。

5.2.4 (**- tool only**) Standard operation procedure for tool maintenance and exception handling should be established and continuous optimized until the tool run steadily and all requirements for tool improving are met. Supplier must have Best Known Method (BKM) and health check procedure of recipe. In addition to above, in order to meet the process stability requirements before mass production, especially for the defect, inline data, a complete MTBC (Mean Time Between Clean) verification must be performed and the result is required to report to CXMT. Similarly, the supplier should confirm with CXMT users the various possible use scenarios and simulate them in the laboratory to detect potential problems with the software. Given that only be identified in a specific scenario, all software problems identified during the simulation should be taken seriously, analyzed for log and failure causes, and documented and communicated to CXMT as BKM.

(**-仅适用于设备供应商**) 供应商应当在机台稳定运转，改善要求完全完成之前建立并逐步完善机台维护保养和异常处理的 SOP。 供应商须建立并管理 recipe BKM 以及 recipe health check SOP。除此之外，考虑到量产情况下的供应稳定性要求，供应商应当验证完整的 MTBC 并提供验证结果。 供应商应当与 CXMT 使用部门确认机台可能面临的使用场景并在实验室模拟以发现软件潜在的问题，由于软件问题只有在特定场景下才能出现，对于在模拟验证中发现的任何软件问题，供应商都应当认真分析其 log 以及真实原因，记录并将其作为 BKM 传递至 CXMT。

5.3 Quality Assurance in Mass Production Phase 量产阶段品质保证

5.3.1 With the support of applicable quality tools, the supplier must guarantee that supplied products meet the required and stipulated quality targets during the complete phase of mass production.

在适用的质量工具的支持下，供应商必须保证所提供的产品在整个量产阶段符合要求和规定的质量目标。

5.3.2 In case of an identified quality setback, supplier shall investigate the root cause(s) and identify and implement containment action and corrective action

to avoid any negative impact on production in CXMT. CXMT may reserve to request an 8D report in view of the impact of the quality setback.

供应商应调查质量问题的根本原因，确定并实施遏制行动和纠正行动，以避免对 CXMT 的生产产生任何负面影响。CXMT 可以基于质量问题的影响要求供应商提供 8D 报告。

Quality setbacks may include:

品质异常包括：

For Raw materials:

- Non-compliant packaging

产品包装不符合品质要求

- Non-compliant delivery conditions

- 运输条件不符合品质要求

- COA data error

-产品 COA 不符合规格要求

-Incoming inspection item fail

-产品在 CXMT 进料检验时不符合规格要求

-Inline quality issue caused by raw material

-产品在 CXMT 使用时导致异常

-Nonconforming materials escaped from supplier

- 产品在供应商生产过程中已发生异常并出货到 CXMT

For Tool/parts:

- Frequent alarms caused by same/similar failure.

-由相同/相似的故障引起的频繁报警。

- Earlier failure of spare parts

- 备件早期故障/失效

- Software or program failure

- 软件或程序故障

- Others may cause CXMT product/process fail

- 其他可能导致 CXMT 产品/工艺失效的

5.3.3 Execution of Statistical Process Control (SPC) and Measure Systems Analysis (MSA)

(-**Raw Material & Parts**) With the help of SPC for specific product and process characteristics it must be proven that the product is produced with capable and controlled processes. For the process capability Cpk the value of ≥ 1.67 / 1.33 must be maintained and verified. AIAG/VDA standards provide requirements and methods for the calculation of capability.

(-**适用于原物料及零部件供应商**) 对于特定的产品和过程特征，应使用 SPC 证明产品是在有能力和受控的过程中生产的。对于过程能力 Cpk，必须维持 Cpk≥1.67/1.33 并验证其正确性。AIAG/VDA 标准提供了计算 Cpk 的要求和方法。

All instruments used to measure special characteristics and items whose are defined in final COA must be subjected to an MSA, supplier shall select the MSA program according to the nature of the instrument and its application. AIAG/VDA standards provide requirements and methods for MSA.

所有用于量测特殊特性以及出货 COA 中检验项目的仪器，都应对其进行量测系统能力分析，供应商应依据仪器本身的特点和应用场景选择实用的分析方法。AIAG/VDA 标准提供了 MSA 的要求和方法。

5.4 (-Tool & Parts) Control of Repair & Recycle 返修&再加工管理

Suppliers shall specify and define the list of repair & recycle parts, which should be authorized by CXMT. Where repair or recycle is necessary, the supplier must develop

written procedures for the repair/recycle operation for the reprocessing parts. These procedures must provide for relevant monitoring, inspection, and testing steps after repair/recycle, in order to ensure conformance to all applicable requirements. Reprocessed parts shall be retested and audited through the standard production monitoring system. This applies to both individual parts and assemblies.

供应商应明确并定义经 CXMT 认可后的维修和再加工零件的清单。当必须进行修理或再加工时，供应商须为再加工零件的维修/再加工操作制定书面程序来规定维修/再加工后的相关监测、检查和测试步骤，以确保符合所有适用的要求。再加工零件应通过标准生产监控系统进行重新测试和审核。该要求同时适用于单个零件和组件。

Supplier shall define the times for parts recycle, and the recycle service provider shall be qualified by supplier and admitted by CXMT.

供应商应确定零件再加工的次数，再加工服务的供应商资质应被验证并被 CXMT 认可。

CXMT does not accept parts that have been repaired more than once.

CXMT 不接受已经修理过一次以上的零件。

Traceability shall be established with appropriate labelling/identification to ensure that parts subjected to repair/recycle can later be identified to aid in potential future problem solving. In addition, traceability of components used shall be maintained at the same or higher level as that used for production.

供应商应通过适当的标签/标识建立可追溯性，以确保被维修/再加工的零件可以被识别，以帮助未来潜在的问题解决。此外，返修/再加工所用部件的可追溯性应保持在与生产所用部件相同或更高的水平。

6. Complaint Handling, Failure Analysis & Problem Solving 投诉、失效分析与问题解决

6.1 General

To support CXMT's zero-defect strategy and ensure excellent performance during Tool/Parts/ Material qualify and mass production phases it is essential that suppliers define, introduce and maintain highly effective and efficient problem-solving processes. Supplier shall align their complaint handling, failure analysis and problem-solving process to established industry standards, CXMT's specific requirements defined in this manual.

为了支持 CXMT 的零缺陷战略，并确保在设备/零部件/材料导入验证和量产阶段的品质表现，供应商必须定义、引入并保持高效和有效的问题解决流程。供应商应使其投诉处理、故障分析和问题解决的流程符合既定的行业标准和本手册中定义的 CXMT 的具体要求。

6.2 Schedule / Timeline Requirements 进度/时间要求

6.2.1 If requested, supplier shall ensure availability of at least a resident engineer at CXMT plant latest 48 after the initial notification was issued.

如果被要求，供应商应确保在通知发出后的 48 小时内在 CXMT 现场至少有一名工程师。

6.2.2 Supplier shall initiate its internal problem solving immediately after receiving the notification from CXMT and establish an internal problem-solving team.

供应商应在收到 CXMT 的通知后立即启动其内部问题的解决，并建立一个内部问题解决小组。

6.2.3 Within 2 working day after receiving notification from CXMT, supplier shall provide an initial containment action report. By this time the disciplines D1 thru D3 should be completed by supplier and the results shall be included in the report.

在收到 CXMT 的通知后的两个工作日内，供应商应提供一份初步的行动报告，应完成 D1 至 D3，并将结果纳入报告。

6.2.4 Within 14 calendar days after receiving defective product – or alternatively a comprehensive failure information from CXMT, supplier shall provide a final 8D report. By this time also the disciplines D4 thru D7 shall be completed by

supplier and the results shall be included in the report. If supplier is not able to provide a final 8D report within 14 calendar days, an interim report must be provided. Additionally, supplier shall provide a detailed time-schedule for completing the 8D. If permanent corrective actions include design changes or major process changes that are subject to the PCN approval, CXMT recognizes that the final implementation of these actions may be depending on factors outside supplier´s direct influence. In those cases, completion of D6 may be delayed to a date agreed with CXMT in advance.

在收到有缺陷的产品，或 CXMT 提供的失效信息后的 14 个日历日内，供应商应提供一份最终的 8D 报告。应完成 D4 至 D7 并在报告中体现其结果。当供应商不能在 14 个日历日内完成 8D 报告时，须提供一份临时的行动报告以及完成 8D 的详细计划和进度表。当 8D 报告中永久性纠正措施包括须经 PCN 批准的设计变更或主要的工艺变更时，CXMT 认可此类改善措施的最终实施可能取决于供应商的直接影响之外的因，D6 的完成可被推迟到与 CXMT 公司预先商定的日期。

6.3 Problem Solving 问题解决

6.3.1 Supplier shall identify the range of product that may be affected. Supplier shall provide information about the potentially affected product range latest within the 8D report and actualize this information continuously based on findings during failure confirmation and FA.

供应商应确定可能受到影响的产品范围。供应商应在 8D 报告中提供有关可能受影响的产品范围的最新信息，并根据故障确认和 FA 期间的发现持续更新这些信息。

6.3.2 Supplier shall use a systematic approach for root cause analysis based on findings during failure confirmation, review of production and test records, and physical analysis. Applicable methods include 5-Why-Methodology, Fish-bone diagrams, FTA (Failure Tree Analysis) and process mapping.

供应商应使用系统化的方法，根据故障确认期间的发现、生产和测试记录的审查以及失效分析，进行根本原因分析。适用的方法包括 5-Why-Methodology、鱼骨图、FTA 和流程分析。

Supplier shall identify all root causes that contributed to the issue observed, including

供应商应确定导致观察到的问题的所有根本原因，包括

• Occurrence root cause(s), i.e. reason(s) that resulted in creation and propagation of a nonconforming characteristic or an inherent weakness of the product, as well as

- 发生的根本原因，即导致不合格特性或产品固有弱点的产生和传播的原因，以及

• Escape root cause(s), i.e. reason(s) that resulted in non-detection of a non-conforming

characteristic or an inherent weakness of the product before delivery

- 逃脱的根本原因，即导致不合格品未被发现的原因。在产品交付前未发现的不合格特性或内在缺陷的原因

• Systemic root cause(s), i.e. systemic reason(s) that allowed occurrence and escape of the non-conformity.

- 系统性根本原因，即允许不合格发生和出货的系统性原因。

6.3.3 Supplier shall identify corrective actions for all identified occurrence and escape root causes and devise a plan and schedule for implementation. All corrective actions shall be validated, and effectivity shall be confirmed using applicable statistical methods. Immediate containment actions must be kept in place until effectivity of the corrective actions has been confirmed.

供应商应针对所有已确定的发生和逃脱的根本原因确定纠正措施，并制定实施计划和时间表。所有的纠正措施都应得到验证，并使用适用的统计方法确认其有效性。在确认纠正措施的有效性之前，必须采取遏制行动。

6.4 Resident Engineer 驻厂工程师

CXMT requests the supplier to provide on-site engineering services. Arrangements for resident engineering will typically be made during the tool install and qualification or product introduction; however, CXMT reserves the right to request supplier resident engineering support in response to quality-related events that occur during series production. It is expected that the supplier will provide appropriate experts for the required position. The resident engineer shall be equipped, at the supplier's expense, with tools necessary to carry out his duties.

CXMT 要求供应商提供现场支持服务。驻厂人员的安排通常会在机台安装和验证或产品导入期间进行；CXMT 保留要求供应商提供驻厂工程支持的权利，以应对量产期间发生的质量事件。供应商应为所需职位提供合适的专家。驻厂工程师应配备履行其职责所需的工具，费用由供应商承担。

While on CXMT properties, the supplier resident engineer is expected to be aware of and follow all CXMT codes of conduct and ethics as well as all laws applicable to the location. Failure to do so will result in the discharge of the resident engineer at which time the supplier will be expected to provide a suitable replacement.

供应商驻厂工程师应了解并遵守所有 CXMT 的行为准则和道德规范，以及适用于该地点的所有法律。未能遵守的驻厂工程师将被解雇，届时供应商应提供合适的替代者。

Supplier shall retain resumes or training records of resident engineers to demonstrate their ability to meet CXMT requirements when necessary. It is worth pointing out the supplier should ensure that the competence of the resident engineers include software and hardware problem solving, and a reasonable man-to-machine ratio should be guaranteed.

供应商应保留常驻工程师的简历或培训记录，以证明他们有能力在必要时满足 CXMT 的要求。需要指出的是，供应商应确保现场工程师的能力包括软件和硬件问题的处理，并保证合理的人机比。

7. Management of Sub-tier Suppliers 次级供应商管理

The suppliers are responsible for managing the quality of the sub-suppliers. The requirements provided by CXMT shall be cascaded to supplier's supply chain as appropriate. These terms apply to distributers as well. Supplier shall implement, maintain and ensure oversight and monitoring of their Sub-tier Suppliers following a documented, risk-based approach that complies with supplier's own internal procedures and Quality Management System and CXMT's Specifications, including without limitation, audit rights of the Sub-Tier Supplier. CXMT may elect to provide input into this risk assessment of Supplier's Sub-Tier Suppliers and may require Supplier to escalate the risk and consequently the oversight as applicable for the Product.

供应商负责管理次级供应商的质量。由 CXMT 提供的要求应酌情传递到供应商自己的供应链中。这些条款也适用于分销商。供应商应按照符合自身内部程序和质量管理体系要求以及 CXMT 规范，包括但不限于对次级供应商的审核权利的文件化的、基于风险的方法，实施、维护并确保对其次级供应商的监督和监测。CXMT 可选择为供应商次级供应商的风险评估提供输入，并可要求供应商将风险升级，从而对产品进行适用的监督。

8. Training 培训

The supplier's personnel performing specific assigned tasks shall be qualified based on appropriate education training, and/or experience as required. Training records for all employees shall be maintained in accordance with a documented training procedure. Training effectiveness shall be practically reviewed by the supplier using various methods, such as pre-and post- testing and audits/appraisals of performance, as necessary.

Should quality assurance problems arise with fulfilling the requirement from this manual or other Quality-standards, CXMT may support the supplier with regard to training or by referring him to possible training courses as below matrix (R=Required, O= Optional).

供应商执行具体指定任务的人员应根据适当的教育培训和/或必要的经验获得资格。所有员工的培训记录应按照文件化的培训程序予以保存。供应商应使用各种方法对培训效果进行实际审查，如必要时进行事前和事后测试以及审核/业绩评估。

如果在满足本手册或其他质量标准的要求方面出现质量保证问题，CXMT 可以在培训方面为供应商提供支持，或为其推荐可能的培训课程，如下表所示（R=必须的，O=可选的）。

Group	Item	Grade
Quality System Basic	ISO9001	R
	QC080000	R
	IATF16949	O
Quality tools	Project management/APQP	R
	FMEA/Risk analysis	R
	PPAP	O
	SPC	O
	Calibration/MSA	R
	7 tools	R
	8D, 5 why	R
Quality Inspection	Operating Characteristic (OC) Curve:	O
	Sampling plan method	R
	MIL-STD-105E/GB2828	R
Process quality stability and improving	Manufacturing process/Control Plan & SOP	R
	QC flow chart, incoming inspection and in-process inspection	R
	Product and process change notification/PCN	R
	Continuous Improvements/CIP	R
	Documentation and archiving/Lesson learnt	R
	Nonconforming management	R

9. Supplier Performance Evaluation 供应商绩效考评

Generally, CXMT conducts supplier performance evaluations every six months. The target of the supplier evaluations is to identify and report good and bad supplier performances of Quality. The results of the evaluations will be reported internally at CXMT and to the supplier. At CXMT these results will be taken into account in the sourcing process and awarding of new business. At the supplier it is expected that measures will be defined that lead to continuous improvements of these evaluation results.

通常来讲，CXMT 每半年会对供应商的绩效进行考评。供应商考评的目的是识别和报告供应商在质量方面的良好和不良表现。考评的结果将在 CXMT 内部报告和并告知供应商。这些结果将被影响到订单采购和新业务的授予。供应商应采取措施，以持续提升考评结果。

CXMT strives to meet the performance expectations of our customers, and therefore we have the same expectations of our suppliers. CXMT is committed to maintaining a collaborative relationship with our suppliers to ensure that the highest standards of quality are met. CXMT would like to see all suppliers receive a positive rating and is committed to helping them reach this goal.

CXMT 致力于满足客户的绩效期望，因此我们对供应商也有同样的期望。CXMT 致力于与我们的供应商保持合作关系，以确保达到最高的质量标准。CXMT 希望看到所有的供应商都能获得积极的评价，并致力于帮助他们实现这一目标。

10.Supplier Continuous Improvement Program 供应商持续改进程序

As a continuous improvement activity, suppliers shall provide plans and strategy to improve the controls to prevent recurrence of quality incidents;

为防止质量事故的重复发生，供应商应提供改进内部管控流程的计划和策略，以作为持续改进的活动。

The supplier shall update their FMEA and control plans as deemed necessary. Supplier shall notify CXMT on the revision change to the control plan.

供应商应在认为必要时更新其 FMEA 和控制计划。供应商应将控制计划的修订变化通知 CXMT。

The supplier shall establish special OCAPs and shall be submitted to CXMT for review, approval and documentation.

供应商应建立特殊的 OCAPs，并应提交给 CXMT 进行审查、批准和记录。

The supplier shall perform verification of the effectiveness of the controls through the self-assessment audits.

供应商应通过内部审核对管控的有效性进行核查。

The supplier shall provide updates on their continuous improvement plans.

供应商应提供其持续改进计划的最新情况。

All continuous improvement plans and quality improvement plans shall be documented.

应记录并文件化保留所有的持续改进计划和质量改进计划。

Specific continuous improvements by supplier shall be posted and reviewed

应公布和评审供应商具体的持续改进措施。

As a tool for continuous improvement, CXMT and Supplier management teams shall have regular Quality Focus Meetings (QFMs) to review all continuous improvement actions, including other quality and engineering issues.

作为持续改进的工具，CXMT 和供应商管理团队应定期召开质量焦点会议（QFMs），审查所有持续改进行动，包括其他质量和工程问题。

11.Record & Lesson Learnt 记录及经验总结

Supplier shall have an established procedure for retention of records that meets the requirement for commercial, industrial and automobile product.

供应商应有既定的记录保留程序，以满足商规、工规和车规产品的要求。

All records of the quality system and manufacturing records shall be maintained at the manufacturer or at other locations that are reasonably accessible to the responsible CXMT upon request. The records shall be legible and shall be stored so as to prevent loss and minimize deterioration. Records stored in automated data processing systems shall be backed up.

质量体系的所有记录和生产制造记录应保存在制造商处，或保存在负责的 CXMT 应要求可合理获取的其他地点。这些记录应清晰可辨，并应以防止丢失和尽量减少变质的方式储存。存储在自动数据处理系统中的记录应进行备份。

Documents, records, data and reference- or master-samples for product qualification, must be maintained for the length of at least one year after the discontinuation of the delivery of the product to CXMT for mass production and service part demands.

为产品导入验证而提交的文件、记录、数据和参考样品或主样品，在停止向 CXMT 交付产品用于大规模生产和服务部件的需求后，还应至少保存一年的时间。

Records of the mass production phase of the delivered product e.g. test data, process control cards, measurement reports have to be maintained for the length of at least one year after the delivery of the product, to which the records belong to.

交付产品的量产阶段的记录，如测试数据、工艺控制卡、测量报告等，必须在该产品交付后至少保存一年。

Quality records for critical characteristics shall be retained for the length of at least 3 years after the discontinuation of delivery of the product.

关键特性的质量记录应在产品停止交付后至少保留 3 年。

Quality requirement documents and quality records must be maintained for the length of at least 3 years after the discontinuation of the delivery of the product to.

质量要求文件和质量记录必须在产品停止交付给 CXMT 后至少保留 3 年。