

## Supplier Quality General Requirements

**ABOUT FLEX** Flex is a leading sketch-to-scale™ solutions company that designs and builds intelligent products for a connected world. With more than 200,000 professionals across 30 countries and a promise to help make the world Live smarter™, the company provides innovative design, engineering, manufacturing, real-time supply chain insight and logistics services to companies of all sizes in various industries and end-markets. For more information, visit [www.flex.com](http://www.flex.com) or follow us on Twitter @flexintl. The information in this document is proprietary and intellectual property of Flex and should not be disclosed to unauthorized recipient.

## 1.0 BACKGROUND/INTRODUCTION

- 1.1 This Supplier Quality General Requirements document is the basis of all quality agreements between all Flex's legal entities ("Buyer") and Flex's suppliers ("Seller" or "Supplier"). Changes to this procedure can only be made by approval from the Supplier Quality Systems team supporting Global Procurement and Supply Chain.

## 2.0 PURPOSE

- 2.1 This document defines the general mandatory requirements for Suppliers relating to the quality of all products or services purchased by the Buyer from Suppliers during the term of any Agreement, including but not limited to purchases made pursuant to Purchase Orders, General Business Agreements or any other contract or document referencing this document. Specific quality criteria, targets and similar measurements will be mutually agreed upon in product-specific Component Quality Plans (CQP) if not already defined in a product specification. When referenced in the applicable contract or agreement or in a purchase order issued by Flex, these requirements will comprise a complete quality agreement between Buyer and Supplier.
- 2.2 Flex serves a variety of industries and business segments and, as such, Flex has unique Supplier quality requirements specific to these industries and business markets. Processes and tools described in this document represent the core expectations and requirements of our business partners/Suppliers. Additional quality requirements specific to the business segments supported by each Flex entity and Buyer are driven by customer requirements and are located at the [Flex Supplier Quality Webpage](#) in the "Special Segment Requirements" section.
- 2.3 This document is applicable to all Flex operations, except all Flex Health Solution sites, sites engaged in medical projects, or sites requiring following ISO 13485, FDA requirements; they shall follow Health Solution Corporate guidelines, policies, and procedures

## 3.0 SCOPE

- 3.1 This document applies to all Flex Suppliers including but not limited to Manufacturer, Broker or Distributor, Service providers, etc.

## 4.0 DEFINITIONS AND ACRONYMS

- 4.1 Continuous Improvement: Meeting or exceeding Flex's customer needs and expectations on an ongoing basis at a cost that represents value to its customers by reducing variability, cost and waste through incremental improvements in existing processes, systems and products, and introducing innovative new products and processes. Corrections to processes/products that do not meet current requirements are not considered a part of continuous improvement.

- 4.2 CIP: Continuous Improvement Program
- 4.3 Control Plan: Written description that delineates a product's major manufacturing steps and details the process parameters, performance tests, and quality assurance verification procedures used to control each step. Such plans must address all critical and significant design characteristics. Proprietary information relating to process and manufacturing methods is not required.
- 4.4 Lean: An improvement approach aimed at improving efficiency by removing wastes.
- 4.5 Six Sigma: A structured, statistics based (data driven) problem solving method to reduce defects and variation in key business processes.
- 4.6 CQP: Component Quality Plan
- 4.7 Critical/Significant Characteristic: Product, process or test attribute for which quality-planning actions must be summarized on a control plan. These characteristics are established from a review of the design and/or process FMEAs. These characteristics typically fall into the following categories:
- Characteristics identified by Flex based on process and product knowledge, criticality for customer satisfaction, function, fit, durability, and/or appearance.
  - Characteristics specifically identified on part drawings or specifications.
- 4.8 Sustainability: Which integrates the different aspects into a company's environmental, social, and economic aspects, including the supply chain.
- 4.9 Counterfeit Parts: A copy or substitute without legal right or authority to do so or one whose material performances or characteristics are knowingly misrepresented. (As defined by the U.S. Dept. of Defense, U.S. Dept. of Energy, and SAE International in Counterfeit Electronic Parts; Avoidance, Detection, Mitigation, and Disposition, AS5553). This may include cloning, product skimming, disposal of scrap/rejects, qualification samples, reclamation/reuse, re-branding, false conformity (i.e., RoHS), and devices with embedded malicious software
- 4.10 DPPM: Defective Parts Per Million
- 4.11 DPU: Defects Per Unit
- 4.12 First Article Inspection (FAI): The analysis of the first item manufactured in a production run to verify correct setup and process parameters.
- 4.13 Lifetime Buy: Along with a PDN a supplier should provide their timeline or procedure for the lifetime buy. This may include milestone dates such as the last date a PO will be accepted, the maximum delivery schedule and the last ship date.
- 4.14 PDN: Product Discontinuation Notification

- 4.15 Lot: Quantity of a product produced under similar conditions so that the product within the lot is expected to be homogeneous in all significant attributes. Unless otherwise stated in the control plan, a lot consists of no more than eight (8) hours of production produced within one (1) day.
- 4.16 Lot Traceability: System for identifying and tracking a batch of raw material or components through all steps in the manufacturing process and identifying the final product when it is shipped to the customer(s).
- 4.17 MPN: Manufacturer's Part Number
- 4.18 Non-Conforming Material: Product unit that does not meet applicable specifications.
- 4.19 Pass-Through Characteristics: Component characteristics that will not be detected by Flex or the customer facility but may represent potential fit or function issues.
- 4.20 PCB: Printed Circuit Board
- 4.21 Process: System of people, equipment, methods, materials and environmental factors that produces a product or service. A process implies action and the creation of products, ideas, information or services.
- 4.22 PPAP: Production Part Approval Process
- 4.23 Process Change: A change in a process that could alter its capability to meet design or durability requirements for a product. Process changes include:
- New, different, relocated or rehabilitated production machinery/equipment;
  - Any change in subcontracted products or services including the use of engineering-approved alternate materials; and
  - Changes to rework methods.
- 4.24 Process Change Notification (PCN): Required process by which Flex must be notified of all proposed temporary or permanent changes affecting material form, fit, or function status.
- 4.25 FMEA: Failure Mode and Effect Analysis
- 4.26 DFMEA: Design Failure Mode and Effect Analysis
- 4.27 Process Failure Mode and Effects Analysis (PFMEA): Analytical technique that uses the potential failure modes of a process and their causes to prioritize improvement opportunities. Numeric ratings are given to severity of the effect of the failure, the likelihood of the failure occurring, and, the ability to detect the failure once it occurs. The PFMEA should be treated as a living document that is updated as necessary whenever the process changes.
- 4.28 Quality Agreement: A standard agreement established by Flex concerning the quality of production parts that may be shipped and placed into stock or production.

- 4.29 Quality Records: Quality system information such as inspection data, laboratory test data, and gauge/test equipment calibration records that are documented to verify the operation of the quality system.
- 4.30 RBA: Responsible Business Alliance (formerly EICC, Electronics Industry Citizenship Coalition)
- 4.31 RMI: Responsible Minerals Initiative (formerly CFSI, Conflict-Free Sourcing Initiative)
- 4.32 ECIA: Electronic Components Industry Association
- 4.33 Sample: One (1) or more individual events or measurements selected from the output of a process.
- 4.34 SCAR: Supplier Corrective Action Request
- 4.35 SPC: Statistical Process Control
- 4.36 Supplier Quality Engineer (SQE): Flex quality representative and main contact to Suppliers concerning quality-related issues.
- 4.37 ESD: Electrostatic Discharge
- 4.38 Supplier Rating System (SRS): Supplier management tool that fosters continuous improvement through quarterly performance scorecards assessing and measuring Suppliers' quality, delivery, price, and responsiveness in order to promote world-class Suppliers.
- 4.39 SAQ: Supplier Assessment Questionnaire
- 4.40 QMS: Quality Management System
- 4.41 PSL: Preferred Supplier List
- 4.42 ASL: Flex Approved Supplier List
- 4.43 EHS: Environmental, Health and Safety
- 4.44 MSDS: Material Safety Data Sheet
- 4.45 RoHS: Restriction of Hazardous Substances
- 4.46 EDM: Expensed Direct Materials
- 4.47 MSD: Moisture Sensitive Devices
- 4.48 Quality Alert: Flex's procedure to ensure that identified quality issues related to purchased parts from manufacturers are communicated within Flex.
- 4.49 NFF: No Fault Found

- 4.50 RMA: Return Material Authorization
- 4.51 AQL: Acceptance Quality Level
- 4.52 OTD: On-Time Delivery
- 4.53 SMI: Supplier Managed Inventory
- 4.54 CRP: Continuous Replenishment Program
- 4.55 QBR: Quarterly Business Review
- 4.56 ES: Engineering Specifications
- 4.57 CoC: Certificate of Conformance
- 4.58 COT: Certificate of Test
- 4.59 21 CFR Part 820: Medical Device QMS Requirements (FDA)
- 4.60 CMT: Claim Management Tool

## 5.0 REFERENCES

### 5.1 External:

- [Flex Ethics & Governance Webpage](#)
- [Flex Labor & Human Rights Policy](#)
- [Global Barcode Marking Standard for EDM Material \(Chemicals\)](#)
- [Global Barcode Marking Standards for Purchased Parts and Supplier Hubbed Parts](#)
- [Electronic Components Industry Association \(ECIA\) Website](#)
- [Responsible Business Alliance \(RBA\) Website](#)
- [RBA Code of Conduct](#)
- [Responsible Minerals Initiative \(RMI\) Website](#)
- Global Standards for the Microelectronics Industry from the [JEDEC Website](#)
  - Customer Notification of Product/Process Changes by Solid-State Suppliers, JESD46.
  - Product Discontinuance, JESD48.
  - Counterfeit Electronic Parts: Non-Proliferation for Manufacturers, JESD243
  - General Requirements for Authorized Distributors of Commercial and Military Semiconductor Devices, JESD31E.
  - Handling, Packing, Shipping, and Use of Moisture/Reflow Sensitive Surface Mount Devices, IPC/JEDEC J-STD-033.
- Certification for Counterfeit Components Avoidance Program ([FMS-QMS-3-003-00](#)).
- Acceptability of Electronic Components Distributed in the Open Market, [IDEA-STD-1010](#).
- [Regulation of Wood Packaging Material in International Trade, ISPM 15](#).

- [Sampling Procedures and Tables for Inspection by Attributes, ANZI/ASQC Z1.4](#)
- [Sampling Procedure for Inspection by Attributes, ISO 2859-1](#)
- [Forest Stewardship Council \(FSC\) Chain of Custody Certification](#)
- [Green House Gas \(GHG\) Protocol Corporate Standard](#)
- [Carbon Disclosure Project \(CDP\) Website](#)

## 5.2 Internal:

- [Flex Supplier Quality Webpage.](#)
- [Supplier Rating System Overview](#)
- All PCNs shall be submitted in writing to the [Flex PCN Team](#)
- PCB Receiving Inspection Lot Acceptance Testing for Microelectronics, [TEC-ENG-3-084-00](#)
- Special Requirements – Automotive, [FMS-QMS-3-006-00](#)
- Special Requirements – Aerospace, [FMS-QMS-3-010-00](#)
- Corrective and Preventive Actions, [FMS-QMS-1-008-00](#)
- Control of Documented Information, [FMS-QMS-1-001-00](#)

## 6.0 SUPPLIER QUALITY GENERAL REQUIREMENTS

- 6.1 Communication and Document Submission: While Flex has multiple manufacturing locations worldwide, the official communication and document submission language between Flex and its suppliers is only English.
- 6.2 Quality Standards: Unless otherwise specified and approved by the Buyer, the Supplier is required to have a Quality Management System (QMS) in operation aligned with ISO 9001, ISO 13485, 21 CFR Part 820, TL 9000, ISO/TS16949, AS9100, or other applicable QMS system. Accreditation by a third-party certification body to the current version of a QMS standard will be viewed more favorably by the Buyer in Supplier qualification criteria. Suppliers providing material and parts for specific Automotive, Aerospace & Defense business segments, shall follow the requirements posted at the [Flex Supplier Quality Webpage](#) in the "Special Segment Requirements" section.
- 6.3 Amendments/Deviations/Exceptions: Any amendment, deviation or exception to the requirements herein shall be mutually agreed in writing between Buyer and Supplier.
- 6.4 Supplier Contacts: Suppliers are required to register the names of all key contacts for the supplied commodities, and to identify individual(s) for Flex to contact with questions or concerns regarding goods, services, quality, packaging and transportation or any other related quality assurance functions as they arise.
- 6.4.1 The Supplier is required to provide an updated copy of the quality contacts when any changes occur in the contact information that Flex has on record, when new components are introduced, and at least once a year thereafter.
- 6.4.2 If requested, the Supplier shall provide contact information for individuals to be contacted outside of normal working hours in support of Flex's 24/7 global operations.

6.4.3 The Supplier main point of contact is the Flex Buyer, or the Flex Supplier Quality Engineer associated with the project(s) the Supplier is supporting.

6.5 In accordance with Flex's Supplier Code of Conduct, posted at the [Flex Supplier Quality Webpage](#), suppliers shall:

6.5.1 Adhere to Flex's standards of ethics and integrity as expressed at:

- [Flex Ethics & Governance Webpage](#)
- [Flex Labor & Human Rights Policy](#)

6.5.2 Adopt and conform to Flex Supplier Practices Guidelines, posted at the [Flex Supplier Quality Webpage](#) in order to conduct business based on the superior value of the goods and services purchased by Flex.

6.5.3 Adopt and monitor conformance with the [RBA Code of Conduct](#), a set of standards on social, environmental and ethical issues in the supply chain. Topics include labor, health and safety, ethics, environmental, and management systems.

6.5.4 Comply with all Flex environmental requirements posted at the [Flex Supplier Quality Webpage](#)

6.5.5 In accordance with Flex's Conflict Minerals Policy, posted at the [Flex Supplier Quality Webpage](#), gold mined and smelted from the Democratic Republic of Congo or adjoining countries) shall not be used in any products sold to Buyer. If Supplier identifies conflict minerals sourced and used within their supply chain, Supplier shall take immediate action to identify alternatives from known non-conflict sources:

- Upon reasonable request by Buyer, submit within six (6) weeks a Conflict Minerals Report following the Conflict Minerals Supplier Training, posted at the [Flex Supplier Quality Webpage](#) that incorporates conflict mineral information from their entire supply chain back to the raw material smelter. Information on the Responsible Minerals Initiative is available on the [Responsible Minerals Initiative \(RMI\) Website](#).

6.5.6 Define and implement appropriate and effective policies in order to ensure compliance with all environmental regulations and shall regularly assess compliance by Supplier and its suppliers. Upon request, Supplier shall inform Buyer of the measures adopted to ensure compliance with specifically identified environmental regulations. Any exception to any environmental requirements that the Supplier wishes to utilize must be agreed to in writing with Buyer.

6.5.7 Establish and maintain processes and procedures within their company, subsidiary operations, and their Tier 1 supply chain to measure and report Green House Gas Emissions based on the [Green House Gas \(GHG\) Protocol Corporate Standard](#). Supplier is required to work with Buyer to report such emissions related to the business levels provided to Buyer through participation in the [Carbon Disclosure Project \(CDP\)](#)



[Website](#) or in a manner to be mutually agreed upon in order to help both parties to become more energy efficient and reduce environmental impacts.

6.5.8 Regularly assess their own and their sub-supplier's compliance to the Supplier Code of Conduct, posted at the [Flex Supplier Quality Webpage](#).

6.5.9 Upon request, comply with Flex's Supplier Sustainability Program for assessing compliance with the [RBA Code of Conduct](#) and applicable laws and regulations. For more information on Sustainability requirements and assessments, see Supplier Sustainability Training, posted at the [Flex Supplier Quality Webpage](#).

6.6 Risk Management: Suppliers are responsible for the quality of the products and services supplied to Flex. Supplier shall inform Buyer immediately if there is any possible risk related to reliability, function, safety or deviation from legal compliance related to Supplier's product. This includes any test or production control errors which may influence the quality of products manufactured by Flex or increase Flex's liability risk.

6.6.1 If Flex and/or its customer's production are interrupted by the failure of the Supplier to deliver scheduled products in accordance with the delivery schedule noted on the purchase order or other written document, all costs and penalties that are incurred by Flex or its customers will be paid or reimbursed by the Supplier.

6.6.2 Suppliers are required to establish a contingency plan to prevent failure to deliver products or services on time and review its plan a minimum of annually. The Supplier's contingency plan shall include risks related to the environment, government regulations, natural disasters, labor disputes, etc. Flex reserves the right to review the Supplier's contingency plan.

6.6.3 The Supplier shall maintain a documented disaster recovery plan to manage the significant business interruptions such as natural, wealth-related, man-made, or technological disasters, including but not limited to, fire or wildfire, chemical/toxic waste spill or release, explosion, building collapse, fuel shortage, gas leak, heating, ventilation or air conditioning failure, computer/software failure, virus or destruction, confidential information leak, biological contamination, civil disorder, employee strike, hostage taking/kidnapping, terrorist/security crisis, disease epidemic, dam failure, avalanche, and weather disasters such as blizzard, cold or heat extreme, drought, flood, dust storm, earthquake, hurricane or landslide. This plan shall establish the procedures and responsibilities to be used by Supplier's management to ensure the continuity of manufacturing operations and delivery of services. Recovery Management Teams shall be appointed by Supplier management and trained to address disaster recovery.

6.7 Supplier Assessment: When requested by Flex, the Supplier shall complete a Supplier Assessment Questionnaire (SAQ) and provide all information and documentation identified therein in a timely manner. This document is used to conduct a risk assessment to confirm that a good fit exists between Flex's needs and the Supplier's quality system and process controls. Such assessment may be but not limited to:

- Award of a contract to become a Flex supplier.
- Assess corrective action resulting from a below-standard Supplier performance rating.
- Assess Suppliers with a high impact to quality and/or if required by Flex's customers.
- Assess Supplier improvement and development initiatives.

6.7.1 Audit: Flex may conduct audits and inspections with respect to the manufacture, sale and delivery of products to Flex, and all requirements herein:

- If an on-site/remote audit is required, the Flex Auditor (SQE, Sustainability rep, or lead Auditor) will schedule the audit with the Supplier quality contact.
- Distributors and brokers with a laboratory within their facility must be physically/remote audited to verify their capabilities.
- At Flex's option, it may conduct the audit or inspection itself or select an independent third party to conduct the audit on its behalf. If Flex selects an independent third party to conduct the audit or inspection, Supplier may require that the independent third party execute a confidentiality agreement reasonably acceptable to Supplier.
- At Flex's option, it may be accompanied by its customer.
- Supplier shall, and shall cause its affiliates, suppliers, employees and agents, to cooperate fully in any audit or inspection conducted by or on behalf of Flex at no additional charge to Flex.
- Supplier shall immediately take all necessary or desirable corrective and preventive actions to resolve any issues discovered by any audit or inspection conducted by or on behalf of Flex. Additional audit requirements specific to certain Buyer business units are noted in the [Flex Supplier Quality Webpage](#) in the "Special Segment Requirements" section.
- A process/product audit may be required on selected goods and/or Suppliers with high impact to quality.

6.8 Component Qualification Process: Product approval is required prior to first shipment of product in the following instances. Supply shall inform Flex when any of these activities occurs prior to implementation and adhere to FAI requirements and obtain approval prior to shipment of production parts:

- A new part or revised part or product not previously supplied to Buyer.
- Correction of discrepancy on prior submitted parts.
- Product modified by engineering change to customer drawings and specifications, design records or materials.
- Use of other material or manufacture than previously approved or change of source for subcontracted parts, materials or services
- Product supplied following any change in process or methods of manufacture, control plan, or change to the print dimensions/characteristics, including any change to the revision of material or technical specification.
- Product from replaced, modified, refurbished or rearranged existing tooling or equipment, including transfer to another facility.

- Refurbishment and/or replacement of existing tooling or equipment (except for consumable tooling, dies, molds, patterns, etc.) requires internal part approval only, unless the control plan is changed.
  - Equipment moves or repositioning within the same plant require internal (Supplier) part approval only, unless process flow and/or the control plan are changed.
  - Product re-released after twelve (12) months of inactivity or twenty-four (24) months of inactive tooling for volume production.
  - After Flex suspends shipment due to Supplier quality concerns.
  - Each occurrence of reworking, re-sequencing, or reprocessing of a product involving customer critical/significant characteristics that are not already formally defined and documented in the approved flow chart and control plan.
  - Change in appearance not specified in "blueprints" by customer specification, e.g., paint dots, etc.
  - Change in packaging.
- 6.8.1 Supplier shall obtain Flex approval for all material sources. The Supplier shall identify all material sources during the quotation process or feasibility review. If a Supplier wants to use material from a different or additional material source after the product has satisfied FAI requirements, approval for the alternate material source shall be obtained from Buyer through the product change process (PCN) prior to implementation of the change.
- 6.8.2 Prior to product manufacturing release, Flex may require measurement reports, samples and application tests along with Supplier's manufacturing process description including control points or other qualification attributes:
- Special characteristics (critical-to-function dimensions, SPC dimensions, Cp & Cpk and other significant characteristics defined within specification) must be monitored, recorded and statistically evaluated by Supplier for proven stability and capability of the product. The Supplier shall identify the parameters of the process that are relevant for the control of process stability and capability. The use of special characteristics is in no way intended to minimize the importance of other requirements. The Supplier shall develop a complete system for all parts and characteristics.
  - Any parts fabricated prior to the receipt of written approval by Flex will be at the Supplier's risk and liability.
  - If requested by Flex, Supplier will provide all technical assistance, including necessary manpower, in connection with the approval and the processing capability of the supplied product.
- 6.8.3 Other FAI Requirements:
- FAI documentation shall be submitted in English as well as in other languages as specified in writing by the local Flex site.
  - Dimensional results shall be submitted by the Supplier in a format provided by Flex unless an alternate format is agreed upon in writing by the Flex SQE.

- A copy of the latest revision of the control plan shall be submitted to Flex as part of any initial submission. Flex may require specific work instructions, or any other documents related to the control plan.
- Upon request, a control plan shall be provided by the Supplier.
- Failure Mode and Effect Analysis (FMEA) or other equivalent risk identification and analysis system shall be used by the Supplier to examine the design and manufacturing processes to locate and minimize any risks regarding the quality of manufactured products.
- Design or process FMEA shall be used by the Supplier to define all necessary activities. It shall be prepared with input from all relevant departments including the Environmental, Health and Safety (EHS) aspects.
- Sample labels shall be applied to each box/container used to ship samples; also, inner container need to have a label with the following data as minimum.
  - Flex Part Number and Revision.
  - Quantity.
  - Date Code.
  - Lot Number.
- Upon specific request by Flex, a report on special process controls may be required for operations including, but not limited to, heat treating, welding, painting or plating.
- All parts used in the process of dimensional evaluations shall be numbered in accordance to their recorded results and submitted to Flex.
- In addition to master samples retained by the Supplier, the Supplier is responsible for supplying master samples to Flex.
- Test Results and Process Performance Data is to be submitted as specified on the drawing or purchase order. Flex expects the supplier to generate and maintain all inspection data for all production runs and make it available on request, (including but not limited to COT, Cp & Cpk).
- When material certifications are required by contract or customer, a copy of the source's material certification shall be included with the shipment and/or during the qualification process. If material is purchased from a distributor or manufacturer, the source shall be listed on the material certifications.
- Suppliers might be asking to follow the requirement of AIAG manuals: Production Part Approval Procedure (PPAP), Advanced Product Quality Planning (APQP), Potential Failure Mode and Effects Analysis (FMEA), Measurement System Analysis (MSA), Statistical Process Control (SPC), etc., latest edition.

## 6.9 Material Control

- 6.9.1 Control of Materials and Services: Supplier shall define and control any procurement, qualification, traceability, and screening requirements needed to ensure that materials, subcomponents, and subcontracted manufacturing services used by the supplier are fully compatible with the applicable component specification. Supplier shall maintain a list of qualified Suppliers of materials, subcomponents and subcontracted services used in the manufacture of the product and make this available to Flex if requested. The Supplier shall periodically audit or perform a similar

assessment of all subcontracted manufacturing operations to a quality standard equivalent to the Supplier's own internal operations.

6.9.2 Pass-Through Requirements: Pass-through characteristics are those characteristics produced by Suppliers (i.e., Tier 1, Tier 2 or Tier 3 to Flex) which are transparent to Flex's processes and controls. As such, quality defects in these characteristics risk being "passed through" to Flex's final customer(s). For example, a defect in a threaded hole that is not used in assembly at Flex would be at risk of being "passed through" to Flex's final customers. For these, the Supplier shall:

- Identify pass-through characteristics at or before the kick-off of the product. If there are any questions regarding the pass-through nature of a characteristic, the Supplier must contact the Flex SQE for clarification.
- Identify all pass-through characteristics on the PFMEA, control plan and related documentation.
- Verify the conformance of all pass-through characteristics using mistake-proofing techniques at the Supplier's facility before shipment to Flex including those produced by subordinate Suppliers (denoted as Tier 2 or Tier 3 Suppliers to Flex). When mistake-proofing is not possible, the Supplier shall contact the Flex SQE for direction.
- Submit certification of pass-through characteristics with inspection data.

6.9.3 Counterfeit Components: Supplier expressly warrants that all products will be free from any counterfeit material. "Counterfeit material" shall mean any component, part and/or material that is made in imitation of the original device, forged, or copied or contains in whole or in part any component, part or material that is made in imitation of the original device, forged, or copied. Any product containing counterfeit material shall be deemed defective. Supplier agrees to indemnify, defend and hold Buyer harmless from and against any and all loss, claims, expenses (including legal expenses), damages, settlements or other liabilities resulting from or arising out of any incident of having provided Buyer with counterfeit product:

- If Buyer notifies Supplier of potential counterfeit product, Supplier shall act immediately to diagnose and contain the problem and to prevent it from continuing to impact either Flex or Flex's customers. If counterfeit material is contained in the products, the Supplier shall at Supplier's expense develop and incorporate a remedy for the affected products and ship all subsequent products incorporating that remedy.
- The Supplier's warranty extends to labels and/or trademarks or logos affixed or designed to be affixed to items supplied or delivered to Buyer. In addition, because falsification of information or documentation may constitute criminal conduct, the Buyer may reject and retain such information or items, at no cost, and identify, segregate and report such information or activities to law enforcement and investigative officials as required by law.
- On Flex's request, Broker and Distribution Suppliers are required to demonstrate their ability to identify counterfeit components prior to shipment to Buyer, report instances of counterfeit components and take all appropriate legal actions necessary related to them and mitigate any potential impacts to Flex

or its customers. If Supplier does not have the required capabilities to perform any of the above responsibilities, Supplier must obtain a relevant certification ([CCAP-101 Certified](#) or [IDEA-STD-1010](#)) and demonstrate such capabilities to Flex's satisfaction.

- Suppliers who supply counterfeit components or who do not conform to the requirements above shall be immediately disqualified and may only be re-qualified by Flex through a full qualification process with demonstrated evidence of corrective action including but not limited to counterfeit part mitigation certifications noted above. Such re-qualification shall be at Flex's sole discretion.

6.9.4 Product Identification and Packaging: The product shall be marked/labeled according to [Global Barcode Marking Standard for EDM Material \(Chemicals\)](#) and [Global Barcode Marking Standards for Purchased Parts and Supplier Hubbed Parts](#), posted at the [Flex Supplier Quality Webpage](#) and other specific product requirements (e.g. MSD, RoHS, ESD, etc.) to create awareness to logistics or any other party who handles the material looking for proper handling until final destination. Such marking shall be both human and bar code readable at the lowest level of packaging:

- All moisture sensitive devices shall be packed and marked according to Handling, Packing, Shipping, and Use of Moisture/Reflow Sensitive Surface Mount Devices, IPC/JEDEC J-STD-033 from the [JEDEC Website](#).
- Supplier shall comply with packaging regulations of destination countries including, but not limited to, [Regulation of Wood Packaging Material in International Trade, ISPM 15](#), [Forest Stewardship Council \(FSC\) Chain of Custody Certification](#) and/or any other applicable requirements for wood materials.
- Supplier shall comply with Supplier Manual and Environmental Procurement Guidelines, posted at the [Flex Supplier Quality Webpage](#) for the following:
  - Heavy metals contained in package materials
  - Battery requirements
  - Halogen free and green requirements
  - IPC labeling requirements
- Unless otherwise defined by Flex, Supplier is responsible for the use of appropriate packing to guarantee adequate protection during the transport of the products.
- Material supplied in industry standard packaging (tape/reel, tube, tray, bag, etc.) must comply with the [Electronic Components Industry Association \(ECIA\) Website's](#) standards specifications to ensure proper use in automatic component placement machines.
- All electrostatic sensitive devices shall be clearly identified with an ESD warning label on each tray, tube, or reel within the shipment.
- Supplier shall ensure that each packed unit container does not exceed a 50 lbs. (20kg) weight limit unless the packed weight of an individual part exceeds 50 lbs. (20kg). Overweight containers may exceed 50 lbs. (20kg) when they are supplied to Flex on a skid or pallet.
- All corrugated containers and palletized loads shall be stackable unless part configuration and/or weight requirements do not permit this, and prior written



approval is received from Flex. The Supplier shall request and receive a deviation from Flex for temporary use of packaging that does not meet requirements.

- Supplier shall ensure that only one (1) part number is packed per container.
- Supplier shall separate on a pallet and properly label all in-process parts, deviated parts, change-in-process parts, trial parts, design change levels and special-order parts.
- Supplier shall establish and maintain a procedure to assure that the Flex packaging requirements are met. The packaging specification records shall contain packaging acceptance/approval by Flex. The Supplier shall comply with specific packaging instructions defined by the Flex receiving facility.
- When changes to existing packaging are proposed, the Supplier shall request and complete a Packaging and Shipping Data Form and submit it the Buyer for each affected part number prior to changing the existing packaging.
- If non-conforming packaging is discovered by Supplier at the Supplier location or at Flex, the Supplier shall follow all the required steps stated in the "Non-conforming Products and Corrective Actions" section of this document.
- When applicable, supplier should include the shelf-life date for inventory control proposes.

6.9.5 Traceability and Shelf Life: Suppliers are responsible for maintaining component/lot traceability as outlined by Flex in [Global Barcode Marking Standards for Purchased Parts and Supplier Hubbed Parts](#), posted at the [Flex Supplier Quality Webpage](#). Supplier shall provide a trace code (lot-, date-, batch code) on the elementary pack (the smallest standard package size) which will allow tracing back of all materials and process steps (including sub-tier suppliers):

- Supplier shall comply with RoHS part numbering requirements as defined in Supplier Manual and Environmental Procurement Guidelines, posted at the [Flex Supplier Quality Webpage](#).
- If a product is usable within a time limit only, the Supplier shall indicate the expiration date on the product (i.e., Date code clocks and cavity numbering for plastics, location numbering in the PCB with several boards in panel, etc.) and on the package. Special storage requirements shall be indicated on the package. If any additional special marking is required, Flex will provide the specifications prior to purchase order placement. Material delivered to Flex by Suppliers shall have a minimum of one (1) year remaining shelf life.
- Products older than one (1) year as measured by date code of delivery will be returned to the Supplier for replacement, unless Flex has agreed otherwise in writing.
- Material shelf life for solderable components (with exception of PCBs) shall not exceed twelve (12) months from the date code imprinted on the product. This shelf-life requirement has been determined to be adequate as part of the manufacturing process of these types of products.
- Below are the standard recommendations of PCB shelf life solderability and wire bond ability based on different surface finishes. Note that the information below is based on being stored in a controlled environment in sealed packaging and that shelf life for such finishes is compromised when the

package has been opened, perforated or damaged, or the temperature and humidity controls have not been met for proper storage. To extend shelf life beyond that noted below, the Supplier shall provide rework solutions if needed, solderability testing analysis and obtain written acceptance from Flex. To extend shelf life of PCBs with wire bondable finishes, the PCBs must meet all the requirements of PCB Receiving Inspection Lot Acceptance Testing for Microelectronics, [TEC-ENG-3-084-00](#) for Type 1 Testing. The testing may be performed by Flex (preferred) or by a third party approved by Flex.

Surface Finish	Shelf-Life	Acceptance Criteria (From date code)
Hot Air Solder Level – Pb (HASL)	Twelve (12) months	Six (6) months
Electroless Ni, Immersion Au (ENIG)	Twelve (12) months	Six (6) months
Electrolytic Ni, Electrolytic Au (ENEG)	Twelve (12) months	Six (6) months
Electroless Ni, Electroless Pd, Immersion Au	Twelve (12) months	Six (6) months
Organic Surface Preservative (OSP)	Six (6) months	Three (3) months
Selective ENIG/OSP	Six (6) months	Three (3) months
Immersion (Ag)	Six (6) months	Three (3) months
Immersion (Sn)	Six (6) months	Three (3) months
Bondable Gold (Au)	Six (6) months	Three (3) months

**NOTE:** Flex's customer requirements may dictate shorter shelf-life requirements, which will be communicated to Supplier at the time of purchase order release.

- PCBs with wire bondable finishes shall also meet all the requirements of PCB Receiving Inspection Lot Acceptance Testing for Microelectronics, [TEC-ENG-3-084-00](#) at receiving inspection.

6.9.6 Testing Facilities: Supplier shall use accredited laboratory facilities either for internal or outsourced testing. An accredited laboratory is one that has been reviewed and approved by a national-recognized body (e.g., American Association for Laboratory Accreditation (A2LA) or the Standards Council of Canada (SCC)).

6.9.7 Measurement Traceability: All measurements shall be traceable to the National Institute of Standards and Technology (NIST), an equivalent national standard or any other primary designated calibration standard agreed to by Flex.

6.10 Change Management: A Product Change Notification (PCN) is required for all changes to production and prototype components affecting non-interchangeable form, fit or function and including, but not limited to, product performance, reliability, safety, appearance, serviceability, dimensions, tolerances, conformance to regulatory agencies, change of machinery, factory change, change of sub-suppliers, etc., per the requirements of Customer



Notification of Product/Process Changes by Solid-State Suppliers, JESD46 from the [JEDEC Website](#). Such changes include, but are not limited to:

- Any change that requires alteration of Flex's subsequent assembly operations involving the product.
- Any change to the carrier packaging of the product, such as trays, tape and reel, tubes, etc., for example, change to shipment from tray to tape & reel.
- Any change to the orientation of the components within the trays, tape, etc., or any other type of carrier packaging.
- Changes in sub-supplier or manufacturer part number.
- Elimination of lead from product finish.
- Conversion of product to RoHS-compliant status.
- Changes in components.
- Changes in inspection and/or testing.
- Manufacturing site changes.
- Deviations from the approved manufacturing process.
- Product discontinuance.

6.10.1 All PCNs shall be submitted in writing to the [Flex PCN Team](#). Ninety (90) days prior to any change implementation, or prior to shipment of the affected product (except for those related to product discontinuation). Notification by Supplier shall be independent of the last delivery date.

6.10.2 In case of product discontinuance, Seller shall provide written notice of planned product discontinuation to the buyer per Product Discontinuance, JESD48 from the [JEDEC Website](#) as follows:

- Six (6) months minimum from the notice for last order dates.
- Twelve (12) months minimum from the notice for final shipment release dates.

6.10.3 Product Discontinuation Notification (PDN) Information: As a minimum, the following information shall be contained in the PDN:

- Reason for product discontinuation.
- Entire list of "complete" MPNs of the discontinued product. "Complete" means the entire unabbreviated MPN without placeholders for variable characters and inclusive of all carrier-packaging designations such as those for trays, tape and reel, etc. The "complete" list is inclusive of all MPNs affected by the PCN or PDN and is not restricted to those MPNs that Flex has a history of purchasing.
- Last date the purchase order will be accepted for the product being discontinued, including Lifetime Buy procedure.
- Last date the product being discontinued will be shipped.
- List of possible MPNs to be considered, and/or recommended, as alternate sources of supply for the discontinued product (when available).
- An assessment of the replacement ordering MPNs interchangeability with the discontinued product.

- Manufacturer's PDN tracking number.
- Names, addresses, telephone numbers, and email addresses of Supplier contacts for additional information regarding the discontinuation.

#### 6.10.4 Flex Disclaimer:

- Flex's receipt of a manufacturer's PCN or PDN does not signify acceptance by Flex of the proposed product or process change. The Supplier remains responsible for shipping all products purchased by Flex in accordance with the MPN listed on the applicable purchase order.

6.11 Preventive Maintenance: Supplier shall identify critical machinery, fixtures, and tooling, including customer properties. Develop a preventive maintenance schedule for the regular review and routine maintenance of these items to ensure the integrity and operability of the equipment. Any requirement for replacement or adjustment shall be documented and supported by evidence of the equipment's return to manufacturer original specifications.

6.12 Calibration: Supplier shall establish and maintain a calibration system based on ISO 9001 or ISO/TS16949 and their related documents and/or ANSI/NCSL Z540-1. Calibration of inspection, measuring, or test equipment shall be conducted by a qualified in-house laboratory, a qualified commercial/independent laboratory, or a recognized government agency. Commercial/independent calibration facilities shall be accredited to ISO/IEC 17025 or have evidence that they meet the intent of ISO/IEC 17025 or the national equivalent.

6.13 Statistical Process Control: When appropriate, Supplier shall apply statistical process control procedures in its manufacturing operations. Significant deviations shall be identified and analyzed, the root cause determined, and the appropriate corrective actions implemented.

6.13.1 Whenever a SPC data point is found to be out of specification and product has been shipped to Flex, Supplier shall immediately notify the Flex SQE and/or Buyer. Non-conforming product may only be accepted if a temporary deviation has been approved by Flex and/or its customer in advance and in writing.

6.14 Quality Information: As evidence that supplied products meet required specifications, Suppliers are required to record and retain data for each manufacturing lot of products shipped to Flex. Supplier's quality control records shall be available to Flex for a minimum of three (3) years after the last delivery at manufacturing/operation site (then archived for more time as specified by Flex or its Customer, depending on the contracts and/or specific Flex segment special requirements).

6.14.1 For components identified as critical by Flex and for safety critical goods and components provided to Flex, mutually agreed quality records shall be made available by Supplier for fifteen (15) years after the last delivery.

6.14.2 Upon request, Supplier shall provide to Flex product control plans as defined herein.

6.14.3 Flex will supply inspection requirements to the Supplier. If specific requirements have not been communicated, Supplier shall (at a minimum) record, maintain and make

readily accessible data for each manufacturing lot based on the Supplier's control plan for the given product. In the case of subassemblies, data to be recorded is required by individual serial number. When data is requested by Flex, the Supplier shall submit inspection data for the required lot or part (as applicable) in an easily interpreted format within twenty-four (24) hours of receipt of request.

## 6.15 Non-Conforming Products and Corrective Actions

6.15.1 A non-conformance is any disruption created by Supplier that impacts Flex or its customer's process. Typical examples of a non-conformance include but are not limited to:

- A non-conformance related to the product specification (e.g., drawing, environmental specification, impact on fit, form and function, Electrical, Humidity, Rosh, Revision, Part Marking, etc.).
- A higher DPPM/quality level over committed target.
- An unsatisfactory response to a complaint (e.g., no timely response, no efficient containment action).
- A delay or error in delivery which leads to disruptions in Flex manufacturing plant (except if there is evident inadequacy between determined and real delivery requirements).

6.15.2 Non-conforming material shall not be reworked and re-sold to Flex as new product unless prior written authorization has been granted by Flex and/or its customer, as applicable. In such instances, additional and/or special labeling and identification shall be applied for traceability purposes.

6.15.3 Supplier shall perform failure analysis on all returned defective material and when requested shall provide results to Flex according 8D. Supplier shall collect the data resulting from returned material failure analysis and evaluate trends and recurrences for continuous improvement, the time for each 8D will be determined by the CAR owner, the below table can be used as general guidelines.

8D Disciplines	Standard	High Priority
D2: Problem Description D3: Implement containment actions	Response time: within 24 hours	Response time: within 24 hours
D4: Define root causes	Response time: within 5 working days	Response time: within 3 working days
D5: Choose permanent corrective action Implementation date planned	Response time: within 30 working days	Response time: within 15 working days
D6: Implementation of permanent corrective action	Per agreed plan	Per agreed plan
D7: Action (s) to prevent recurrence D8: Prevention of repetition	Per agreed plan	Per agreed plan

\*Standard = not related to quality claim

\*High priority = quality related claim

- 6.15.4 If the non-conformance is confirmed as Supplier Related supplier may receive a claim notification requesting the expenses incurred. Flex expects the supplier takes liability of the quality and freight topics and close them in no more than thirty (30) days.
- 6.15.5 Supplier shall immediately send a Quality Alert to Flex whenever suspected non-conforming product has been shipped to Flex.
- 6.15.6 From time to time, and only upon Flex's written release, Flex may accept non-conforming product. All costs of investigations required to obtain a release by Flex shall be paid or reimbursed by the Supplier. **NOTE:** Medical device sites may require additional controls to ensure acceptability of products. This will be determined by site nonconformance processes.
- 6.15.7 Supplier shall manage all complaints according to the Corrective and Preventive Actions, [FMS-QMS-1-008-00](#) or equivalent corrective action methodology. Supplier may use its own template and attach it preferably at Flex's CAR system. Supplier maintaining a clear registration and complaint tracking system to facilitate progress management and reviews.
- 6.15.8 Incoming Inspection:
- Buyer reserves the right to evaluate any Supplier material delivered at Buyer's Incoming Inspection. Buyer's incoming inspection may only cover product type, quantity and externally visible transportation damage. Buyer is not obligated to perform a more detailed examination upon arrival. Supplier will be notified if rejected goods are identified. After confirmation of the defective material, rejected material batch shall be replaced by Supplier at Supplier's cost.
  - Buyer shall have thirty (30) days from the date of receipt of product to inspect and test for conformity with specifications ("Acceptance"), and will either accept, return for rework, or reject the product. If Buyer returns a product for rework, Supplier agrees to correct the product, and resubmit for re-inspection and testing under the same acceptance procedures previously used. In the event Buyer rejects a product, it shall give Supplier written notice of such rejection stating the reason(s) for unacceptability. If Buyer fails to reject the product within such thirty (30) day period, the product shall be deemed accepted.
- 6.15.9 Quality Failures of Accepted Product:
- For all non-conforming material discovered at any stage in the process or in the field, the Supplier will bear all risks of loss with respect to all non-conforming materials and will promptly pay or reimburse all costs incurred by Buyer. Non-conforming material costs incurred may include, but are not limited to:
    - Cost of line stoppage.
    - Labor costs for sorting, reworking, extra testing and machine re-setup man hours.
    - Scrap costs (finished goods, subassemblies, components).

- Material handling and storage costs.
  - Handling of all non-conforming or surplus purchased materials (including import costs).
  - Storage of non-conforming or surplus materials at Flex or external parties.
  - Extra material or product freight costs at Flex or external parties.
  - Materials over costs.
  - Packing document discrepancies at Flex or external parties (e.g., customs).
- Customer charges.
  - Customer claimed costs (final invoice from customer claim).
  - Travel expenses due to issue at Flex's customer.
  - Incident handling costs at Flex's customer (containment, failure analysis, corrective actions, visit customer, visit supplier).
  - Expenses for evaluation of the damage at Flex's customer from external parties.
  - Devaluation (lost commercial properties, discount for poor quality).
- Administrative costs.
  - Administration of supplier compliant and cost reimbursement from supplier.
  - Handling incident at Flex's line (containment, failure analysis, corrective actions).
  - Handling incidents at Flex's incoming inspection (containment, failure analysis, corrective actions, visit supplier).
  - Travel expenses due to quality issues at Flex.
- Extra testing by external laboratory.
- Engineering costs.
- Tools, fixtures and measurement equipment for containment, auxiliary material or energy costs.
- In cases where time is of the essence and Buyer must disposition the product, sorting and/or reworking costs performed by Buyer shall be paid by the Supplier. If Supplier does not respond to return request for defective products within two (2) weeks of request, Buyer reserves the right to dispose of rejected products with all disposal costs borne by Supplier.

#### 6.15.10 Defective Products or Services:

- Defective products verified as Supplier caused may, by mutual agreement between Buyer and Supplier, either be returned to Supplier or scrapped by Buyer. Rejected products shall be replaced or credited at Buyer's option. Supplier shall provide immediate product replacement via the most rapid delivery method when significant rejected product quantities are involved.
- Buyer payment for any non-conforming product will not constitute acceptance by the Buyer, limit or impair Buyer's right to exercise any rights or remedies or relieve the Supplier of its responsibilities for the non-conforming product.

- Flex expects its suppliers to assume responsibility for assuring the quality of products shipped. Products are expected to meet specification requirements and applicable standards. The Supplier shall assume responsibility for all non-conforming products.
- Non-conforming material (verified, suspected, or potential) will be reported to the Supplier by the Flex buyer. The Flex SQE may issue a Supplier Corrective Action Request (SCAR).
- If an excessive failure occurs (such as line stop, chronic delivery or product issue, etc.), Supplier and Buyer will cooperate to implement the following procedure:
  - The party that discovers the failure will promptly notify the other party.
  - Supplier will give an initial response to Buyer indicating its preliminary plan for diagnosing and addressing the problem within two (2) business days.
  - Supplier and Buyer will jointly exert all commercially reasonable efforts to diagnose the problem and plan a workaround or more permanent solution.
  - Supplier will apply its engineering change order procedure in appropriate circumstances for hardware problems originating in the manufacturing process.
  - Supplier will prepare and consult with Buyer regarding an appropriate recovery plan as well as an appropriate workaround, as an interim solution, if one is needed.
  - Supplier and Buyer will mutually agree on a recovery plan to address product delivery issues.

#### 6.15.11 Corrective Actions:

- When the Flex SQE issues a Supplier Corrective Action Request (SCAR):
  - Where complex issues are involved, an action progress report shall be communicated within five (5) working days with subsequent daily updates.
  - The SCAR will be forwarded to the Supplier with samples (when applicable) or pictures exhibiting the non-conformance(s).
  - Supplier is expected to take the appropriate containment actions and internal corrective actions to prevent reoccurrence.
- If necessary, the Supplier shall cooperate with Flex to resolve No Fault Found (NFF) situations by reconsideration of parametric specifications, test coverage/correlation and review of the performance envelope with respect to specification limits.
- The Supplier is responsible for providing updates on all interim activities, through SCAR verification and closure. Corrective action measures shall be communicated to Flex Buyer/SQE within defined SCAR due date unless a time extension has been agreed to by the Flex SQE. Failure to respond to the SCAR within the designated time period may affect the Supplier rating and could lead to the removal of the Supplier from the Flex Approved Supplier List.
- If discrepant product cannot be returned due to production requirements, the Supplier will be requested to provide on-site assistance with sorting or rework. If



sort or rework activity is performed by an outside third party, supply may be required to have an employee on site within twenty-four (24) hours of notification to supervise these activities.

- If Flex is required to sort and/ or rework non-conforming product to maintain production requirements, the Supplier will be charged a predetermined hourly rate. In addition, if the sort and/or rework involves finished product, only Flex representatives are authorized to conduct the sort and/or rework operation. A debit will be issued for the expenses incurred.

#### 6.15.12 Warranty:

- Warranty as stated in purchase order terms and conditions covers both Flex and its customers. Supplier shall replace any and all defective or non-conforming products free of charge. Supplier shall be liable for and save Flex harmless from any loss, damage or expense whatsoever that Flex may suffer from breach of any of these warranties. Remedies include repair, replacement or reimbursement of the purchase price of non-conforming goods at the sole discretion of Flex.

#### 6.15.13 Return Material Authorization (RMA):

- Supplier is required to furnish a Return Material Authorization for the return of non-conforming product or product for which the ability to meet the quality specifications or requirements cannot be adequately determined within one (1) business day from Supplier in same region or a maximum of two (2) days from Supplier in a different region. If return authorization has not been received within four business days, Flex may return the material to the Supplier and debit their account. The Supplier is responsible for the shipping costs and should provide shipping instructions to return the defective/suspected material. In cases where local or national laws do not permit this, other similar or functional agreements shall be made between both parties.
- Flex expects the claim to be closed financially with the corrective action report within thirty (30) business days of the original defect date.

### 6.16 Supplier Performance

6.16.1 Incoming Quality conformance is expressed in Acceptance Quality Level (AQL). The standard sampling level shall be AQL of 0.65 unless otherwise defined by the Quality Site Responsible. The standard sampling plan shall be according to [Sampling Procedures and Tables for Inspection by Attributes, ANZI/ASQC Z1.4](#) or [Sampling Procedure for Inspection by Attributes, ISO 2859-1](#):

- Single Inspection
- Level II
- Normal Inspection, if not defined

6.16.2 Material DPPM targets for specific products/ segments will be indicated in the special requirements procedures (Medical, Automotive and Aerospace). In the case of supplied raw materials (e.g., granulate), alternative definitions may be applied.

#### 6.16.3 Outgoing Quality:

- Supplier shall monitor the outgoing quality level (Shipped Product Quality Level) in DPPM for individual components and for part families that use common manufacturing processes (commodity). Measurement of outgoing quality via out-of-box auditing and in-process measurement are acceptable methods. The number of defectives shall include all units found not conforming to functional, visual and/or dimensional requirements.
- Outgoing quality levels shall meet or exceed the agreed DPPM requirements for product supplied to Flex as specified in the component specification. Inspection data shall be kept including the DPPM level per part number (or per part family or commodity, as applicable). Outgoing quality data shall be made available upon request.
- If outgoing quality level targets are not met (based on agreed DPPM requirements), the supplier shall implement corrective action and inform Flex of the situation and the corrective action being taken by responding to a SCAR opened by Flex.

#### 6.16.4 Performance Measurement:

- Supplier quality performance is measured by the number of rejects impacting DPPM/DPU calculation, repetitive claims, line down situations, and/or returned products. Other considerations are quality system audit status, Supplier Corrective Action Requests (SCARs), annualized field failure rate (defined by location), and lot acceptance rate at receiving inspection.
- Supplier's business performance may be evaluated through the SRS on a quarterly basis and Flex may issue Suppliers a Supplier Rating Report. The Supplier performance score is calculated based on different metrics that are outlined in the [Supplier Rating System Overview](#) presentation
- For Suppliers who receive unsatisfactory performance metrics, Supplier shall submit a written improvement plan within two (2) weeks after receipt of rating report providing a roadmap and commitments on dates when Supplier will reach an acceptable rating.
- Based on results and trends, selected Suppliers may be required to participate in a Quarterly Business Review (QBR) with Flex during which the Supplier presents its corrective action to Flex Management. Poor quality performance may result in probation or removal from the Flex Approved Supplier List (ASL), resulting in possible loss of business with Flex.

### 6.17 Supplier Development and Improvement

#### 6.17.1 Supplier Development Process:

- Supplier improvement initiatives shall focus on issues related to process, quality system, cost, capacity and delivery.



- Flex will monitor the Supplier performance using the Supplier Rating System (SRS).
- The Supplier shall maintain its own data to calculate DPPM and identify quality performance trends within their own processes and make this data available to Flex upon request.



#### 6.17.2 Continuous Improvement:

- All Suppliers are required to maintain quality systems that ensure parts shipped to Flex meet specification. Suppliers are expected to have an action plan and the necessary controls to maintain and improve their processes and systems.
- In evaluating their continuous improvement efforts, the Supplier should monitor the following:
  - Voice of the customer: These measures reflect quality performance as seen by Flex and its customers via the Supplier Rating System (SRS) and in compliance with this document.
  - Voice of the process: These measurements reflect quality performance as seen by the Supplier at the Supplier's location.
  - Continuous Improvement Program (CIP): The Supplier shall have a continuous improvement program to produce material over the long term that meets specifications and requirements. All Suppliers are expected to measure their quality performance. The process should have the support and involvement of the Supplier's top leadership.
  - Suppliers should identify the processes that need to receive continuous improvement efforts. For those processes identified, individuals and/or quality improvement teams should be assigned to analyze the cause and implement the indicated changes for improvement.
  - The Supplier should be knowledgeable in advanced quality tools and should utilize lean manufacturing and six sigma methodologies in the manufacturing process.

## 7.0 COMPLIANCE WITH LAWS

- 7.1 Regulatory: Upon request, Supplier shall obtain all required regulatory approvals, and apply approbation marks accordingly, for products and manufacturing processes. Approvals shall be obtained, and products marked prior to first deliveries.
- 7.2 Safety: Buyer shall identify all relevant safety requirements and provide associated documentation for products designated for use in safety related applications. For other non-safety use related products, Buyer shall inform Supplier of the status of any product attributes Buyer deems important for safety considerations. When product safety considerations or specifications exist, Supplier must demonstrate specific control processes or qualification

tests including, but are not limited to, product validation, third-party qualification, and regulatory testing to guarantee 100% product compliance with Buyer's safety considerations or specifications.

7.2.1 Engineering Specifications (ES) Test Performance: The goal of ES testing is to confirm that the design intent of the product has been met. If there is an ES failure, the Supplier should stop production and shipments immediately. The Supplier shall immediately notify Flex SQE about the ES failure and identify any suspect lots shipped to Flex.

7.2.2 Material Safety Data Sheets. Suppliers are required to identify restricted, hazardous and otherwise regulated materials and warrant that the supplied materials comply with all applicable regulations. A Material Safety Data Sheet (MSDS) that complies with applicable law for all restricted, toxic and hazardous materials must be submitted for Flex's review and approval prior to shipment of product.

7.2.3 If Supplier identifies hazardous substance (e.g., Benzene, etc.), Supplier should take immediate action to stop using such substance and notify Flex.

7.3 Supplier Certification: Supplier should provide certificate of conformance (CoC) that confirms the quality status of products and/or processes for each batch or any other interval, the requested CoC should be provided as requested prior to or with each delivery. Unless mutual agreement between both parties.

#### 7.4 General Environmental Requirements

7.4.1 Upon Buyer's request, Supplier shall provide Buyer compliancy information in the form of full material content declaration. All declarations shall be submitted in XML format using the IPC 1752 standard or similar as requested by a specific Flex business segment. Supplier warrants that the information it provides Buyer is correct and complete and will provide a Certificate of Compliance with each full material content response. If a failure to comply is detected, Supplier shall, upon Buyer written notice, immediately remedy such failure so that its conduct and product conforms to requirements.

7.4.2 Upon Buyer's request, Supplier shall certify compliance with applicable laws and regulations identified by Buyer, and provide such evidence of compliance, which may include but not limited to test results, test verification, and lab reports (including, but not limited to, lab reports for RoHS banned substances, halogens and/or other substances) according to requirements specified by Flex. Such evidence shall be retained by Supplier, to be made available to Buyer on request, for a minimum of ten (10) years from date of test.

7.4.3 All proposed temporary or permanent changes that affect material composition and/or compliancy status shall be submitted using the required Product Change Notification (PCN) process or according to the agreed upon contractual requirements. For assistance with this process, see Product Change Notification (PCN) Training for Manufacturers, posted at the [Flex Supplier Quality Webpage](#).

## 8.0 DOCUMENT REVIEW AND APPROVAL REQUIREMENTS

- 8.1 This document shall be reviewed and approved as defined in Control of Documented Information, [FMS-QMS-1-001-00](#).