



Device Engineering Purchasing Quality Requirements

Applicability Statement: The Terms and Conditions listed in this document are intended to cover a wide range of purchasing possibilities. Depending on type of purchase being made, not all terms and conditions below may apply, as determined by DEI. The Terms and Conditions of this document must be reviewed by the Supplier, and any deviations from them must be agreed in writing between DEI and Supplier.

IC Assembly: 1, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27
Wafer Fabrication: 1, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25, 26, 27
IC Reliability Testing: 1, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 15, 19, 21, 22, 24, 25, 27
Calibration Services: 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 15, 19, 21, 22, 25, 27
IC Backend Service: 1, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 15, 19, 21, 22, 24, 25, 27
Design Services: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 15, 19, 21, 22, 24, 25, 27

1. **Specification Requirements:** Purchased product must conform to the noted specifications, drawing(s), process requirements, inspection instructions, and ESD packaging and handling requirements. Purchased product must meet the specified requirements for design, test, examination inspection and related instructions for acceptance by Device Engineering Incorporated (DEI).
2. **'Design' Services Requirements:** For deliverables related to 'design' services, purchased product must meet the specified requirements for design, design process approval, inspection, and investigation.
3. **Non-conforming product:** Any product not meeting the specified requirements must be declared 'non-conforming product'. Prior to the shipment of 'non-conforming product' to DEI, DEI must have:
 - a. Received from the supplier, a written notification detailing the scope of the non-conformance.
 - b. Issued a written specification waiver to the supplier.

Additionally, the supplier will notify DEI of any nonconforming product (including latent defects) already delivered to DEI. Notification shall be immediate via phone to the Purchasing Agent or Quality Assurance, followed by a written report to DEI Quality Assurance.

4. **Change Notification:** Supplier shall provide written notification in writing to DEI's Quality Assurance Manager of significant product, process, and/or sub-tier supplier changes, manufacturing location changes, and quality organization changes. Proposed changes requiring approval include: Materials/BOM, Production Process Sequence, Test Methods, and Sub-tier Supplier Changes. Suppliers are required to notify DEI promptly of any changes of fit, form, function, safety or reliability and obtain approvals prior to manufacture and delivery.
5. **Access to Facilities and Records:** The supplier, by performance against this order, agrees to allow Device Engineering Incorporated, our customers, and/or regulatory authorities, access to all facilities and applicable records related to this order; including documentation that describes the design, inspection plans, work instructions, test plans and results, control processes, and equipment procedures that directly affect the quality of the material ordered.

6. **Flow Down:** Supplier must flow down to sub-tier suppliers the applicable requirements in the supplier's purchasing documents.
7. **Obsolescence:** Suppliers are required to notify DEI, a minimum of 6 months prior to obsolescence, if a part listed on this order or any of its material components are planned for obsolescence by you or your sub-tier suppliers.
8. **Training:** The supplier shall guarantee that the personnel making and inspecting the parts are qualified to perform these tasks. Training records and experience information shall be made available upon request.
9. **Calibration:** Supplier shall maintain calibration for all inspection, measuring, and test equipment traceable to an international or national measurement standard or as specified by the purchase order, where traceability to a national standard is not applicable.
 - 9.1: Calibration to be traceable to an ISO17025 and ANSI/NCSL Z540.3 Accredited Lab
or
 - 9.2: Calibration performed by OEM must provide a Certificate of Calibration that is traceable to NIST.
10. **Quality Management System Requirements:** Key/Critical suppliers (Wafer Fabrication, Production IC Assembly, Calibration Service, Reliability Testing, and Failure Analysis Labs) shall have a quality management system that is documented in a quality manual. Copies of the latest revision level manuals shall be delivered to DEI for review upon request. The Key/Critical suppliers shall have completed and returned the Device Engineering Supplier Survey.
11. **Packaging/Preservation and ESD Control:** Supplier shall provide packaging and preservation in accordance with the best commercial packaging methods to ensure against surface scratches, denting, and damage to assemblies, moisture protection and for safety in handling during the shipping process. For Electronic Parts: items shall be shipped in electrostatic dissipative packaging and labeled as Electrostatic Discharge (ESD) sensitive items. ESD Control must be in place throughout all steps of the process flow. ESD Control should comply with ANSI/ESD S20.20(minimum) and JESD625(preferred).
12. **Sub-tier Quality Management Systems and Compliance to Specifications:** Supplier shall be responsible for assuring that all of their sub-tier suppliers of products and/or services have in place the appropriate quality assurance and traceability programs necessary to meet DEI requirements. A list of these sub-tier suppliers shall be made available to DEI Quality Assurance upon request. Supplier shall ensure that both they and the sub-tier suppliers are maintaining the certification that chemical/physical characteristics are in compliance to military or commercial specifications. The information shall be available to DEI upon request.
13. **Traceability:** Traceability shall be maintained by the supplier to specific lots, including material types, and shall make this information available to DEI upon request. Suppliers shall retain records in either hardcopy or electronic form for a minimum of 10 years.
14. **First Article Inspection:** Supplier shall conduct a "First Article Inspection" per AS9102 prior to an initial production run on all new parts, when significant production processes are changed, or when a drawing revision changes. The first article unit shall be clearly identified in a separate bag and/or a tag marked "First Article." If a first article was not performed on units that have been previously shipped, a first article shall be done on the next order.
15. **Environmental Requirements:** Suppliers are encouraged to minimize operational processes that negatively affect the environment, and are required to comply with local applicable laws, regulations, and other environmentally oriented requirements.

16. **'REACH' Compliance:** For suppliers providing elements contributing to IC assembly: Supplier must comply with the legislative framework outlined by the European Commission regarding the Regulation, Evaluation, Authorization, and Restriction of Chemicals (REACH) passed June 2007. REACH requires the disclosure of chemicals and hazardous substances that may have a negative impact on health and/or the environment. Supplier must provide information regarding the use of these chemicals and substances, as defined in the legislation, in any product supplied to DEI.
17. **Metal Analysis:** For suppliers using metals: The supplier shall send a random sample of material to an independent laboratory for each material supplier annually to verify supplier's certifications. This applies to material suppliers used for DEI products. This sample may be from any material type received from the material supplier within the year. The supplier must reconcile any discrepancies between the independent analysis and the supplier's certification and notify DEI of any issues.
18. **Counterfeit Electronic Part Prevention:** A Counterfeit Electronic Part Prevention program must be in place with a documented procedure.
- 18.1 Suppliers providing materials or components for our devices, all material must have traceability back to the original manufacturer with the original Certificate of Conformance.
- 18.2 Upon request, Suppliers providing services (assembly, failure analysis, etc) must make available to DEI, their procedure(s) related to their Counterfeit Electronic Part Prevention program.
19. **Foreign Object Debris/Damage (FOD):** Supplier shall maintain good housekeeping and a Foreign Object Debris/Damage (FOD) prevention program, to preclude introduction of foreign objects or damage from foreign debris to any deliverable item. Supplier shall maintain appropriate housekeeping practices to assure timely removal of residue/debris generated during manufacturing operations, tasks, or storage. Supplier shall determine if sensitive areas that have a high probability for introduction of foreign objects should have special emphasis controls in place for the manufacturing environment.
20. **IC Assembly subcontractors (destruction of Non-Conforming components/product):**
- If, in the directions of our purchase order or product assembly specification, we grant the assembly subcontractor the authority to scrap wafer skeleton and reject material, then, the following statement must be on the Certificate of Conformance or equivalent document(s) provided with product delivery.
- “Inked/rejected die, wafers, wafer skeleton, assembly rejects, and/or set-up devices have been or will be scrapped, destroyed, and rendered unusable.”**
- In the case when assembly subcontractors hold scrap material from several customers and perform periodic bulk destruction, and can't make the above statement with each delivery, then a copy of the Certificate of Destruction is forwarded to Device Engineering Inc. at the time the destruction is completed.
21. **Prevent Transactions with Denied Persons/Debarred Parties/SDN:** - To ensure compliance of U.S. export laws, Device Engineering Inc does not conduct any business transaction with the "Denied Persons List" published by the U.S. Department of Commerce, the "Denied Parties List" published by the Department of State and the "Specially Designated Nationals" list published by the Department of Treasury, Foreign Assets Control. DEI expects all suppliers and its subcontractors to comply with these laws as well. Supplier agrees to include this requirement in lower-tier Purchase Orders and/or subcontracts. (You may view the U.S. Government web sites for each of the Agencies noted above to access their lists).

22. **English Language:** English is the required language for all communication and documentation provided to Device Engineering Inc.
23. **Dodd-Frank Wall Street Reform and Consumer Protection Act Compliance:** Supplier must comply with section 1502 of the Dodd-Frank Wall Street Reform and Consumer Protection Act., which was passed by the United States 111th Congress in 2010. Section 1502 requires the disclosure of any conflict minerals present in consumer products. Compliance requires that companies in all levels of the supply chain review their product materials and advise customers in a timely manner. Suppliers are encouraged to source from smelters validated by an independent private sector audit firm.

Supplier must provide information regarding the use of conflict minerals, as defined in the Act, in any product your company supplies to DEI. Conflict minerals include any minerals that are sourced from the Democratic Republic of the Congo or any adjoining countries (“Covered Countries”) and the following: 1) columbite-tantalite, also known as coltan (the metal ore from which tantalum is extracted); 2) cassiterite (the metal ore from which tin is extracted); 3) gold; 4) wolframite (the metal ore from which tungsten is extracted); 5) their derivatives; or 6) any other mineral or its derivatives determined by the Secretary of State to be financing conflict in the Covered countries.

24. **Non-Disclosure of Proprietary Data:** Supplier agrees not to use or disclose drawings, specifications, technical information or other data furnished by DEI without the prior written consent of DEI. Supplier agrees and acknowledges that any improvement or modification to such confidential or proprietary data shall be the sole property of DEI, regardless of whether any such improvement or modification was the creation of the Supplier. Supplier further agrees to use all appropriate copyright and proprietary notices on all goods delivered hereunder regardless of their intended use. Supplier recognizes that such proprietary data is unique and consents to the remedy of injunction in addition to damages for violation of the terms of this provision.
25. **DEI Owned Property:** Unless otherwise expressly agreed in writing, DEI retains rights and title to and possession of any tooling, drawings, mask sets, tapes, fixtures, original documentation and intellectual property used in the furnishing of goods. All materials, including but not limited to special tools and equipment furnished by Supplier to DEI in connection with this Order shall remain DEI’s property. In addition, all special tools and equipment either: (i) identified as a reimbursable item in the Order, or (ii) specifically acquired for performance of this Order with the cost being fully amortized or otherwise recovered in the price of the supplies to be delivered hereunder, shall, upon such payment, become DEI’s property. All of DEI’s property shall be: (iv) used only in filling orders for DEI, (v) kept segregated and clearly marked as DEI’s property, (vi) maintained in good condition, normal wear and tear being accepted, and surrendered to DEI upon demand. Supplier shall not be responsible for replacing bailed materials satisfactorily accounted for in the manufacturing and assembly process. (b) While DEI-owned property of whatever kind is in Supplier’s possession or control, Supplier shall be responsible for all loss or damage and shall, at its own expense, secure, or maintain extended insurance coverage in an amount sufficient to cover replacement cost.
26. **Recertifying Expired Material:** Prior to using expired material, supplier must notify DEI of the suppliers intent to recertify material as well as the methods to be used. DEI must review the method, summary, and results prior to issuing an APPROVAL to use.
27. **Business Ethics:** Device Engineering Inc. is committed to industry best practices in worker safety and fairness, environmental responsibility, business ethics, integrity and efficiency, and requires the same of all of its business partners.

The Electronic Industry Citizenship Coalition (“EICC”) publishes a code of best practices called the “EICC Code of Conduct”. The EICC Code of Conduct encourages broad adoption of Corporate Social Responsibility (CSR) best practices by all electronics, information and communications technology companies and their business partners.

The EICC Code of Conduct provides guidance in five critical areas of CSR performance:
*Labor *Health and Safety *Environment *Management System *Ethics

The current version of the EICC Code of Conduct endorsed by Device Engineering is available at:
<http://www.eiccoalition.org/media/docs>