Guidelines
Product analyses and 8D report

Around 80% of electronic component complaints received by semiconductor manufacturers, that include a request for product analyse or 8D report, no fault can be detected by the manufacturer.

To reduce the amount of unnecessary activities and to increase quality, it was therefore suggested that the prerequisites for meaningful implementation of product analyses and 8D reports by manufacturers should be defined on a cross-distribution basis.

With this in mind, the FBDi Competence Team Quality Management, have prepared these guidelines as qualified assistance, which allow customers to take all necessary steps and measures in advance to increase the chances of achieving a comprehensive fault analysis through to a qualified 8D report.

The guidelines contain measures to improve communication, to clarify the workflow and to define responsibilities for product analyses.

Although it is the formal legal obligation of the customer to prove that the goods were defective, semiconductor manufacturers are prepared in individual cases, especially in the event of an unclear fault pattern, to go over and above their legal obligation in order to limit the causes as quickly as possible, thereby excluding/detecting and eliminating any process faults during the development and production phase as early as possible.

This means: The more qualified the application for product analysis is, the greater the chance of further processing by the manufacturer.

Requirements of the applicant (customer):

1. The application for product analysis must be submitted as soon as the fault is detected.
2. The application must be submitted directly to the distributor that supplied the affected component.
3. The information must be provided with a detailed description of the fault, preferably in English language, in the form specified and required by the manufacturer.
4. Questions from the manufacturer must be answered immediately.
5. Failure samples (loose or incl. the PCB, depending on the fault pattern and the manufacturer's request) must be sent to the distributor without delay. (In exceptional cases directly to the manufacturer. In this case, the consent of the distributor and the manufacturer must be obtained in advance. In the event of this direct

delivery, shipping and customs clearance must be carried out according to the manufacturer's specifications).
6. Further damage caused by electrostatic discharge when handling and transporting sensitive samples must be avoided through proper labelling and use of ESD-compatible packaging. Simply using antistatic packaging (e.g. pink-poly bag) is not enough.
7. Quantities and date codes must correspond exactly to the approval.
8. Use of appropriately qualified components in the applications. (For example, AECQ 100 for automotive applications. In case of an analysis, suppliers only provide the respective service for appropriately qualified components).
9. In the event of capacity or tolerance deviations, the measuring mode and the measuring instruments must be specified (ideally with data recordings).
10. Appropriate prioritisation of the analyses. Both the distributor and the manufacturer have limited skilled personnel and technical equipment for the analysis process.
11. To answer any questions and to save time, a responsible contact person along with email address and telephone number must be designated.
12. All the information requested must be provided when the application is submitted.

Responsibilities of the distributor:

The distributor checks the complaint for plausibility within 24 hours. After this check, the complaint is announced to the manufacturer and / or forwarded or rejected. Prerequisite is the completeness of the information according to the minimum requirements in the application.

The manufacturer will decide whether the complaint is justified and whether he will carry out an analysis to determine and if required, to solve the problem.

After receiving the analysis / failure samples, they are checked for the following parameters within 24 hours, and shipping to the manufacturer is organised:
1. Were the failure samples delivered to the distributor in ESD-compliant packaging (product specific)?
2. Have the failure samples been returned from the exact delivery complained about?
3. Do the failure samples correspond to the application (quantity, manufacturer, date code and component description)?
4. Were the failure samples supplied by the manufacturer in accordance with the requirements (unprocessed loose, soldered, with or without PCB - this may vary depending on the product and fault pattern)?

After it has been correctly determined that the delivered analysis / failure samples meet all requirements, the following procedure is available depending on the manufacturer:

1. The distributor immediately requests the RMA from the supplier and prepares the shipment after approval by the supplier. During the application process, the distributor is dependent on the cooperation of the customer in case any questions arise.
2. The distributor prepares the shipment of failure samples to the supplier and informs the supplier that failure samples will be shipped.
3. The progress of the analysis is monitored. To meet the deadline, a reminder regarding outstanding 8D reports will be sent to the manufacturer in good time.

   The following exceptions apply:
   - The manufacturer specifies a time schedule: This is documented by the distributor. Adherence to these deadlines is monitored.
   - The customer's target date is communicated to the manufacturer if necessary and the best possible attempt is made to meet it.

The distributor reserves the right to charge the time / cost of the analysis if the fault was caused by the user due to gross procedural / processing errors.

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signed: FBDi association, Andreas Falke,
on behalf of the FBDi Competence Team Quality Management