



## FLOWDOWN REQUIREMENTS

# **SOLDERING REQUIREMENTS (IPC J-STD-001 Revision F with Amendment 1)**

### **Scope**

The standards and record maintenance process that the supplier is to follow in regards to soldering requirements for this purchase order.

### **Requirements**

1. Soldered devices shall comply with the requirements of IPC J-STD-001 F with AM1 Class 3, and as modified in requirement 2.1 and 3, unless otherwise specified on the purchase order.
  - 1.1. COTS (Commercial-off-the-shelf) items are exempt except for as noted in J-STD-001F with AM1 section 1.9 (Requirements Flowdown).
  - 1.2. Subsequent revisions of the J-STD-001 are allowed (i.e. J-STD-001 G), provided written concurrence from procuring agency is obtained.
2. Solder alloys Sn60Pb40, Sn62Pb36Ag2, and Sn63Pb37, shall be in accordance with J-STD-006.
  - 2.1. Solder alloys other than Sn60Pb40, Sn62Pb36Ag2, and Sn63Pb37 shall not be used for electrical and electronic assembly soldering unless otherwise specified on approved drawings or purchase order. (Reference IPC J-STD-001F w/AM1, Paragraph 3.2 Solder).
3. 100% X-ray inspection shall be performed on Ball Grid Arrays (BGA's), Bottom Terminated Components (BTC's), Solder Charged Terminations and Components with Bottom Thermal Plane Terminations (D-Paks) unless these device package styles are part of a document process control plan approved through the purchase order.

- 3.1. Additionally, for other components with partially visible or hidden solder connections (reference J-STD-001F w/AM1 Para 4.18.3), a documented process control plan verifying conformance/compliance for these “other components” shall be communicated to and approved by end customer.
- 3.2. Prior to beginning manufacturing, the supplier should perform a complete review of the soldered devices and identify each component requiring X-ray in compliance with Requirements 3 and 3.1. Components requiring X-ray, identified by supplier, should be communicated with FlexRadio for concurrence.,
- 3.3. The supplier shall maintain auditable records of required X-ray results of accepted product, traceable to the applicable purchase order, process router, work instruction, or equivalent for each deliverable item. These records shall be maintained and available for FlexRadio review prior to acceptance and/or receipt of shipment, or as otherwise specified on the FlexRadio Purchase Order.

### **Data Submission Summary**

Supplier to deliver the following data to FlexRadio for FlexRadio Approval:

- When the exception to 100% X-Ray as described in requirement 3 is requested, the process control plan/documentation is required in order for FlexRadio to review and approve.
- Additionally, when components with partially visible or hidden solder connections as described in Requirement 3.1 are present, the process control plan/documentation is also required in order for a FlexRadio SME or equivalent, to review and approve.

Supplier to deliver the following data to FlexRadio as required by this document: X-Ray results/traceability documentation per Requirement 3.3, upon request.

### **Notes**

N/A

### **Revision History**

Revision 0 – Initial revision. No edits.