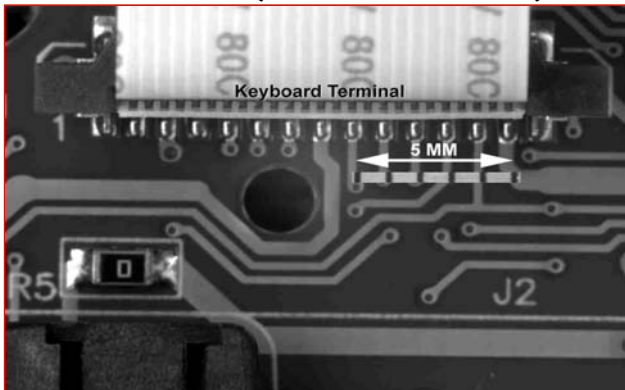


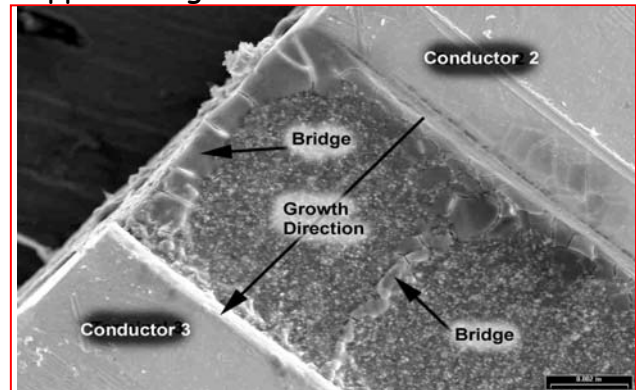
METALLURGICAL LABORATORY FAILURE ANALYSIS CASE STUDY

Description	Failure of wireless Point-of-Sale devices
Problem	New Point-of-sale devices failed after storage or at various times during service
Analysis	Failure was caused by the copper ion bridging of two conductors on a terminal. Copper from terminals leached out and was transported due to corrosive attack of tin-lead plating by contaminants released from uncured epoxy of a chip-on-board assembly in close proximity.
Resolution & Recommendations	Extend epoxy curing to remove corrosive ion source

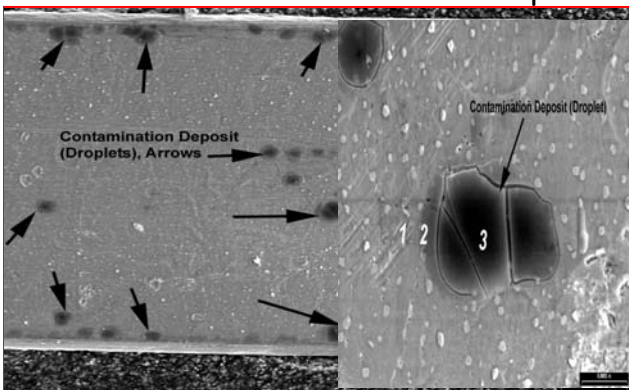
Failure Location (Cable Termination)



Copper Bridge Between Two Conductors



Contamination Overview and Closeup



EDS Analysis of Bridge

