

Project Summary:

Initial Assessment of Power and Driver Boards

DfR Solutions performed an initial reliability assessment of power and driver circuit boards which were designed to aid in the process of sewage treatment. Comprehensive review was completed of the entire circuit card assembly, including components/parts, printed board, interconnects, and connectors to ensure that the desired lifetime would be achieved under the expected operating environment. Final recommendations included instituting greater controls of suppliers' quality and reliability, using SMT resistors, eliminating hand-soldering, and subjecting all high-voltage board to aqueous-based cleaning.

Keywords: initial reliability assessment, failure, power circuit board, driver circuit board, SMT resistors, sewage treatment, active components, passive components, printed board, interconnects, connectors, use environment, SMT resistors, elimination of hand-soldering, accelerated testing, virtual qualification, component supplier quality, staking compound, sulfide gas, chloride gas, MFG, mixed flowing gas, PTH, plated through-hole, CCF, conductive filament formation, ECM, electrochemical migration