

Ionic contamination, the case of STPI

CONTEXT

STPI is a major player in the industry and part of the [First-Switchtech group](#). The company has been developing since 1955 in highly normative fields such as #defense, #aviation, #spatial, #railway. Designer and manufacturer of products with high added value, the group regularly faces very high #quality standards in order to ensure the #robustness of applications in very hostile conditions.

CLEAN PROCESS

Some applications require a process with PCB cleaning. Following new regulations that are more respectful of the environment (including the ban on the use of Freon) cleaning is becoming more complicated.

IONIC CONTAMINATION

The risk of ionic #contamination increases if cleaning is not done correctly. This contamination is due to the residues of the manufacturing process at each stage. About 15% of the anomalies found on electronic boards are due to contamination. These anomalies can include #corrosion, loss of insulation, electrochemical migration. You can read more about these anomalies [HERE](#).

THE CONTAMINOMETER

The ionic contamination tester makes it possible to measure and quantify contamination on #PCB and #PCBA.

Thanks to the #[Contaminometer](#) the manufacturing process (either #CLEAN or #NO-CLEAN) can be qualified but also monitored to ensure that there is no drift in time. Since the human eye does not detect ionic residues, it is impossible to validate a process without measuring the contamination to avoid problems due to manufacturing residues.

STPI CASE

Faced with the evolving washing standards STPI has equipped itself with a [METWash](#) cleaning system for electronic boards used in the most sensitive sectors. The cleaning program was developed through meticulous testing but as they are always concerned achieving better #quality, STPI teams wanted to carry out a test with the Contaminometer in order to validate this manufacturing step.

The test parameters were chosen according to the characteristics of the board (number and nature of the components). This boards was tested for 15 minutes.

RESULTS

The results show us an acceptable level of contamination for the PCBA.

The value is: 0.552 Eq NaCl/cm² after 15 minutes (0.4 after 10 minutes) which is a good result. We can rule out the risk of anomaly related to contamination.

The process can be validated.

A periodic control is still recommended to ensure that there is no drift in time.