

Abstract

This research was the application of DMAIC process in printed circuit board assembly industry (PCBA). The product case study was an unit control escalator. This research started from collecting the yield of PCBA process and found that the lowest yield was in surface mount technology (SMT) process. The SMT process became the improvement process target. The SMT process includes the sub-processes: screen printing process, pick and place process, and reflow soldering process. The cause and effect matrix showed that low yield is caused by screen printing process, reflow soldering process, and pick and place process respectively, and the pick and place process slightly affects the low yield. Therefore, two processes including screen printing process and reflow soldering process were emphasized. The target was set as 99.10%. First, the parameters of screen printing process were determined as squeegee pressure 7 kgf and squeegee speed 30 mm/second and the SMT yield result obtaining was 99.77%. Next, based on the study in reflow soldering process, it was shown that the process did not affect to SMT yield. Therefore, this research provides only the settings of screen printing process. Applying the result to the real process for a month, the obtained SMT yield was 99.28%.