Abstract

The independent study of “The Production Improvement by Six Sigma Solution: Case Study of Electronic Circuit Board Manufacturer” aims to reduce the number of the defect part per million (DPPM) found in the final inspection process of the production of dimming control board of car dashboard using six sigma approaches.

The study resumed from the problem defining step. In measure step, the failure and effect mode analyses (FEMA) techique and the pareto rule were used to determine the most potential causes of such problem. In this step, the key factors for process variation were specified. These factors were, then, statistically hypothesis tested in the analyses step. After that, the design of experiment was performed to determine the significant effect of such factors in the improve phase. Finally, the result of the study were implemented, monitored, and controlled with statistical process control tools.

The study found that the dimming control board product model of LT1614-14-30051 was the largest production volume product. The average defect part per million (DPPM) of such product was highest at 856 DPPM. The application of six sigma approaches reduced the defect part per million of the production of interest to zero DPPM.