In this study, Piezolegs-LL1011A which is linear piezoelectric motor type has been selected as a model. After modelling has been done of this motor, modal and harmonic analysis of same motor have been obtained with finite element package program ANSYS. As a result of these analysis, natural frequency values have been obtained of Piezolegs motor. An appropriate frequency range for motion of drive tip is obtained for harmonic analysis. In according to applied forces, harmonic analysis is done and drive tip motion of motor is observed.