Drying process is a method to decrease moisture content of the food products. The objectives of the research were to design and evaluate the performance of drying chamber using rejected heat of AC condenser for potatoes chips drying, determine potatoes moisture content and drying efficiency, and to investigate the influence of condenser fan velocity on cooling capacity. The drying chamber had 50.2 × 50.2 × 150.2 cm volume dimension, which contained seven aluminium trays. The chamber was connected to the condensing unit of an air conditioner. Potatoes were peeled, and cut sliced into 2.5 mm thickness of slices and then blanced using hot water. Then the slices were dried by using drying chambers for 6 h at high velocity fan, low velocity fan and substitution fan.

The result showed that rejected heat of a room AC could be used for potatoes chips drying with temperature ranged from 33.88 to 44.05°C. The drying process with substitution fan was combined with reverse tray treatment produced relatively uniform moisture content of dried chips (8.20 ± 1.04% wb). The drying process resulted 20.42 – 23.32% of drying efficiency to AC condenser heat and 67.17 – 78.77% to AC electric energy consumtion. The velocity of condenser fan did not significantly influence on the cooling capacity. It can be concluded that the drying chamber using rejected heat of AC condenser can be used for the drying of agricultural products e.g. the potatoes drying.

Keywords: drying, AC condenser, moisture content, velocity fan, potatoes