Based on overall performance of the models, Lets compare the the three models to find the most efficient model:

While ResNet50 has significantly lower performance metrics than DenseNet121, its residual connections enable simpler and maybe faster processes. This puts ResNet50 in a strong position, especially in circumstances where computational efficiency is as important as high accuracy.

Despite its efficiency-oriented architecture, MobileNetV3 performs much worse in both accuracy and mAP. This means that MobileNetV3 is unsuitable for the complexity or nature of the classification task at hand.

DenseNet121 emerges as the top model with the highest accuracy (99.42%) and mAP (0.9999). The dense connectivity of DenseNet121 likely contributes to better feature learning and thus higher performance metrics. It’s particularly suitable for tasks where high accuracy and detail in image recognition are critical, despite its higher computational demand.

Conclusion:

Given these considerations, if the primary goal is to achieve the best accuracy and the task requires complicated picture recognition, DenseNet121 is the preferred model. However, if computing resources and efficiency are important concerns, ResNet50 may be a better option due to its performance-efficiency ratio. MobileNetV3 is not suitable for this task due to its low performance.