CONCLUSION

1. The Impact Hammer Test showed that The A300-100 Winglet Model has the lowest bending mode of natural frequency and the highest twisting mode of natural frequency. Otherwise, The A330-300 model has the highest bending mode and the lowest twisting mode. It means The A300-100 Model is the easiest model to bend and the hardest model to twist, opposite to The A330-300 Model. The Shaker Test showed that The A350-1000 Winglet Model has the least displacement during resonance conditions.
2. The Commercial Software Simulation also showed that The A300-100 Winglet Model has the lowest bending mode of natural frequency and the highest twisting mode of natural frequency. Otherwise, The A330-300 model has the highest bending mode and the lowest twisting mode. It means The A300-100 Model is the easiest model to bend and the hardest model to twist, opposite to The A330-300 Model. The simulation result also showed that The A350-1000 Winglet Model has the least displacement during resonance conditions.
3. Due to the dynamic response, The A350-1000 is the best model because of the lowest magnitude of displacement with respect to the x, y, and z-axis. The A350-1000 Model decelerates faster than any model and the amplitude during deceleration is the same between the positive and negative axis. The damped natural frequency on each mode is higher compare to other models even though is not the highest.