**Efficiency of Converter**

Output power of the converter that we have designed is 48W. The list of losses calculated in this report is as follows.

Transformer core loss: 845mW

Transformer copper loss: RN1\*IN1, rms2 + RN2\*IN2, rms2 + RN3\*IN3, rms2   
 =21.4mΩ\*(3.6ARMS)2+51.3mΩ\*(2.22ARMS)2+64.13mΩ\*(1.4ARMS)2 =656mW

Inductor core loss: 44mW

Inductor copper loss: RL\*IL2 = 36.83 mΩ\*(2.22A)2=182mW

MOSFET losses: 1.555W

Reset diode losses: 0.53W

Secondary diodes losses: 3.8W

Then, overall efficiency of the converter is calculated by equation below.

Simulation of the converter in the Simulink supports this result with 87% efficiency.