Heating an aluminum-backed circuit board to reflow solder

**Objective**  To heat an aluminum-backed circuit board to reflow solder and remove bad connectors from LEDs

**Material**  
- Aluminum backed circuit board

**Temperature**  600 °F (316 °C)

**Frequency**  287 kHz

**Equipment**  
- Ambrell EASYHEAT 2 kW, 150-400 kHz induction heating power supply with a remote workhead containing two 0.66 μF capacitors
- A single position, three-turn pancake induction heating coil designed and developed for this application

**Process**  The circuit board was placed over the pancake coil and the power was turned on. After some initial testing, it was determined that 20 seconds of heating time enabled the connectors to be easily removed.

**Results/Benefits**  
- Speed: The client was using a hot plate, which required over one minute of heating time
- Throughput: Given the significantly faster heating time, induction improves throughput
- Energy savings: Induction is a more efficient heating method than hot plate heating
The circuit board prior to removal of the connectors

The circuit board with the connectors having been removed