

AN AMBRELL COMPANY

## Soldering a nickel plated steel cover onto a nickel plated steel EMI filter housing

- **Objective** Soldering a nickel plated steel cover onto a nickel plated steel EMI filter housing without damaging the RF circuit
- **Material** 2" x 2" (50.8mm) nickel plated steel cover, 2" x 2" (50.8mm) nickel plated steel box and lead-free solder and flux
- **Temperature** 573 °F (300 °C)
  - Frequency 229 kHz
  - Equipment Ambrell 2 kW induction heating system, equipped with a remote workhead containing two 1.2µF capacitors for a total of 2.4µF
    - An induction heating coil designed and developed specifically for this application.
    - **Process** A single turn square helical coil is used to solder the cover to the filter box. Solder flux is applied to the filter box and two solder turns (preforms) are placed covering the perimeter of the cover. The assembly is positioned under the coil and power is applied for 7 seconds to solder the seam.
- Results/Benefits Induction heating provides:
  - Hands-free heating that involves no operator skill for manufacturing
  - Repeatable, non-contact clean heating
  - Fast precise heating
  - Good solder flow without over heating the box and damaging RF circuits.
  - Even distribution of heating



AN AMBRELL COMPANY



Solder preforms are placed around the perimeter of the cover

Filter box in coil after soldering application

Ameritherm Inc. www.ameritherm.com 001.585.889.9000 Ambrell Companies Cheltenham Induction Heating, Ltd. www.cihinduction.com 00 44 (0)1242 514042 soldering\_22.doc | © 2008 All information subject to change without notice

Ameritherm France SARL www.amerithermfrance.com +33 (0)3 89 76 01 24