## CLAIMS

1. A process of fabricating an electromagnetic circuit, the process comprising:

providing a first sheet of dielectric material including a top surface having at least one conductive trace;

depositing a solder bump on the at least one conductive trace;

applying a second sheet of dielectric material to the first sheet of dielectric material with bond film sandwiched in between, the second sheet of dielectric material having a through-hole providing access to the solder bump;

bonding the first and second sheets of dielectric materials to one another;

removing bond film resin from the solder bump, wherein removing bond film resin includes using a drilling or milling process to remove the bond film resin; and

machining the solder bump by the drilling or milling process to remove a desired amount of solder in the solder bump to result in a desired volume of solder within the solder bump.

2. The process of claim 1, wherein using the drilling or milling process to remove the bond film resin is a manual procedure or an automated procedure.

3. The process of claim 1, further comprising securing copper wire to the solder bump to secure a through-hole component mounted by the copper wire.

4. The process of claim 3, wherein the copper wire is secured to the solder bump by a soldering or reflow process.

5. The process of claim 1, wherein the solder bump includes lead-based or lead-free solder.

6. The process of claim 1, wherein the through-hole is created by drilling through the second sheet of dielectric material.

7. The process of claim 1, wherein bonding the first and second sheets of dielectric materials to one another includes curing the first and second sheets of dielectric materials under pressure and temperature to form an integral final product.

8. The process of claim 1, further comprising applying a silver nanoparticle paste to the solder bump.