



650 Weaver Park Road, Unit D  
Longmont, CO 80501  
720-494-0835  
[www.electronicrecovery.com](http://www.electronicrecovery.com)

### Tech Tips

With the exception of “mild-mannered” Clark Kent’s alter ego it is very difficult for the average person or contract manufacturer to validate whether a BGA or any area array device is properly attached. Not only do BGA’s require strict process controls but verifying placement and proper wetting of the final product is essential. When selecting a manufacturing or rework partner there are several things to look for:

- Design for manufacturability review prior to processing
- Proper ESD and moisture sensitive component controls and procedures
- Selection of flux and paste to provide good process window
- Screening and Placement accuracy
- Active temperature profiling for component max temperature vs. proper wetting and good intermetallic formation
- Active variable gain x-ray to inspect for shorts beneath the component
- Rotational capability (5 axis ) during active x-ray to inspect for opens
- Endoscopic inspection system to verify proper wetting and proper collapse of solder connections

Any questions or comments you may have on a specific design or process problem can be directed to Ed Dyche, [edyche@electronicrecovery.com](mailto:edyche@electronicrecovery.com)