

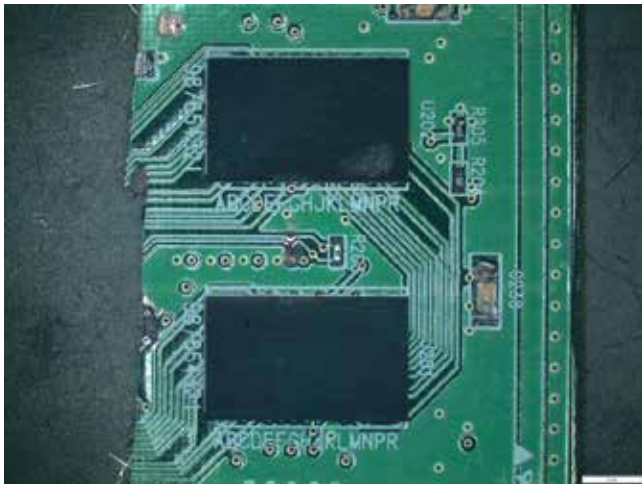
PICTURE BOOK

# Dye & Pry at EAG

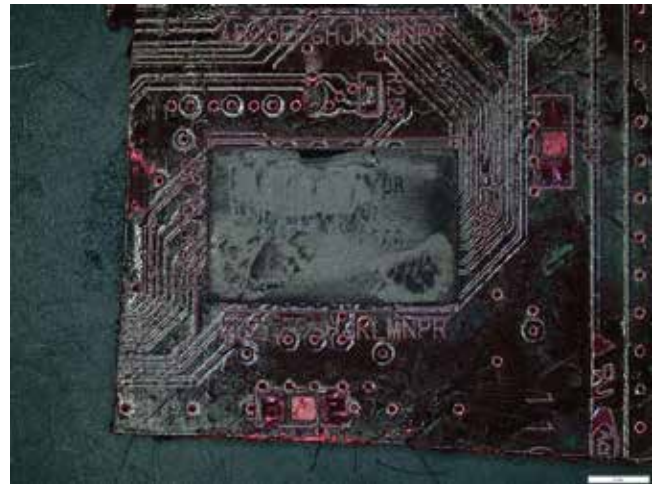
Dye and Pry involves cleaning a sample to remove debris and flux around solder, then exposing it to a red dye by immersion. The sample is then exposed to either vacuum or pressure to ensure

the dye penetrates into all cracks, separations and surfaces with exposure to the outside of the device.

## BGA ON PCB AS RECEIVED

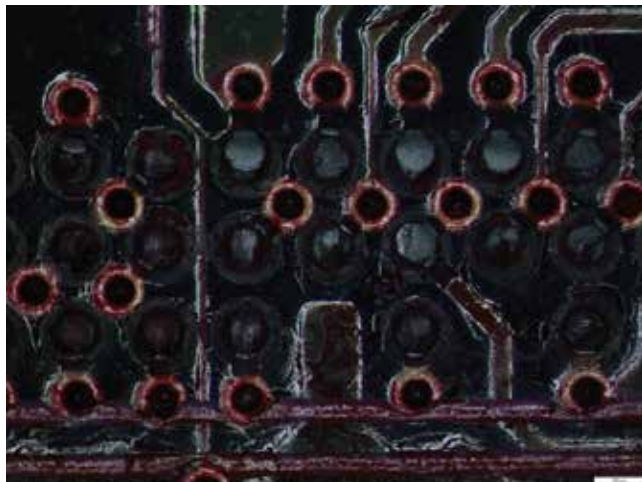


## BGA DYED

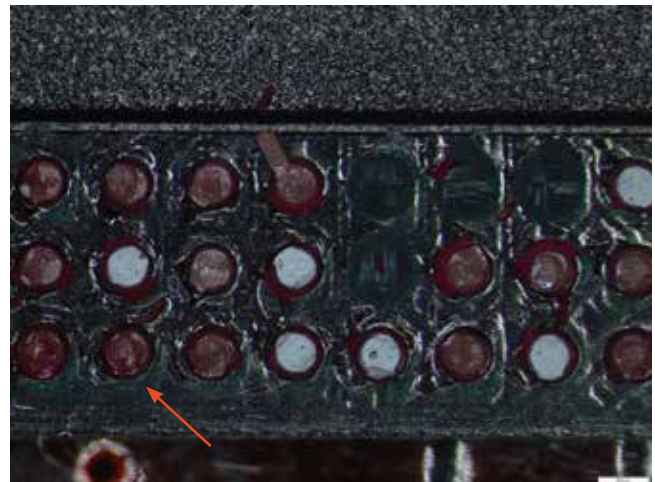


The parts are then baked in an oven until fully dry. The ink must be fully dried to avoid smearing later. The device is then separated by prying or flexing of the PCB. The interfaces now separated are inspected optically. Failure sites are imaged and identified.

## BGA PRYED PCB SIDE



## BGA PRYED COMPONENT SIDE



# Dye & Pry at EAG

For PQFPs and TSOPs on a PCB the areas of interest are the lead fingers. The ink gets in where there are cracks in the solder or failure to reflow the solder. These are areas of weak bonding and likely reliability failures. The silver colored areas are where the ink was unable to ingress showing good bonding.

**PQFP AS RECEIVED**



**PQFP DYED**



**PQFP PRYED DEVICE SIDE**



**PQFP PCB SIDE**

