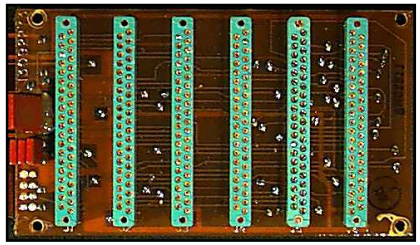
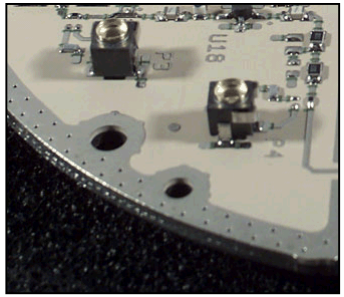
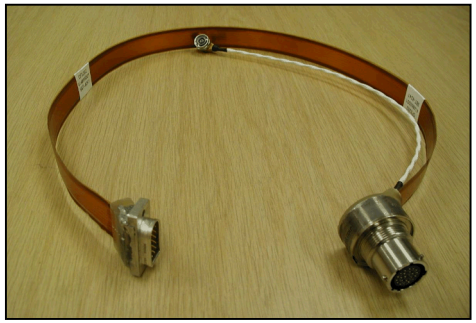
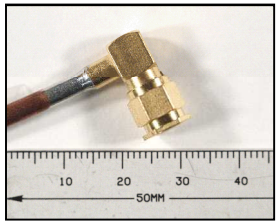
Sandia National Laboratories*
P.T. Vianco

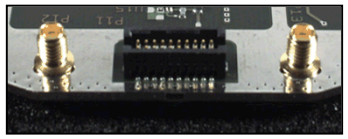
High-reliability electronics rely upon connectors to deliver performance and reliability in harsh temperature and vibration environments.





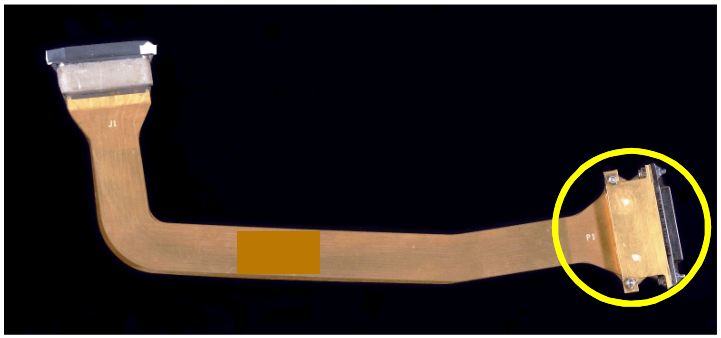


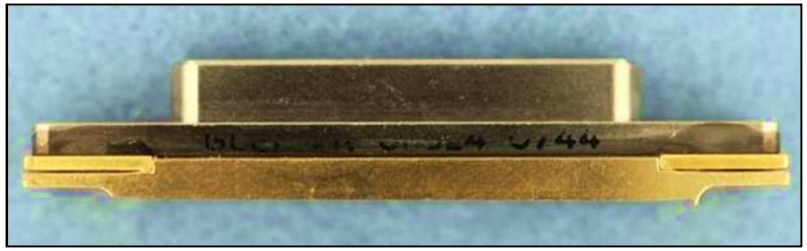


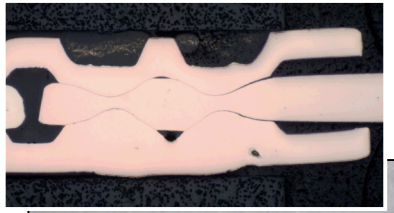


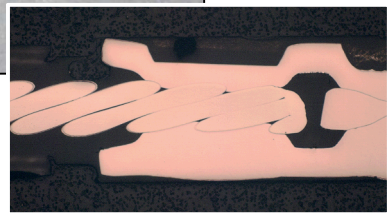
*Sandia National Laboratories is a multi-program laboratory operated by Sandia Corporation, a Lockheed Martin Company, for the U.S. Department of Energy's National Nuclear Security Administration under contract DE-AC04-94AL85000.

Although of lower per-unit cost, crimp-style connectors experienced an unusually high number of open circuits.

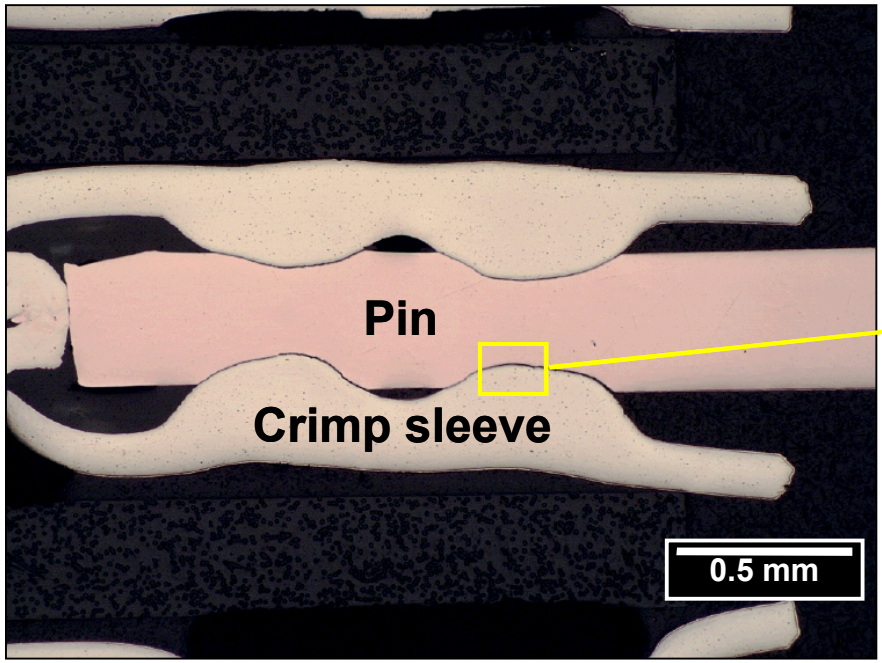


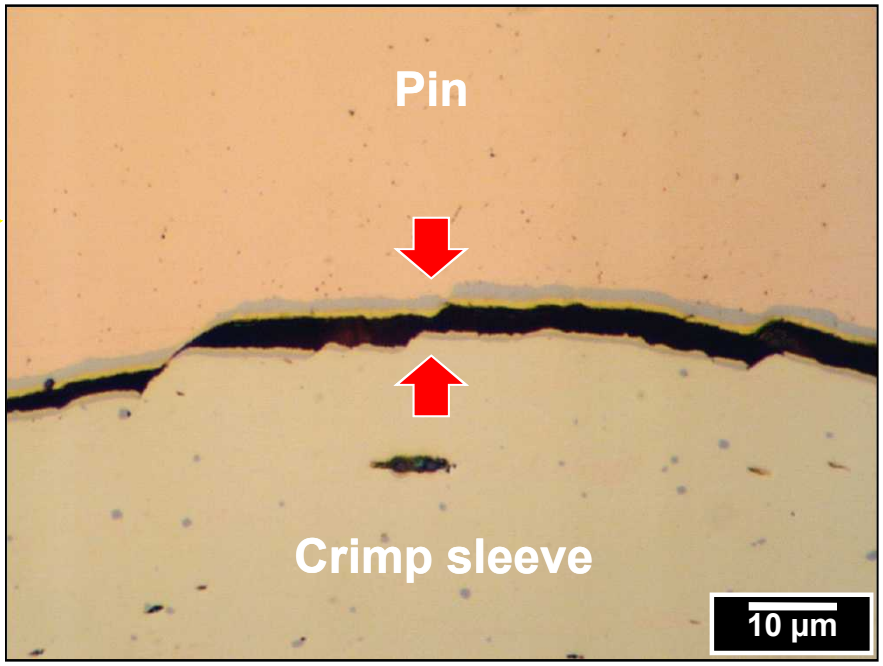




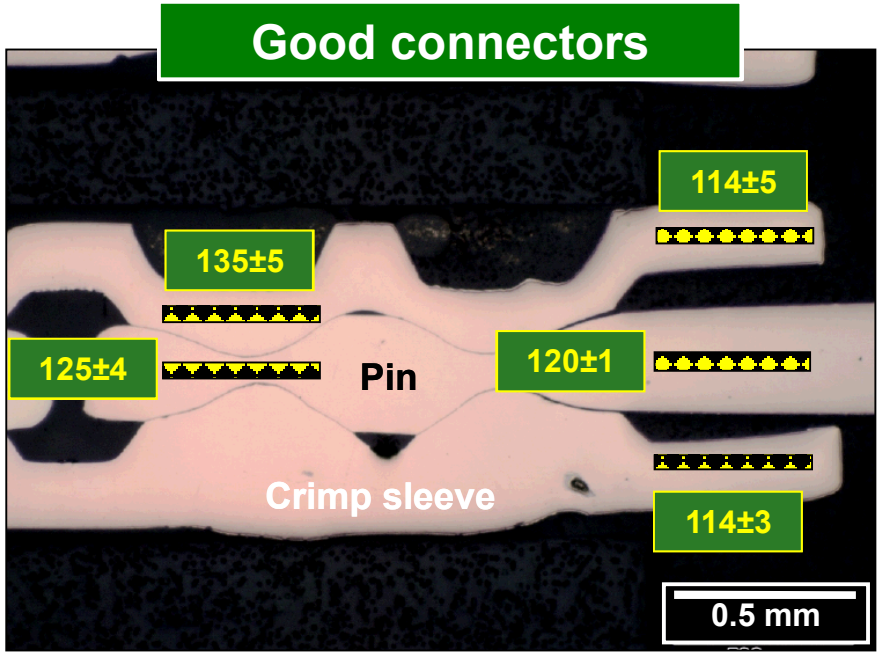


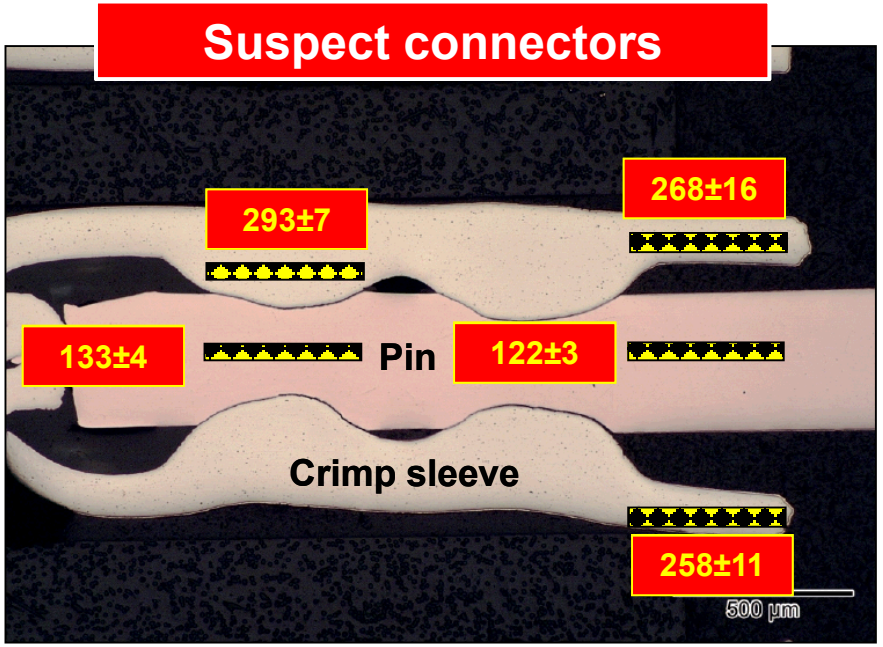
Metallographic cross sections showed gaps between the pin and crimp sleeve of suspect connectors.





Microhardness data were taken of the pins and sleeves from good and suspect connectors.





The crimp sleeve material was BeCu in the suspect connectors, which is nearly twice as hard as Cu sleeve.

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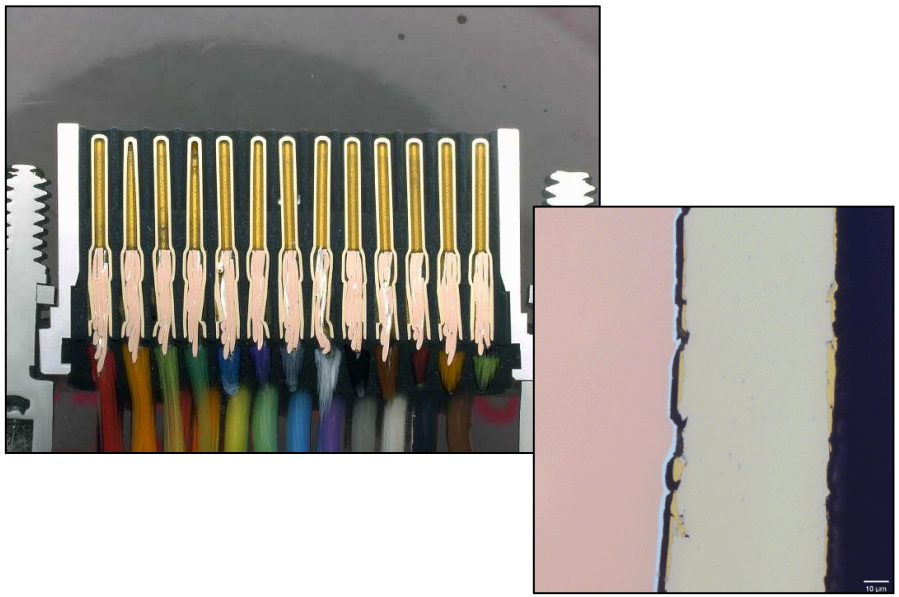
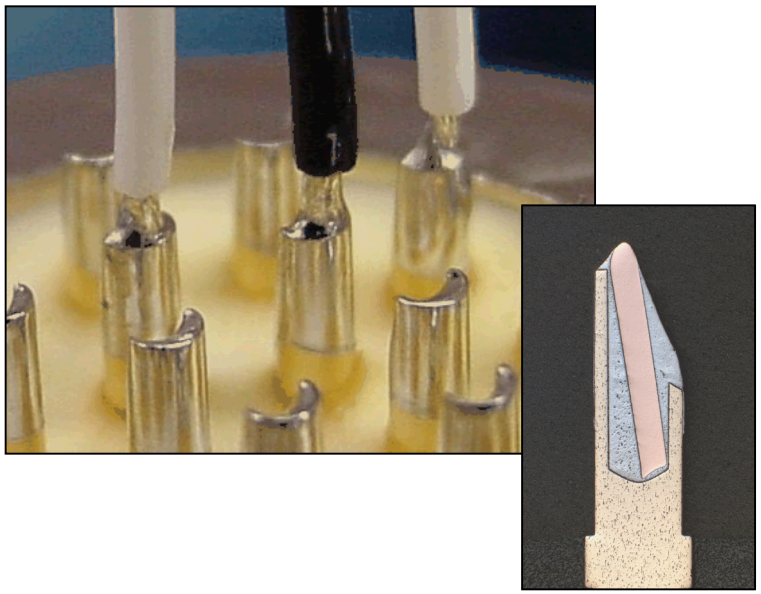
Impressed upon the supplier that a BeCu crimp sleeve is not as effective as copper for holding the pin.





The high-reliability electronics industry shies away from crimp contacts in favor of soldered contacts.

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