ABSTRACT

This paper discusses the effect of two similar gold wire (wire A and wire B) used mainly as a wire bonding material in packaging. Both wires with diameter of 25.4 µm were bonded using automatic wire bonder by maintaining the temperature at 200ºC. Gold is commonly used in the field of electronic manufacturing as bonding wire that connects the IC chip and circuit board. The effect of trace elements on the mechanical properties of 4N gold wire has not been widely investigated for some years despite the important of wire-bonding and the move towards fine pitch applications. Due to the element analysis, atomic percentage of Ca in wire B is higher than wire A. Pull strength increase with the increasing of the trace element. The higher pull strength of wire B could improve the yield strength, elastic modulus and recrytallization temperature.

Keyword: Wire bonding, Ultrasonic (USG) current, QFN packaging, ball bonding