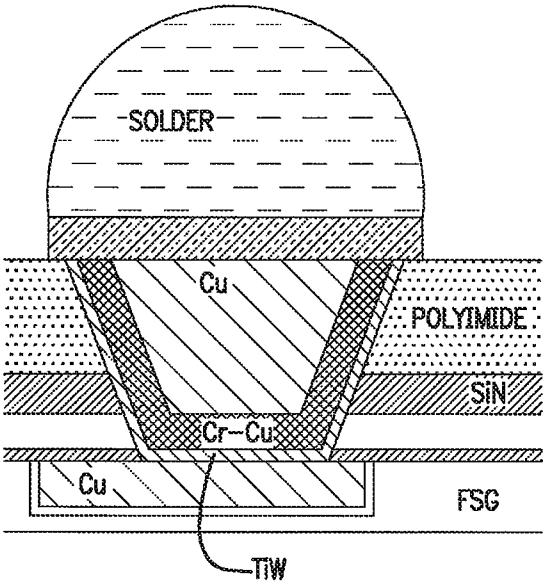
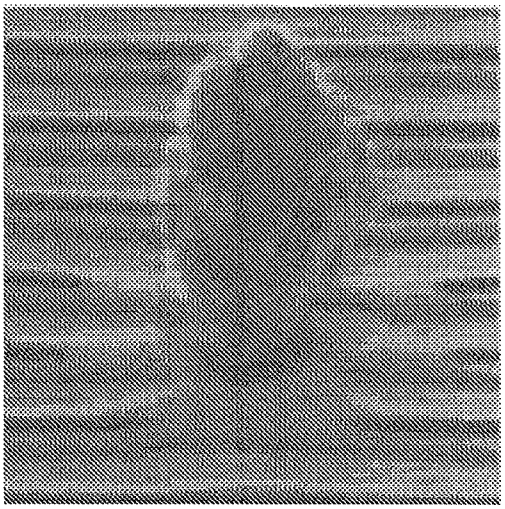


WTi diffusion/ adhesion layer in solder bump process.

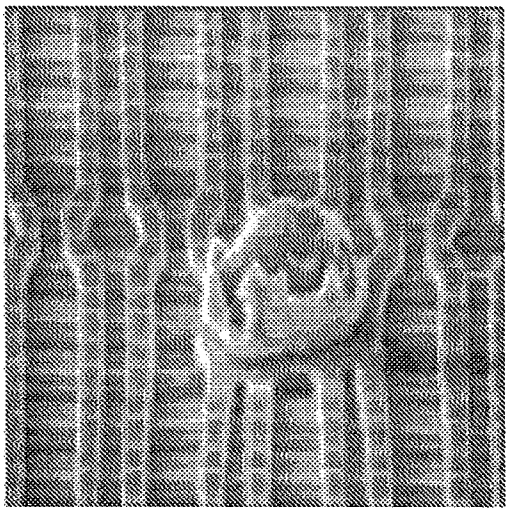
FIG. 1



Defect Causing an Open

A large, non-conducting defect opens up three wires in the circuit

FIG. 2



Defect Causing a Short

A large, conducting defect shorts cut four wires in the circuit

FIG. 3

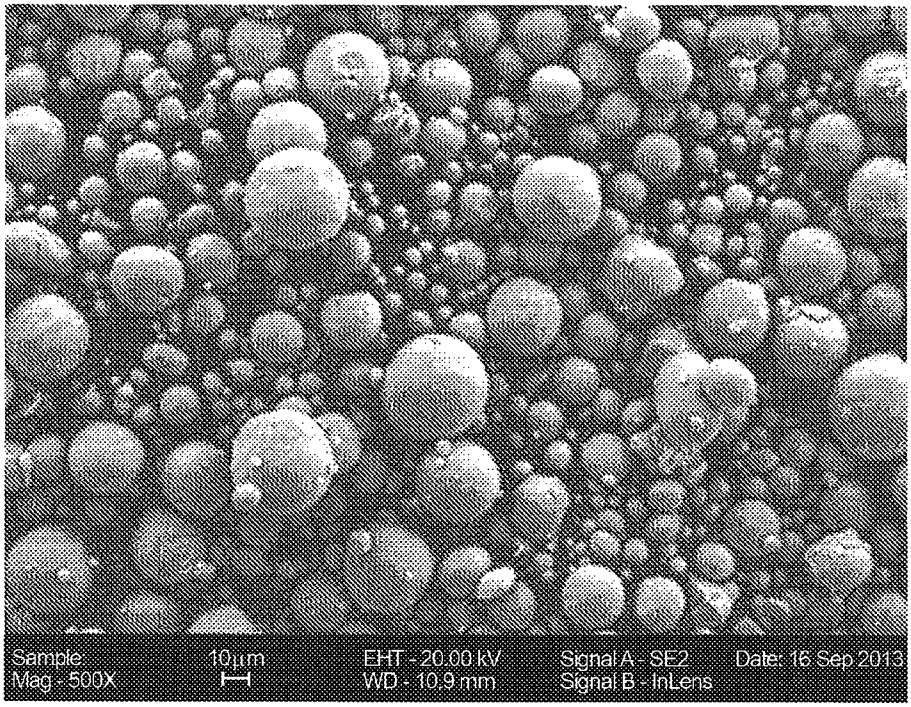

Sample:
Mag - 500X
10µm
EHT - 20.00 kV
WD - 10.9 mm
Signal A - SE2
Signal B - InLens
Date: 16 Sep 2013

FIG. 4

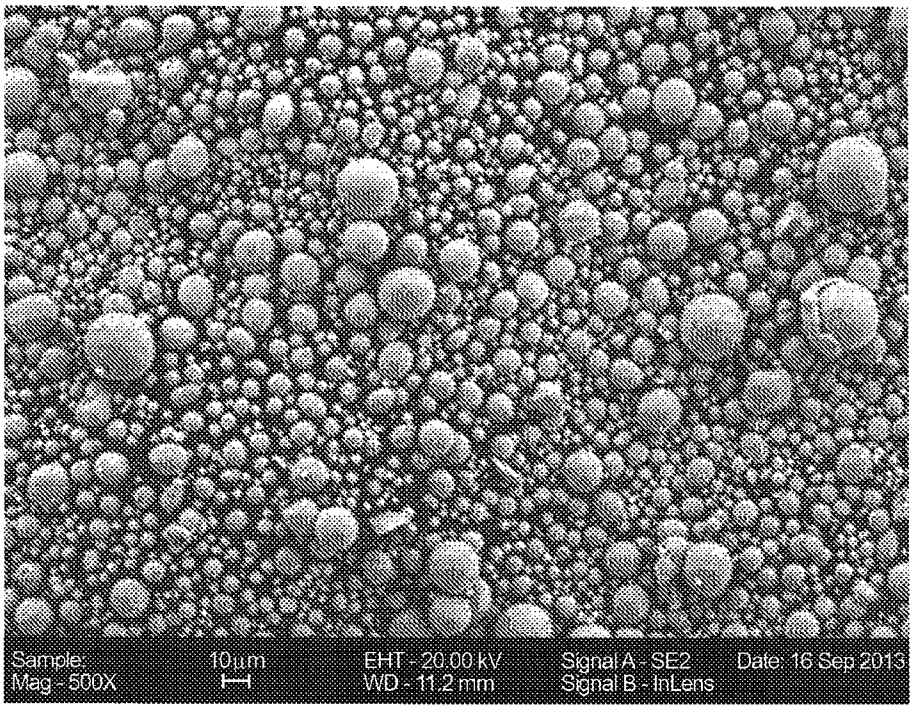

Sample:
Mag - 500X
10µm
EHT - 20.00 kV
WD - 11.2 mm
Signal A - SE2
Signal B - InLens
Date: 16 Sep 2013

FIG. 5

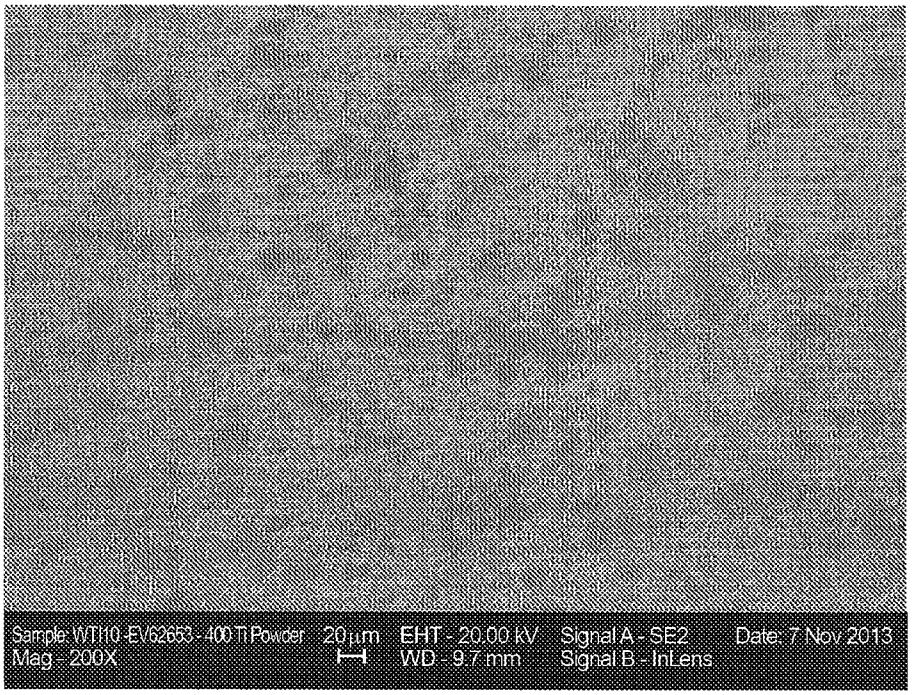

Sample: WTI10-EV62653 - 400 Ti Powder
Mag: 200X
20 µm
EHT = 20.00 kV
WD = 9.7 mm
Signal A = SE2
Signal B = InLens
Date: 7 Nov 2013

FIG. 6

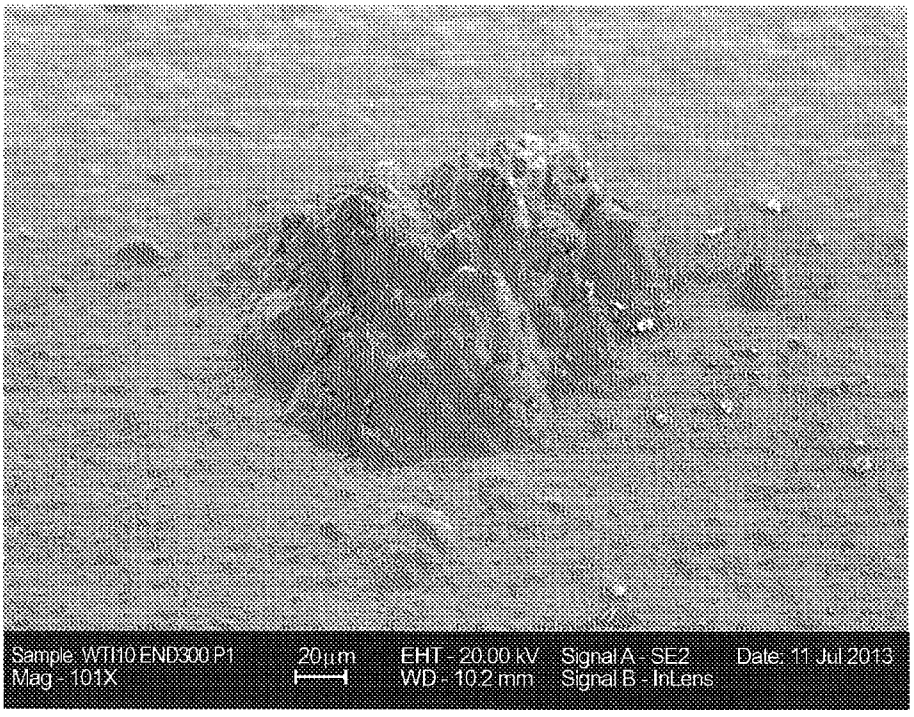

Sample: WTI10 END300 P1
Mag: 101X
20µm
EHT = 20.00 kV
WD = 10.2 mm
Signal A = SE2
Signal B = InLens
Date: 11 Jul 2013

FIG. 7

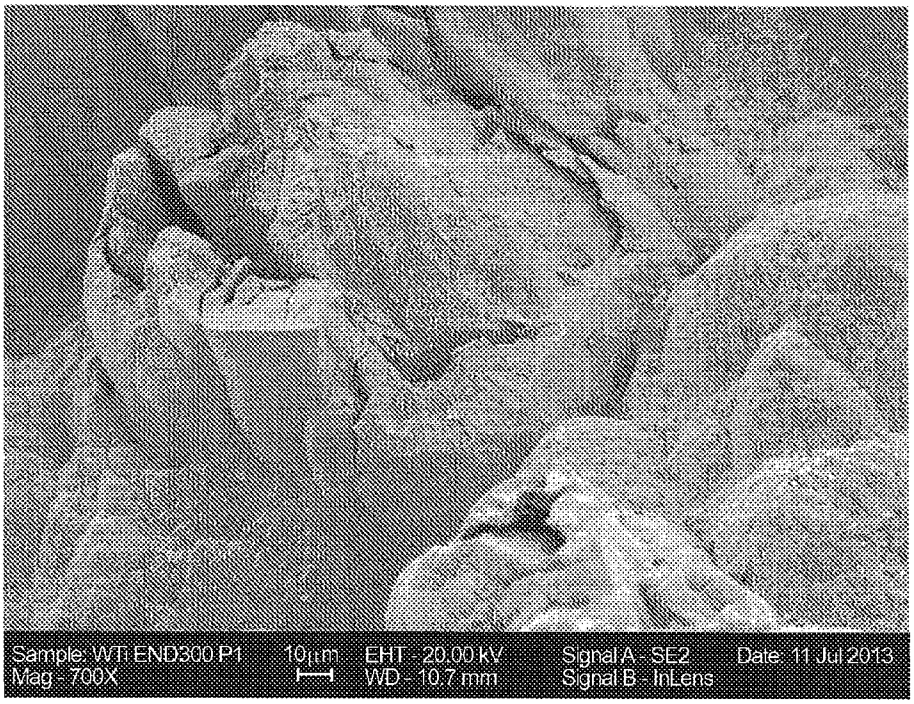

Sample: WTi END800 P1
Mag - 700X
10µm
EHT - 20.00 kV
WD - 10.7 mm
Signal A - SE2
Signal B - InLens
Date: 11 Jul 2013

FIG. 8

Present target

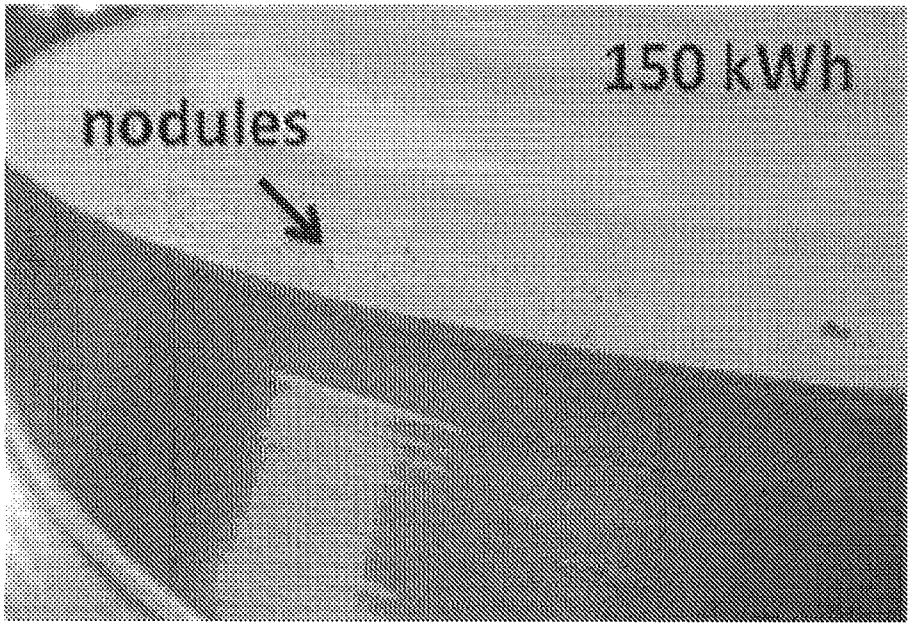


FIG. 9

New invented target

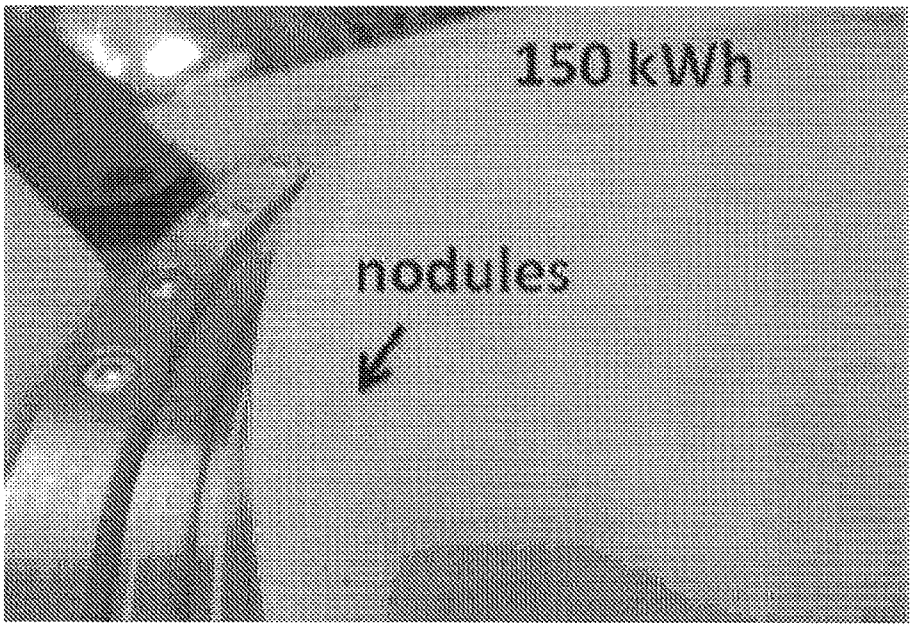


FIG. 10