CLAIMS

1. A jig (100) of a system to form a conformal electromagnetic interference shield on at least one singulated electronic package (300) through a sputtering process, the jig (100) being configured to support a tray (200) comprising a frame (201) forming a hole, and being mounted with an electromagnetic interference (EMI) tape (202), with the or each singulated electronic package (300) being placed on the EMI tape (202) within the frame (201) of the tray (200) wherein the EMI tape (202) and the or each singulated electronic package (300) includes one thermal conductor layer, the frame (201) being so sized and shaped as to overlie the periphery of the jig (100);

the jig (100) comprising

a body having an outwardly extending arcuate top surface (101) on which the or each singulated electronic package (300) is/are received;

a plurality of magnets (102) embedded in the jig (100) adjacent to each other and adjacent the peripheral edge of the jig (100), but absent underneath the arcuate surface of the jig (100); the arrangement between the jig (100) and the frame (201) of the tray (200) being such that when used together, the magnets (102) will secure the frame (201) to the jig (100), and while doing so, the EMI tape (202) will conform to the arcuate surface of the jig (100) allowing for substantially continuous contact between the jig (100) and the or each singulated electronic package (300) on the tray (200), so that heat will be dissipated from the or each singulated electronic package (300) to the jig (100) during the sputtering process through the or each thermal conductor layer of the EMI tape (202) and the or each singulated electronic package (300).

2. A jig (100) and tray (200) of a system to form a conformal electromagnetic interference shield on at least one singulated electronic package (300) through a sputtering process, the jig (100) being configured to support the tray (200);

the tray (200) comprising a frame (201) forming a hole, the tray (200) being

mounted with an electromagnetic interference (EMI) tape (202) with the or each singulated electronic package (300) being placed on the EMI tape (202) within the frame (201) wherein the EMI tape (202) and the or each singulated electronic package (300) includes one thermal conductor layer, the frame (201) being so sized and shaped as to match and overlie the periphery of the jig (100);

the jig (100) comprising

a body having an outwardly extending arcuate top surface (101) on which the or each singulated electronic package (300) is/are received;

a plurality of magnets (102) each embedded adjacent to each other in the jig (100), and each adjacent to the peripheral edge of the jig (100), and

wherein the frame (201) of the tray (200) completely overlies the periphery of the jig (100), enabling the magnets (102) to secure the frame (201) to the jig (100), the EMI tape (202) conforming to the arcuate surface of the jig (100) for substantially continuous contact between the jig (100) and the or each singulated electronic package (300) on the tray (200), so that heat is dissipated from the or each singulated electronic package (300) to the jig (100) during the sputtering process through the or each thermal conductor layer of the EMI tape (202) and the or each singulated electronic package (300).

3. The jig (100) according to claim 1 or claim 2, wherein the arcuate surface (101) is a raised paraboloid.

4. A system to form a conformal electromagnetic interference shield on at least one singulated electronic package (300) through a sputtering process, comprising

a tray (200) formed from a frame (201) having a hole, and is mounted with an electromagnetic interference (EMI) tape (202) with the or each singulated electronic package (300) being placed within the frame (201) on the EMI tape (202);

a jig (100) for supporting the tray (200), the jig (100) comprising:

a body having an arcuate surface (101) on which the tray (200) with the or each

singulated electronic package (300) is received;

a plurality of magnets (102) each embedded adjacent to each other in the jig (100), and each adjacent to the peripheral edge of the jig (100); and

wherein the frame (201) of the tray (200) is so sized and shaped as to overlie the periphery of the jig (100), enabling the magnets (102) to secure the frame (201) to the jig (100), the EMI tape (202) conforming to the arcuate surface (101) of the jig (100) for substantially continuous contact between the jig (100) and the or each singulated electronic package (300) on the tray (200), so that heat is dissipated from the or each singulated electronic package (300) to the jig (100) during the sputtering process through the or each thermal conductor layer of the EMI tape (202) and the or each singulated electronic package (300); and

a sputtering machine which forms the conformal electromagnetic interference shield onto the or each singulated electronic package (300) through the sputtering process.

5. The system according to claim 4, wherein the system further comprises a pre-tape mounting module for laminating a pre-tape (301) to cover the exposed contacts of the or each pre-singulated electronic package (300).

6. The system according to claim 5, wherein the system further comprises a pick and place module that places the or each singulated electronic package (300) on the tray (200) with the pre-tape (301) of the or each singulated electronic package (300) in contact with the EMI tape (202).

7. The system according to any one of claims 4 to 6, wherein the system further comprises a pressure roller module that firmly secures the or each singulated electronic package (300) on the tray (200) by applying pressure across the x-direction and the y-direction.

8. The system according to any one of claims 4 to 7, wherein the system further comprises a robot arm that passes the tray (200) onto the jig (100), passes the jig (100) together with the tray (200) into and out from the sputtering machine, or a combination thereof.

9. A method for forming a conformal electromagnetic interference shield on at least one singulated electronic package (300) through a sputtering process, comprising the steps of

preparing a tray (200) comprising a frame (201) formed with a hole, by mounting an electromagnetic interference (EMI) tape (202) onto the frame (201);

placing the or each singulated electronic package (300) on the EMI tape (202) within the frame (201) of the tray (200),

the EMI tape (202) and the or each singulated electronic package (300) including one thermal conductor layer;

supporting the tray (200) using a jig (100) which has an arcuate surface (101) on which the tray (200) with the or each singulated electronic package (300) is received, the jig including a plurality of embedded magnets (102) each adjacent to both each other, and the peripheral edge of the jig (100);

forming a conformal electromagnetic interference shield onto the or each singulated electronic package (300) on the tray (200) through the sputtering process; and

wherein the frame (201) of the tray (200) is so sized and shaped as to overlie the periphery of the jig (100), enabling the magnets (102) to secure the frame (201) to the jig (100), the EMI tape (202) conforming to the arcuate surface (101) of the jig (100) for continuous contact between the jig (100) and the or each singulated electronic package (300).

10. The method according to claim 9, wherein the method further comprises the step of securing the or each singulated electronic package (300) on the tray (200) by applying

pressure across the x-direction and the y-direction, using a pressure roller module.

11. The method according to claim 9 or claim 10, wherein the method further comprises the step of detaching the or each singulated electronic package (300) from the tray (200) after the completion of the sputtering process.