CLAIMS

1. Cantilever probe head (30) comprising a support ring (32), a PCB board (33) connected to said support ring (32) and a plurality of contact probes (31), protruding from said support ring (32) in a cantilever manner and being held by a support (34) connected to said support ring (32), each contact probe (31) having a rod-like probe body (31e) and a longitudinal axis (HH) inclined with respect to a reference plane (π) corresponding to a plane of a wafer of devices under test (35) by means of said cantilever probe head (30), as well as at least one first end portion (31a), realized in a first probe section (31b) protruding from said support (34) in the direction of said wafer of devices under test (35), said first end portion (31a) being bent with respect to said longitudinal axis (HH) starting from a bending point (PG1) and ending with a contact tip (36A) of said contact probe (31) adapted to abut onto a contact pad (35A) of a device under test (35) of said wafer, each of said contact probes (31) further comprising a second end portion (31c) realized in a second probe section (31d) protruding from said support (34) in the opposite direction with respect to said first probe section (31b) towards said PCB board (33), said second end portion (31c) being bent with respect to said longitudinal axis (HH) starting from a further bending point (PG2) and ending with a further contact end (36B) of said contact probe (31), characterized in that said support ring (32), provided with said support (34), is mounted in pressing contact with said PCB board (33) so that said further contact ends (36B) of said end portions (31c) of said contact probes (31) abut in a pressing contact onto said contact pads (33A) of said PCB board (33).

2. Cantilever probe head (30) according to claim 1, characterized in that each of said contact probes (31) further comprises at least one damping portion (50, 51) realized at said first and/or second probe section (31b, 31d).

3. Cantilever probe head (30) according to claim 2, characterized in that said at least one damping portion (50) is realized at said first probe section (31b).

4. Cantilever probe head (30) according to claim 3, characterized in that said at least one damping portion (50) is shaped as a pantograph portion connected to said first end portion (31a) and to said

probe body (31e) at respective bending points (PG1a, PG1b).

5. Cantilever probe head (30) according to claim 4, characterized in that said at least one pantograph portion (50)
comprises four sides (50a-50d) having variable sections, arranged as a parallelepiped and defining an empty space (50e) therein.

6. Cantilever probe head (30) according to claim 2, characterized in that said at least one damping portion (51) is realized at said second probe section (31d).

7. Cantilever probe head (30) according to claim 6, characterized in that said at least one damping portion (51) is shaped as a spring portion connected to said probe body (31e) at said further bending point (PG2) and adapted to define said further contact end (36B) of said contact probe (31).

8. Cantilever probe head (30) according to claim 1, characterized by further comprising at least one support plate (37) connected to said support ring (32) and provided with holes (37A) suitable for the passage of said second end portions (31c) provided with said further contact ends (36B) of said contact probes (31).

9. Cantilever probe head (30) according to claim 8, characterized in that said support plate (37) is made of an insulation material and is welded to said support ring (32).

10. Cantilever probe head (30) according to claim 1, characterized in that said second end portion (31c) of each contact probe (31) is bent with respect to said longitudinal axis (HH) so as to be orthogonal to said reference plane (π) corresponding to a plane of said PCB board (33).

11. Cantilever probe head (30) according to claim 1, characterized in that said first end portions (31a) of said contact probes (31) have a tapered shape which allows said contact probes (31) to be arranged on different levels.

12. Cantilever probe head (30) according to claim 1, characterized by comprising a plurality of modules (40), each provided with a support ring (32) and with a support (34) from which contact probes (31) protrude, ending with first and second end portions (31a, 31c), said modules (40) having an area having a value being equal to or 50% higher than the value of an area occupied by a device under test (35) of said wafer of device under test (35).

13. Cantilever probe head (30) according to claim 12, characterized in that said plurality of modules (40) is distributed so as to cover an area of said

PCB board (33) equal to an area of said wafer of devices under test (35).

14. Cantilever probe head (30) according to claim 12, characterized in that each of said modules (40) comprises at least one contact portion (41), provided with at least one hole (41A) adapted to house at least one fixing element (42).

15. Cantilever probe head (30) according to claim 12, characterized in that each of said modules (40) further comprises alignment pins (43) having shapes which are complementary to as many housings.

16. Cantilever probe head (30) according to claim 12, characterized by further comprising a support structure connected to said PCB board (33) for housing said modules (40) and provided with said housings for said alignment pins (43) of said modules (40).

17. Cantilever probe head (30) according to claim 1, characterized in that it comprises contact probes (31) having respective second probe sections (31d) protruding from said support (34) and/or respective second end portions (31c) having a different size, so as to modify a distribution of said contact pads (33A) of said PCB board (33).