CLAIMS:

1. A detachable element comprising:

a body comprising a hole and a retention pocket, wherein the retention pocket comprises a reference surface; and

a printed circuit board assembly (PCBA) comprising a printed circuit board (PCB) having an outer edge and a contactor coupled to the PCB, wherein a portion of the contactor extends beyond the outer edge of the PCB,

wherein the portion of the contactor that extends beyond the outer edge of the PCB is in contact with the reference surface.

2. The detachable element of claim 1, wherein:

the body comprises a top surface;

the PCB comprises a thickness; and

the reference surface is parallel to the top surface and offset from the top surface by a distance from the reference surface to the top surface, and the distance is equal to the thickness of the PCB.

3. The detachable element of claim 1, wherein the PCB is a sensor.

4. The detachable element of claim 3, wherein the PCB is selected from the group consisting of a bioimpedance sensor, a photodetector, a temperature sensor, a pH sensor, a perspiration sensor, an ultrasonic sensor, a bone growth stimulator sensor, and combinations thereof.

5. The detachable element of claim 1, wherein the PCB is inserted into the retention pocket and held in place by a retainer comprising a plurality of tabs.

6. The detachable element of claim 5, wherein the retainer is a mechanical positioning element.

7. The detachable element of claim 5, wherein the retainer is a conductive circuit element.

8. The detachable element of claim 5, wherein the retainer comprises one or more conductive elements and one or more non-conductive elements.

9. The detachable element of claim 5, wherein the retainer comprises a deformable retention feature configured to cover a portion of one or more tabs of the retainer.

10. A detachable element comprising:

a body comprising an upper section and a lower section joined by a flexible arm, wherein the upper section comprises an opening and the lower section is attached on its underside to a compressible spring; and

a printed film comprising tabbed and non-tabbed areas and first and second faces, wherein

the tabbed area comprises a sensor comprising two electrodes on its first face, and

the tabbed area is inserted between the upper and lower sections so that the sensor is visually aligned with the opening.

11. The detachable element of claim 10, wherein the non-tabbed area comprises at least two contact pads on its first face.

12. The detachable element of claim 11, wherein each of the at least two contact pads is conductively linked to either of the two electrodes.

13. The detachable element of claim 10, wherein some of the at least two contact pads are conductively linked to either of the two electrodes.

14. The detachable element of claim 10, wherein the second face of the non-tabbed area is wrapped around the compressible spring.

15. The detachable element of claim 10, wherein the second face of the non-tabbed area is in contact with the compressible spring.

16. The detachable element of claim 10, wherein the upper and lower sections are releasably secured to the printed film.

17. The detachable element of claim 1, wherein the PCB is a biocapacitance sensor.

18. The detachable element of claim 17, wherein the biocapacitance sensor comprises two or more electrodes.

19. The detachable element of claim 17, wherein the biocapacitance sensor comprises two electrodes.

20. The detachable element of claim 19, wherein the two electrodes consist of one central electrode and one toroidal electrode, wherein the central electrode and toroidal electrode have a concentric orientation.

21. The detachable element of claim 20, where the two electrodes are separated by a gap of about 2.921 mm (0.0115 inches).

22. The detachable element of claim 20, wherein the central electrode has a diameter of about 4.318 mm (0.17 inches).

23. The detachable element of claim 20, wherein the toroidal electrode has an inner diameter of about 10.16 mm (0.4 inches) and an outer diameter of about 12.7 mm (0.5 inches).

24. The detachable element of claim 19, further comprising a ground plane, wherein the distance between the two electrodes and the ground plane is about 0.4064 mm (0.016 inches).

25. The detachable element of claim 24, wherein the ground plane has a diameter of about 12.7 mm (0.5 inches).

26. The detachable element of claim 17, further comprising an insulating cover layer disposed above the biocapacitance sensor.