Claims

1. A system, comprising:

a patch assembly including an adhesive portion, the patch assembly configured to be coupled to a surface of a user via the adhesive portion, the patch assembly having a first patch configuration and a second patch configuration; and

a frame defining an opening, the patch assembly configured to be disposed within the opening,

the frame having

a first frame configuration in which the frame is coupled to the patch assembly via a plurality of connectors such that the frame prevents the patch assembly from transitioning between the first patch configuration and the second patch configuration, and

a second frame configuration in which the plurality of connectors is broken and the frame is separated from the patch assembly, allowing the patch assembly to transit between the first patch configuration and the second patch configuration,

the patch assembly including a first assembly, a second assembly, and a connecting member coupled to the first assembly and the second assembly,

wherein the first assembly and the second assembly have a first adhesive portion and a second adhesive portion, respectively, and

wherein the connecting member configured to transition between a first configuration and a second configuration, the connecting member being in the first configuration when the patch assembly is in the first patch configuration and in the second configuration when the patch assembly is in the second patch configuration, the first configuration having a first sinusoidal shape having a first frequency and the second configuration having a second sinusoidal shape having a second frequency, the second frequency being different from the first frequency.

2. The system of claim 1, wherein the connecting member has a first end coupled to the first assembly and a second end coupled to the second assembly, a distance between the first end and the second end of the connecting member in the first configuration being a first distance, a distance between the first end and the second end of the connecting member in the second configuration being a second distance different from the first distance.

3. The system of claim 1, wherein the patch assembly has an elastic portion such that, when the patch assembly takes the second patch configuration, the connecting member is biased toward the first configuration.

4. The system of claim 1, wherein the first assembly includes a first electrode, the second assembly includes a second electrode, and the connecting member includes a conductive trace connecting electronic components mounted in the first assembly and the second assembly.

5. The system of claim 2, wherein the patch assembly has a longitudinal axis extending in a direction connecting between the first end and the second end of the connecting member, and

wherein each connector from the plurality of connectors extends non-parallel to the longitudinal axis of the patch assembly.

6. The system of claim 2, wherein the patch assembly has a longitudinal axis extending in a direction connecting between the first end and the second end of the connecting member, and

wherein the frame is inelastic in a direction along the longitudinal axis of the patch assembly.

7. The system of claim 2, wherein the patch assembly has a longitudinal axis extending in a direction connecting between the first end and the second end of the connecting member, and

wherein each connector from the plurality of connectors is arranged such that each laterally-extending plane disposed perpendicular to the longitudinal axis of the patch assembly includes either a single connector or no connector.

8. The system of claim 1, further comprising a protective layer removably coupled to a skin-facing surface of the patch assembly and non-removably coupled to a portion of a skin-facing surface of the frame.

9. The system of claim 1, wherein each connector from the plurality of connectors includes a first end coupled to the frame and a second end coupled to the patch assembly, each connector tapering from the first end to the second end.

10. The system of claim 1, wherein an inner peripheral shape of the opening defined by the frame corresponds to an outer peripheral shape of the patch assembly.

11. The system of claim 1, wherein the connecting member includes a first segment coupled to a second segment via a flexible hinge, the first segment and the second segment arranged at a first angle when the connecting member is in the first configuration,

the opening including a first opening portion configured to receive the first segment and a second opening portion configured to receive the second segment, the first opening portion disposed at a second angle relative to the second opening portion, the second angle being the same as the first angle.

12. The system of claim 1, wherein the opening of the frame includes an opening portion extending along the connecting member and having a sinusoidal shape having the first frequency.

13. The system of claim 8, wherein the connecting member includes a third adhesive portion, the third adhesive portion coupled to the protective layer.

14. The system of claim 13, wherein the first adhesive portion, the second adhesive portion, and the third adhesive portion are included in a continuous adhesive layer.