CLAIMS

What is claimed is:

1. An implant for a neural interface system, comprising:

a housing including a base and a flexible portion; and

two anchor attachment structures disposed at the base, the two anchor attachment structures arranged at an angle of greater than 90º and less than 180º with respect to one another as defined from an approximate center of the base, the two anchor attachment structures connected by a curved connecting member disposed at a patient-facing surface of the base.

2. The implant of claim 1, wherein the angle is within a range of about 130º to about 150º.

3. The implant of claim 2, wherein the angle is about 145º.

4. The implant of claim 1, wherein the at least two anchor attachment structures each comprise an attachment leg.

5. The implant of claim 4, wherein the attachment leg comprises a compliant material configured to conform to a curvature of a skull.

6. The implant of claim 4, wherein the anchor attachment leg comprises a material that resists oseointegration.

7. The implant of claim 6, wherein the material comprises polyetheretherketone (PEEK), polysulfone (PSU), polyethylenimine (PEI), thermoplastic polyurethane (TPU), or a combination thereof.

8. The implant of claim 4, wherein the attachment leg includes an inflection point.

9. The implant of claim 8, wherein the inflection point orients the attachment leg to deflect toward a patient-facing surface of the base.

10. The implant of claim 9, wherein the attachment leg is deflected toward the patient-facing surface of the base by about 5º to about 30º.

11. The implant of claim 10, wherein the attachment leg is deflected toward the patient-facing surface of the base by about 20º.

12. The implant of claim 8, wherein the attachment leg is flexible at the inflection point.

13. The implant of claim 1, wherein the flexible portion comprises at least one inflection point.

14. The implant of claim 13, wherein the inflection point orients the flexible portion to deflect toward a patient-facing surface of the base.

15. The implant of claim 14, wherein the flexible portion is deflected toward the patient-facing surface of the base by about 1º to about 90º, or by about 5º to about 45º, or by about 15º.

16. The implant of claim 1, wherein the flexible portion comprises a curved geometry.

17. The implant of claim 1, further comprising:

a lead connection area configured to engage leads extending from the implant; and

electronics disposed within the base of the housing and configured to record electroencephalography (EEG) signals detected from sensors of the leads.

18. The implant of claim 17, wherein the lead connection area comprises four lead connection structures arranged in a substantially flat configuration.

19. The implant of claim 17, wherein the lead connection area comprises four lead connection structures arranged in a bundled configuration.

20. The implant of claim 17, wherein the lead connection area comprises four lead connection structures arranged in a stacked configuration.

21. An implant for a neural interface system, comprising:

a housing including a base and a flexible portion; and

two anchor attachment structures disposed at the base, the two anchor attachment structures arranged at an angle of greater than 90º and less than 180º with respect to one another as defined from an approximate center of the base, each of the two anchor attachment structures including an attachment leg comprising an inflection point to

deflect at least a portion of the anchor attachment structure toward a patient-facing surface of the base.

22. The implant of claim 21, wherein the inflection point of each of the two anchor attachment structures is disposed at an edge of the base.

23. A wearable headpiece of a neural interface system, comprising:

a housing; and

a removeable cover configured to enclose at least a patient-facing surface of the housing.

24. The wearable headpiece of claim 23, wherein the removeable cover comprises a plurality of indentations, a plurality of protrusions, or a combination thereof.

25. The wearable headpiece of claim 24, wherein the plurality of indentations, the plurality of protrusions, or the combination thereof forms paths extending from an interior location of a patient-facing surface of the cover toward a perimeter of the patient-facing surface of the cover.

26. The wearable headpiece of claim 25, wherein the paths extend radially from an interior location of the patient-facing surface of the cover.

27. The wearable headpiece of claim 25, wherein the plurality of indentations, the plurality of protrusions, or the combination thereof comprises a plurality of differently-sized indentations, a plurality of differently-sized protrusions, or a combination thereof.

28. The wearable headpiece of claim 27, wherein the plurality of differently-sized indentations or the plurality of differently-sized protrusions is arranged to increase in size from an interior location of a patient-facing surface of the cover toward a perimeter of the patient-facing surface of the cover.