Tentative Flexible PCB Layout

Thin threads are punched at breakway points by needle, then pushed into neural tissue.
If threads are too thin and too mechanically weak to withstand this, needle may be hollow, acquiring and injecting the threads more gently.

One piece only. Single sliced polyamide (or similar material) substrate for CMOS fabrication. No rigid PCBs.

PatchRap
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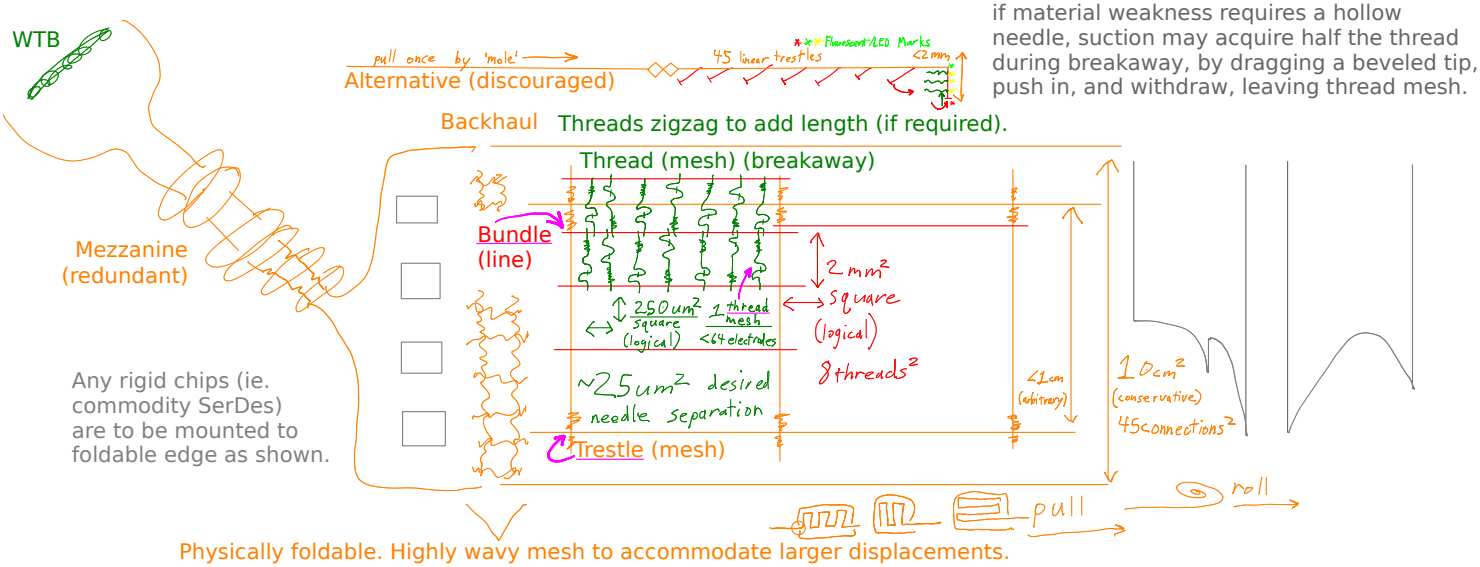
Needle may rely on insertion loop, or may use curved prongs to break, drag, twist and push thread mesh. Alternatively, if material weakness requires a hollow needle, suction may acquire half the thread during breakaway, by dragging a beveled tip, push in, and withdraw, leaving thread mesh.



Physically foldable. Highly wavy mesh to accommodate larger displacements.

Pull and roll deployment may be combined (ie. pull then unroll further), and pull deployment may be periodic, minimizing collateral.

Areas between threads, bundles, trestles, are intended as large open cutouts, as an open mesh. Mechanical flexibility to accommodate cyclic respiration/cardiac expansion, and minimal obstruction of surrounding tissue is intended.

BEWARE empty space between bundle lines must not be completely filled, due to occupying too much space needed for valuable neural tissue.

Sharp edges (ie. from drilling and cutting polyamide) strictly prohibited.

All mesh lines must be wavy to accommodate 100um respiration, cardiac, displacement.

Rearrangements or breakaway of Trestles, Bundles, Threads, is possible. Most extreme alternative is a single trestle, pulled across surface of desired tissue, with bundles and threads pulled away. Avoid doubling the thickness of Trestles or Bundles, to minimize gaps in coverage of neural tissue.

Carbon fibers, if added, must be of an appropriately calculated diameter aligned only along thread depth axis.
Encapsulation by coating of biocompatible material. Reinforcement by reinforced epoxy if necessary.
May be trimmed, breakable, bendable, foldable, and separable to accommodate non-flat surfaces.
No Turing completeness necessary.