Supplementary Methods File 1 (SDFile_2)

Sovereignty Risk Rubric and Inter-Rater Scoring

This supplementary file documents the formal three-dimension rubric used to assign the Sovereignty Risk ratings (Critical/Moderate) presented in Table 2 of the main article. It also reports the independent scoring by two raters and details the single instance of inter-rater disagreement.

1. Sovereignty Risk Rubric

Each product was evaluated across three dimensions, with a score of 1 to 3 assigned per dimension. The composite score (ranging from 3 to 9) determined the final Sovereignty Risk rating: Critical = composite score 7–9; Moderate = composite score 4–6.

Dimension	Score 1 (Low Risk)	Score 2 (Moderate Risk)	Score 3 (High Risk)
1. Data Transmission Architecture	On-device processing only; no raw EEG transmission.	Hybrid processing; derived metrics transmitted, raw EEG retained locally.	Mandatory cloud processing; raw or minimally processed EEG transmitted.
2. Third-Party Data Sharing Scope	No third-party sharing stated or permitted.	Restricted sharing with named partners for specified non-commercial purposes.	Broad, unspecified sharing permitted (e.g., "aggregated," "de-identified," or "research partners").
3. Local Storage Availability	Default local storage; cloud is opt-in only.	Partial local storage available; cloud is default but opt-out is possible.	No local storage option; mandatory cloud dependency.

2. Inter-Rater Scoring

The rubric was applied independently by two raters: Rater 1 (the author) and Rater 2 (an independent legal colleague with data protection expertise). Inter-rater agreement was achieved for 4 out of 5 products (80%).

Product	Rater 1 Scores (Dim 1, 2, 3)	Rater 1 Total	Rater 2 Scores (Dim 1, 2, 3)	Rater 2 Total	Final Rating
Product A	3, 2, 3	8	3, 2, 3	8	Critical
Product B	3, 1, 3	7	3, 1, 3	7	Critical
Product C*	3, 1, 3	7	3, 2, 3	8	Critical (Disagreement)
Product D	1, 1, 2	4	1, 1, 2	4	Moderate
Product E	2, 3, 3	8	2, 3, 3	8	Critical

3. Inter-Rater Disagreement Report

A single inter-rater disagreement occurred regarding Product C. Rater 1 assigned a score of 1 for Dimension 2 (Third-Party Data Sharing Scope) interpreting the term 'research partners' as a restricted category. Rater 2 assigned a score of 2, arguing that without naming the specific partners, the category remains too broad to constitute a meaningful restriction. Because both total scores (7 and 8) fall within the 'Critical' threshold (7–9), the disagreement did not alter the final Sovereignty Risk classification. The more conservative score (7) was reported in the main text.