A Quantitative, Multimodal Wearable Bioelectronic For Comprehensive Stress Assessment And Sub-Classification

Tech ID: 34536 / UC Case 2026-670-0

BRIEF DESCRIPTION

A multimodal, wireless wearable device enabling continuous and detailed stress assessment and subclassification.

FULL DESCRIPTION

The SQC-SAS is an innovative wearable bioelectronic device designed to continuously and simultaneously monitor multiple molecular and physiological stress biomarkers outside laboratory settings. Combining autonomous iontophoresis for on-demand sweat extraction without user involvement, wireless power and data transmission, and real-time smartphone visualization, it provides a quantitative and comprehensive approach to stress monitoring. Integrated machine learning algorithms classify distinct stress states, enabling personalized health interventions and deeper insights into stress-related outcomes.

SUGGESTED USES

- Personalized healthcare and stress management.
- Research tool for studying stress-related health outcomes.
- Wearable technology market focusing on mental and physical wellness.
- Remote patient monitoring and telehealth.
- Fitness and lifestyle tracking ecosystems.

ADVANTAGES

- Continuous, long-term monitoring of molecular and physiological stress biomarkers.
- Wireless, battery-free operation with autonomous iontophoresis for sweat extraction.
- Real-time data transmission and visualization on smartphones.
- Exceptional environmental stability and reusability.
- Advanced ML-driven data analysis enabling precise stress subclassification.
- Compact, wristband-like design for user comfort and seamless integration into daily life.

PATENT STATUS

Patent Pending

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OTHER INFORMATION

CATEGORIZED AS

- **Biotechnology**
  - Bioinformatics
  - Health
- **Computer**
  - Software
- **Medical**
  - Devices
  - Research Tools
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