

## Wireless Wearable Big Data Brain Machine Interface (W2b2/Wwbb)

Tech ID: 27213 / UC Case 2014-495-0

### SUMMARY

UCLA researchers have developed a wireless wearable big data brain machine interface. This technology provides a user-friendly brain machine interface system that can monitor/record a large amount of brain activities and transfer, wirelessly, the processed/raw data to a remote mobile unit.

### BACKGROUND

- ▶ A brain machine interface is a direct communication pathway between the brain and an external device
- ▶ It is often directed at assisting, augmenting, or repairing human cognitive or sensory-motor functions
- ▶ There is a need to improving the quality of neuronal recordings, achieve stable, long-term performance, and extend the brain-machine interface approach to a broad range of motor and sensory functions
- ▶ The brain-computer interface market is technology-driven and is continuously witnessing various technological advancements which has led to high functionality and miniaturization of devices
- ▶ The traditional use of EEG devices as a diagnostic tool has now expanded to a range of applications

### INNOVATION

- ▶ User friendly wearable brain machine interface system
- ▶ Ability to monitor and record large amount of neural activity to a remote terminal wirelessly

### APPLICATIONS

- ▶ Investigating brain activity mapping
- ▶ Monitoring function during neurosurgery
- ▶ Diagnosing brain abnormalities
- ▶ Developing new technology/treatment to prevent/cure brain-related illness
- ▶ Develop more advanced brain-machine interface systems
- ▶ Control wearable prostheses
- ▶ Control exoskeletons

### ADVANTAGES

- ▶ Big data transfer
- ▶ High throughput data transfer
- ▶ Fine and large scale resolution of neural activity
- ▶ Wireless communication: it enables the patient/subject to move freely
- ▶ Wearable format
- ▶ Real-time neural activity monitoring

### PATENT STATUS

Country	Type	Number	Dated	Case
United States Of America	Issued Patent	10,027,362	07/17/2018	2014-495

### CONTACT

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### INVENTORS

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### OTHER INFORMATION

#### KEYWORDS

brain machine interface, brain computer interface, EEG, wireless, high throughput, real-time monitoring, neural activity, big data, sensory-motor function, diagnostic, wearable computing device

#### CATEGORIZED AS

- ▶ **Medical**
  - ▶ Devices
  - ▶ Diagnostics
  - ▶ Disease: Central Nervous System
  - ▶ Rehabilitation
  - ▶ Therapeutics
- ▶ **Research Tools**
  - ▶ Other
- ▶ **Sensors & Instrumentation**
  - ▶ Biosensors
  - ▶ Medical

#### RELATED CASES

2014-495-0

## ADDITIONAL TECHNOLOGIES BY THESE INVENTORS

- ▶ [Electrical Charge Balancing Scheme For Functional Stimulation Using Pulse Width Compensation](#)
- ▶ [Flexible Stretchable Electrode And Recording Method For Gastrointestinal Prostheses](#)
- ▶ [Methods Of Fabricating A Multi-Electrode Array For Spinal Cord Epidural Stimulation](#)
- ▶ [Selective Chemical Bath Deposition of IrOx on Thin Film Structure](#)
- ▶ [Ultra-Dense Electrode-Based Brain Imaging System With High Spatial And Temporal Resolution](#)

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