

Textile EEG Ikon Sleep

Wearable and reliable EEG for
sleep research.



Ikon Sleep

Wearable EEG device with frontal sensors that allows easy brain monitoring for sleep research applications.

• Self-Managed Technology

Effortlessly conduct sleep studies anywhere with self-administered technology that requires no expert supervision.

• Reliable

Featuring pre-gelled sensors and active shielding, our optimized DRL technology improves signal-to-noise ratio (SNR) and reduces artifacts for high-quality recordings.

• Tested in clinical populations

Demonstrated a 90% success rate in clinical studies involving over 250 patients.



• Medical Standard

Designed in accordance with ISO 13485, with medical CE and FDA clearance anticipated for 2025.

• Battery

9+ hours in Bluetooth Low Energy (BLE) streaming with local SD storage.

• Connectivity and storage

BLE real-time EEG streaming compatible with LSL and other softwares.

Fast positioning



Self-administered technology set up in minutes, offering high ergonomics and comfort with proven success in clinical populations.



Medical-grade technology featuring high-quality signal acquisition through pre-gelled snap-on sensors, active shielding, and DLR for artifact reduction.

Some applications

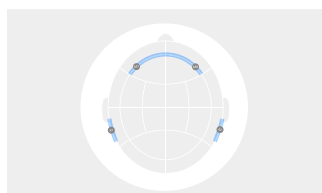


Made for extending sleep research in to **real-world scenarios**.



Easily integrate sleep as a new variable in **clinical trial monitoring**.

Technical overview



Layout designed with sensors over prefrontal areas



Wearable and ultralight (~100g) EEG headset. Quick and easy set up for real-life scenarios.



Reliable textile-EEG monitoring with 24 bits at 256 Hz for 9+ hours. Bluetooth streaming and/or on-board SD storage.



Washable and compact technology using off-the-shelf disposable sensors, making it easy to clean, transport, store, and reuse.

Hardware specifications

Sensors and headset	
EEG channels	AF7 and AF8. GND in A2. REF is in A1
Type of sensors/electronics	EEG wet sensors
Head perimeter	52-72 cm
Wireless Amplifier	
Sampling rate/resolution	256 SPS at 24 bits
Bandwidth	DC – 40Hz
Online/real-time impedance check	Yes
Integrated sensors	Integrated IMU (9 axis): accelerometer, gyroscope and magnetometer
Input range and noise	±100 mV, < 1 µVRMS (0.5 - 30 Hz) @ 256Hz
CMRR / Input impedance	> 100 dB @ 50Hz, >50 GΩ
Data streaming and store	
Data transmission and range	Low energy Bluetooth 4.2 + EDR with 10 meters in direct sight
Data backup/files	Direct transfer via BLE + data backup to internal SD card
Power	
Battery	Rechargeable lipo battery. Charging time <3h
Autonomy	> 9 h
General	
Weight	~100g
Warranty	2 years for amplifier
Certifications	CE (Directive 2014/53) and FCC (part 15)

Software specifications

Bitbrain software kit (included with equipment)	
Bitbrain real-time SDK	In C/C++ for Windows and Linux.
Bitbrain data acquisition and visualization suite	Live visualization, streaming or SD recording, data export in CSV, EDF, and raw data visualization.
Third parties and real-time I/O	LabStreamingLayer LSL compatibility (Matlab, Python, BCI2000, OpenVibe, NeuroPype, etc).
Third parties data processing	Matlab (EEGLAB, FieldTrip, BCILAB,etc), Python (MNE, etc) and more.
Bitbrain software platforms (optional)	
SennoLite	Software for data visualization and recording, with large compatibility with real-time I/O and data processing third parties.
Bitbrain Software Development Kit	Software kit consisting of different scripts that allow communication and control of the hardware used. It is a starting point for the development of brain-computer interface applications.

Bundle includes

- EEG headset and amplifier
- Power supply
- Storage base
- Stickers
- Instructions
- Bitbrain Software Kit
- Skin prep wet wipes and disposable electrodes sample pack

Support

Basic Support is included during the lifetime of the product.

- Email support
- Technical assistance
- Knowledge base.

Real-world research and applications



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