

BabyBrite

A wearable & flexible multi-channel fNIRS device for baby brain oxygenation measurement



Highly comfortable due to soft optodes and optode holders



High data-quality



Optimized flexibility to test in common infant research settings



Made from biocompatible materials



Measures oxy-, deoxy-, and total hemoglobin concentration changes



Fast setup time

Get a quote

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What is NIRS?

Near infrared spectroscopy (NIRS), the basic technique behind the BabyBrite, relies mainly on two characteristics of human tissue: first, the relative transparency of human tissue for light in the NIR range and second, the oxygenation dependent absorbance of the hemoglobin. Based on these principles, the BabyBrite makes it possible to monitor the brain activity of your participant:

- Non-invasively
- Wirelessly in any environment, both indoors and outdoors
- Without the need of special infrastructure or specially trained personnel
- With continuous recording and feedback
- Affordable and without requiring disposables

What can NIRS do for me?

1 NIRS is used in many fields of research. NIRS measures the relative changes in the concentration of oxyhemoglobin (O₂Hb), deoxyhemoglobin (HHb) and total hemoglobin (tHb) in biological tissue.

2 Assuming the concentration of hemoglobin in blood is constant (during your measurement), tHB can be used as a marker for blood volume.



Applications

The BabyBrite is a one of a kind NIRS device for a variety of applications, e.g:



- Infant & children research
- Linguistic development research
- Hyperscanning, and more
- Cognitive development research
- Social interaction research

Exploring a Brite mind



Comfortably

The BabyBrite system is designed to provide high-comfort from infants to toddlers. We aimed to achieve this by using flat optode tips and soft optode holders, which are crafted from biocompatible materials, for extra safe and gentle skin contact on babies.

Flexibly

The BabyBrite is an optimized version of the Brite for infant research, making use of similar improved technology. The flexible template feature enables researchers to measure brain activity from any location on the infant head. The BabyBrite package comes with distance guards that ensure stable inter-optode distance and mounting solutions for lab and real-life interactions (e.g. car seat; parent lap, high chair, crawling around).

Reliably

Built with the same innovative features as the Brite (high data quality, multi-power gain control and ambient light protection), the BabyBrite is the perfect portable NIRS device to measure brain activity of newborns and toddlers.

Supporting features

1 NIRS monitoring and analysis software



2 BabyBrite arm mount



3 BabyBrite body mount



What's in the box?

BabyBrite research package

BabyBrite
Distance Guards (20 mm or 25 mm)
License key & bluetooth dongle
Battery charger
Laptop with pre-installed software
Support in setting up your research

OxySoft software
Brite Connect software
Easycaps
Armband
User guide

Technical specifications

TECHNOLOGY	Continuous wave Near-InfraRed Spectroscopy (NIRS) using the modified Beer-Lambert law
RELATIVE MEASURES	Oxy-, deoxy-, and total hemoglobin concentration changes
CHANNELS	Up to 27
TEMPLATE & LOCATION	Any template for brain (anywhere on the head)
INTER-OPTODE DISTANCE	Recommended 20-25 mm (20-55 mm may be possible)
TRANSMITTERS	10 LEDs, each with 2 wavelengths
RECEIVERS	8 photodiodes
WAVELENGTHS	Standard 760 and 850 nm, custom wavelength possible
AMBIENT LIGHT CORRECTION	Proprietary algorithm to filter out ambient light
OPTODE HOLDERS	Comfortable soft-click optode holder system
HEADCAPS	Easycaps from 0-to-2-year-olds (sizes 34-36-38-40-42-44-46-48-50)
DIMENSION	75 x 75 x 30 mm
WEIGHT	250 gram including battery and headcap
ENVIRONMENT	Operating temperature: 10 - 35 °C
INDICATORS	Power, measuring, battery status, bluetooth
BATTERY LIFE	Up to 3 hours with with fast-charging battery – extendable with our EverGo accessory
SAMPLE RATE	Up to 150 Hz*
ORIENTATION SENSOR	3-axis accelerometer and 3-axis gyroscope
DATA COLLECTION & STORAGE	Online, offline 100+ hours, local back-up of data
DATA ACQUISITION & ANALYSIS SOFTWARE	OxySoft: including 3D extension and lab streaming layer (LSL); Brite Connect
OPERATING SYSTEM	Windows 11
EVENTS	Online, offline or PortaSync
ELECTROMAGNETIC COMPATIBILITY	Compatible with TMS, EEG, EMG, ECG
HARDWARE SYNC OPTIONS	PortaSync, parallel cable, serial cable, Labstreamer
SOFTWARE SYNC OPTIONS	LSL, DCOM (e.g. Matlab, E-prime, Presentation)

*Can only be achieved when using a limited number of channels. When using the full set of optodes, sample rates of 25, 50 and 75 Hz can be achieved, depending on the configuration.

References wireless fNIRS

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Have you also considered our other wearable NIRS products?



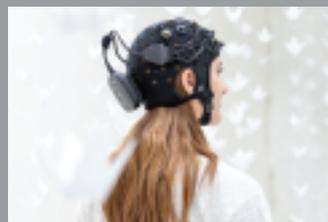
PortaLite mini

Truly light and portable (f)NIRS device designed for pediatric studies and neonatal research.



Brite Lite Frontal mini

A fully wearable 8-channel fNIRS device, optimized for pediatric research with the full power of the Brite.



Brite

Our wearable & flexible multi-channel fNIRS device for brain oxygenation measurement.



PortaLite MKII

Measures local oxy-, deoxy- and total hemoglobin concentration changes and tissue saturation index (TSI) on both frontal brain and muscle tissue.