

# Brite

The forefront of wearable fNIRS devices



Measures oxy-, deoxy-, and total hemoglobin concentration changes from any cortical brain areas.



Compatible with other techniques, such as EEG, eye-tracking and tES.



Easy data acquisition and analysis with our superior software solutions, **OxySoft** and **Brite Connect**.



The perfect fit for any research setup, setting, or environment, suitable for everyone!

**Get a quote**

Artinis Medical Systems  
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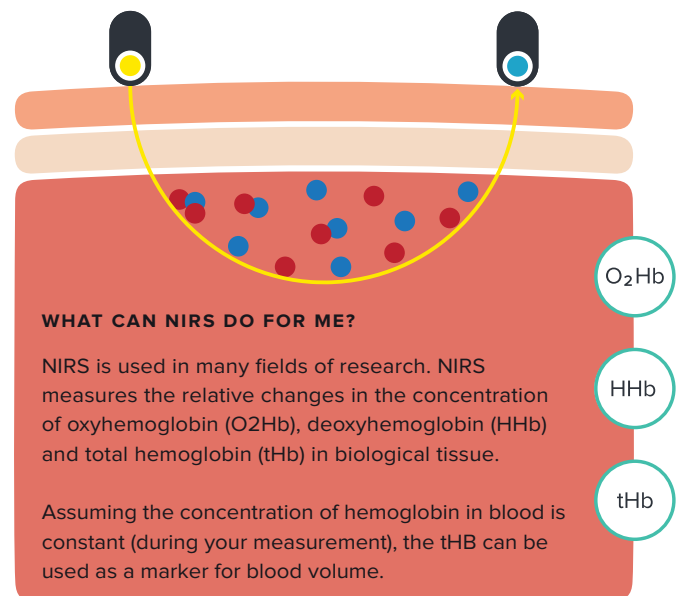
Contact us at  
[artinis.com/brite](https://artinis.com/brite)

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# Near Infrared Spectroscopy

NIRS, the technique which the Brite is based on, relies mainly on two characteristics of human tissue: first, its relative transparency for light in the NIR range and second, the oxygen dependent absorbance of hemoglobin. Based on these principles, the Brite makes it is possible to monitor the brain activity of your subject:

- ✓ Non-invasively.
- ✓ Continuously recording and feedback.
- ✓ Affordably and no disposables needed.
- ✓ Wirelessly, both indoors or outdoor.
- ✓ In easy setup for any environment, both indoors or outdoors.



## The Brite is WHOA

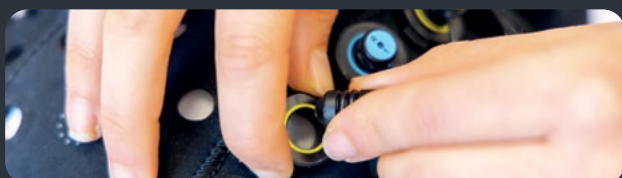


### Wearable...anywhere & for anyone!

The Brite is a truly portable fNIRS system designed to be mounted directly on the headcap, allowing participants to move freely without being tethered to additional equipment. Its lightweight, wireless design and offline data storage make it ideal for studies in any environment, including laboratories, clinics, and outdoor settings.

### Highly-flexibility, a main characteristic of the Brite

Adjustable inter-optode distances from 10 to 55 mm and customizable optode templates of up to 27 channels allow researchers to tailor measurements to virtually any cortical area. Select the ideal template directly in Brite Connect or OxySoft or create custom configurations with ease using the Optode Template Editor. Designed for user-friendliness and rapid setup, each optode features clear numbering and color coding, ensuring straightforward placement that aligns seamlessly with the template view in the software. Whether your study requires broad cortical coverage or focused regional measurements, the Brite adapts to your needs. For expanded coverage, multiple Brite devices can be combined in a MultiBrite configuration, enabling wearable full-head measurements or advanced hyperscanning setups.



### Optimized

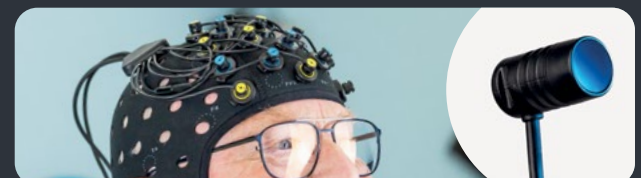
Delivered with our advanced software solutions, the Brite includes powerful tools such as Signal Quality Index algorithms and ambient light correction, ensuring reliable performance in any environment.

It also integrates seamlessly with multimodal systems including EEG, tES, and eye tracking, enabling complex and comprehensive experimental designs.

### Accurate

With reduced motion artifacts and an improved dynamic range, the Brite delivers precise and reliable data. Flexible inter-optode distances support short-separation channels (SSC) for effective extraction of extracerebral signals. In addition, the integrated on-head IMU sensor provides highly accurate motion data, positioning the Brite as a leading solution in portable fNIRS systems.

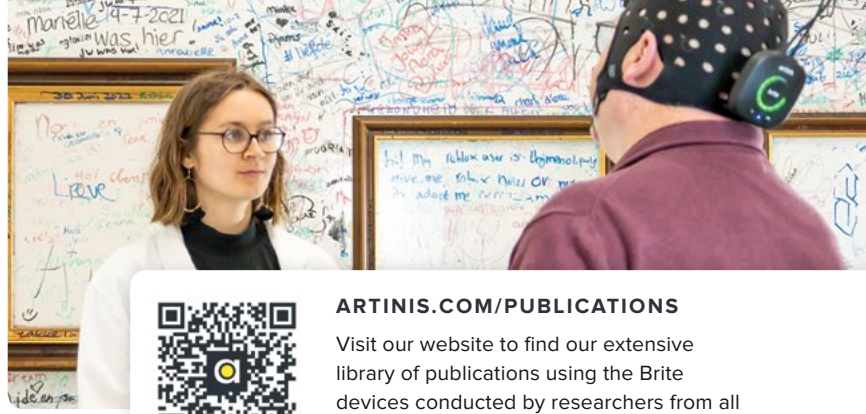
Its multi-power gain control feature automatically adapts to different skin tones, hair types, and cortical distances. Proven to perform reliably over hair, Brite's innovative optode design ensures consistent scalp contact even in challenging conditions. Combined with novel high-sensitivity receivers, this enables high signal quality with reduced setup time, particularly when measuring over dark and thick hair.



# Applications

The Brite is a one of a kind NIRS device used by researchers all over the world for a variety of applications, such as:

- Brain oxygenation monitoring
- Sports science
- Cognitive neuroscience
- Psychology
- Hyperscanning, and many more



## ARTINIS.COM/PUBLICATIONS

Visit our website to find our extensive library of publications using the Brite devices conducted by researchers from all around the world.

# MultiBrite configuration

Combining multiple Brite systems gives you the flexibility to expand measurement coverage, seamlessly integrating two or four devices within our software. This setup enables wearable, comprehensive monitoring of brain activity, synchronizing all devices into a single, precise data stream. Whether used in a MultiBrite configuration, independently, or for hyperscanning across multiple subjects, the Brite series delivers unmatched flexibility and adaptability to meet your research needs.

### EXPAND THE MEASUREMENT AREA

Our range of optode templates eases your MultiBrite configuration:

**DualBrite** : with two Brite devices, you can achieve up to 54 channels simultaneously allowing multi-regional brain measurements.

**TetraBrite** : the four-Brite devices' configuration significantly expands the measurement area with 100+ channels. This configuration includes extended cables and a custom-designed body mount, ensuring participant comfort and enabling a fully wireless, mobile setup for seamless data collection.



# Supporting features

## OPTODES & HOLDERS VARIETY



We offer accessories to enhance precision and flexibility, including Spring Optode Holders & the Short Separation Channel (SSC) Splitter. The Spring Optode Holders ensure optimal scalp contact and high-quality data, even when measuring over hairy regions. The SSC Splitter lets you add up to eight short-separation channels without reducing standard channels, increasing measurement versatility.

## EEG & TES COMPATIBILITY



You can combine electroencephalography (EEG) and/or transcranial electrical stimulation (tES: tDCS, tACS, tRNS) with NIRS in one single headcap. Such combination allows clinicians and researchers to measure both cortical electrophysiological (EEG) and hemodynamic activity (fNIRS) before, during and after transcranial electrical stimulation in real-world settings.

## KEY ACCESSORIES



Enhance your Brite system with key accessories: The Polhemus Viper, paired with OxySoft's 3D extension, ensures precise digitization of optode positions directly within the software. The EverGo adds 4 hours of extra runtime for uninterrupted measurements. The Versatile Bio amplifier enables real-time analog (e.g., GSR, RESP, TEMP) and electrical (e.g., ExG, EMG) biosignals monitoring.

# What's in the box?

## BRITE RESEARCH PACKAGE

- Brite including Artinis headcap
- OxySoft and Brite Connect software
- Laptop with pre-installed software
- License key & Bluetooth dongle
- Universal micro-USB cable
- Battery charger
- User manual & quick start guide in EN
- Support in setting up your research

# 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 with one Brite, or up to 54 channels with DualBrite and 100+ channels with TetraBrite
SHORT SEPARATION CHANNELS	Short channels at 10 mm with multipower switch
TEMPLATE & LOCATION	Any template for brain (anywhere on the head)
INTER-OPTODE DISTANCE	Recommended 30 mm (10-55 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	3 available heights to improve skin contact
DIMENSION	Control Unit: 85x85x30 mm. Headcaps available in multiple sizes: kids version (from 2 years old) & adults (XS - XL)
TOTAL WEIGHT	300 grams including battery and headcap
ENVIRONMENT	Operating temperature: 10 - 35 °C
INDICATORS	Power, measuring, battery status, Bluetooth
POWER	Up to 3 hours – extendable with our EverGo battery extension
SAMPLE RATE	Up to 150 Hz*
ORIENTATION SENSOR	3-axis accelerometer and 3-axis gyroscope
DATA COLLECTION & STORAGE	Online, offline 100+ hours, automatic 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)
NIRS + OTHER MODALITIES	We deliver the following packages: Brite + TMSi EEG package (24, 32, 64 channels, etc.) Brite + Enobio EEG package (8 channels and other options available) Brite + tES (STARSTIM)

\*Can only be achieved when using a limited number of channels. When using the full set of optodes, sample rates of 25, 50, 75 and 100 Hz can be achieved, depending on the configuration.

## References to wireless fNIRS

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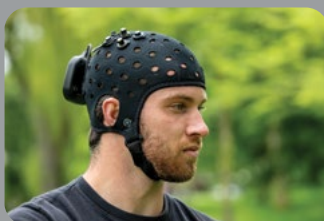
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## Featured devices



### Brite Lite

A wireless & flexible fNIRS device for brain oxygenation measurements with up to 10-channel. Also available as an 8-channel device for measuring prefrontal cortical activation.



### MediBrite

The MediBrite is the first portable European CE-marked NIRS device according to MDR (EU) regulations. It is the perfect fit for clinical research.



### PortaLite

Truly *lite* & advanced oxygenation monitoring device that measures local tissue saturation index (TSI), as well as oxy-, deoxy- and total hemoglobin concentration changes.



### fNIRS-EEG package

Have a complete picture of brain activity with a fully integrated, wearable, or stationary, fNIRS-EEG package.