SLEEPade
MANUAL

USER MANUAL

BrainU   V. 1.0.0, 2022-04-28

Precautions for Use ⚠

▶General Precautions
- This product cannot be used for any other purpose
  (i.e. it cannot be used for purposes other than sleep evaluation).
- Before using the product, check the precautions and how to use it.
- Do not allow conductive foreign substances
  (e.g. liquid, dust or metal powder) to contact the electrodes and
  charging terminals of the main body.
- Unauthorized disassembly or reassembly is prohibited.
- SLEEPade's battery replacement is only available at designated companies.
- Use only the power supply provided by the manufacturer.
- Do not use on wounds.
- Do not attach to the body part other than the forehead.
- If rash or other abnormal symptoms occurs at the site, stop using it immediately.
- SLEEPade patch (sold separately) is disposable. Do not use again.
- Keep out of reach of children.
- When a cyber security threat is detected,
  disconnect the Bluetooth and power off the device.
  Then, contact us at local distributor to take appropriate actions.

▶ Precautions before Use
- Check if the battery of SLEEPade body is sufficient.
- Make sure you have the latest version of the SLEEPade App.

▶ Precautions during Use
- Be careful not to let the SLEEPade fall off your forehead before going to bed.
- If you feel any discomfort or pain while using SLEEPade, remove it immediately.

▶ Storage
- Wipe the product with a soft cloth when contaminated.
- Store in the SLEEPade charging casing
  (remove the charging cable when not in use for a long time).
- If repair is required, contact the designated companies or service center for repair.

▶ Disposal
- SLEEPade patch (sold separately) is disposable. Do not use again.
- Disposable SLEEPade patches should be discarded in the standard plastic bags.

How to Download the App

Installation
Search for [SLEEPade] on Google Play or App Store and download it.

⚠ Caution
Download via Wi-Fi.
Data charges may occur in LTE or 5G networks.

Activate the App
Run the downloaded [SLEEPade]
to measure your sleep.

Please allow the following to use the application normally.

Bluetooth / LBS
Used to search for the SLEEPade device.

Microphone
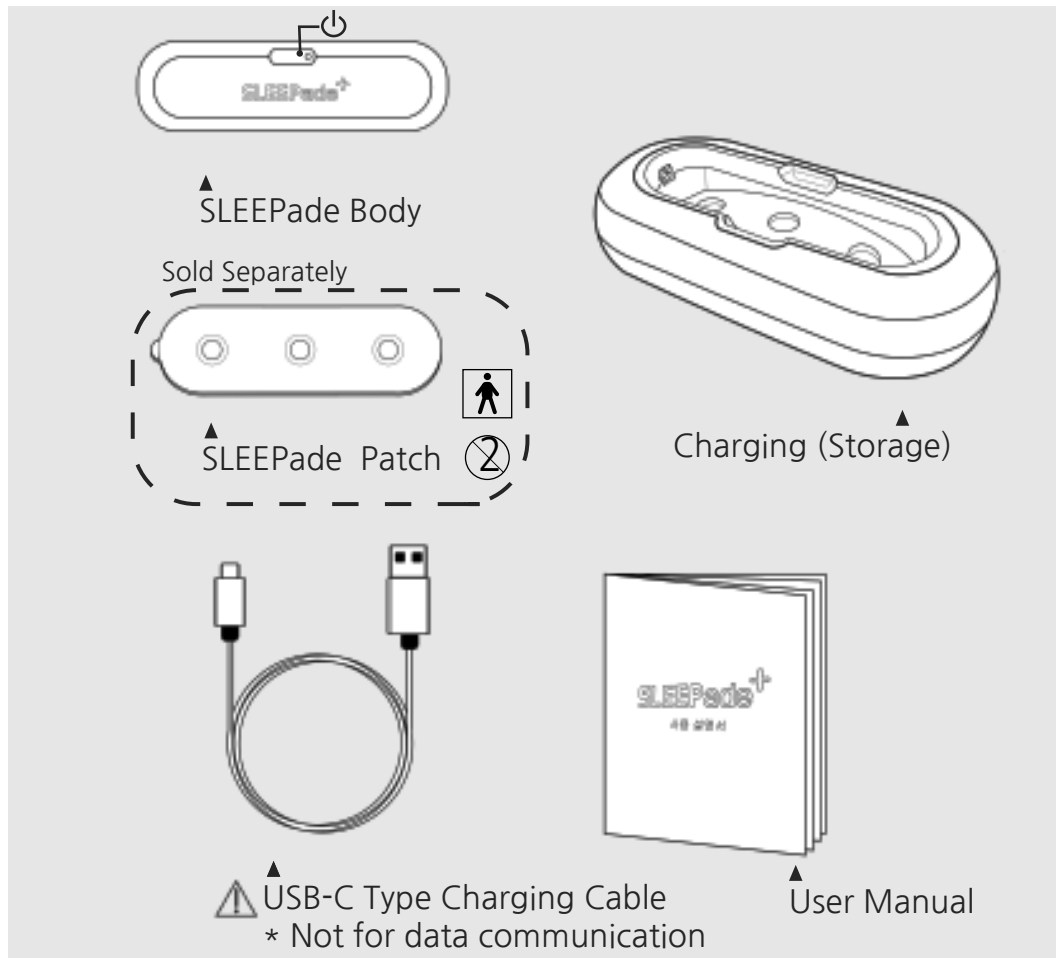Used to measure ambient decibels during sleep.

Please enable the followings to use additional features.

Wi-Fi/Data
To provide real-time weather information and recommendations.

Items

SLEEPade Body

Sold Separately

SLEEPade Patch

Charging (Storage)

⚠ USB-C Type Charging Cable
* Not for data communication

User Manual

Items	Qty	Remarks
SLEEPade Body	1EA	-
SLEEPade Patch	-	Sold separately
Charging (Storage) Casing	1EA	-
USB-C Type Charging Cable	1EA	Length: 1 m
User Manual	1EA	-

| Items	Warranty Period
SLEEPade Body	1year
Charging (Storage) Casing	Other accessories other than the items above are not applicable.

* The warranty service of the SLEEPade body includes a 1-year battery service.
  Paid battery service provided by BrainU is available when the warranty period has elapsed,
  and the cost may vary depending on the situation.
* Even within the warranty period, we may charge service fees for damage caused by
  unauthorized disassembly or submersion.

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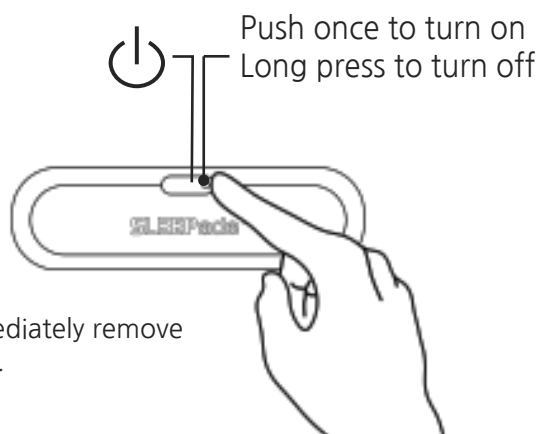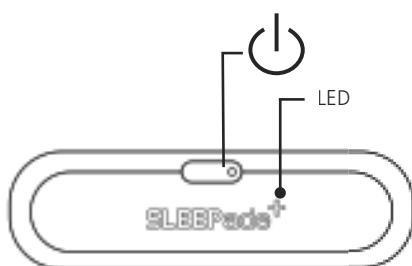# Operations
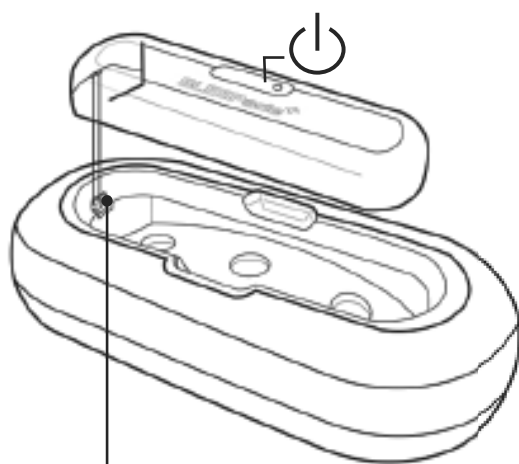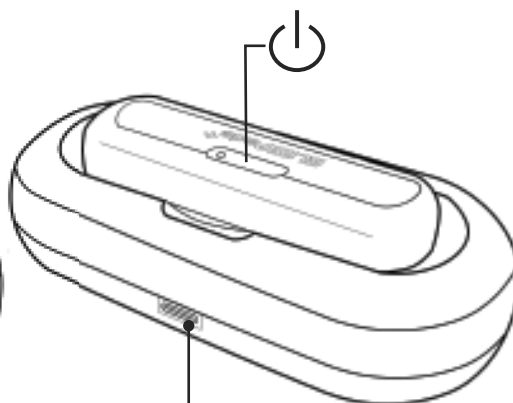
Charging Terminal   Charging Cable Port (USB C-Type)

Align the charging terminal of the SLEEPade main body with the
port of the charging casing, insert into the port.
Connect the USB-C type charging cable to charge the SLEEPade main body.

LED

Push once to turn on
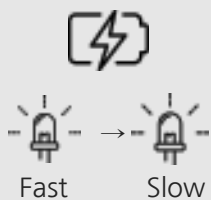Long press to turn off

* If you feel any discomfort or pain, immediately remove
  the SLEEPade body from your forehead.

You can turn ON/OFF the power by pressing the button on the
top of the SLEEPade body.
You can check the battery status of the device by the LED blinking.

Charging (Storage) Casing
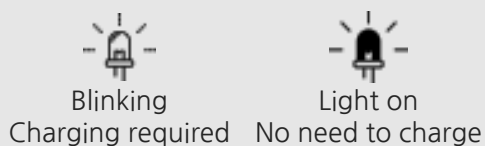
Charging   Full Charge

Fast   Slow   Light on

LED Blinking

SLEEPade Body

① Turned ON

Blinking   Light on
Charging required   No need to charge

② Blinks once every 3 seconds after
   Bluetooth connection

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How to Use   **Preparation** —————— 📖ℹ️

1 | Remove the protective film.

> Remove the   paper film from the patch.

2 | Apply the patch.

| Type-1 (Patch with Hydrogel)	Type-2 (Patch without Hydrogel)
Attach the patch from the end with the hydrogel facing upward and attach it to the main device as shown in the figure below. Remove the clear protective film so that you can attach it to your forehead.	Attach the patch from the end with the transparent protective film facing upward, and attach it to the device as shown in the figure below. Remove the clear protective film so that you can attach it to your forehead..

3 | Attach the SLEEPade.

> Wipe off sweat and dust from the attachment area, attach the
> device to the center of the upper part of the forehead, and press firmly.

Connection

1 | Connect SLEEPade.
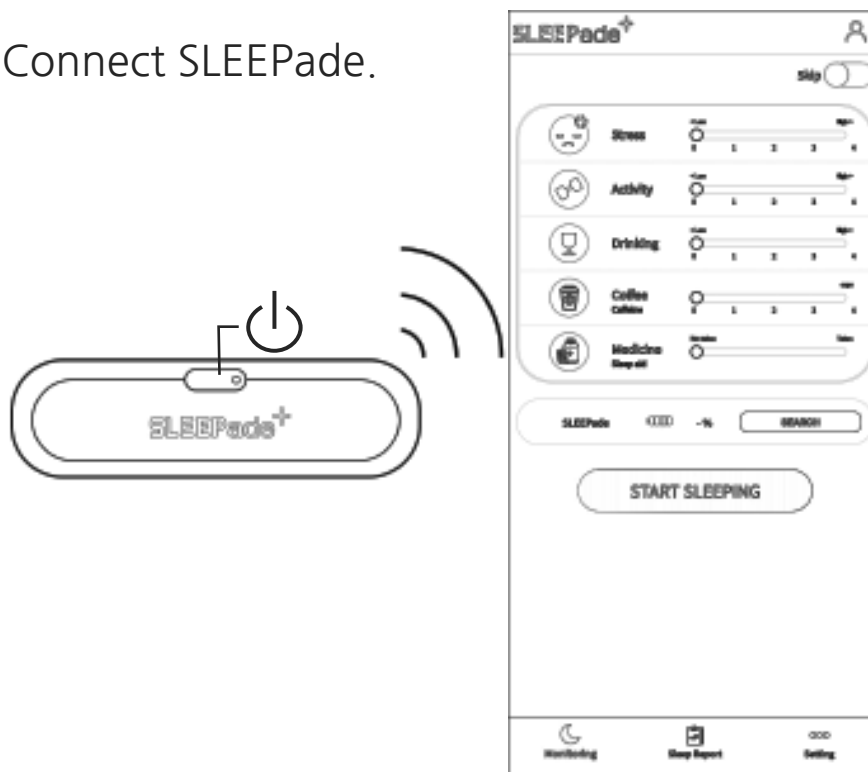
When you run the installed application, the device is automatically connected. If it is not connected, press the Search button to connect. For the connected device, the LED blinks slowly.

2 | Respond to the SLEEPade questionnaires.

You can answer 6-point scale questionnaires if you want to (you can skip it). If you press the "Sleep Start" button in the Monitoring, it will switch to the Measurement.

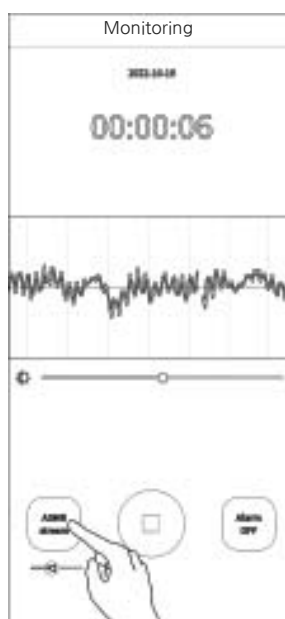# How to Use Measurement

1 | Connect the SLEEPade.

⚠ Caution

(1) Do not forcibly close the SLEEPade app once sleep measurement starts.

(2) You can switch between apps. However, it is recommended to use it right before sleep for accurate sleep measurement.

Press the 🌙 button to start measuring sleep.
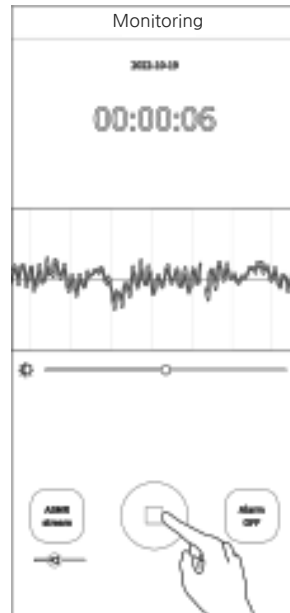
2 | Start measuring with SLEEPade.

You can turn sleep ASMR on and off by pressing the PLAY button.

Deactivation

1 | Deactivate SLEEPade measurement.

Press the ■ button to end sleep measurement.

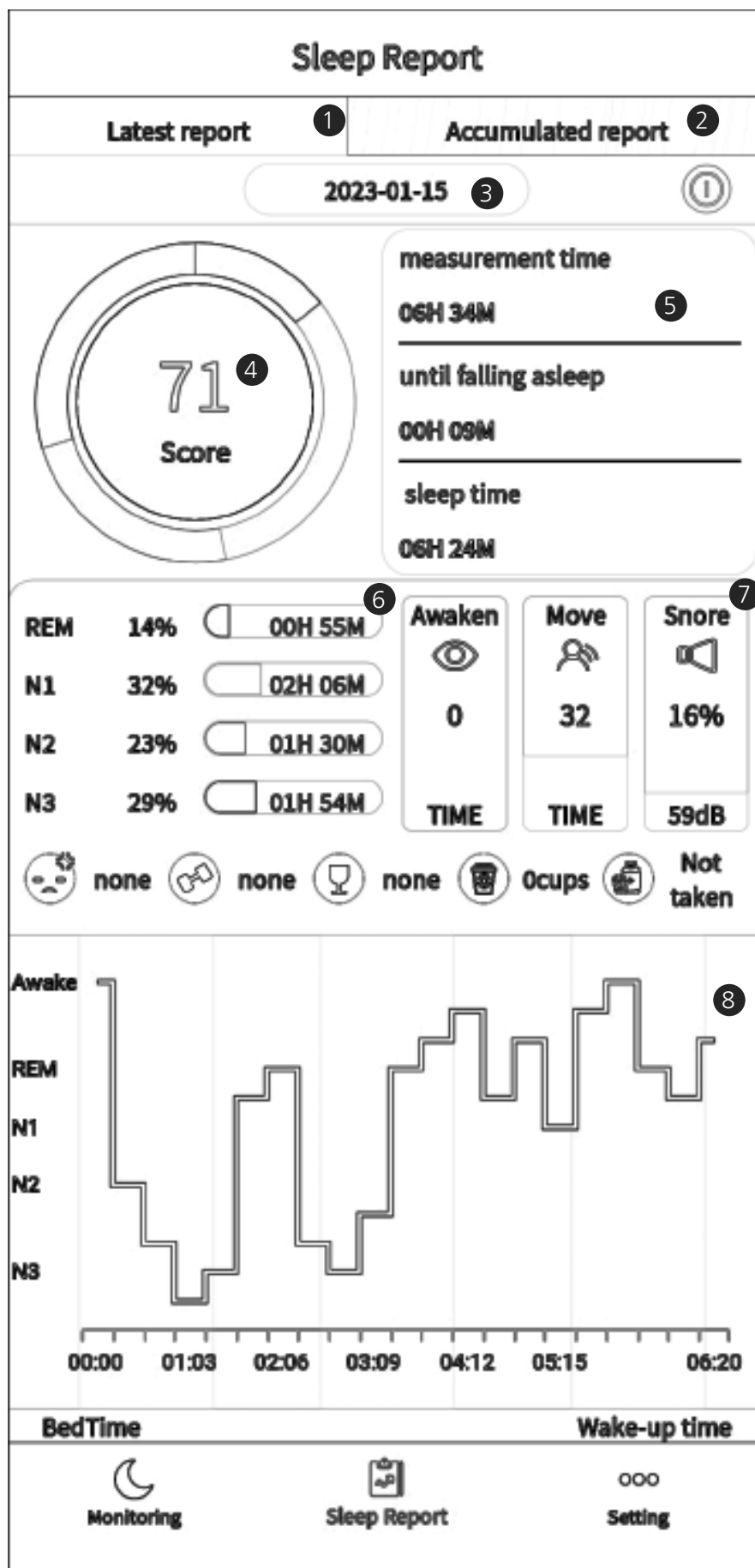### 2 | Remove the SLEEPade

After peeling off the SLEEPade attached to the forehead,
cleanly remove the patch attached to the SLEEPade body.

3 | SLEEPade storage/maintenance

Store (or charge) the SLEEPade body in the charging/storage casing.
* Please refer to page 5 of this manual for how to charge SLEEPade.
* Please refer to page 2 of this manual for storage/maintenance of SLEEPade.

Your Sleep Results

Sleep Report

Latest report ①	Accumulated report ②

2023-01-15 ③ ⓘ

④ **71**
Score

⑤ measurement time
06H 34M

until falling asleep
00H 09M

sleep time
06H 24M

⑥
REM	14%	00H 55M
N1	32%	02H 06M
N2	23%	01H 30M
N3	29%	01H 54M

Awaken	Move	Snore ⑦
👁	🧍	📢
0	32	16%
TIME	TIME	59dB

none · none · none · 0cups · Not taken

⑧
Awake
REM
N1
N2
N3

00:00 01:03 02:06 03:09 04:12 05:15 06:20

BedTime   Wake-up time

Monitoring   Sleep Report   Setting

Latest Report

On the Latest Report, you can check the last measured sleep data.

1 Latest Report
The latest report is displayed on the sleep report screen.

2 Cumulative Report
The cumulative report is displayed on the sleep report screen.

3 Select the Report Date
You can check the sleep data of the selected date.

4 Latest Score (caution: it is not a medical device function.)
Comprehensive sleep data is analyzed to calculate a sleep score.

5 Sleep Time
Total Sleep Time: Sleep time.
Unmeasured Time: While the patch was off during sleep measurement.
Time Taken to Fall Asleep: Time taken from attaching the sensor to sleep.

6 Sleep Stage
Sleep stages will be shown in percentage and duration.

7 Other Scores
Displays waking, tossing and snoring levels during sleep.

8 Sleep Stage Graph
Visualizes your sleep stages over time.

Your Sleep Results

Sleep Report

Latest report	Accumulated report

Weekly　　　Month　　　Yearly　　　Last 1 month ①

Please select the period. ②

All Sleep monitoring statistics

Selection Average Score	③**1**	average measurement time 05H 11M
		average time to sleep 00H 13M
Overall Average Score	**71**	average sleep time 05H 57M

REM	22%	00H 30M
N1	29%	01H 31M
N2	22%	00H 26M
N3	24%	00H 33M

Awaken	Move	Snore
👁 0	🧍 17	📢 11%
TIME	TIME	43dB

④
Sleep comment　　　　　　　　　　　Read more

😣 good　　😴 very good　　🏆 good　　☕ 1cups

⑤

74	71	71
01M0W	01M1W	01M2W

Sleep monitoring Report ⌄

⑥

2023-01-15	Sleep time 06H 34M	Score 71	☑
2023-01-14	Sleep time 07H 43M	Score 81	☑

🌙 Monitoring	📋 Sleep Report	⋯ Setting

Cumulative Report

On the Cumulative Report, you can check the average of all the measured sleep data.

1 Select Date
You can easily check your sleep data by week, month, year, and last month.

2 Select Period
You can check your sleep data by selecting a specific period.

3 Sleep Score (caution: it is not a medical device function.)
You can compare the average score for the selected period with the overall average score.

4 Recommendations
It analyzes the average sleep data and the sleep data of the selected period to provide recommendations to help you sleep.

5 Sleep Stage Graph
Displays the percentage of sleep stages by date.

6 Sleep Monitoring Report
You can easily check and delete your sleep data.

Environmental Precautions ⚠️

Environmental Precautions
- Do not use near fire or flammable substances.
- Do not use in damp or wet places.
- Do not use in dusty places.
- Do not use in places where there is a risk of product overheating.
- Do not use in environments where malfunctions may occur due to strong external shocks and other electronic devices.

For Storing & Using SLEEPade

Temperature	15 ~ 45 ℃
RH	30 ~ 95 %
Atmospheric Pressure	1060 hPa ~ 700 hPa

SLEEPade has not been tested for water resistance. Do not use in the kitchen or bathroom.
* We may charge service fees for damage caused by submersion.

Alarms in SLEEPade App

Type of Alarms	Details	Causes and Actions Required
Warning	Poor communication	When there is too much noise in the signal. - Press and hold the SLEEPade device once and wait for a while.
Notice	Device disconnected; rediscover	Bluetooth is disconnected. - Search the device again in the App. - Check that the SLEEPade device is turned on and wait for a while.
Warning	The sensor has fallen off.	The sensor has been removed. - Press and hold the SLEEPade device once until the warning popup disappears. - If the device completely falls off, replace the patch with a new one and attach it to the forehead again.
Warning	The sensor has fallen off.	
Warning	The sensor has fallen off.	

Safety Symbols

Symbols	No	Descriptions
=====	IEC 60417-5031	Direct current
⚠	ISO 7000-0434A	Caution ISO 3864-1 should bee strictly observed. Refer to ISO 7010-W001 (Table D.2 Safety Marking 2).
📖	ISO 7000-1641	Operating Instructions
🧍	IEC 60417-5333	BF type mounting
②	ISO 7000-1051	Do not reuse.
📖👤	ISO 7010-M002	Follow the operating instructions. Note) In case of ME equipment, follow the instruction manual
⏻	IEC 60417-5009	Stand-by
$IP_{N_1 N_2}$	IEC 60529	N_1= 0: No protection 1: Protection against objects with a diameter of $\geq$ 50 mm 2: Protection against objects with a diameter of $\geq$ 12.5 mm 3: Protection against objects with a diameter of $\geq$ 2.5 mm 4: Protection against objects with a diameter of $\geq$ 1.0 mm 5. Dust protected 6: Dust-tight N_2= 0: No protection 1: Dripping water 2: Dripping water when tilted at 15° 3: Spraying water 4: Splashing of water 5: Water jets 6: Powerful water jets 7: Immersion 8: Immersion repeatedly Note) X can be used when no data available to specify a protection rating (e.g. "XX" when omitting both numbers).

Specification

SLEEPade Body

Weight		18g
Size		72.0 (W) x 22.0 (D) x 19.0 (H)t
Bluetooth	Frequency	2.4 GHz
	Version	BLE 5.0
	Range	〈 10 m
Battery		3.7V 75 mAh x 2EA
Operating Time		30 hours (full charge)
Channel		EEG 1 channel

SLEEPade Charger

Weight	45g
Size	105.0 (W) x 50.0 (D) x 26.0 (H)z
Rating	5V 500mA

SLEEPade Patch

Type-1 (with Hydrogel)	71.4 (W) x 18 (D) x 1.5 (H)
Type-2 (without Hydrogel)	71.4 (W) x 18 (D) x 1.5 (H)

Operational Description

Wireless Communication
  Operation Frequency: 2402 ~ 2480 MHz
Modulation Type: GFSK
  Antenna Type : Multilayer Chip Antenna
  Antenna Gain(Peak) : 2.3 dBi

Manufacturer Information

Address: 3F, 7, Yatap-ro 105beongil, Bundang-gu, Sengnam-si, Gyeonggi-do,
            Republic of Korea (13506)

E-mail: support@brainu.co.kr

Homepage: www.brainu-cai.com

Certifications

FCC ID : 2BBOF - SLEEPADE

FCC Statement

FCC Part 15.19 Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) this device may not cause harmful interference, and
(2) this device must accept any interference received,
including interference that may cause undesired operation.

FCC Part 15.105 Statement (Class B)

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules.
These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.
However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Part 15.21 Statement

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment. This device must not be co-located or operating in conjunction with any other antenna or transmitter.