Tobii Pro Glasses 3 Product Description

Tobii Pro Glasses 3 Product Description

v 1.11 January 2023 All rights reserved. Copyright © Tobii AB (publ)

The information contained in this document is proprietary to Tobii AB. Any reproduction in part or whole without prior written authorization by Tobii AB is prohibited.

Products that are referred to in this document may be either trademarks and/or registered trademarks of the respective owners. The publisher and the author make no claim to these trademarks.

While every precaution has been taken in the preparation of this document, the publisher and the author assume no responsibility for errors or omissions, or for damages resulting from the use of information contained in this document or from the use of programs and source code that may accompany it. In no event shall the publisher and the author be liable for any loss of profit or any other commercial damage caused or alleged to have been caused directly or indirectly by this document.

Content subject to change without notice.

Please visit Tobii Connect for updated versions of this document.

Table of Contents

1 Introduction	
1.1 Intended use	
1.2 Documentation	
1.3 Symbols used in this document	6
2 System Overview	7
2.1 Tobii Pro Glasses 3 packages	7
2.2 System components	
2.3 Head unit	
2.4 Recording unit	
2.5 Pro Glasses 3 controller application	
2.6 Optional accessories and software	
·	
3 System requirements	
3.1 Tobii Pro Glasses 3 controller application requirements	13
4 Technical Specifications	14
4.1 Eye tracking	
4.2 Head unit	
4.3 Recording unit	
4.4 Corrective Lenses (optional)	
5 Safety	
5.1 General precautions	
5.1 General precautions 5.2 Emergency	
5.3 Epilepsy warning	
5.4 Infrared warning	
5.5 Child safety	
5.6 Mechanical shock	
5.7 Bending	
5.8 Do not open or disassemble	
5.9 Connectors	
5.10 Head unit cable	
5.11 Environment	
5.12 Component connection safety	
5.13 Battery safety	
5.14 Wireless warning	
5.15 Transportation	
5.16 Accessories	
5.17 Cleaning	
5.18 California Proposition 65 warnings	20
6 Compliance information	
6.1 EU Compliance	
6.1.1 CE statement	
6.1.2 Other EU directives and regulations	
6.2 UKCA Statement	
6.2.1 Other UK Legislation	
6.3 FCC interference statement	

6.3.1 RF information	22
6.3.2 Class B Digital Device Notice	22
6.4 ISED statement	23
6.5 NRTL listed	23
6.6 Australia and New Zealand compliance	23
6.7 Japan compliance	
6.8 Korea compliance	
6.9 Safety compliance	24
6.10 EMC compliance	
6.11 Radio frequency emission and SAR compliance (wireless model)	25
6.12 RoHS compliance	26
6.13 Waste disposal and recycling	26
7 Product care	27
7.1 Operational environment	27
7.2 Transportation	
7.3 Storage	
7.4 Cleaning	
7.5 Disposal of the eye tracker	
Appendix A Customer Care, training, and warranty	
A1 Customer care	
A1.1 Get help	
A2 Training and education services	
A3 Warranty information	
•	
Appendix B Limitations and considerations	
B1 Intended use	
B2 Light conditions	
B3 Eyelashes	
B4 Droopy evelids	30

1 Introduction

Tobii Pro Glasses 3 is designed to enable easy, precise, and efficient collection of eye tracking data in a wide variety of research scenarios. The discreet, ultra-lightweight design ensures natural behavior and research validity in both qualitative and quantitative situations. Accurate data and robust eye tracking capabilities can be relied on in uncontrolled situations and real-world environments.



1.1 Intended use

Tobii Pro Glasses 3 is a wearable eye tracker for academic, commercial, and industrial used to capture truly objective and deep insights into human behavior in a real-world environment. The glasses are designed to capture what the wearer is viewing while providing robust and accurate eye tracking data. The complete Tobii Pro Glasses 3 system consists of a head unit, a recording unit, and the Tobii Pro Glasses 3 controller application installed on an external device.

The product should only be used as described in the Tobii Pro Glasses 3 User Manual. Please read the User Manual and other supplied documentation thoroughly before using the product.

This product is continuously being developed and refined. Visit <u>Tobii Connect</u> for the most recent specifications for Tobii Pro Glasses 3 and for the latest version of this document.

1.2 Documentation

Further documentation is available for viewing and download on Tobii Connect.

The following documentation is available for Tobii Pro Glasses 3:

- · Release Notes
- Tobii Pro Glasses 3 Product Description
- · Tobii Pro Glasses 3 User Manual
- · Tobii Pro Glasses 3 Field Guide
- Tobii Pro Glasses 3 Developer Guide

1.3 Symbols used in this document

Three different symbols are used in this document:

- The Information symbol means something is important or needs special attention.
- The Tip symbol denotes additional information that can make a process or function easier.
- The Warning symbol means there is a possible risk of harm if the warning is ignored.

2 System Overview

2.1 Tobii Pro Glasses 3 packages

Tobii Pro Glasses 3 is sold in four different packages. The table below details the specific features available in each package.

Components	Tobii Pro Glasses Cabled 50	Tobii Pro Glasses Cabled 100	Tobii Pro Glasses Wireless 50	Tobii Pro Glasses Wireless 100
Tobii Pro Glasses 3 controller application	•	•	•	•
50 Hz	•		•	
100 Hz		•		•
WLAN functionality			•	•
Basic support	•	•	•	•

2.2 System components

The Tobii Pro Glasses 3 system is comprised of the head unit, recording unit, and Tobii Pro Glasses 3 controller application. Each component is briefly described below. In addition, Tobii Pro Lab software (purchased separately) can be used for further analysis of eye tracking data.

The Tobii Pro Glasses 3 system:

- 1. The head unit, comprised of wearable eye tracking glasses.
- 2. A recording unit, connected to the head unit via a head unit cable. The recording unit holds the battery and stores the recorded data on a SD card. The recording unit is controlled from a device running Tobii Pro Glasses 3 controller application.
- 3. Tobii Pro Glasses 3 controller application is used to manage the participants, start and stop recordings, as well as to view real time and recorded video and eye tracking data.
 - The controller application is designed to be installed and used on specific operating systems and processors. The application should not be installed on any other type of devices.
- 4. A computer running the specified operating systems; or an Android device running version 9 or later; with Tobii Pro Glasses 3 controller application installed.
 - The controller application connects to the eye tracker through an network connection (either wireless or wired).
- 5. Tobii Pro Lab (purchased separately) installed on a Windows computer. Any eye tracking analysis beyond qualitative analysis of eye tracking session replay, is carried out using Tobii Pro Lab.
 - (i)

The controller application is designed to be used only with Tobii Pro Glasses 3. No other type of eye trackers can or should be used together with the controller application.

2.3 Head unit

The head unit is a highly sophisticated measuring device. It consists of several very sensitive sensors and must be cared for correctly. For more information, read Product care.

The head unit consists of the following parts:



Figure 1. The head unit or "glasses"

Part	Description
1. Infrared illuminators (x 8 per eye)	Illuminates the eyes to assist the eye tracking sensors
2. Head unit cable	Connects to the recording unit to save collected data
3. High-definition scene camera	Captures a Full HD video of what is in front of the participant
4. Microphone	Picks up sounds from the participant and their immediate sur- roundings
5. Eye tracking cameras (x 2 per eye)	Records eye orientation and movements

Part	Description
6. Accessory attachment	Used to attach some of the optional accessories, for ex., the Protective Lens
7. Nose pad	Additional nose pads can be used to change sizing

2.4 Recording unit

The recording unit is a small computer that controls the head unit. It records and stores eye-tracking data, sounds, and scene camera video on a removable SD card. The recording unit carries a replaceable and rechargeable Li-ion battery that supplies power to both the recording unit and the head unit. The recording unit has several connectors and a power button and is controlled from Tobii Pro Glasses 3 controller application.

The recording unit consists of the following parts:



Figure 2. The recording unit

Part	Description
1. Head unit con-	Connects to the head unit cable
nector	
2. Micro USB con-	Connects to USB charger for powering the unit and charging the battery
nector	

3. 3.5 mm con- nector for data syn- chronization	TTL pulse for synchronization with external data sources
4. Power button and LED power indicator	Touch button that turns the recording unit on and off. LED power indicator indicates power state and remaining battery power
5. SD card Activity LED	Indicates if SD card is present and if the recording unit is currently saving data to the SD card
6. Connection status LED	Indicates connection to the head unit.
7. LAN port	Connects to a device running the Tobii Pro Glasses 3 controller application, via the supplied Ethernet cable. The recording unit can also be connected to a device via WLAN*.
8. SD card slot	Slot for SD card
9. Belt clip	Attaches the recording unit to participant's belt
10. Battery compartment	Holds the Li-ion battery

^{*} Not available in the Tobii Pro Glasses 3 Live View Package



The Tobii Pro Glasses 3 system contains an external SD card reader for use with computers that are not equipped with an internal SD card reader. For installation instructions, see the documentation in the SD card reader's package or the manufacturer's website.

2.5 Pro Glasses 3 controller application

The Pro Glasses 3 controller application software is used to manage participants and recordings made using the recording unit. It can perform the following functions:

- Add participants
- Manage recordings
- Live view of ongoing recordings
- Instant replay of recordings
- One point calibration

2.6 Optional accessories and software

The following optional components can be added to the Tobii Pro Glasses 3 system. Learn more on tobii.com.

Component	Description
Corrective Lenses	Snap-on corrective lenses for Tobii Pro Glasses 3 used with people who wear prescription lenses. The Corrective Lenses accessory for Tobii Pro Glasses 3 is a set of attachable lenses to correct both nearsightedness and farsightedness. This accessory allows you to include a larger cross-section of the population in your research.
Protective Lenses	This accessory package contains two lenses, clear and tinted, to protect Tobii Pro Glasses 3 from damage in challenging situations and to support research in bright environments.
Motion Capture Marker Set	Combine Tobii Pro Glasses 3 with motion capture systems and study the links between attention and movement.

Optional software for Tobii Pro Glasses 3

Tobii Pro Lab ¹	Tobii Pro Lab is a comprehensive research software platform for eye tracking designed to meet the highest demands on different research scenarios with exact timing accuracy. This software offers an efficient workflow, making it easy to design experiments, record data, analyze and visualize eye tracking data, and to sync this data with other biometric data streams.
Third-party software	This term refers to any application built on Tobii Pro SDK.

 $^{{}^{1}\}text{Tobii Pro Lab may have different system requirements than Tobii Pro Glasses 3 controller application.}\\$

3 System requirements

3.1 Tobii Pro Glasses 3 controller application requirements

Operating System	Microsoft Windows	macOS	Android
Version	Windows 10 or 11	macOS 11 (Big Sur)	Android OS 11 or 12
Processor (CPU)	6th Generation Intel Core™ i5 (Dual core) or equivalent	6th Generation Intel Core i5 (Dual core) or equivalent	Snapdragon 835 or equivalent
Memory	8 GB RAM	8 GB RAM	4 GB RAM



Tobii Pro Lab and other software may have different requirements. Read more about Tobii Pro Lab.

4 Technical Specifications

4.1 Eye tracking

Eye tracking technique	Corneal reflection, dark pupil, stereo geometry
Binocular eye tracking	Yes
Sampling rate	50 Hz or 100 Hz
Calibration procedure	One point
Accuracy	0.6°
Parallax compensation tool	Automatic
Slippage compensation	Yes, 3D eye tracking model
Pupil measurement	Yes, absolute measure
Gaze recovery time	1 frame (immediate)
Blink recovery time	1 frame (immediate)

4.2 Head unit

Material	Grilamid plastic, stainless steel, optical grade plastic
Nose pad	Grilamid plastic, with clip on attachments
Scene camera, video resolution	1920 × 1080 at 25 fps
Scene camera, video format	H.264
Scene camera, field of view (diagonal)	106 deg. 16:9 format
Scene camera, field of view (horizontal and vertical)	95 deg. horizontal / 63 deg. vertical
Weight	76.5 grams including cable
Frame dimensions (width ×depth ×height)	153 ×168 ×51 mm
Cable length	1200 mm
Audio	16 bit mono, integrated microphone
Design characteristics	Light weight and discreet
Number of eye tracking sensors	4 sensors (2 per eye)
Fixed geometry	Yes
Sensors	ST™ LSM9DS1 sensors: Gyroscope and Accelerometer (sampled at 100Hz); Magnetometer: (sampled at 10 Hz)
Input voltage and current rating	5.5Vdc max, 0.5A

4.3 Recording unit

Battery recording time	105 min.
Battery type	Rechargeable 18650 Li-ion, Capacity: 3 400 mAh
Storage media	SD (SDXC, SDHC) card

Connectors	Micro USB, RJ45 (Ethernet), 3.5 mm jack (sync
	port), head unit connector
Dimensions (height x width x depth)	130 x 85 x 27 mm
Weight	312 grams
Sync Port	3.5 mm jack (TTL signal)

4.4 Corrective Lenses (optional)

Correction lenses	44 pieces, ranging from -8.0 dpt. to +3.0 dpt. in increments of 0.5 dpt. Made of optical-grade plastic with hard coating.
Dimensions (height x width x depth)	80 x 270 x 370 mm (complete kit)
Weight	1250 grams (complete kit)

5 Safety

5.1 General precautions



Use of Tobii Pro Glasses 3 is described in the Tobii Pro Glasses 3 User Manual and must be used according to the manufacturer's instructions. Connecting any other component to the system or using the components improperly can cause injury to the user or damage to the equipment and is entirely at the user's risk.



Tobii Pro Glasses 3 system must be fitted on the test participant according to instructions in the User Manual. Neither Tobii AB nor its agents are liable for damage or injuries to a person or their property due to a wearable eye tracker in any configuration being dropped. Fitting the glasses onto a test participant is entirely at the user's risk.



Tobii Pro Glasses 3 system is composed of several components as described in the User Manual and should be used according to manufacturer instructions. Connecting, or by other means using any other component than advised in the User Manual may damage or injure a person, their property, or recorded data, and is entirely at the user's risk.



The head unit is equipped with a head strap to mount the eye tracker onto the wearer's head. Neither Tobii AB nor its agents are liable for damages or injuries to a person, or their property caused by the head unit head strap.

5.2 Emergency



Tobii Pro Glasses 3 system is to be used for data collection purposes only. Due to the low, but possible risk of failure or distraction, the wearable eye tracker should not be relied upon or used in dangerous or otherwise critical situations.

5.3 Epilepsy warning



Some people with photosensitive epilepsy are susceptible to epileptic seizures or loss of consciousness when exposed to certain flashing lights or light patterns in everyday life. This may happen even if the person has no medical history of epilepsy or has never had any epileptic seizures.

A person with photosensitive epilepsy is likely to experience similar problems with TV screens, some arcade games, and flickering fluorescent bulbs. These people may have a seizure while watching certain images or patterns on a monitor, or even when exposed to the light sources of an eye tracker. It is estimated that about 3-5% of people with epilepsy have this type of photosensitive epilepsy. Many people with photosensitive epilepsy experience an "aura" or feel odd sensations before the seizure occurs. If the participant starts to feel odd during use, have them remove the head unit immediately.

5.4 Infrared warning



Do not use the system in the vicinity of devices that are susceptible to Infrared (IR) light. When activated, the head unit emits IR light, which can affect certain medical and other devices susceptible to disturbance by IR light and/or radiation.

5.5 Child safety



Tobii Pro Glasses 3 is an advanced system with electronic devices that are composed of numerous separate, assembled parts. In the hands of a child, some of these parts can become separated from the device, presenting a potential choking hazard or other danger to the child. Young children should neither have access to nor use the device without parental or guardian supervision.

5.6 Mechanical shock



The system is a delicate measuring instrument used for data collection purposes and should always be handled with care. To avoid breaking or damaging the internal electronic circuits, do not drop, knock, or shake the device. Eye tracking quality or accuracy can be seriously affected if the head or recording unit is dropped. If the eye tracker is exposed to mechanical shock, for example, when dropped, do not try to start it, or connect it to a power source. Contact Tobii Customer Care for instructions.

5.7 Bending



To avoid breaking or damaging the internal electronic circuits, do not bend any part of the eye tracking system. Eye tracking quality or accuracy can be seriously affected if the head or recording unit has been bent.

5.8 Do not open or disassemble



Do not open or disassemble the head or recording unit. Noncompliance will result in loss of warranty! There are no user-serviceable components inside. Contact Tobii Customer Care if your wearable eye tracker is not working properly.

5.9 Connectors



The head and recording units are equipped with several external interfaces (connectors). Connecting any other device or connector than those intended may cause personal injuries and/or damage the Tobii Pro Glasses 3 system. Neither Tobii AB nor its agents are liable for any damages or injuries to a person or their property owing to connecting unintended devices.

5.10 Head unit cable



The head unit cable connected to the head unit must only be used to connect to the recording unit. Do not use the head unit cable for any other purpose or for connecting to other devices. Neither Tobii AB nor its agents are liable for any damages or injuries to a person or property owing to incorrect use of the head unit cable.

5.11 Environment



Avoid exposure to direct sunlight as this will affect eye tracking quality and can cause the equipment to overheat. Avoid prolonged exposure to liquids, gels, moisture, rain, or sweat. Do not use the eye tracker underwater.



Do not place or use the equipment in places that are subject to extreme temperatures or humidity: such as on top of and or near a heating element, in a hot or damp room, or in a hot automobile. Operating temperature: 5°C to +45°C / 23°F to 113°F

5.12 Component connection safety



The recording unit is designed to connect to the heat unit and devices running Tobii Pro Glasses 3 controller application. The recording unit should not be connected to any other devices.

5.13 Battery safety



Only use batteries supplied by Tobii AB.



There is a risk of explosion if the battery is replaced by an incorrect type.



Replacement of a battery with an incorrect type can defeat safeguards (for example, in the case of some lithium battery types).



Disposal of a battery in a fire or a hot oven, or mechanically crushing or cutting of a battery can result in an explosion.

Attention!



Utilisez uniquement les piles fournies par Tobii AB.



Risque d'explosion en cas de remplacement de la pile par une pile de type incorrect.



Le remplacement d'une pile par une pile de type incorrect peut neutraliser un système de sécurité (par exemple dans le cas de certains types de piles au lithium).



La mise au rebut d'une pile dans le feu ou dans un four chaud, ou par écrasement ou découpe, peut entraîner une explosion.



L'exposition d'une pile à un environnement présentant une température extrêmement élevée peut entraîner une explosion ou une fuite de liquide ou de gaz inflammable.



L'exposition d'une pile à une pression d'air extrêmement faible peut entraîner une explosion ou une fuite de liquide ou de gaz inflammable.

5.14 Wireless warning



The recording unit contains radio transmitters and receivers (WLAN). Ensure that it is placed as far as possible from any equipment, objects, or body parts sensitive to such signals.

電波法により5GHz帯は屋内使用に限ります。

5.15 Transportation

Use the provided case when traveling with the eye tracker. For shipping and storage, use the original packing.

For transportation, the recommended range for temperature and humidity for the device is as follows:

- Temperature: -40°C to 65°C (-40°F to 149°F)
- Humidity: 5% to 95%
 ETSI 300 019-2-2 V2.4.1, T2.3 (Public transportation) with exception of high air temperature at +65°C.

5.16 Accessories



Only use accessories provided by or approved by Tobii AB.

5.17 Cleaning



Avoid touching, scratching, or smudging the lenses on the head unit and/or the Corrective Lenses (optional accessory) and keep all surfaces clean. Eye tracking quality may degrade when surfaces are dusty or damaged. Take special care that no smudges or scratches cover the illuminators or sensors in the lenses as this can impair performance.



Do not use window cleaners, household cleaners, aerosol sprays, solvents, alcohol, ammonia, or abrasives on any component of the Tobii Pro Glasses 3 system.



Before cleaning the Tobii Pro Glasses 3 system, unplug the head unit cable.



Use the included cleaning cloth to clean the glass lenses gently.



Avoid getting moisture in openings and ports on the device.

5.18 California Proposition 65 warnings



WARNING: The batteries in this product can expose you to chemicals including Carbon-Black Extracts and Nickel (Metallic), which is known to the State of California to cause cancer. For more information, visit P65Warnings.ca.gov.



WARNING: The recording unit in this product can expose you to chemicals including Carbon-Black Extracts and Nickel (Metallic), which is known to the State of California to cause cancer. For more information, visit P65Warnings.ca.gov.



WARNING: The USB-C to Gigabit Ethernet Adapter in this product can expose you to chemicals including Lead and Bisphenol A (BPA), which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit P65Warnings.ca.gov.

6 Compliance information

6.1 EU Compliance

6.1.1 CE statement

(€

Tobii Pro Glasses 3 is CE-marked, certifying compliance with the essential requirements for health, safety, and environmental protection requirements for the European Single Market. Tobii Pro Glasses 3 complies with the following directives:

- 2014/53/EU (RED) Radio Equipment Directive (wireless model).
- 2014/35/EU (LVD) Low Voltage Directive (wired model).
- 2014/30/EU (EMC) Electromagnetic Compatibility Directive (wired model).
- 2011/65/EU (RoHS) Restriction of Hazardous Substances Directive.

6.1.2 Other EU directives and regulations

Tobii AB and Tobii Pro Glasses 3 comply with the essential requirements of the following EU directives and regulations:

- 2012/19/EU (WEEE) Waste Electrical and Electronic Equipment Directive.
- 1907/2006 EC (REACH) Registration, Evaluation, Authorization and Restriction of Chemicals.
- 2006/66/EC –Batteries and accumulators and waste batteries and accumulators directive.

Tobii AB complies with applicable parts of the Directive 94/62/EC on packaging and packaging waste.

Manufacturer Contact Information Tobii AB Karlsrovägen 2D S-182 53 Danderyd, Sweden

6.2 UKCA Statement



Tobii Pro Glasses 3 is UKCA-marked, certifying compliance with the essential requirements for health, safety, and environmental protection requirements for the GB market. Tobii Pro Glasses 3 complies with the following statutory instruments:

- The Radio Equipment Regulations 2017. UK Statutory Instruments 2017 No. 1206 (wireless model).
- The Electrical Equipment (Safety) Regulations 2016. UK Statutory Instruments 2016 No. 1101 (wired model).

- The Electromagnetic Compatibility Regulations 2016. UK Statutory Instruments 2016 No. 1091 (wired model).
- The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012. UK Statutory Instruments 2012 No. 3032.

6.2.1 Other UK Legislation

Tobii AB and Tobii Pro Glasses 3 comply with the essential requirements of the UK regulations regarding WEEE, REACH, packaging and packaging waste, batteries/accumulators, and waste batteries/accumulators.

UK Importer Contact Information
Tobii UK Limited
1st Floor, Advantage House, 87 Castle Street
RG1 7SN Reading, United Kingdom

6.3 FCC interference statement

6.3.1 RF information



Tobii Pro Glasses 3 makes use of the radio spectrum and emits radio frequency energy. 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.
- 2. This device must accept any interference received, including interference that may cause undesired operation.

FCC ID: W5M-DMSSE07

6.3.2 Class B Digital Device Notice

Tobii Pro Glasses 3 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. Tobii Pro Glasses 3 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 Tobii Pro Glasses 3 does cause harmful interference to radio or television reception, which can be determined by turning Tobii Pro Glasses 3 off and on, the user is encouraged to try to correct the interference using one or more of the following measures:

- · Reorient or relocate the receiving antenna.
- Increase the separation between Tobii Pro Glasses 3 and receiver.
- Connect Tobii Pro Glasses 3 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.

Modifications not expressly approved by Tobii AB could void the user's authority to operate Tobii Pro Glasses 3 under FCC rules.

U.S. Responsible Party Contact Information Tobii Technology, Inc. 12007 Sunrise Valley Dr # 400, Reston VA 20191, USA

6.4 ISED statement

Tobii Pro Glasses 3 complies with Canadian RSS standards.

IC ID: 8099A-DMSSE07

6.5 NRTL listed



Tobii Pro Glasses 3 head unit is ETL Listed. Control number 5001591.



Tobii Pro Glasses 3 recording unit is UL listed. Certification number E180881.

6.6 Australia and New Zealand compliance



Tobii Pro Glasses 3 is registered in the Australian National Equipment Registration System.

Tobii Pro Glasses 3 is RCM-marked which signifies compliance with the Australian and New Zealand product safety requirement for electrical and electronic equipment according to EESS and radio communication and electromagnetic compatibility according to ACMA.

6.7 Japan compliance

Tobii Pro Glasses 3 is VCCI-marked which signifies Tobii Pro Glasses 3 is compliant with emission (interference) standards in Japan.



この装置は、クラスB機器です。この装置は、住宅環境で使用することを目的 としていますが、この装置がラジオやテレビジョン受信機に近接して使用され ると、受信障害を引き起こすことがあります。

取扱説明書に従って正しい取り扱いをして下さい。

VCCI - B

Tobii Pro Glasses 3 complies with the Technical Regulations Conformity Certification of Specified Radio Equipment under the Radio Act of Japan.



6.8 Korea compliance



Tobii Pro Glasses 3 is KC-marked which signifies compliance with Korea's product safety requirements for electrical and electronic equipment.

Certificate numbers:

R-R-Tbp-12007762

R-CMM-T5B-Glasses2RU

6.9 Safety compliance

Tobii Pro Glasses 3 complies with the following standards:

- EN IEC 62471:2008, Photobiological safety of lamps and lamp systems.
- EN IEC 62368-1:2014 +A11, Audio/video, information, and communication technology equipment - Part 1: Safety requirements.

Including national deviations for Australia, New Zealand, and Japan

- CAN/CSA C22.2 No. 62368-1-14 Second Edition, UL 62368-1 Second Edition, Audio/video, information, and communication technology equipment - Part 1: Safety requirements.
- GB 4943.1-2011, Information technology equipment -Safety Part 1: General requirements.
- EN IEC 62133-2:2017, Secondary cells and batteries containing alkaline or other non-acid electrolytes - Safety requirements for portable sealed secondary lithium cells, and for batteries made from them, for use in portable applications - Part 2: Lithium systems.

6.10 EMC compliance

Tobii Pro Glasses 3 complies with the following standards:

- EN 55032:2015/A11, Electromagnetic compatibility of multimedia equipment. Emission requirements.
- EN 55035:2017/A11, Electromagnetic compatibility of multimedia equipment. Immunity requirements.
- FCC 47 CFR Part 15.
- ICES-003 Issue 7 Class B, Information Technology Equipment (including Digital Apparatus).
- CISPR32:2015, Electromagnetic compatibility of multimedia equipment Emission requirements (International standard accepted in AS/NZS and Japan).
- KN32, Electromagnetic interference prevention test for multimedia equipment.
- KN35, Electromagnetic wave immunity test for multimedia devices.
- EN 61000-3-2:2014, Electromagnetic compatibility (EMC) Part 3-2: Limits Limits for harmonic current emissions (equipment input current ≤ 16 A per phase).
- EN 61000-3-3:2013, Electromagnetic compatibility (EMC) Part 3-3: Limits Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current ≤ 16 A per phase and not subject to conditional connection.
- ESTI EN 301 489-1 V1.9.2, Electromagnetic Compatibility (EMC) standard for radio equipment and services; Part 1: Common technical requirements; Harmonised Standard for ElectroMagnetic Compatibility.

6.11 Radio frequency emission and SAR compliance (wireless model)

Tobii Pro Glasses 3 (wireless model) complies with the following standards:

- ETSI EN 300 328 V.2.2.2, Wideband transmission systems; Data transmission equipment operating in the 2,4 GHz band; Harmonised Standard for access to radio spectrum.
- ETSI EN 301 893 V 2.1.1, 5 GHz RLAN; Harmonised Standard covering the essential requirements of article 3.2 of Directive 2014/53/EU.
- EN 62311:2008, Assessment of electronic and electrical equipment related to human exposure restrictions for electromagnetic fields (0 Hz to 300 GHz).
- EN 62209-2:2010, Human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices Human models, instrumentation, and procedures Part 2: Procedure to determine the specific absorption rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz).
- EN 50566:2017, Product standard to demonstrate the compliance of wireless communication devices with the basic restrictions and exposure limit values related to human exposure to electromagnetic fields in the frequency range from 30 MHz to 6 GHz: handheld and body mounted devices in close proximity to the human body.

6.12 RoHS compliance

RoHS compliance for Tobii Pro Glasses 3 is achieved by following the standard:

EN IEC 63000: 2018, Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances.

6.13 Waste disposal and recycling

Tobii AB is committed to reducing the environmental impact of our products throughout their life-cycle, from manufacturing to use and disposal. We are a member of various compliance schemes for collection, recycling and re-using of electronic waste, batteries, and packaging of our products.



Tobii Pro Glasses 3 is marked with the crossed-out wheeled bin symbol, which indicates that it must not be disposed of with household waste. You can return your used Tobii Pro Glasses 3 to one of the municipality's recycling centers free of charge.

Please remove any batteries before recycling your product. We have partnered with local organizations within the European Union to finance recycling of batteries. You can return your old batteries in your nearest recycling station or at collection points.

For more information about the WEEE directive and recycling at Tobii AB, please visit: https://www.tobii.com/group/sustainability/Run-our-business

Or



7 Product care

7.1 Operational environment

The recommended range for temperature and humidity during operations is as follows:

- Temperature: -5°C to 45°C (32°F to 113°F)
- Humidity: 5% to 95%
 ETSI 300 019-2-7 V3.0.1, Portable T7.2 (Partly temperature-controlled locations).

7.2 Transportation

Use the provided case when traveling with the eye tracker. For shipping and storage, use the original packing.

For transportation, the recommended range for temperature and humidity for the device is as follows:

- Temperature: -40°C to 65°C (-40°F to 149°F)
- Humidity: 5% to 95%
 ETSI 300 019-2-2 V2.4.1, T2.3 (Public transportation) with exception of high air temperature at +65°C.

7.3 Storage

For shipping and storage, use the original packing.

For storage, the recommended range for temperature and humidity for the device is as follows:

- Temperature: -25°C to 55°C (-13°F to 131°F)
- Humidity: 5% to 100%
 ETSI 300 019-2-1 V2.3.1, T 1.2 (Weather protected, not temperature-controlled storage locations).

7.4 Cleaning



Avoid touching, scratching, or smudging the lenses on the head unit and/or the Corrective Lenses (optional accessory) and keep all surfaces clean. Eye tracking quality may degrade when surfaces are dusty or damaged. Take special care that no smudges or scratches cover the illuminators or sensors in the lenses as this can impair performance.



Do not use window cleaners, household cleaners, aerosol sprays, solvents, alcohol, ammonia, or abrasives on any component of the Tobii Pro Glasses 3 system.



Before cleaning the Tobii Pro Glasses 3 system, unplug the head unit cable.



Use the included cleaning cloth to clean the glass lenses gently.



Avoid getting moisture in openings and ports on the device.

7.5 Disposal of the eye tracker



Do not dispose of Pro Glasses 3 in general household or office waste. Follow your local regulations for disposal of electronic equipment.

Appendix A Customer Care, training, and warranty

A1 Customer care

For technical issues, please contact Tobii Customer Care at <u>connect.tobii.com</u>. To receive assistance as quickly as possible, make sure you have access to your eye tracker and, if possible, to an internet connection. You should also be able to supply the serial number of the eye tracker, which you can find on the back or bottom of the device.

A1.1 Get help

Many questions can be answered by visiting Tobii Connect. It contains the latest information about contacting Customer Care, helpful articles and FAQs, links to downloads, and much more. Log in or register to see information about your account and to reach Customer Care on Tobii Connect.

A2 Training and education services

If you are new to eye tracking, or want to extend your knowledge about eye tracking research, sign up for one of our online sessions, onsite trainings, Tobii Academy, and more on <u>Training and education services</u>.

A3 Warranty information

Read more online about Tobii limited warranty and Tobii Care (PDF download).

Appendix B Limitations and considerations

B1 Intended use

Tobii Pro eye trackers are intended to be used in research activities about human behavior including eye movements, in a dry and dust free indoor environment. The product should only be used as described in this User Manual. Please read the User Manual and other supplied documentation thoroughly before using the product.

B2 Light conditions

We recommend that eye tracking studies be performed in a controlled environment. Sunlight should be avoided since it contains high levels of infrared light which will interfere with the eye tracker system. Sunlight affects eye tracking performance severely and longer exposure can overheat the eye tracker. This eye tracker is not designed for exposure to (direct) sunlight. Eye tracking generally does not work in strong direct sunlight.

Shielding the eye tracker adequately from the sun may prevent sunlight from interfering with eye tracking.

B3 Eyelashes

Long eyelashes can be obstructive when the participant's eyes are less open, especially if the participant is wearing mascara. In rare cases, eyelashes may completely block the view of the participant's pupils, making eye tracking impossible.

B4 Droopy eyelids

Droopy eyelids or otherwise obstructive eyelids can block the view of the participant's pupils. In rare cases, such eyelids may completely block the view of the participant's pupils, making eye tracking impossible.



Copyright ©Tobii AB (publ). Not all products and services offered in each local market. Specifications are subject to change without prior notice. All trademarks are the property of their respective owners.

Support for your Tobii product

Get help

Visit Tobii Connect for help with your Tobii device. It contains the latest information about contacting Customer Care, documentation, courses, articles, and more.

Contact your solution consultant or reseller

For questions or issues with your product, contact your Tobii sales representative or authorized reseller for assistance. They are most familiar with your personal setup and can help you with tips and product training.