

Starstim[®]-Home technical specifications

DEVICE	Starstim-Home tES-EEG	Starstim-Home tES
Number of channels	8 Channels	
Communication	WPA2PSK-Encrypted Wi-Fi IEEE 802.11 g	
Rechargeable system using Li-Ion battery	✓	✓
Device dimensions	89.1 mm x 61.1 mm x 23.8 mm	
Device weight	86 g	
Operating time (WiFi communication)	4.5 hours (combined tDCS-EEG)	4.5 hours (8-channel tDCS)

DEVICE tES SPECIFICATIONS

Sampling rate	1000 S/s	
Frequency range	0 to 250 Hz (tACS) and 0 to 500 Hz (tRNS)	
Configurable bandpass filter for tRNS	✓	✓
Available stimulation techniques	tDCS, tACS, tRNS, custom waveforms, temporal interference	
Parameterizable sham protocols	✓	✓
Maximum current per channel	± 2mA	
Max total injected current (by all electrodes, any time)	4mA	
Current accuracy	1%	
Current resolution	1 µA	
Current configurable independently for each channel	✓	✓
Configurable Ramp-up and Ramp-down times	✓	✓
Voltage	± 15 V per electrode (30 V potential difference)	

DEVICE EEG SPECIFICATIONS

Bandwidth	0 to 125 Hz (DC coupled)	—
Sampling rate	500 S/s	—
Dynamic range	24 bits – 0,05 microvolt (µV)	—
Measurement Noise	< 1 µV RMS	—
Input impedance	>1 GΩ	—
CMRR	-115 dB	—

DEVICE ACCELEROMETER SPECIFICATIONS

Axes number	3	—
Sampling rate	100 S/s	—

HOME TABLET

Model	Microsoft Surface Go
Storage	64 GB eMMC Flash
Display	10 inch 3:2
Memory	4096 MB
Weight	523 g
Operating system	Microsoft Windows 10
Data communication	End-to-end encrypted, with researcher software via WiFi card, with the device via USB-C WiFi dongle

HOME TABLET SOFTWARE

Mandatory impedance pre-check and continuous monitoring	✓	✓
Mandatory EEG quality pre-check and continuous monitoring	✓	—
Abort functionality	Abort button, auto-abort on disconnection / high impedances	
Mandatory pre-session treatment schedule synchronization	✓	✓
Session access only upon schedule	✓	✓
Device setup and maintenance instruction steps	✓	✓

RESEARCHER SOFTWARE

Web-based treatment schedule and compliance monitoring dashboard	✓	✓
Real-time email notifications on treatment events	✓	✓
Secure storage of treatment events, impedances, questionnaires	Yes (5-year storage license included)	
Custom bipolar, high-definition, 4x1 or multi-channel montage design	✓	✓
Optimized Stimweaver montages import	✓	✓
Advanced Visualization of tES Field Distribution	✓	✓
Multi-step tES-EEG protocols	✓	—
EEG file output	Proprietary NEDF 24-bit file format	—
Offline EEG analysis	MatLab (EEGLAB Plugin), Python (NEPy library)	—

HEADSET

Available headcaps	6 sizes: 42/46/49/54/57/60cm
Custom montages	Headcaps available with 39 or 64 of 10-10 EEG system positions

Starstim[®]-Home product content

Starstim-Home tES-EEG	Starstim-Home tES
1 x Starstim-Home tES-EEG NECBOX	1 x Starstim-Home tES NECBOX
1 x Home tablet	1 x Home tablet
1 x Home Neoprene Headcap Size M *	1 x Home Neoprene Headcap Size M *
8 x NG Pistim	8 x NG Pistim
4 x Sponstim 25 **	4 x Sponstim 25 **
1 x Earclip	1 x Earclip
1 x 10 Electrode cable color-coded	1 x 10 Electrode cable color-coded
1 x Saline solution 100 ml	1 x Saline solution 100 ml
1 x Electrode gel 250 g	1 x Electrode gel 250 g
2 x Curved syringe	2 x Curved syringe
1 x USB wifi dongle & USB-C to USB adapter	1 x USB wifi dongle & USB-C to USB adapter
1 x Wifi devices power adapter	1 x Wifi devices power adapter
1 x Portal: free institutional account credentials	1 x Portal: free institutional account credentials
1 x Starstim-Home tES-EEG cloud data storage: 5-year license	1 x Starstim-Home tES cloud data storage: 5-year license
1 x USB Stick with manuals & NIC2	1 x USB Stick with manuals & NIC2
1 x Neoprene punch tool	1 x Neoprene punch tool
1 x Headcap positions coloring kit	1 x Headcap positions coloring kit
1 x Testboard head & Cable	1 x Testboard head & Cable

* 6 Headcap sizes available, upon additional request.

** cm²