

Сравнение беспроводных ЭЭГ нейроинтерфейсов

	SmartBCI MITSAR <i>Russia</i>	Versatile EEG Bitbrain <i>Spain</i>	Enobio Neuroelectrics <i>Spain</i>	LiveAm`p Brain Products <i>Germany</i>	B-AlertX24 Advanced Brain Monitoring <i>USA</i>	g.Nautilus-PRO g.Tec <i>Austria</i>	Quick-Dry Cognionics <i>USA</i>	DSI 24 Wearable Sensing <i>USA</i>
Number of channels	24/32	16/32	20/32	16/32	24	16/32	24/30	24
Accelerometer	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
On line impedance check	Real-time with EEG acquisition	Relative contact impedance	Real-time with EEG	Yes	Yes (Initiated by host computer using bi-directional link)	Yes (Performed with 10 Hz)	Real-time with EEG acquisition	No
ADC,bit	24 bit	24 bit	24 bit	24 bit	24 bit	24 bit	24 bit	16 bit
Input range	±350 mV	±100 mV	-	±341 mV	-	±187,5 mV	-	±10 mV
Input noise	≤1,5 μV p-p	≤1,0 μV RMS	≤4,0 μV p-p	≤2,0 μV p-p	2,0-3,0 μV p-p	≤4,0 μV p-p	≤4,0 μV p-p	≤3,0 μV p-p
Frequency range	DC(0)-70 Hz	DC(0)-70 Hz	DC(0)-70 Hz	DC(0)-70 Hz	0,1-100 Hz	DC(0)-200 Hz	DC(0)-131 Hz	0,03-150 Hz
Hardware sampling rate	2000 Hz filtered down 250 Hz	256 Hz	500 Hz	100/500/250 Hz	256 Hz	500/250 Hz	500/1000 Hz	300 Hz
Onboard storage	Up to 32Gb	Micro SD up to 8Gb	Micro SD	Micro SD up to 32Gb	No	No	Micro SD	No
Communication	Bluetooth 2.1 +EDR	Bluetooth 2.1 +EDR	Bluetooth	Bluetooth 4.0	Bluetooth	Bluetooth	Bluetooth	Bluetooth
Wireless range	≥ 10m	≥ 10m	≥ 10m	≥ 10m	≥ 10m	≥ 10m	≥ 10m	≥ 10m
Internal power	Built-in Li-poly	Built-in Li-poly	Built-in Li-ion	Built-in	2 x Li-ION	Built-in Li-ion	Dual, hot-	

	battery	battery	battery	rechargeable battery	batteries	battery	swappable, removable Lithium-Ion	
Uninterrupted operating time	Up to 20 hours (wireless) Up to 24 hours (SD-card)	Up to 8 hours (wireless)	Up to 14 hours	Up to 3 hours (wireless) Up to 4,5 hours (SD-card)	Up to 6 hours (wireless) Up to 16 hours (SD-card)	Up to 10 hours	Up to 8 hours (wireless) Up to 16 hours (SD-card)	-
Electrodes	Wet (MKSCap, Waveguard, disk), Grid/Strip/ Dry (SmartDRY)	Semi-dry	Wet/Dry	Wet/Dry	Dry	Active, wet and dry	Dry	Dry
Triggering	Wireless (4 x digital input, 1 x optical trigger)	Yes (1 x digital input, 1 x optical trigger)	No	Yes (built-in)	Optional	Optional	Wireless	Yes
Photo-Phono stimulator	Smart Synchro (glass MitsarPhoto, built in phono)	No	No	No	No	No	No	No
Weight	70 g	290/450 g (complete)	65 g	60 g	110 g	200 g	530 g (with dry electrodes)	600 g (with dry electrodes)
Dimensions	65 x 55 x 18 mm	-	65 x 85 x 20 mm	83 x 51 x 14 mm	5"(L) x 2.25" (W) x 1" (H)	80 (L) x 60 (W) x 27 (H) mm	-	-
Medically certified	CE	-	CE/FDA	No	No	CE/FDA	No	No
Software	Video-EEG, Ambulatory EEG, iEEG, StereoEEG, EEG trends, EEG	LSL, real time SDK. Compatible with MATLAB/EEGLAB, LSL, BCI2000,	NIC (controls all Enobio EEG), NUBE (cloud management system),	Brain Vision software	Persyst® and other recognized software Performs full		Compatible with MATLAB/EEGLAB, Lab Streaming Layer,	

	neurobiofeedback, qEEG&ERP, real time LSL, SDK. Compatible with MATLAB, BESA, iMotions, NeuroGuide®, Persyst®	BESA, Mensia, NeuroGuide®	MatNIC (Matlab toolkit), Neurosurfer (neurofeedback applications)		functionality within NeuroGuide® Software Developers' Kit (SDK)		Neuropype, BCI2000, OpenViBE, Brain Vision Analyzer, Mensia, and Neuroguide	
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