



INDIAN INSTITUTE OF TECHNOLOGY BOMBAY
MATERIALS MANAGEMENT DIVISION
Powai, Mumbai - 400076

PR No. 100035813

Rfx No. 610001580

Technical Specification for Electro Physiology (EP) System (Qty-1)

Sr. No		Compliance (Yes/No)
1	Should be an 8-channel device capable of Wireless transmission of data to PC and should be capable of storing data internally on SD Card and hard disk.	
2	Should be expandable to 64 channel system EEG with 8 Auxiliary channels for peripheral signal recordings.	
3	Should have Built-in TTL Trigger input	
4	Should be able to store data on an exchangeable SD-Card and hard disk.	
5	Should be compatible with all the electrode types: passive, active, active dry and Water Based Net Cap	
6	Features: 6.1 Sampling rate: 1000 Hz 6.2 Range: up to 30 metres 6.3 A/D conversion: 24 bit 6.4 Operating range: ± 341.6 mV 6.5 Resolution: 40.7 nV / bit 6.6 Noise: less than 2 μ V pp from 0.01–65 Hz 6.7 CMRR: more than 80 dB at 50/60 Hz 6.8 Should have Built-in 3-axis accelerometer 6.9 Should have Uninterrupted recording time: 4.5 hours 6.10 Must have built in rechargeable battery 6.11 Weight: less than 60 grams	
7	Should be offered with Windows-based Recording Software, from the same manufacturer with the below features: 7.1 Recording software offering a step-by-step wizard-based workspace setup. 7.2 Should allow easy channel-by-channel impedance check with adjustable threshold values. 7.3 Should show impedance in a headmap with color coding and as values. 7.4 Should allow changing of the display timeline for the data being acquired. 7.5 Should do basic online ERP calculation and display during data acquisition if event markers are present in the data. 7.6 Data from AUX sensors (if present) should be recorded in sync with EEG. 7.7 Should allow selection of channels and sampling rate for recording. 7.8 Real-time data streaming via TCP/IP network protocol. 7.9 Should include some remote data access clients to receive streaming data (in MATLAB and Python).	



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	<p>7.10 Ability to set data viewing and recording filters. 7.11 Set and display various EEG channel montages (original, bipolar, and average). 7.12 Should show any event markers received by the amplifier. 7.13 Should allow addition of manual annotations to mark events.</p>	
8	<p>Vendors should include a Perpetual licence for recording software with the device and should offer Perpetual support for any issue with software/hardware related issues</p>	
9	<p>Should be supplied with 32 active gel-based electrodes, high-quality Ag/AgCl sensors with impedance conversion at electrode level leading to much lower noise levels compared to conventional passive electrodes and one fabric pcs.</p>	
10	<p>Should be able to work on high impedances while maintaining high quality acquisition for longer durations.</p>	
11	<p>Electrodes should have a wide port to apply Gel. Should offer impedance measurement display on the electrodes itself by colour coding for quick identification of each electrode for improving and adjusting the recording, and for high-quality source localization.</p>	
12	<p>The electrodes should be removable from the Caps, so that the Caps could be replaced without replacing the electrodes.</p>	
13	<p>The caps should be easy to configure EEG montages, or with source and detectors of fNIRS to measure anywhere/ whole head, independently or concurrently with fNIRS or any other modality within a single cap.</p>	
14	<p>The system should be research-grade CE Certified.</p>	
16	<p>Warranty : One year from the date of acceptance and installation.</p>	