ECG Device Procurement Request

This document outlines the general specifications for the ECG device to be procured using the approved grant. The selected system should ensure accurate electrocardiographic monitoring and analysis for clinical or research use.

General Specifications for ECG Device

QTY=1

- Lead System and Acquisition:
  - At least 12-lead ECG recording system.
  - Simultaneous acquisition of all leads.
  - Support for standard limb and chest electrode placements.
- Signal Quality and Performance:
  - High signal accuracy and stability.
  - Frequency response: at least 0.05 – 150 Hz.
  - Input impedance: ≥ 50 MΩ.
  - CMRR: ≥ 100 dB.
  - A/D conversion: ≥ 12 bits.
  - Sampling rate: ≥ 1000 samples/second/channel.
- Display and Interface:
  - Color LCD screen with waveform display.
  - Touchscreen or button navigation.
  - Real-time waveform preview.
- Data Storage and Communication:
  - Internal memory for ECG record storage.
  - USB and SD card support for data transfer and storage.
  - Capability for data export in standard formats (e.g., PDF, TXT, CSV, etc.).
- Connectivity and Data Transfer:
  - Wireless transmission of ECG signals to PC (via wireless or Bluetooth).
  - USB interface for wired communication and charging.
- Printing Capabilities:
  - Built-in printer.
  - Support for multi-channel ECG printing (3, 6, or 12 channels per page).
- Portability and Power:
  - Lightweight and portable design.
  - Rechargeable battery and AC power supply.

- Safety and Certifications:
  - Compliant with medical safety standards.
  - CE and/or FDA approved or equivalent certifications.
- Additional Features (if available):
  - AI compatible tool or software

EEG Device Procurement Request

This document outlines the general specifications for the EEG device to be procured using the approved grant. The selected system should meet the requirements for both research and clinical applications, ensuring accurate, reliable, and portable EEG data acquisition.

General Specifications for EEG Device

QTY=1

- Channels and Signal Acquisition:
  - Minimum of ***24 channels***, supporting standard 10-20 EEG system electrode placement.
  - Capability for simultaneous multi-channel acquisition.
  - High signal fidelity with low noise and high CMRR (Common Mode Rejection Ratio).
- Amplifier & Hardware:
  - High-performance differential amplifier.
  - Sampling rate: ≥ 1000 Hz per channel.
  - Input impedance: ≥ 100 MΩ.
  - Bandwidth: at least 0.5–70 Hz (adjustable filters).
  - Resolution: ≥ 16 bits.
- Connectivity and Data Transfer:
  - Wireless transmission of EEG signals to PC (via wireless or Bluetooth).
  - USB interface for wired communication and charging.
- Electrode System:
  - Reusable or disposable electrodes.
  - Electrode cap or headgear supporting 10-20 international placement system.
- Software Capabilities:
  - Real-time EEG signal display and monitoring.
  - Includes EEG recording and analysis software.
  - Supports time-frequency analysis, brain mapping, and event-related potential (ERP) features.
  - Capability for data export in standard formats (e.g., PDF, TXT, CSV, etc.).
- Portability and Power:
  - Compact and portable design for easy use in clinical or research settings.

- Powered via USB and Rechargeable battery with long operating time (at least 6–8 hours continuous use).

- Safety and Certifications:
  - Compliant with medical device safety standards.
  - CE and/or FDA approved or equivalent certifications.
- Additional Features (if available):
  - AI compatible tool or software

EMG Device Procurement Request

This document outlines the general specifications for the EMG device to be procured using the approved grant. The selected system should meet the technical and clinical requirements for precise electromyographic signal acquisition and analysis.

General Specifications for EMG Device

QTY=1

- Channels and Signal Acquisition:
  - At least ***4 channels*** for simultaneous EMG signal acquisition.
  - High signal accuracy with minimal noise.
  - Input impedance: ≥ 10 MΩ.
  - CMRR: ≥ 90 dB.
  - Bandwidth: at least 10 Hz to 500 Hz.
- Sampling and Resolution:
  - Sampling rate: ≥ 1000 Hz per channel.
  - A/D resolution: ≥ 12 bits.
- Connectivity and Data Transfer:
  - USB interface for data communication with PC.
  - Real-time signal transmission and display.
  - Wireless transmission of EMG signals to PC (via wireless or Bluetooth).
- Electrode System:
  - Compatible with surface EMG electrodes
  - Disposable or reusable electrodes.
  - Includes appropriate cables, leads, and connectors.
- Software Capabilities:
  - Real-time EMG signal display and monitoring.
  - Data recording and analysis tools.
  - Signal filtering and artifact rejection.
  - Data export in standard formats (e.g., PDF, CSV, TXT).

Portability and Power:
- Lightweight and compact design for portability.
- Powered via USB and Rechargeable battery with long operating time (at least 6–8 hours continuous use).

- Safety and Certifications:
  - Compliant with medical safety standards.
  - CE and/or FDA approved or equivalent certification.
- Additional Features (if available):
  - AI compatible tool or software

General Specifications for Tablet
QTY =1

1. Operating System:
- **Windows 11 Pro** (preferred)
- Alternatively: **Android 12 or higher**

2. Processor (CPU):
- Minimum: **Intel Core i3 (8th Gen or newer)** or **Qualcomm Snapdragon 6-series**

3. RAM:
- Minimum: **6 GB**

4. Storage:
- Minimum: **256 GB SSD**

5. Display:
- Size: **11–13 inches**
- Resolution: **Full HD (1920x1080) or higher**
- Touchscreen with **multi-touch support**
- Anti-glare and high-brightness screen for field use

6. Ports and Connectivity:
- At least **1–2 USB 3.0/3.1 Type-A or Type-C ports** (for connecting acquisition devices)
- **Bluetooth 5.0+** and **Wi-Fi 6** for wireless data transmission
- Optional: **HDMI or micro-HDMI** output for external display

7. Battery and Power:
- Battery life: **minimum 8 hours**
- Fast charging support
- Power-efficient operation for long field sessions

8. Build and Durability:
- Lightweight and **portable** (≤ 1.5 kg)
- Rugged or **protective case** recommended
- Shock-resistant if used in mobile labs or outdoor settings

10. Accessories (if needed):
- **Keyboard dock** or detachable keyboard
- **Stylus pen** for annotation
- **Screen protector** and rugged case

1. **المستشعرات الحيوية:**

▪ HR sensor (مستشعر معدل ضربات القلب)	QTY=4
▪ SPO2 sensor (مستشعر تشبع الأكسجين)	QTY=2
▪ Temperature sensor (مستشعر درجة الحرارة)	QTY=4
▪ Blood pressure sensor (مستشعر ضغط الدم)	QTY=2
▪ Glucose levels sensor (مستشعر مستويات الجلوكوز)	QTY=2
▪ Hydration levels sensor (مستشعر مستويات الترطيب)	QTY=1
▪ Activity levels sensor (مستشعر مستويات النشاط)	QTY=1
▪ Sleep patterns sensor (مستشعر نمط النوم)	QTY=1
▪ Respiratory rate sensor (مستشعر معدل التنفس)	QTY=1

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Other Items/العناصر الأخرى

LORA modules,
Bluetooth modules,
IoT tools,
Microcontrollers such as Raspberry pi, Arduino, and user friendly interface

- Total QTY=12 / 3 for each .