

Polysomnography (PSG) Sensor Kit

1. General Requirements

1. The PSG Sensor Kit shall be compatible with standard clinical and research polysomnography systems.
2. The system shall comply with the latest guidelines of the American Academy of Sleep Medicine (AASM).
3. The kit shall be suitable for adult and pediatric sleep studies.

2. Respiratory Sensors

2.1 Airflow Sensor

- Type: Nasal pressure cannula and/or thermistor
- Single-use preferred
- Measurement range: 0–100 L/min

2.2 Thoracic & Abdominal Effort Belts

- Type: Respiratory Inductive Plethysmography (RIP)
- Adjustable elastic belts
- Adult and pediatric sizes available
- Washable and reusable

3. Snore Sensor

- Type: Microphone-based or pressure-based
- Frequency range: Suitable for snoring detection (20–300 Hz)
- Compatible connector

4. Technical Performance Requirements

| Parameter | Requirement |
|--------------------|----------------------------------|
| Input Impedance | $\geq 100 \text{ M}\Omega$ |
| CMRR | $\geq 100 \text{ dB}$ |
| System Noise | $\leq 2 \text{ }\mu\text{V RMS}$ |
| Sampling Support | $\geq 200 \text{ Hz (EEG)}$ |
| Frequency Response | 0.1 – 50 Hz (EEG standard sleep) |