# **Individual Sleep Analysis Report**

## Subject ID: 2 | Healthy Control Study

Analysis Date: August 16, 2025 | Nights Analyzed: 2 | Report Generated by: Sleep-EDF Analysis System

## **Subject Information**

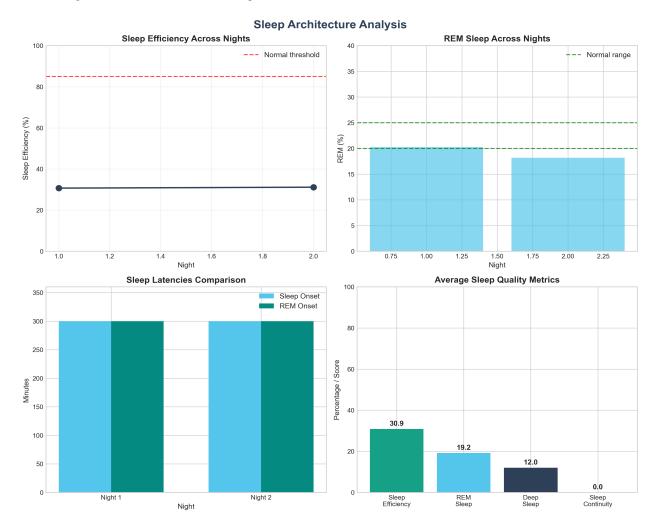
| Subject ID       | 2                |
|------------------|------------------|
| Age              | 26 years         |
| Sex              | F                |
| Study Type       | Healthy Controls |
| Number of Nights | 2                |
| Recording Dates  | Multiple nights  |

## **Executive Summary**

This report presents a comprehensive analysis of 2 night polysomnographic recordings for Subject 2, a 26-year-old F participant from the Sleep Cassette (healthy controls) study under nan condition.

| Metric                 | Value     | Clinical Interpretation |
|------------------------|-----------|-------------------------|
| Sleep Efficiency       | 30.9%     | Below Normal (<85%)     |
| Sleep Latency          | 371.5 min | Prolonged (>30min)      |
| REM Latency            | 476.8 min | Atypical                |
| REM Sleep              | 19.2%     | Atypical                |
| Wake After Sleep Onset | 573.0 min | Elevated (>30min)       |

## **Sleep Architecture Analysis**

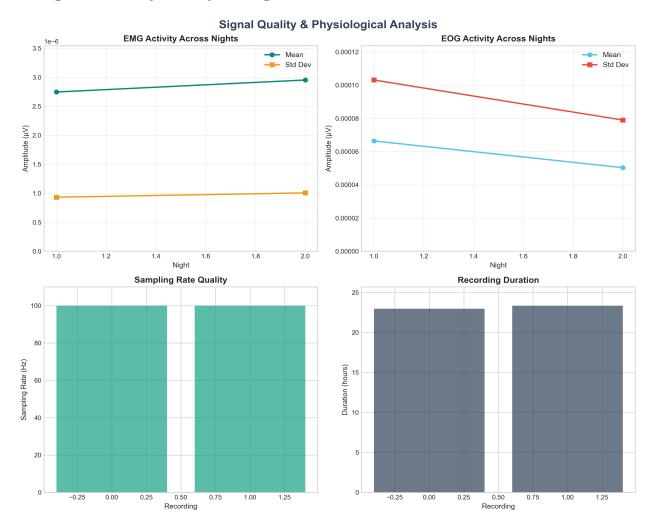


**Neurophysiological Analysis - EEG Power Spectrum** 

### **EEG Power Spectral Analysis**



## **Signal Quality & Physiological Assessment**



**Population Comparative Analysis** 

#### **Comparative Population Analysis** Sleep Efficiency (%) REM Sleep (%) ★ Subject Sleep Difficulty Sleep Difficulty Healthy Controls Healthy Controls WASO (min) Sleep Latency (min)

Healthy Controls

Ö

Healthy Controls

Sleep Difficulty

### **Clinical Interpretation & Recommendations**

### **Overall Sleep Health Assessment**

Sleep Quality Level: POOR

Poor sleep quality with multiple metrics outside normal ranges. The subject's sleep architecture shows:

• Sleep Efficiency: 30.9% (Below normal)

REM Sleep: 19.2% (Atypical)Deep Sleep: 12.0% (Reduced)

• Sleep Continuity: Fragmented (WASO: 573.0 min)

### **Key Findings**

- **Reduced Sleep Efficiency**: At 30.9%, sleep efficiency is below the normal threshold of 85%, indicating potential sleep quality issues.
- **Reduced REM Sleep**: REM sleep comprises 19.2% of total sleep, which is below the normal range of 20-25%.
- **Reduced Deep Sleep**: Deep sleep stages (N3+N4) comprise 12.0% of sleep, which may indicate reduced sleep restoration.

#### Recommendations

- Consider sleep hygiene counseling and evaluation of factors affecting sleep quality
- Evaluate for potential REM sleep disorders or medications affecting REM sleep
- Assess sleep environment and factors that may be disrupting deep sleep stages
- Investigation of factors causing sleep fragmentation may be beneficial

#### **Report Analysis and Generation:**

Report Analysed and created by the following students of IIIT Allahabad, Part of Big Data Analytics Course:

- Aditya Singh Mertia (IIT2022125) [iit2022125@iiita.ac.in]
  - Rishabh Kumar (IIT2022131) [iit2022131@iiita.ac.in]
  - Karan Singh (IIT2022132) [iit2022132@iiita.ac.in]
  - Tejas Sharma (IIT2022161) [iit2022161@iiita.ac.in]

Report Version: 1.0 | Generated: August 16, 2025 at 08:57 PM