

# QEEG Clinical Report

EEGLens



The QEEG report is provided by NPCindex Company, operating under the QEEGhome brand.

## Personal Data:

Name: Reza Rahpeymaei

Gender: Male

Age: 1997-01-01 - 29

Handedness: Right

## Clinical Data:

Initial diagnosis: Depression-PIC-Tramadol

Medication: Clonidine-Duloxetine-ES-citalopram-Gabapentin

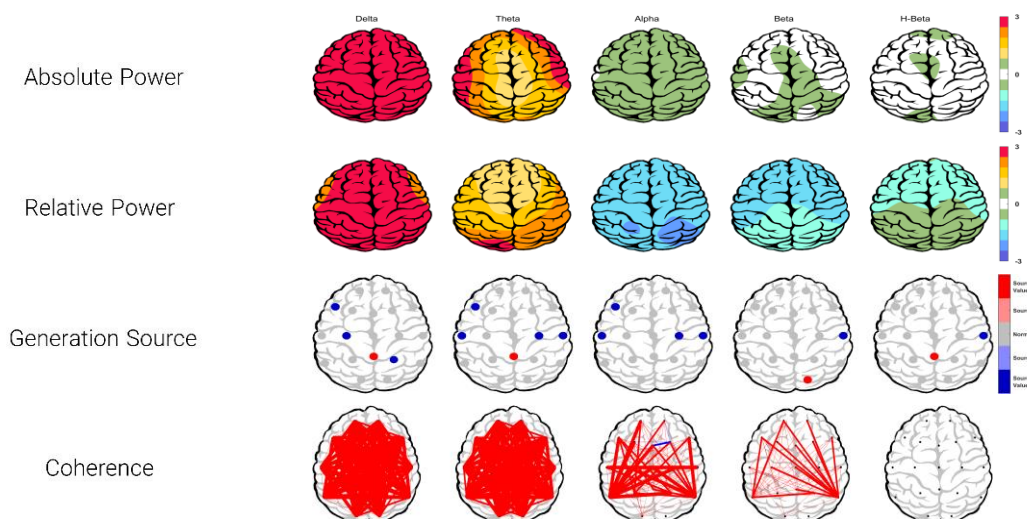
Date of Recording: 2025-10-08

Source of Referral: Asayesh Psychiatric Clinic - Dr Torabi

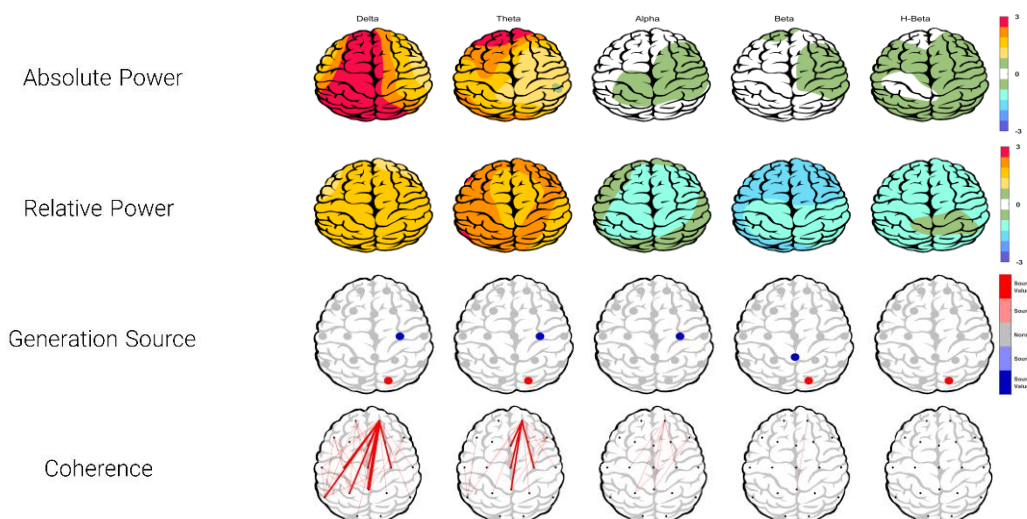
This case belongs to Asayesh Psychiatric Clinic - Dr

## Z Score Summary Information

■ Eye Close

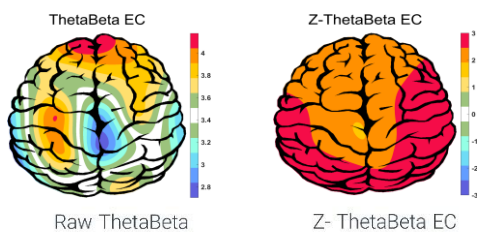


■ Eye Open

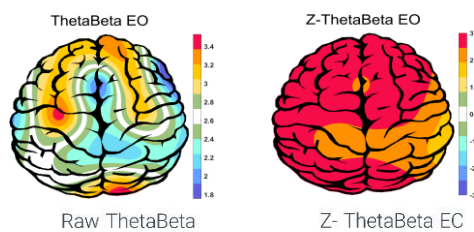


## Theta/Beta Ratio

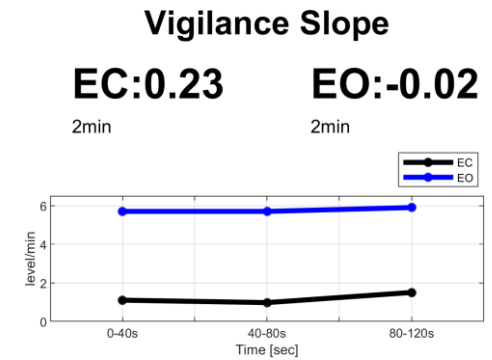
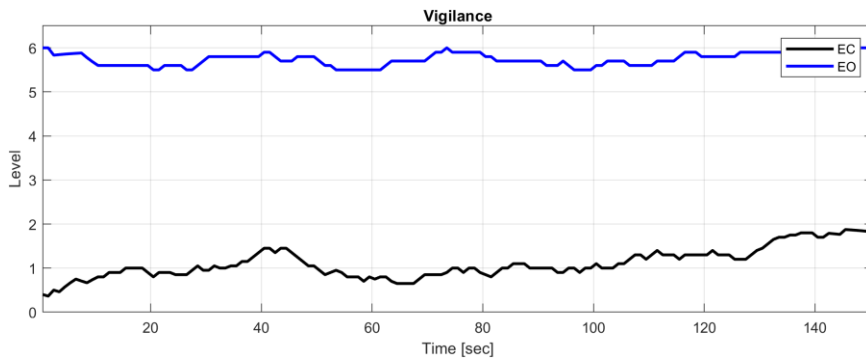
■ Eye Close



■ Eye Open



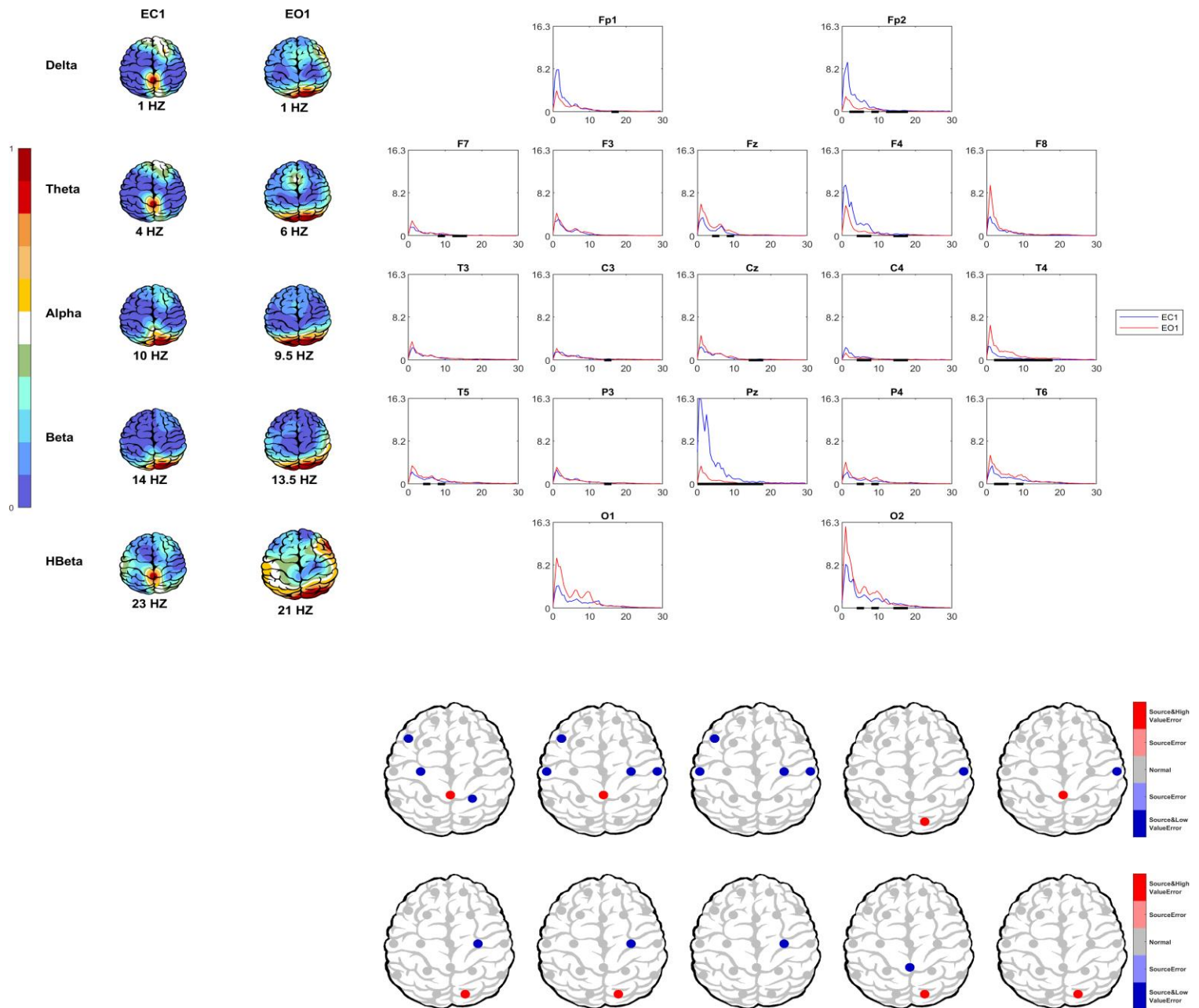
## Vigilance



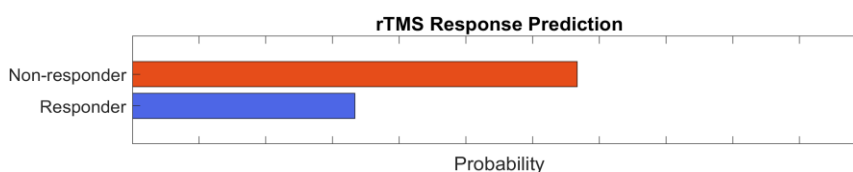
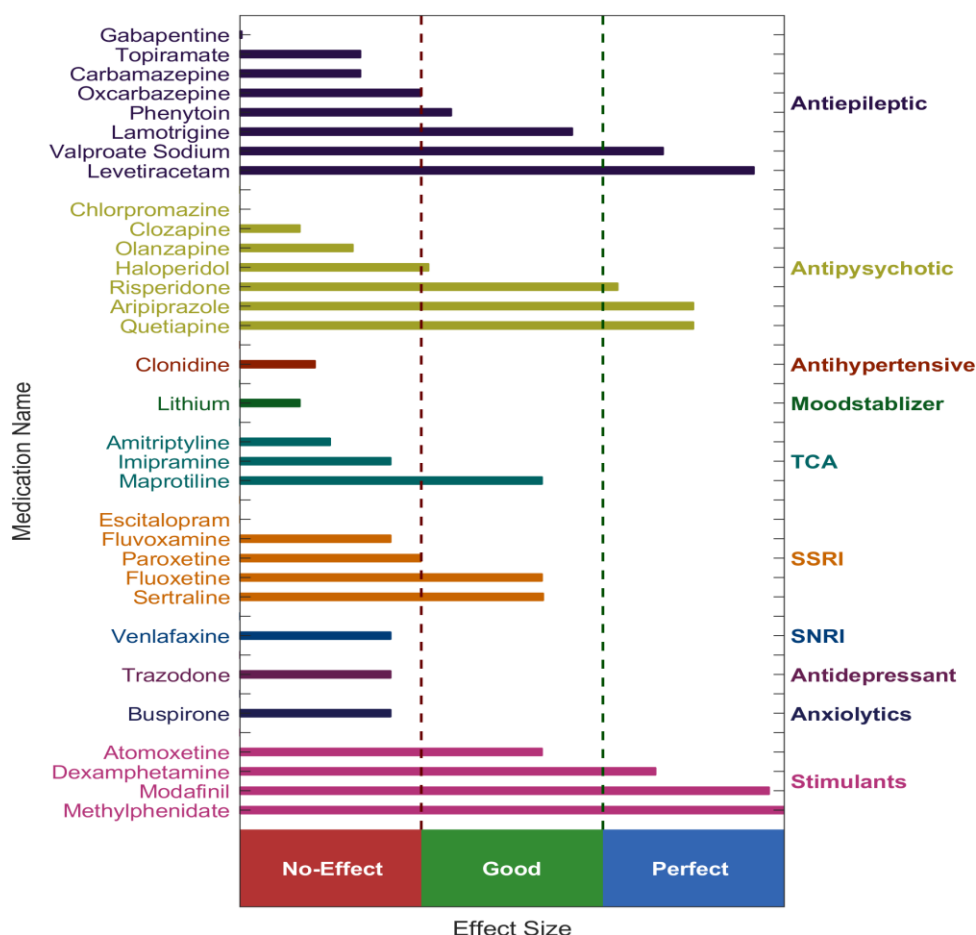
## EEG Neuromarker Values

| Neuromarker                 | Region    | Value | Assessment |
|-----------------------------|-----------|-------|------------|
| APF - EO                    | Frontal   | 09.17 | Normal     |
| AFP - EC                    | Frontal   | 09.08 | Low        |
| APF - EO                    | Occipital | 09.50 | Low        |
| AFP - EC                    | Occipital | 10.00 | Normal     |
| Alpha Asymmetry - EO        | Frontal   | 00.21 | Anxiety    |
| Alpha Asymmetry - EC        | Frontal   | -0.36 | Anhedonia  |
| Alpha Asymmetry - EO        | Occipital | -0.16 | Anhedonia  |
| Alpha Asymmetry - EC        | Occipital | -0.26 | Anhedonia  |
| Beta Asymmetry - EO         | Frontal   | -0.03 | Anxiety    |
| Beta Asymmetry - EC         | Frontal   | -0.37 | Anxiety    |
| Alpha Blocking              | O2        | -     | Observed   |
| Arousal Level - EO          | -         | -     | Low        |
| Arousal Level - EC          | -         | -     | Low        |
| Vigilance Level - EO        | -         | 06.00 | Normal     |
| Vigilance Level - EC        | -         | 01.00 | Low        |
| Vigilance Mean - EO         | -         | 05.75 | Normal     |
| Vigilance Mean - EC         | -         | 01.09 | Low        |
| Vigilance Regulation - EO   | -         | -0.02 | Normal     |
| Vigilance Regulation - EC   | -         | 00.23 | Normal     |
| Vigilance 0 Stage (%) - EO  | -         | 87.42 | High       |
| Vigilance 0 Stage (%) - EC  | -         | 00.00 | Normal     |
| Vigilance A1 Stage (%) - EO | -         | 00.00 | -          |
| Vigilance A1 Stage (%) - EC | -         | 00.00 | -          |

## EEG Spectra



## QEEG Based Predicting Medication Response



### Explanation

These two tables can be considered the most important finding that can be extracted from QEEG. To prepare this list, the NPCIndex Article Review Team has studied, categorized, and extracted algorithms from many authoritative published articles on predict medication response and Pharmac EEG studies. These articles are published between 1970 and 2021. The findings extracted from this set include 85 different factors in the raw band domains, spectrum, power, coherence, and loreta that have not been segregated to avoid complexity, and their results are shown in these diagrams. One can review details in NPCIndex.com .

### Medication Recommendation

These two charts, calculate response probability to various medications, according only to QEEG indicators. Blue charts favor drug response and red charts favor drug resistance. The longer the bar, the more evidence there is in the articles. Only drugs listed in the articles are listed. These tables present the indicators reviewed in the QEEG studies and are not a substitute for physician selection.

## Report

گزارش:

1.

نتایج تشخیصی:

1.

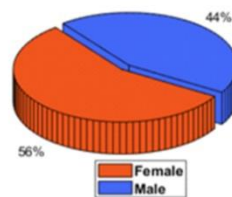
## rTMS Response Prediction

### Network Performance

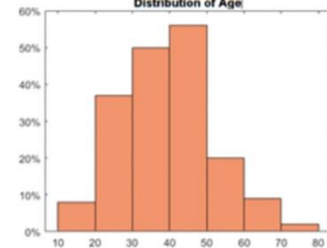
Accuracy: 92.10%  
Sensitivity: 89.13%  
Specificity: 97.47%

### Participants Information

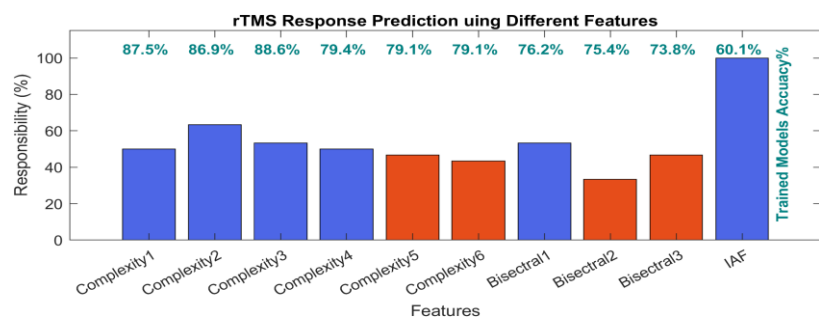
Distribution of Gender



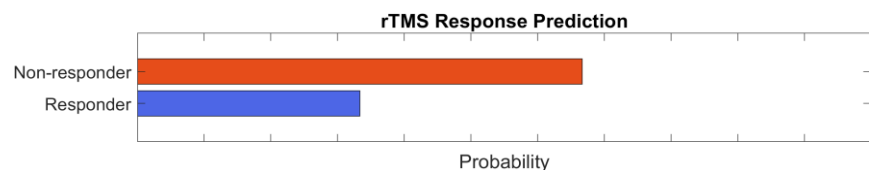
Distribution of Age



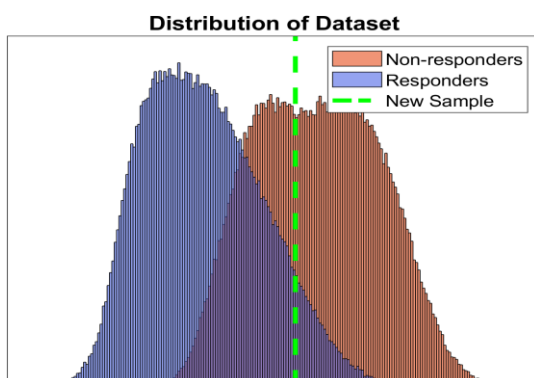
### Features Information



### Responsibility



### Data Distribution

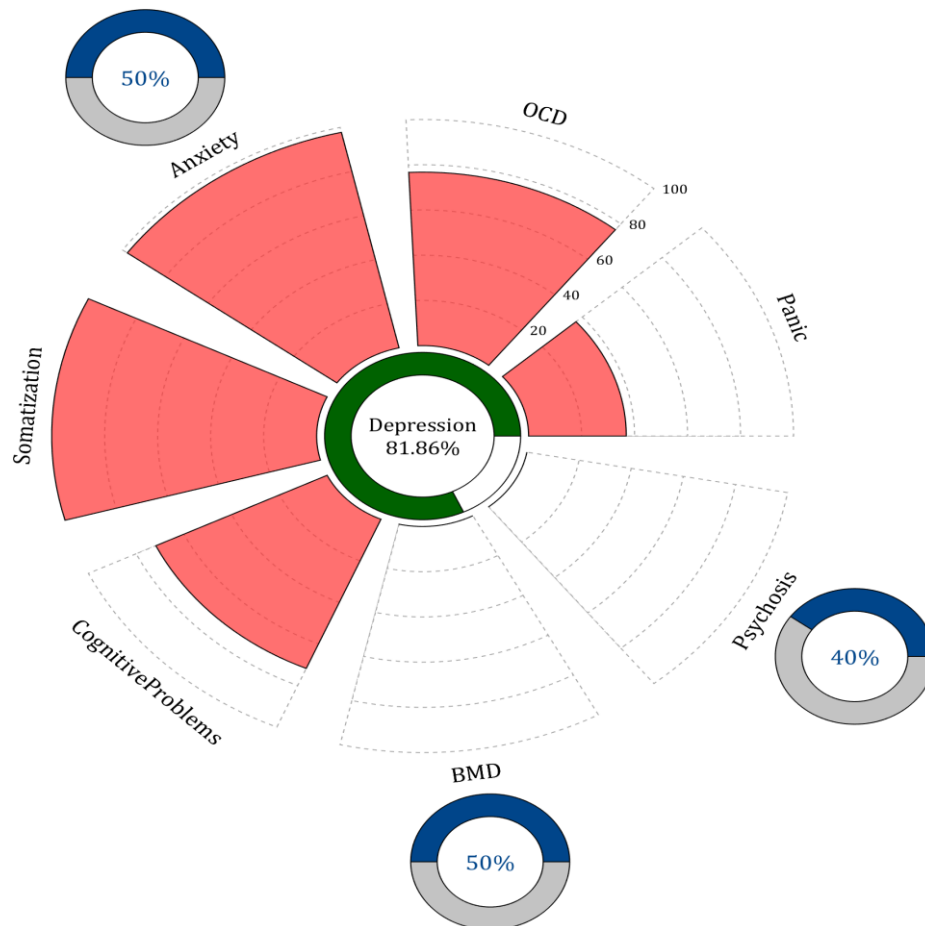


### About Predicting rTMS Response

This index was obtained based on machine learning approaches and by examining the QEEG biomarkers of more than 470 cases treated with rTMS. The cases were diagnosed with depression (with and without comorbidity) and all were medication free. By examining more than 40 biomarkers capable of predicting response to rTMS treatment in previous studies and with data analysis, finally 10 biomarkers including bispectral and nonlinear features entered the machine learning process. The final chart can distinguish between rTMS responsive and resistant cases with 92.1% accuracy. This difference rate is much higher than the average response to treatment of 44%, in the selection of patients with clinical criteria, and is an important finding in the direction of personalized treatment for rTMS.

## Pathological Assessment

### Main Diagnosis: Depression



### Description

According to the guidelines, the initial diagnosis of depression could have comorbidities such as **alcohol abuse, panic attacks, OCD, and anxiety**. It also differentially diagnoses with **anxiety, bipolar disorder, alcohol abuse, psychosis, and somatoform**.

In the above graph, the **red area** shows the percentage of each comorbidity from your patient's EEG markers. Observe that each comorbidity marker is not unique and can be shared with other comorbidities.

Side circles in the above graph represent the differential diagnosis between depression and its misdiagnosis conditions based on your patient's EEG markers and trained artificial intelligence. The differential diagnosis probability is represented by **the bold blue bars** in the circles, and the probability of depression is represented by the **gray bars**.

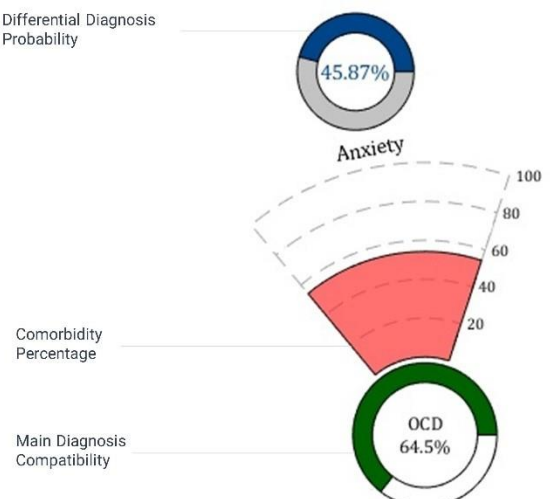
**Note:** In case your patient has drug abuse, obtain the substance abuse pathologic page of QEEGhome by registering the diagnosis under the initial diagnoses section of the website.

#### References:

Sadock, B. J., Sadock, V. A., & Ruiz, P. (Eds.). (2025). Kaplan and Sadock's comprehensive textbook of psychiatry (11th ed., Vols. 1–2). Wolters Kluwer  
 Sadock, B. J., Sadock, V. A., & Ruiz, P. (2022). Kaplan and Sadock's synopsis of psychiatry: Behavioral sciences/clinical psychiatry (12th ed.). Wolters Kluwer

### User Manual

Differential Diagnosis Probability

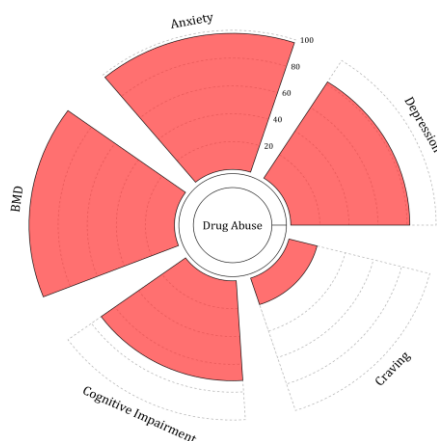


Comorbidity Percentage

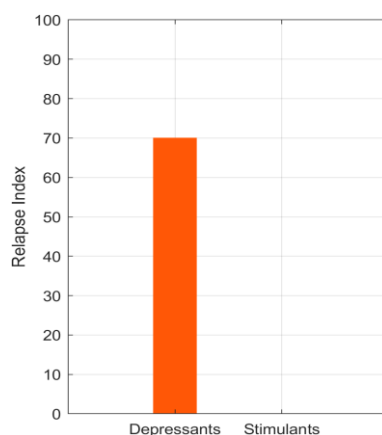
Main Diagnosis Compatibility

## Pathological Assessment for Substance Abuse

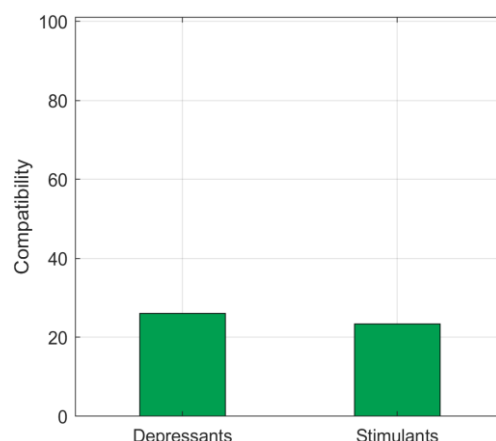
### Comorbid Symptoms



### Relapse Index

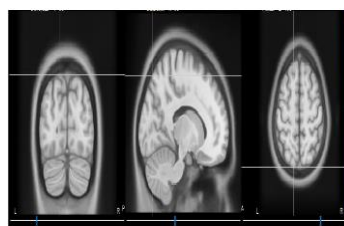
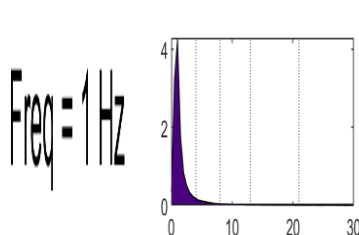


### Substance Abuse Compatibility



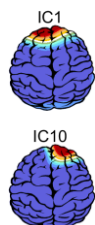
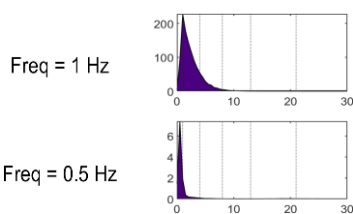
### Functional Problems Source Detection

Eye Close



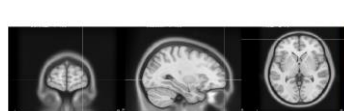
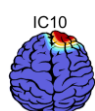
\*, \*NOT Found\*, \*

Eye Open



\*, \*NOT Found\*, \*

Freq = 0.5 Hz



Brodmann area 10  
Middle Frontal Gyrus

### Note

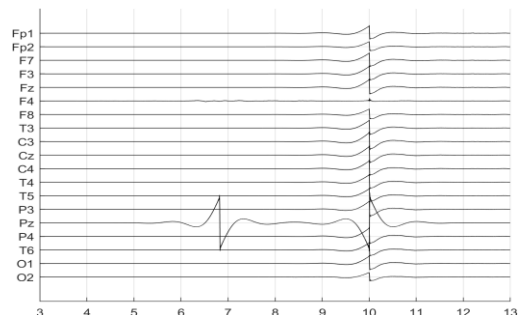
The **Relapse** graph displays the relapse index based on a combination of EEG neuromarkers. It is valid only if the patient has used each of the substances included in the chart; otherwise, the index is not applicable.

The **Compatibility** graph shows how closely the patient's EEG neuromarkers match typical EEG changes caused by specific substances. It helps identify the dominant substance effect in cases of multiple drug use. This index is also valid only if the patient has actually used the substances represented.

## Denoising Information

### Eye Close

Raw EEG



Rejected Channel



**Total Recording Time Remaining:**

151.90 sec

**Number of Eye and Muscle Elements**

Eye: 0

Muscle: 2

Low Artifact Percentage



High Artifact Percentage

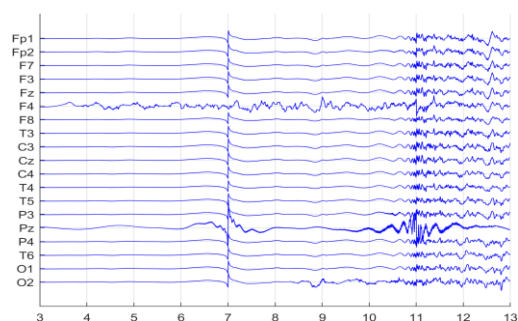


Total Artifact Percentage



**EEG Quality:** perfect

Denoised EEG

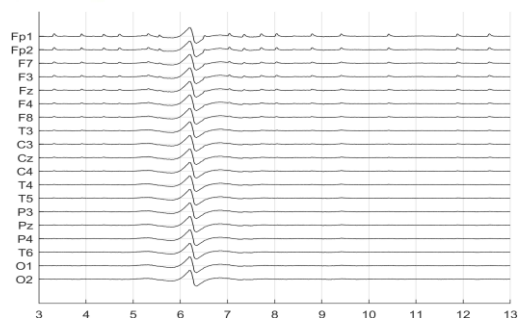


Flat Channel



### Eye Open

Raw EEG



Rejected Channel



**Total Recording Time Remaining:**

178.36 sec

**Number of Eye and Muscle Elements**

Eye: 3

Muscle: 1

Low Artifact Percentage



High Artifact Percentage

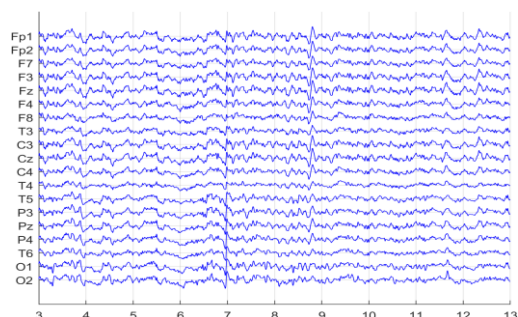


Total Artifact Percentage



**EEG Quality:** perfect

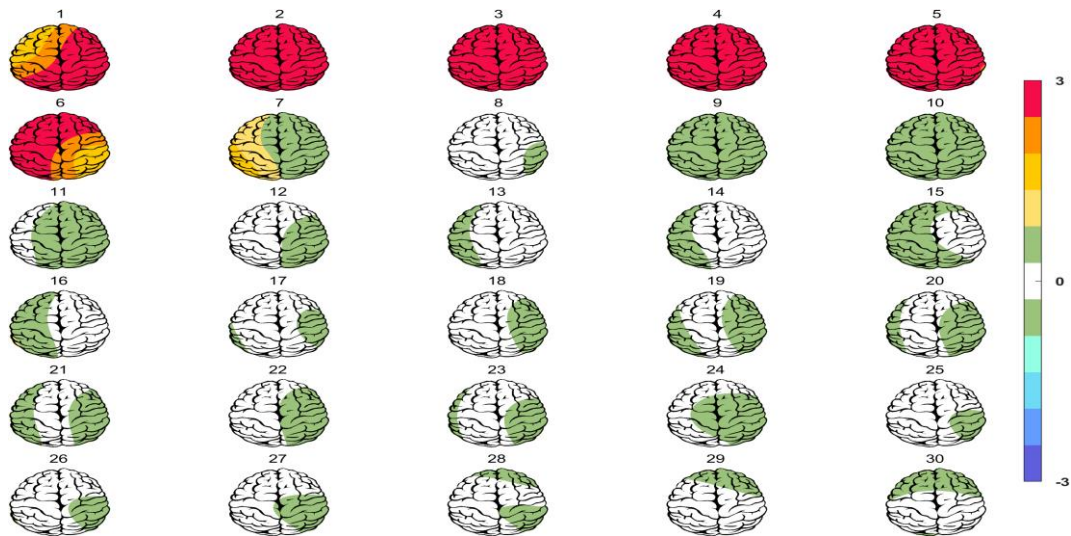
Denoised EEG



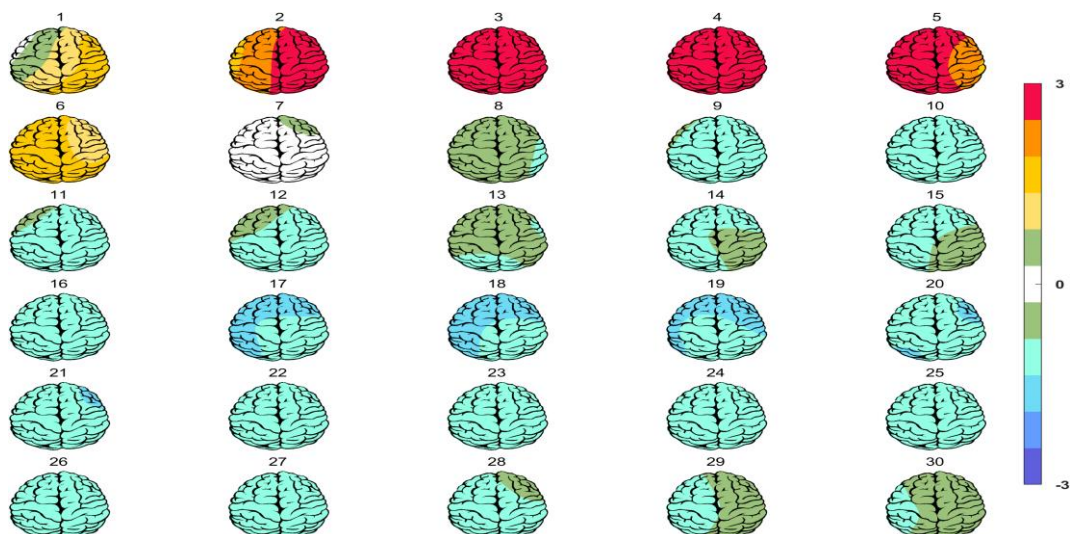
Flat Channel



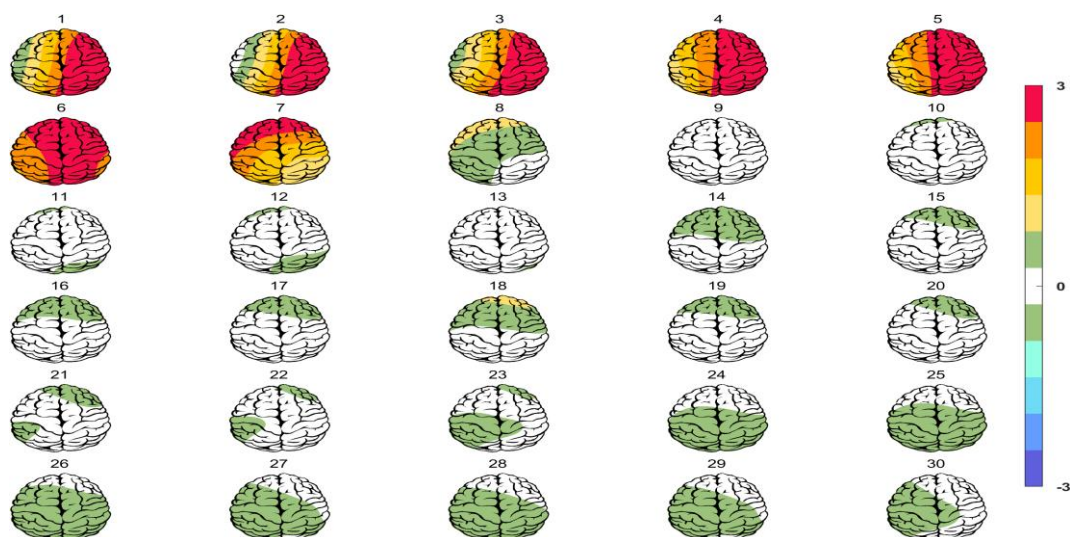
## Absolute Power-Eye Close



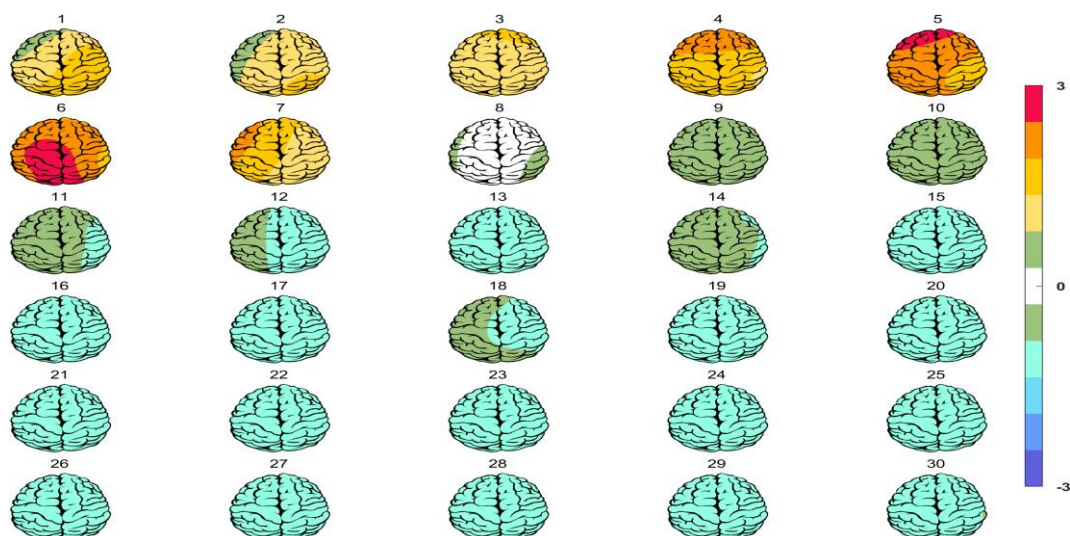
## Relative Power-Eye Close



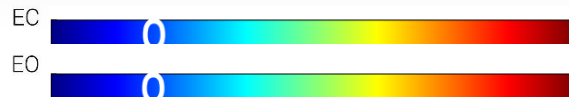
## Absolute Power-Eye Open



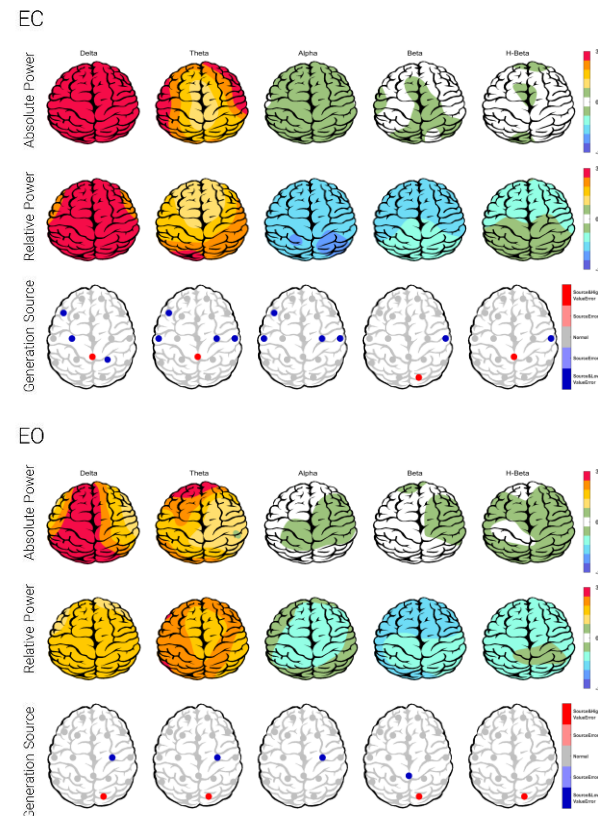
## Relative Power-Eye Open



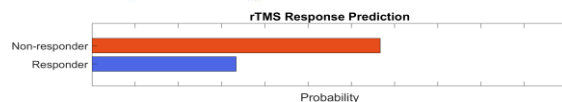
## EEG Quality



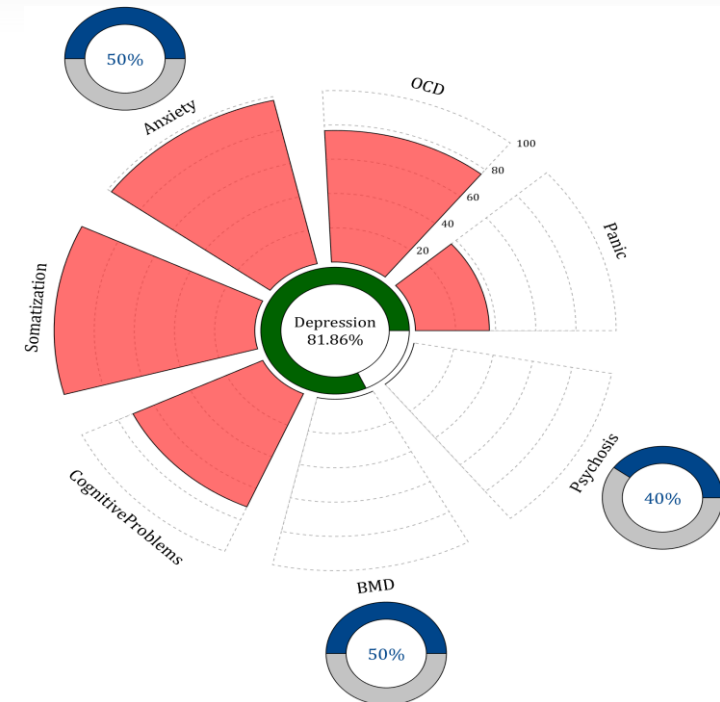
## Z-score Information



## TMS Responsibility



## Pathological Assessment



## EEG Neuromarker Values

| Neuromarker        | Region    | Value | Assessment |
|--------------------|-----------|-------|------------|
| APF - EO           | Frontal   | 09.17 | Normal     |
| AFP - EC           | Frontal   | 09.08 | Low        |
| APF - EO           | Occipital | 09.50 | Low        |
| AFP - EC           | Occipital | 10.00 | Normal     |
| Arousal Level - EO | -         | -     | Low        |
| Arousal Level - EC | -         | -     | Low        |