

# Customer Report: Brain Response to 40 Hz Gamma Visual Stimulation

Date: \_\_\_\_\_

Session Number: \_\_\_\_\_

## Background Information: What Is Gamma Brain Stimulation?

Non-invasive brain stimulation using visual stimuli involves exposing the brain to rhythmic flickering light. In this session, light flickering at **40 Hz (cycles per second)** was presented to stimulate **gamma oscillations** in the brain.

Gamma oscillations are a type of brainwave activity typically ranging from **30–100 Hz**, and are believed to play a critical role in **attention, perception, memory formation**, and other cognitive functions. Research suggests that stimulating the brain at 40 Hz may have beneficial effects on neural synchronization and network function.

## Understanding the SSVEP Response

The **Steady-State Visual Evoked Potential (SSVEP)** is a brain response that occurs when a person looks at a repetitive visual stimulus, such as a flickering light. The brain's electrical activity can be measured using electroencephalography (EEG), and a characteristic response is often seen at the **same frequency** as the stimulation — in this case, at **40 Hz**.

When SSVEPs are successfully elicited, this is reflected as a **peak in the power spectrum** at the stimulation frequency, indicating that the brain is responding to the visual input.

## Your Brain Response: PSD Comparison Plot

Below is a plot showing the **Power Spectral Density (PSD)** of your brain's electrical activity during two conditions:

- **Resting State (No Stimulation)**
- **During 40 Hz Visual Stimulation with EVY Light**

### Interpretation:

- The plot shows brain activity across a range of frequencies.
  - A **noticeable peak at 40 Hz during stimulation** (compared to resting state) indicates a successful SSVEP response, reflecting the brain's entrainment to the external 40 Hz stimulus.
  - This suggests that your visual system and associated brain networks are responsive to rhythmic stimulation in the gamma range.
- 

### 4. Additional Notes

- This report is intended to provide you with insight into your brain's response to non-invasive rhythmic visual stimulation.
- The session is safe and non-invasive, and all recorded data remain confidential.
- While gamma stimulation is being actively studied for its potential cognitive and neurological benefits, no medical claims are made in this context.

### Contact and Follow-Up

For questions, personal data management, further explanation, or follow-up sessions, please contact:

**OptoCeutics**

**Email:** na@optoceutics.com

**Phone:** 31701259

**Website:** <https://optoceutics.com>

---

**Disclaimer:** This report is intended for informational purposes only and does not constitute medical advice, diagnosis, or treatment.