

BRAINSENSE™ TECHNOLOGY: REAL-WORLD INSIGHTS

Enhancing clinical decision making with BrainSense™ technology

The Percept™ PC neurostimulator with BrainSense™ technology^{†§} is a platform for brain sensing. BrainSense™ technology uses brain signals to provide a window into a patient's condition, in real time, over time.

The BrainSense™ suite of tools offers decision-making support to select and optimize programming configurations and to maximize therapeutic results over time.[‡]

Key points:

- BrainSense™ technology was used to capture beta suppression during stimulation amplitude titration.
- Review of continuous local field potential (LFP) data was used to inform the determination of overstimulation and stimulation-induced dyskinesia.
- BrainSense™ tools offered decision-making support to optimize programming configurations.



The **programming session**, which included use of BrainSense™ technology, **lasted approximately 30 minutes in duration.**

Patient background:

- A patient with Parkinson's disease with symptoms of tremor and bradykinesia was implanted with bilateral SenSight™ leads[∅] in the STN and a Percept™ PC neurostimulator.[§]
- BrainSense™ survey and streaming tools were utilized in the clinic. Patient left the programming session on bilateral settings: 2 mA, 60 µs, and 125 Hz bilaterally and **reported dyskinesias shortly after the session.**

[†]The sensing feature of the Percept™ PC system is intended for use in patients receiving DBS where chronically-recorded bioelectric data may be useful, objective information regarding clinical status.

[‡]This case study is shared as an example of a single patient's experience with BrainSense™ technology. Individual patient experiences may vary. Physicians should use their own clinical judgement when deciding DBS programming.

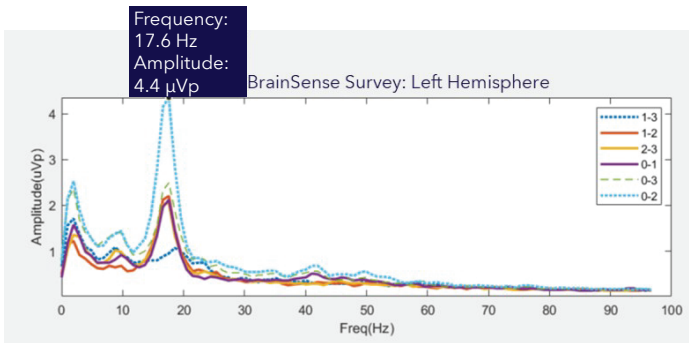
[§]Licensed as Percept PC BrainSense Deep Brain Stimulation Implantable Neurostimulator

[∅]Licensed as SenSight Directional Lead Kit



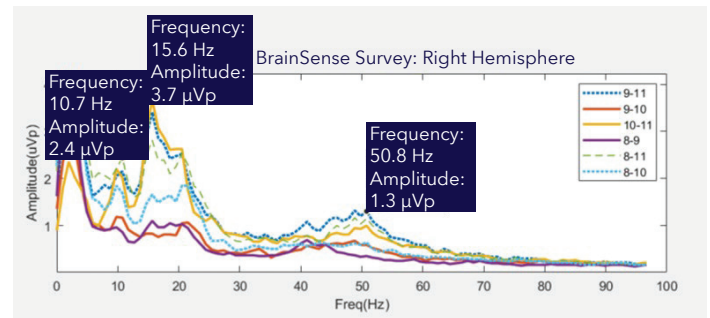
BrainSense™ survey – level analysis:

Bilateral beta (13 – 30 Hz) peaks were identified along with a **significant gamma peak** at 50.8 Hz (right STN)



Left STN frequency of interest:

- Beta peak at 17.6 Hz



Right STN frequencies of interest:

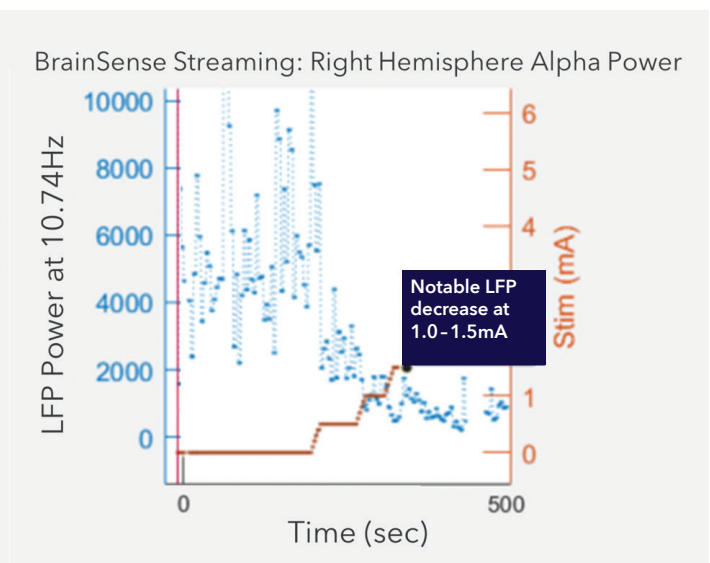
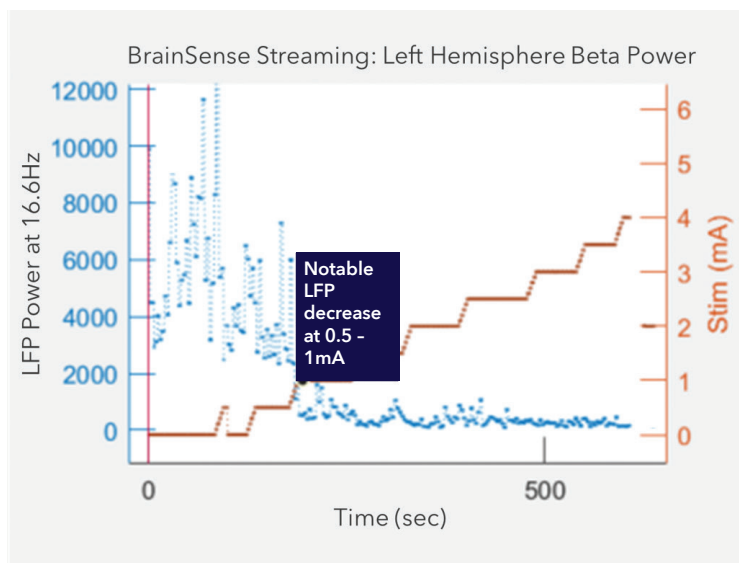
- Alpha-beta peak at 10.74 Hz
- Gamma peak at 50.8 Hz



BrainSense™ streaming – beta suppression with stimulation:

BrainSense™ streaming data demonstrated **suppression of LFP power** at approximately 1 mA bilaterally.

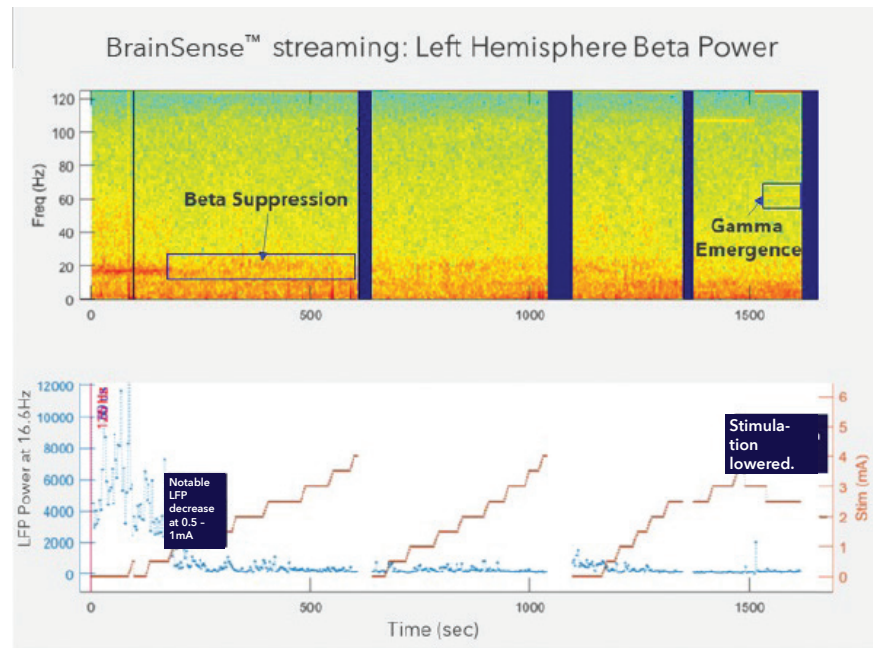
Minimal LFP suppression noted over 2 mA bilaterally.





Emergent gamma band activity with increased stimulation amplitude:

Additional full spectrum review revealed **emergent gamma band activity** with stimulation over 2.5 mA.



The physician was able to use BrainSense™ survey and streaming data to support the determination of overstimulation.

For a listing of indications, contraindications, precautions, warnings, and potential adverse events, please refer to the Instructions for Use.

Medtronic

99 Hereford Street
Brampton, Ontario, L6Y 0R3
Toll-free: 800.268.5346
Tel: 905.460.3800

[medtronic.ca](https://www.medtronic.ca)

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