



# NeuroPype Band Power

NeuroPype Band Power is a Plug-In for CGX Flowpoint used to extract and visualize spectral features from EEG recordings using CGX Quick Series devices. This Plug-In is created by Intheon and powered by its NeuroPype platform. CGX Flowpoint is a Windows-based application for acquiring and recording data from CGX devices.

## Note

- This is investigational software designed for research and development efforts.
- It is not an FDA-approved medical device.
- There are no known side effects from the use of this product.

## Description

The Band Power Plug-In has two modes of operation.

*Single Condition* presents an in-depth yet accessible analysis of EEG data from a single session, featuring power spectra, band power metrics, and topographic maps that visualize brainwave activity across the scalp. It also tracks changes in frequency bands over time and highlights the cortical regions associated with different signals.

*Compare Conditions* compares EEG data from two different segments of

the same recording or two different recordings to identify differences in brain activity, using power spectra, band power calculations, and side-by-side topographic maps.

It incorporates statistical analysis, source localization, and interactive 3D connectivity maps to visualize changes in brain function, offering an accessible approach to understanding brain dynamics across tasks or time points.

This Plug-In supports .EDF and .CSV file formats.

See the Intheon Band Power white paper for additional information.

Learn more about [NeuroPype](#).

## Warnings

### **This Device Is Intended For Research Only.**

#### **It Is Not Intended For The Following Uses:**

- monitoring of patients in a clinical environment
- use in medical diagnosis

#### **System Requirements**

- NeuroPype Band Power reads files recorded by a CGX Quick Series system
- NeuroPype Band Power is a Plug-In running in CGX Flowpoint

#### **Recommended Minimum Computer System Specifications**

- 16GB of RAM
- Intel Core i5-3300 or equivalent
- Windows 10 (x64) version 1809 or later (including Windows 11 (x64))

#### **Intended Use**

This Plug-In is designed for researchers and practitioners who want to:

- Analyze resting-state or task-related EEG
- Track cognitive changes over time or between sessions
- Generate clean visualizations for reporting EEG brain activity
- Examine frequency-specific power shifts following interventions (e.g., training, neurofeedback, or therapy)

The Band Power Plug-In supports .EDF and .CSV files recorded using CGX Quick Series headsets.

### **Band Power Overview**

EEG signals are commonly divided into frequency bands, each associated with different types of brain activity.

#### **Delta (1-4Hz)**

Typically seen during sleep. Elevated delta during wakefulness may reflect fatigue, brain injury, or reduced cognitive alertness.

#### **Theta (4-8 Hz)**

Often linked to drowsiness, daydreaming, and memory encoding. Increased theta may indicate internal focus or reduced external attention.

#### **Alpha (8-13 Hz)**

Associated with relaxed, wakeful states, especially when the eyes are closed or during quiet rest. A drop in alpha power can reflect increased attention or cognitive load.

#### **Beta (13-30 Hz)**

Related to active thinking, focus, and motor activity. Higher beta power often reflects engagement, mental effort, or emotional arousal.

#### **Gamma (30-45 Hz)**

Believed to be involved in high-level processing, such as attention, working memory, and integration of information across brain regions. Gamma activity is often subtle and more variable across individuals.

These bands reflect underlying brain states, and changes in power can signal shifts in cognitive load, focus, arousal, or alertness. Quickly extracting and comparing these patterns provides useful insight for both researchers and practitioners.

The Band Power Plug-In makes this process accessible and efficient by automating spectral analysis and presenting results as intuitive plots and maps. It computes frequency-specific metrics and generates visual reports for individual sessions or condition comparisons, including summary tables, trend graphs, and topographic scalp and cortical visualizations.

## Plug-In Installation

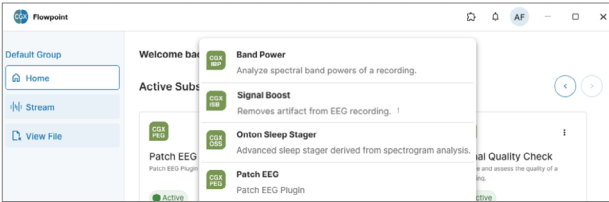
### Download The Software

**Note: You will need a CGX account, and Flowpoint software to run NeuroPype Signal Boost.**

- Log out of Flowpoint if it is open, and

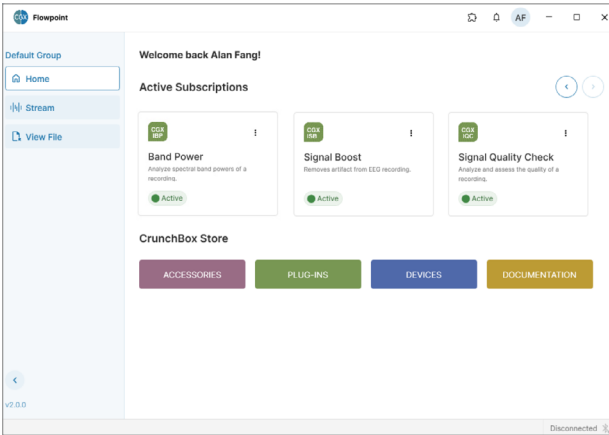
navigate to [CGXSystems.com](https://CGXSystems.com)

- Select **CrunchBox** from the navigation menu.
- Select and purchase **NeuroPype Band Power**
- Open Flowpoint. The Plug-In will be available for use.



### Open Flowpoint


NeuroPype Signal Boost will be available in the Plug-Ins drop-down menu.



### Launch the Plug-In

#### Band Power Plug-In

 Single Condition

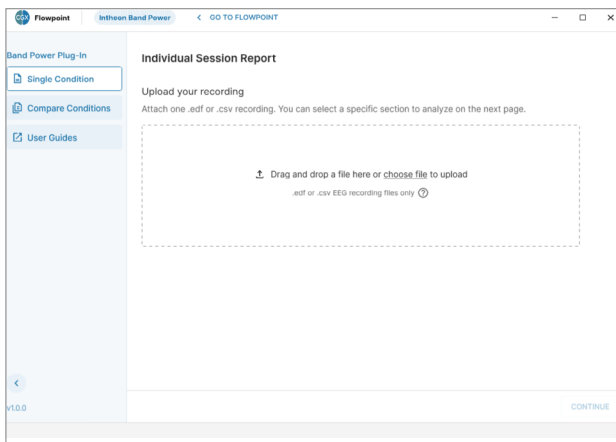
 Compare Conditions

 User Guides

### Pick Report Type

Select Single Condition or Compare Conditions based on what type of report you want to run.

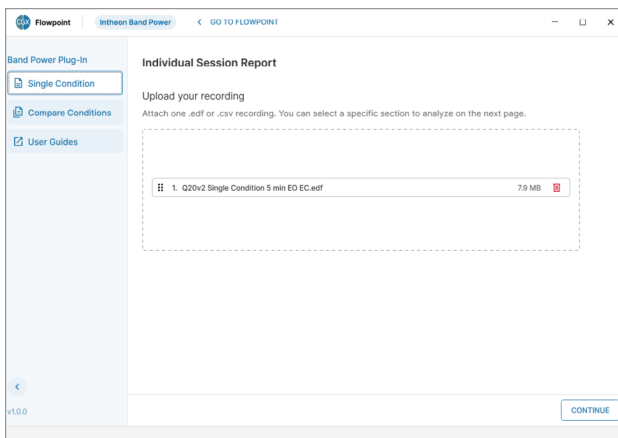
## Running a Single Condition Report



### Upload File

Drag and drop or upload your .EDF or .CSV EEG file.

Only one file is permitted in Single Condition mode.



### Define Time Segment (Optional)

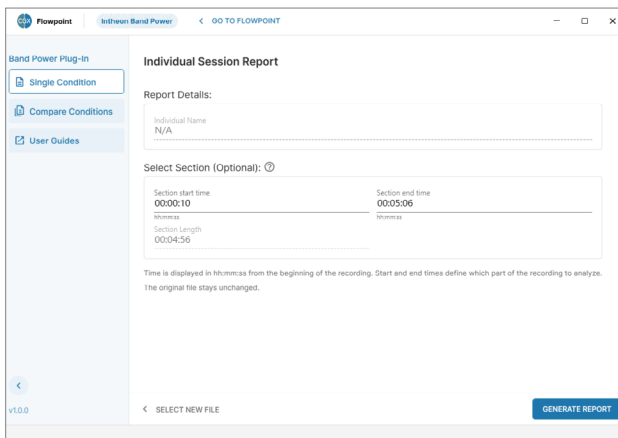
Use the time pickers (formatted hh:mm:ss) to choose start and end times.

Useful for isolating clean or event-specific windows (e.g., eyes closed, task blocks).

### File Length Requirements

Minimum: 60 seconds

Maximum: 60 minutes

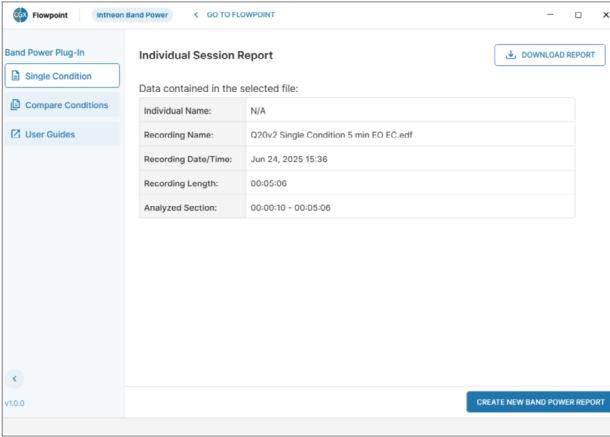


### Generate Report

Review input summary for accuracy before running the report.

Click **Generate Report**

## Running a Single Condition Report



The screenshot shows the Flowpoint software interface. The top bar includes the Flowpoint logo, the text "Intheon Band Power", and a navigation link "GO TO FLOWPOINT". The main content area is titled "Individual Session Report" and contains a table of data. A "DOWNLOAD REPORT" button is located in the top right corner of the report area. On the left side, there is a sidebar with "Band Power Plug-In" and three options: "Single Condition", "Compare Conditions", and "User Guides". At the bottom left, the version "v1.0.0" is displayed, and at the bottom right, there is a "CREATE NEW BAND POWER REPORT" button.

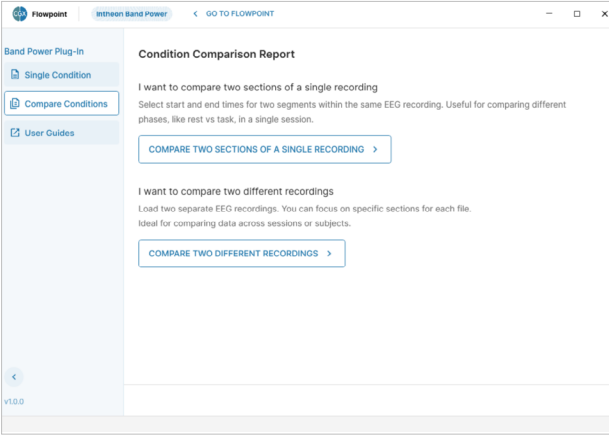
Data contained in the selected file:	
Individual Name:	N/A
Recording Name:	Q20v2 Single Condition 5 min FO EC.adf
Recording Date/Time:	Jun 24, 2025 15:36
Recording Length:	00:05:00
Analyzed Section:	00:00:10 - 00:05:00

## Running Another Report

The html report will be generated in the source folder of the selected file.

You can also download a copy to a specific folder by clicking the Download Report button.

To generate another band power report, click **Create New Band Power Report**.

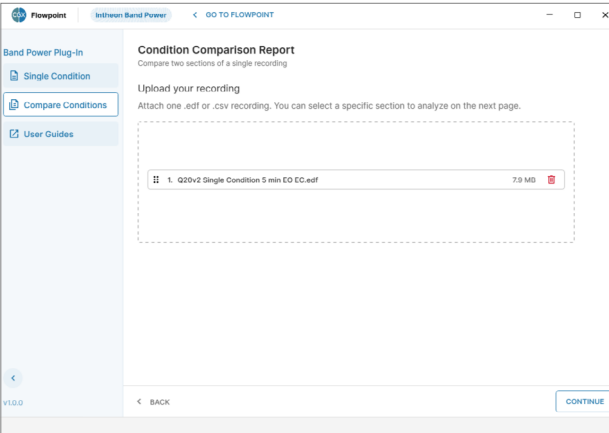


## Select Comparison Scenario

Pick what applies to your situation:

Are the 2 conditions you want to compare in a single file or in separate files?

Your selection here will determine if the next page will prompt you to upload one EEG file and define two time segments for intra-recording comparison, or upload two different EEG files.



## Compare 2 Conditions Within a Single File

Upload the file containing both conditions.

## File Length Requirements

Minimum: 60 seconds

Maximum: 60 minutes

# Running a Condition Comparison Report

Flowpoint | Intraeon Band Power < GO TO FLOWPOINT

Band Power Plug-In

- Single Condition
- Compare Conditions
- User Guides

### Condition Comparison Report

Compare two sections of a single recording

Report Name:

Report Name

The ReportName field is required

Report Details:

Individual Name

N/A

Condition 01:

Condition name

The ConditionName field is required

Section start time

00:00:10

Minutes

Section end time

00:05:06

Minutes

Section length

00:04:56

< SELECT NEW FILE

GENERATE REPORT

v1.0.0

## Define Conditions

Define conditions by naming them and assigning specific segments within the selected recording.

Enter the desired report name. This will be the file name for the HTML report.

Click **Generate Report**.

Flowpoint | Intraeon Band Power < GO TO FLOWPOINT

Band Power Plug-In

- Single Condition
- Compare Conditions
- User Guides

### Condition Comparison Report

Compare two different recordings

Upload your recording

Attach two .edf or .csv recordings. You can select a specific section to analyze on the next page.

⚠ Drag and drop a file here or [choose file](#) to upload

.edf or .csv EEG recording files only ⓘ

The first file will be Condition 01, and the second file will be Condition 02. Drag and move the files to rearrange the order.

< BACK

CONTINUE

v1.0.0

## Compare 2 Conditions From Different Recordings

Select the files containing conditions you want to compare

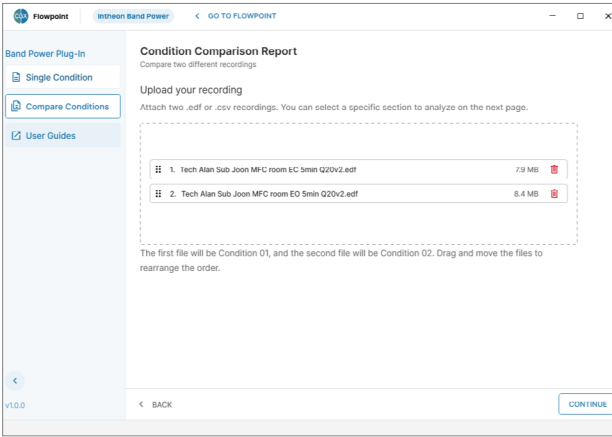
### File Length Requirements

Minimum: 60 seconds

Maximum: 60 minutes

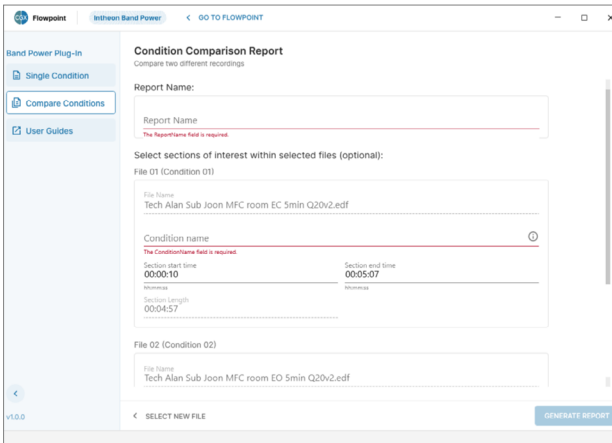
Click Continue.

# Running a Condition Comparison Report



## Review Selected Files

Select **Continue** to proceed.



## Define Conditions

Name the 2 conditions you want to compare and define segments within selected files that contain the conditions (optional).

Enter the desired report name. This will be the file name for the HTML report.

Click **Generate Report**

**Flowpoint** | Intheon Band Power | < GO TO FLOWPOINT

Band Power Plug-in

Single Condition

Compare Conditions

User Guides

### Condition Comparison Report

Compare two different recordings

[DOWNLOAD REPORT](#)

Data contained in the selected file:

File 01 (Condition 01)

File Name:	Tech Allan Sub Joon MFC room EC 5min Q20v2.edf
Condition:	[EyesOpen] 00:00:10 - 00:05:07

File 02 (Condition 02)

File Name:	Tech Allan Sub Joon MFC room FO 5min Q20v2.edf
Condition:	[EyesClose] 00:00:10 - 00:05:26

v1.0.0

[CREATE NEW BAND POWER REPORT](#)

## Running Another Report

The html report will be generated in the source folder of the selected file.

You can also download a copy to a specific folder by clicking the Download Report button.

To generate another band power report, click **Create New Band Power Report**.

### Disclaimer

This software is provided strictly for research purposes only and is not approved for any diagnostic or therapeutic use. It has not been cleared or approved by the U.S. Food and Drug Administration (FDA).

Users must exercise their own Independent judgment in using the software and are solely responsible for verifying the accuracy and applicability of all Information provided by the software for their research purposes.

This software is not intended to replace or act as a substitute for professional medical advice, diagnosis, or treatment. Do not use the information contained within the software for diagnosing or treating a health problem or disease, or prescribing any medication.



8445 Camino Santa Fe, #213  
San Diego, CA 92121  
858-864-9400  
Sales@CGXSystems.com