Next Generation SedLine® Brain Function Monitor
More Complete Data, Now with an Enhanced Patient State Index (PSi)

Next Generation SedLine features:

- An enhanced signal processing engine, which improves performance of the Patient State Index (PSi)
- A Multitaper Density Spectral Array (DSA), which may enhance visibility of EEG features
Improved Patient State Index (PSi)

Next Generation SedLine features an enhanced signal processing engine which provides an enhanced Patient State Index (PSi), a processed EEG parameter related to the effect of anesthetic agents.

Expert Scoring

EEG experts scored the improvement in PSi performance between SedLine PSi and Next Generation SedLine PSi.

![Graph showing improved PSi performance](chart.png)

Experts found an overall 17% improvement in Next Generation PSi performance.

Next Generation SedLine Brain Function Monitoring helps clinicians monitor the state of the brain under anesthesia with bilateral data acquisition and processing of four leads of electroencephalogram (EEG) signals.
Parallel Signal Processing Engines

Next Generation SedLine utilizes Masimo’s Parallel Signal Processing Engines to extract a clearer EEG signal for computing PSI.

The case below demonstrates Next Generation SedLine’s improvement to PSI.¹

Adaptive Signal Processing with Band-Independent Features

When computing PSI, Next Generation SedLine uses adaptive signal processing with band-independent features to search for EEG features across many frequency bands.

The case below demonstrates Next Generation SedLine’s improvement to PSI.¹

EMG is a common confounding factor that can interfere with EEG signals used in brain function monitoring.²

Power across all frequency bands decreases with age.³
Next Generation SedLine offers clinicians the flexibility of choosing to display either an enhanced Multitaper Density Spectral Array (DSA) or a standard Hanning DSA. The DSA contains left and right spectrograms representing the power of the EEG on both sides of the brain.

When using a Multitaper DSA, EEG data are transformed into the frequency domain, which may provide a better display of EEG features.

The Next Generation SedLine module easily plugs into the Root patient monitoring platform via Masimo Open Connect® (MOC-9®) ports. Root’s customizable, easily-interpretable display offers multiple views of brain monitoring information expanding visibility in the operating room and intensive care unit.

Next Generation SedLine on Root® can be used simultaneously with O3® Regional Oximetry on the Root platform for a more complete picture of the brain.

Multitaper Density Spectral Array (DSA)

Next Generation SedLine

The DSA represents activity in both sides of the brain.

Patient State Index (PSI), a processed EEG parameter related to the effect of anesthetic agents.

Four channels of bilateral EEG waveforms.

Next Generation SedLine can be used simultaneously with O3® Regional Oximetry on the Root platform for a more complete picture of the brain.
RD SedLine™ EEG Sensor

- Four active EEG leads collect data in the frontal lobe
- Soft foam pads improve patient comfort
- Allows simultaneous application of SedLine and O3 Regional Oximetry sensors

SedLine Specifications

**PHYSICAL CHARACTERISTICS**

<table>
<thead>
<tr>
<th>Module Physical Dimensions</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Width</td>
<td>1.3 in (3.3 cm)</td>
</tr>
<tr>
<td>Length</td>
<td>4.0 in (10.2 cm)</td>
</tr>
<tr>
<td>Thickness</td>
<td>0.8 in (2.0 cm)</td>
</tr>
</tbody>
</table>

**ENVIRONMENTAL**

<table>
<thead>
<tr>
<th>Module Operating Conditions</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating Temperature</td>
<td>41–104°F (5–40°C)</td>
</tr>
<tr>
<td>Operational Humidity</td>
<td>15–95%, non-condensing</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module Storage Conditions</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Storage Temperature</td>
<td>40–158°F (40–70°C)</td>
</tr>
<tr>
<td>Storage Humidity</td>
<td>15–95%, non-condensing</td>
</tr>
<tr>
<td>Exposure to Pressure</td>
<td>500–1060 mbar</td>
</tr>
</tbody>
</table>

**Sensor Specifications**

- Patient Weight: > 30 kg
- Application Site: Forehead
- Active Channels: 4
- Active Electrodes: L1, L2, R1, and R2
- Ground Electrode: CB
- Reference Electrode: CT
- Duration of Use: Maximum of 24 hours
- Latex Content: Does not contain natural rubber latex

Caution: Federal (USA) law restricts this device to sale by or on the order of a physician. See instructions for use for full prescribing information, including indications, contraindications, warnings, and precautions.