Node-S Technical Specifications

AIR QUALITY MEASUREMENTS

<table>
<thead>
<tr>
<th>PARAMETER</th>
<th>TECHNOLOGY</th>
<th>RANGE</th>
<th>PERFORMANCE AFTER CALIBRATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Particulate Matter PM\textsubscript{2.5} [µg/m\textsuperscript{3}]</td>
<td>Laser Light Scattering with Remote Calibration</td>
<td>0-1000 µg/m\textsuperscript{3} 1 µg/m\textsuperscript{3} resolution</td>
<td>Accuracy: &lt; 100 µg/m\textsuperscript{3}: ± 10 µg/m\textsuperscript{3}; ≥ 100 µg/m\textsuperscript{3}: within ± 10% of measured value Correlation (R\textsuperscript{2}) with USEPA FEM instrument &gt; 0.8</td>
</tr>
<tr>
<td>Nitrogen Dioxide NO\textsubscript{2} [ppb]</td>
<td>Electrochemical Cell with Remote Calibration</td>
<td>0-3000 ppb 1 ppb resolution</td>
<td>Accuracy: &lt; 200 ppb: ± 30 ppb; ≥ 200 ppb: ± 15% of measured value Correlation (R\textsuperscript{2}) with USEPA FEM instrument &gt; 0.7</td>
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</tbody>
</table>

Additional Parameters: PM\textsubscript{2.5} Number Concentration [#/cm\textsuperscript{3}] | PM\textsubscript{1} Mass Concentration [µg/m\textsuperscript{3}] | PM\textsubscript{10} Number Concentration [#/cm\textsuperscript{3}] | PM\textsubscript{10} Mass Concentration [µg/m\textsuperscript{3}] | PM\textsubscript{10} number concentration [#/cm\textsuperscript{3}] | Internal Temperature [°C] | Internal Relative Humidity [%]

DATA FLOW

- Measurement Frequency (Adjustable): Default: Once every 15 minutes Minimum: Once every 3 minutes
- Data Retrieval from Cloud: Clarity Dashboard (Web App) RESTful APIs (Programmatic Access) OpenMap (Public Data Sharing)
- Device to Cloud Communication: Global cellular 2G/ 3G/ 4G SIM card and service included

OPERATING CONDITIONS

- Weatherproof Rating: IPX3
- Operating temperature\textsuperscript{1}: -10° to 55° C
- Absolute temperature rating: -40° to 70° C
- Operating humidity: 10% to 98% RH
- UV Exposure: UV resistant

POWER\textsuperscript{1}

- Current Consumption: 200 mA (sensing) 500 mA (uploading) <1 mA (sleeping)
- Input Voltage: 5 V
- Battery Capacity: 15,900 mAh
- Solar Panel: 5 W (max power) 6.4 V (open circuit voltage) 1.05 A (short circuit current)
- Battery Life\textsuperscript{2}: 15 days (without solar power harvesting) >2 years (with solar power harvesting)\textsuperscript{3} 20 hours (internal battery charge time)

DIMENSIONS

- Node: 165 mm (W) x 84 mm (H) x 79 mm (D)
- Solar Panel: 233 mm (W) x 176 mm (H) x 4 mm (D)
- Solar Shield: 183 mm (W) x 97 mm (H) x 91 mm (D)
- Total Weight: 2.15 kg / 4.7 lb (1.2 kg without shield)

\textsuperscript{1} The Node-S can be used as a solar-powered or externally-powered device. External power required for operation below 0° C.
\textsuperscript{2} Varies by deployment site location, solar panel orientation, and sampling frequency.
\textsuperscript{3} Assuming default measurement frequency and exposure to an average of one hour of full sunlight per day over a 15 days rolling window.