## RS-8800 Spectroradiometer Specifications

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<td><strong>Spectral Range</strong></td>
<td>350–2500nm</td>
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| **Spectral Resolution–FWHM**         | 2.8nm @ 700nm  
                                  | 8mm @ 1500nm  
                                  | 6mm @ 2100nm |
| **SI Detector**                      | 512 element SI photodiode array (350–1000nm) |
| **InGaAs Detectors (cooled)**        | 256 element extended wavelength photodiode array (1000–1900nm)  
                                  | 256 element extended wavelength photodiode array (1900–2500nm) |
| **Fiber Mount Options**              | 1, 2, 3, 4, 5, 6 and 10° FOV Lenses, irradiance diffuser |
| **Noise Equivalence Radiance**       | 0.8x10^-9 W/cm²/nm/sr @400nm  
                                  | 1.2x10^-9 W/cm²/nm/sr @1500nm  
                                  | 1.8x10^-9 W/cm²/nm/sr @2100nm |
| **Max Radiance @ 700nm**             | 2.0x10^-4 W/cm²/nm/sr |
| **Minimum Scan Speed**               | 100 milliseconds |
| **Wavelength Reproducibility**       | ±0.1nm |
| **Wavelength Accuracy**              | ±0.5 bandwidth |
| **Communications Interface**         | USB or WiFi - communicate with iPhone or Android |
| **Size**                             | 31.5 x 22.9 x 38.7 cm |
| **Weight**                           | Less than 5kg |
| **Batteries**                        | Lithium ion, 7.4V - rechargeable |
| **Angle measurement range & accuracy** | ±0.15 degree accuracy on both axis of Tilt sensor |
| **Distance measurement range & accuracy** | Resolution of 1 inch or 2 cm on the range finder |
| **Solar angle accuracy**             | Within 1° |
| **GPS positioning accuracy**         | ±3 meters accuracy |
| **Camera parameters**                | VGA with resolution of 640x480 pixels |
| **Bluetooth /WiFi working distances**| Class 1, 100m range |

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Sensaprobe grip is a trademark of Spectral Evolution.
Field Portable Spectroradiometer with *Sensaprobe* grip—Capture Real Time Field of View

The RS-8800 portable spectroradiometer bundle provides high resolution/high sensitivity measurements for applications in remote sensing where real-time accurate measurements of scan angle, distance from target and real-time target viewing—are all available from your Android device, tablet or iPhone.

The RS-8800 is designed to allow for a user to capture *in situ* scans with a consistent scan angle and record exactly what was scanned, the angle the scan was taken at, the sun height angle and other key data. The system runs an Internet of Things (IoT) operating system—the first available in a spectroradiometer—to capture and store all data associated with each scan.

The system is set up to allow for control of the SR-8800 spectroradiometer via a smartphone or tablet—iPhone or Android based. This includes easy downloading of data from the spectroradiometer. Access by smartphone and tablet is accomplished via WiFi connection.

The RS-8800 with the *Sensaprobe* grip allows for consistent measurements by any user at any experience level to ensure that measurements are taken correctly in the field for research applications. See exactly what you are scanning with the embedded camera. It can also be used for vicarious calibration to validate satellite or flyover hyperspectral and multispectral data being used in research.

The RS-8800 goes in a backpack and can be equipped with a unique, custom pistol grip to take all the measurements required for field work.

Spectral Evolution’s Exclusive *Sensaprobe* grip Makes Measurements Consistent

- Quick release fiber optic mount
- A built-in angle sensor allows the user to monitor scan angle and notifies the user when they are at nadir so they know it’s OK to scan. Tags scans with exact tilt angle
- A built-in camera for real-time targeting and capturing what is being scanned
- Ultrasonic distance sensor measures the distance from the target and automatically shows the viewer the exact target area, accounting for Field-of-View. The camera image is adjusted to automatically represent exactly what is being scanned
- Trigger activation to start a scan

The RS-8800 can be controlled by any smartphone or tablet—iPhone or Android—with its IoT operating system.

The built-in computer drives the processing of the required sensors including:
- GPS
- Pistol grip angle sensor
- Camera
- Sun height angle calculation

In addition the computer controls the spectroradiometer, stores all data and facilitates easy remote downloading of data.

Quick reference to the display:

- **A**—Spectrum displayed
- **B**—Large picture of target
- **C**—Small image of target
- **D**—Solar angle reading
- **E**—Tilt indicator—shows correct angle of the lens
- **F**—X and Y axis for tilt
- **G**—Up-to-date GPS reading
- **H**—Range (distance) from target in inches or centimeters
- **I**—Tabs for additional screens and functions