

## spectraval 1501-NIR

### VIS-NIR Spectroradiometer

spectraval 1501-NIR is a compact spectrophotometer and spectroradiometer for the wavelength range of 380 nm to 1000 nm. It can be used for spectral Radiance as well as for Reflexion measurements within a viewing angle of  $1.8^\circ$ . The actual measuring area is marked by a red circle.

spectraval 1501-NIR comes with the radiometric software JETI LiVal (demo version see: [http://jeti.com/Support/Software/JETI\\_LiVal](http://jeti.com/Support/Software/JETI_LiVal)) and the spectrometer software JETI VersaSpec, but can be used with several third party programs too.



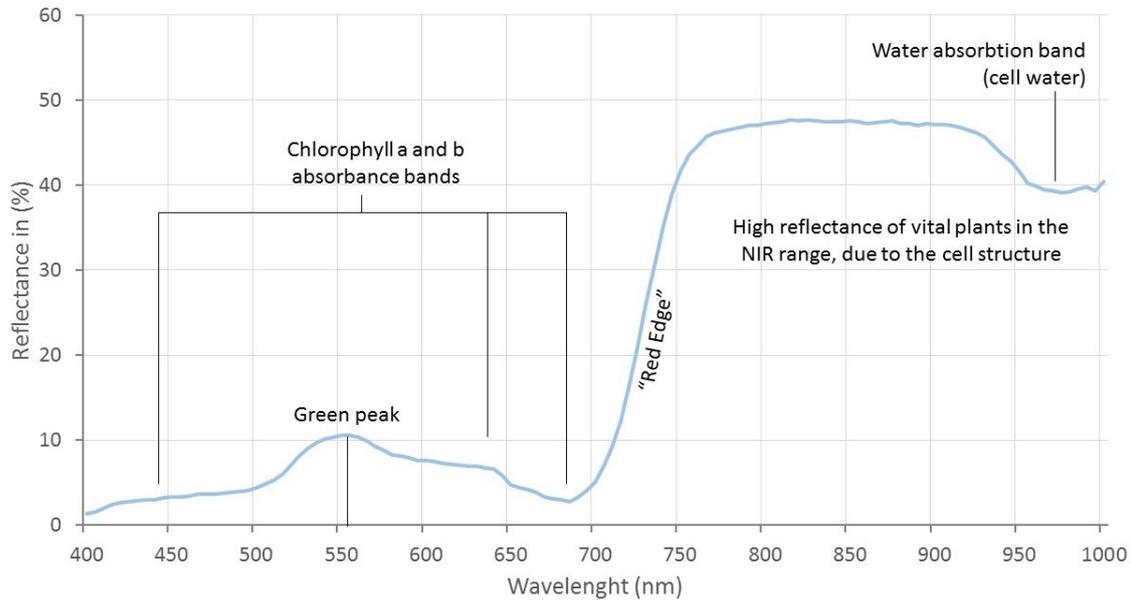
#### Advantages:

- Compact solution
- Fast measurement
- Precise results due to high quality spectrograph and NIST traceable calibration
- Comfortable handling due to Bluetooth interface
- Convenient adjustment due to laser target circle

#### Examples for applications:

- Remote sensing
- Spectral measurement of plants
- Calibration of broadcast monitors
- Color adjustment of digital projectors
- Color characterization of LED displays

Green leaf reflectance spectrum



### Optical parameters

Spectral range	380 ... 1000 nm
Optical bandwidth	4.5 nm
Wavelength resolution	1 nm
Digital electronic resolution	16 bit ADC
Viewing angle	1,8°
Measuring distance/ diameter (measured from front end of the device)	20 cm – Ø 8 mm; 100 cm – Ø 33 mm

### Measuring values

With **optional** diffusor

Spectral Radiance, Luminance, total Radiance  
x, y, u', v', CCT, color purity, CRI, RGB and others  
Spectral Irradiance/ Integral Irradiance/ Illuminance

### Measuring ranges and typical measuring uncertainties (according to CIE TN 009:2019)

Luminance measuring range	0.2 ... 180 000 cd/m <sup>2</sup> (Illuminant A) 0.2 ... 140 000 cd/m <sup>2</sup> (typical warm white LED)
Luminance uncertainty	± 4.4 % (Illuminant A @ 100 cd/m <sup>2</sup> , k=2)
Luminance repeatability	± 1 % (Illuminant A)
Chromaticity uncertainty	± 0.002 x, y (Illuminant A, k=2)
Color repeatability	± 0.0005 x, y (Illuminant A)
CCT repeatability	± 20 K (Illuminant A)
Max. wavelength error	± 0.3 nm (HgAr line source)
Polarization error f8	< 2 %

### Other technical data

Dispersive element	Imaging grating (flat field)
Light receiving element	CCD line array 2048 pixels (binned)
Power supply	Battery and USB powered
Interfaces	USB 2.0 fullspeed Bluetooth, alternatively LAN



## Specifications

Dimensions	140 mm x 80 mm x 70 mm
Weight	400 g
Operating conditions	Temperature 10 ... 40 °C Humidity < 85 % relative humidity at 35 °C
Accessories (included)	PC software JETI LiVal and JETI VersaSpec for Windows 8.1/ 10, operating instructions and software development kit on BT stick USB cable, battery charger, tripod and carrying bag Calibration certificate
Calibration	NIST traceable
Recommended interval	1 year