Application note 28

When I should select spectraval 15x1 instead of specbos 12x1?

spectraval 1501 is the replacement of specbos 1201. It covers the same spectral range (VIS), but is about ten times more sensitive. Therefore it can be used for low light applications in the same manner as **specbos 1211**, where **specbos 1201** was not recommended for such as the calibration of monitors. **spectraval 1501** is intended for Radiance mode measurements only, a diffusor, which is included in the **specbos 1201** delivery, has to be ordered separately (ACC 032). If a stand alone solution is needed, then **spectraval 1511** can be used. It has the identical parameters as **spectraval 1501**, but is equipped with display and SD card reader.

specbos 1201 is still in production at least till end of 2017. It can be ordered e.g. by customers owning this device already and who don´t want to change the model.

When I should use **spectraval** instead of **specbos 1211**? Please consider the following aspects:

- If a wavelength range beyond visible is not needed (version of **spectraval 15x1** up to 1 µm is planned)

- If no accessory than a diffusor is needed (currently only a diffusor is available for spectraval)

- If a luminance measurement above around 3500 cd/m^2 is needed (illum. A – 5000 cd/m^2, typical white LED – 3500 cd/m^2 for **specbos 1211**, values up to 100 000 cd/m^2 for **spectraval**)

- If a stand-alone operation is needed (**spectraval 1511** is equipped with display and SC card slot)

- If a wireless connection is preferred (spectraval is equipped with Bluetooth interface by default)

The following table shows a comparison of the major parameters of all three devices:

Parameter	spectraval 1501 / 1511	specbos 1211-2	specbos 1201
Wavelength range	380 ... 780 nm under preparation: 380 … 1000 nm	350 ... 1000 nm UV version: 230 nm … 1000 nm	380 ... 780 nm
Optical resolution (FWHM)	4.5 nm	4.5 nm	5 nm
Measuring range luminance (Illum. A/ typical white LED spectrum)	0.1 ... 150 000 cd/m^2 0.1 … 100 000 cd/m^2	0.2 ... 7500 cd/m^2/ 0.1 … 5400 cd/m^2	2 ... 70 000 cd/m^2/ 2 … 50 000 cd/m^2
Measuring range illuminance (Illum. A/ typical white LED spectrum)	2 … 1 000 000 lx / 2 … 740 000 lx (with optional diffusor)	2 … 60 000 lx / 2 … 45 000 lx	20 … 500 000 lx / 20 … 370 000 lx
Viewing angle Radiance mode	1.8 °	1.8 °	1.8 °
Measuring time on grayscale pattern of a monitor	~ 0.4 s at 100 cd/m^2 ~ 3 s at 5 cd/m^2	~ 0.5 s at 100 cd/m^2 ~ 4 s at 5 cd/m^2	~ 2.5 s at 100 cd/m^2 ~ 30 s at 5 cd/m^2
Interfaces	USB and Bluetooth Optional: LAN instead of Bluetooth	USB Optional: Bluetooth, RS232 or LAN	USB
Software	JETI LiVal	JETI LiVal	JETI LiVal
Power supply	USB Battery USB power supply	USB LAN: 9V power supply Bluetooth: battery, 9 V power supply	USB
Weight	1501: 400 g 1511: 500 g	450 g	350 g
Dimensions	140 mm x 80/ 115 mm x 70 mm	180 mm x 82 mm x 53 mm	140 mm x 58 mm x 34 mm