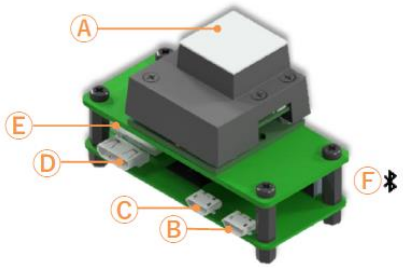
Mountain Photonics GmbH

T |+49 (0) 8191-985199-0
F |+49 (0) 8191-985199-99
M | info@mphotonics.de
W | www.mphotonics.de

Download Section:
http://www.content.mphotonics.de/SIW/NeoSpectra%20Micro%20DVK/DVK%202.%20Generation%20(ab%202018-10)/

Installation and first measurements



1) Connect Port C of the Development Kit to a computer via Micro USB.

2) Wait until the device is recognized as a removable disk and open it in Windows Explorer. Run the setup file on the disk to install the SpectroMOST_Micro software.

3) After installation, start the SpectroMOST_Micro software and wait until the status indicator turns green.

4) **Typically, you want to measure relative** (and not raw) **spectra.** This is done by correcting the raw spectrum for the sensitivity of the detector and the influences of the experimental setup by first measuring a white reference:

a. Select "Spectrum" tab

b. Scan Time: The scan time can be freely selected from 0.01 s upwards. The longer the measurement time, the better the signal-to-noise ratio.

c. Optical Gain Settings: the "Default" setting is designed for common reflection measurements and is usually the right choice.
If you should not use a 100% white reference (optical PTFE, >98%), e.g. because you are examining only weakly reflective materials and use a 10% reflection reference instead, you can create a new optical gain setting and then select it here. (More about this in point 6)

d. Run Mode: "Single" is usually the right choice to record a spectrum.

e. Perform reference measurement: Place your white reference on the optical head and click "Background". Now your 100% reference measurement is performed.

f. Measure the spectrum of a sample: Place the sample on the optical head (or the optical head on the sample) and click "Run". The measurement is performed and the relative spectrum of the sample is displayed. This is the raw spectrum (PSD) of the sample divided by the raw spectrum (PSD) of your white reference and thus a relative spectrum.

g. **Data Display:** Here you can select the display of your spectrum.

   i. A linear interpolation only leads to a more beautiful graphical representation.

   ii. You can display the wavelength in nm or the wavenumber in cm^{-1} on the X-axis.

   iii. For the Y-axis you can choose between percentage reflection/transmission or absorbance.

h. **Plots**: Now you can save your spectrum or load it again later.

   i. i. "Save" if you want to save all measured spectra numbered in the sequence of your measurement.

   ii. ii. "Auto-save" allows you to select a folder in which all spectra measured afterwards will be stored (ATTENTION: only usable for Run mode "Single").

   iii. iii. "Load" to load previous measurements.

   iv. iv. "Clear" deletes the displayed spectra.

i. Now you can **open** the .Spectrum files with a simple editor **as text file**. Also an import into Excel is easily possible from here, please only pay attention to the dot/comma problem, because the English nomenclature with a dot as decimal separator is used in the files.

5) If you are interested, you can record raw spectra in the **"PSD" tab** in the same way as described in point 4), except that no reference measurement is required here. The spectrum here is overlaid with the sensitivity of the detector and other influencing variables of the setup.

6) If you want to make **further settings** (wavelength correction, new gain settings or to influence the FFT) you can activate "Spectrometer" -> "Advanced/FFT Settings" in the menu above. Please feel free to contact me, I will be happy to explain these options and help you to choose the right settings.