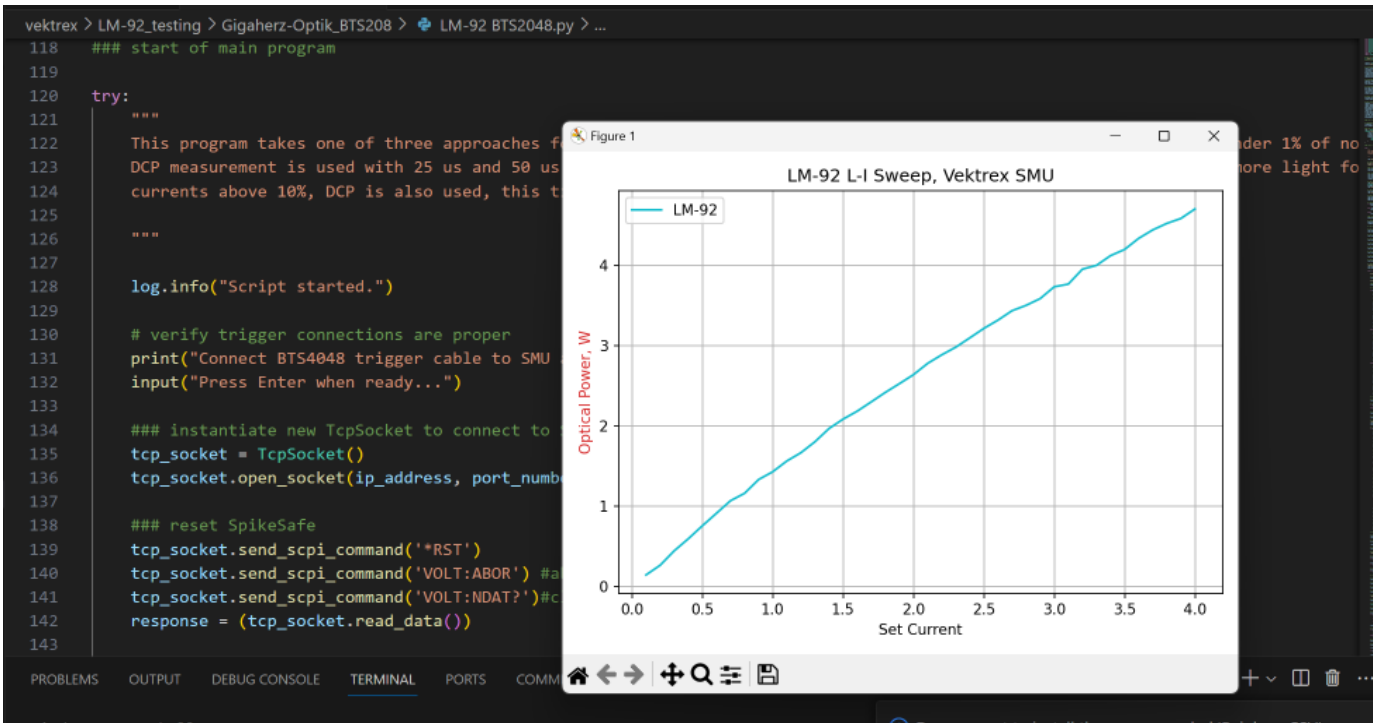
Vektrex Tools – Python LIV Measurement Software



Automatic LIV Software – BTS2048 Version

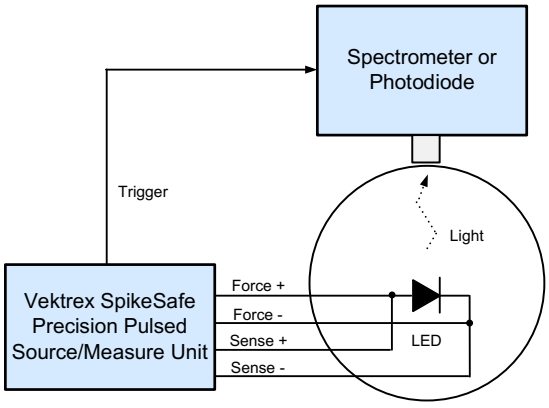
Overview

Vektrex's LIV Python scripts provide standard-compliant measurements for UV or visible LEDs and lasers. The scripts implement the major testing methods document in the IES LM-85 and LM-92 standards, including Single Pulse and the Differential Continuous Pulse (DCP) measurement method, which uses microsecond current pulses to power the Device Under Test (DUT).

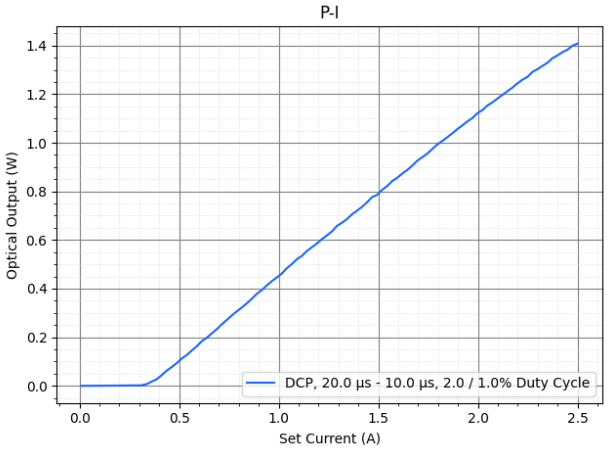
The script controls the instruments needed: a Vektrex Precision Pulsed SMU and a light-measurement instrument, typically a spectrometer or photodiode. Scripts are available for most popular spectrometers, including Instrument Systems, and Gigahertz-Optik. Photodiodes are supported with a script version that reads photodiode current with a Keithley 7510 DMM multi-slope integrator DMM.

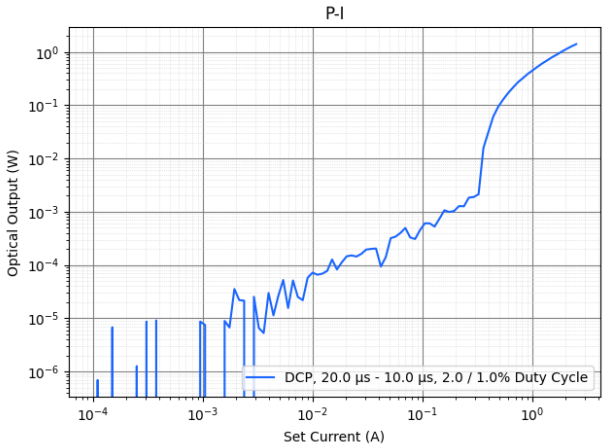
The script includes graphic displays of power, wavelength, voltage and the DUT's spectrum. File output is also provided. Execution is fast – up to six measurements per second for the Instrument Systems version.

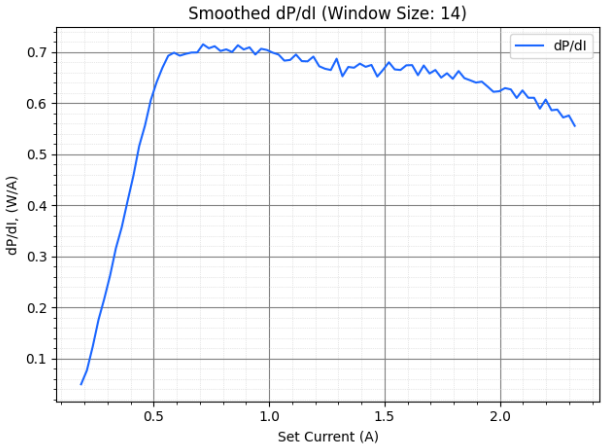
Test parameters are defined in convenient recipe files that are easily customized. Flexible options like log/linear plotting make data visualization easy. Results are saved to csv output files for easy import into other applications.

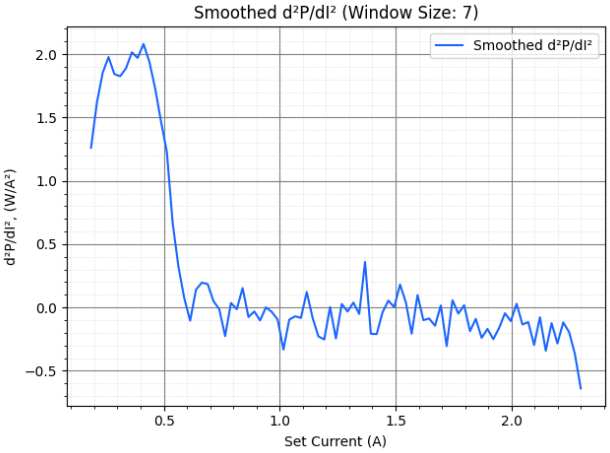


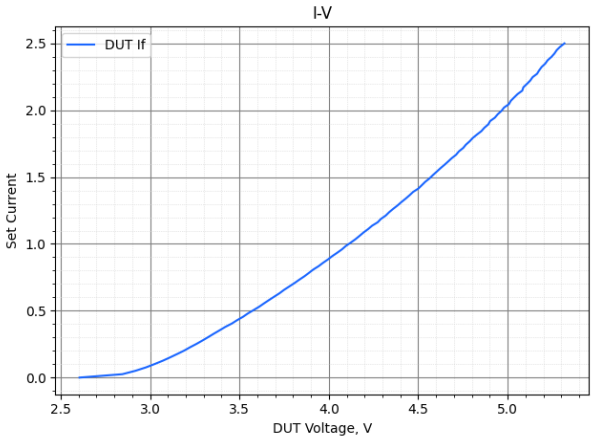
Example Graphs

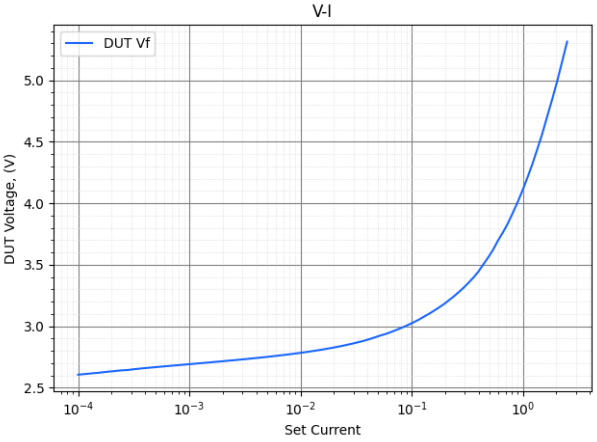




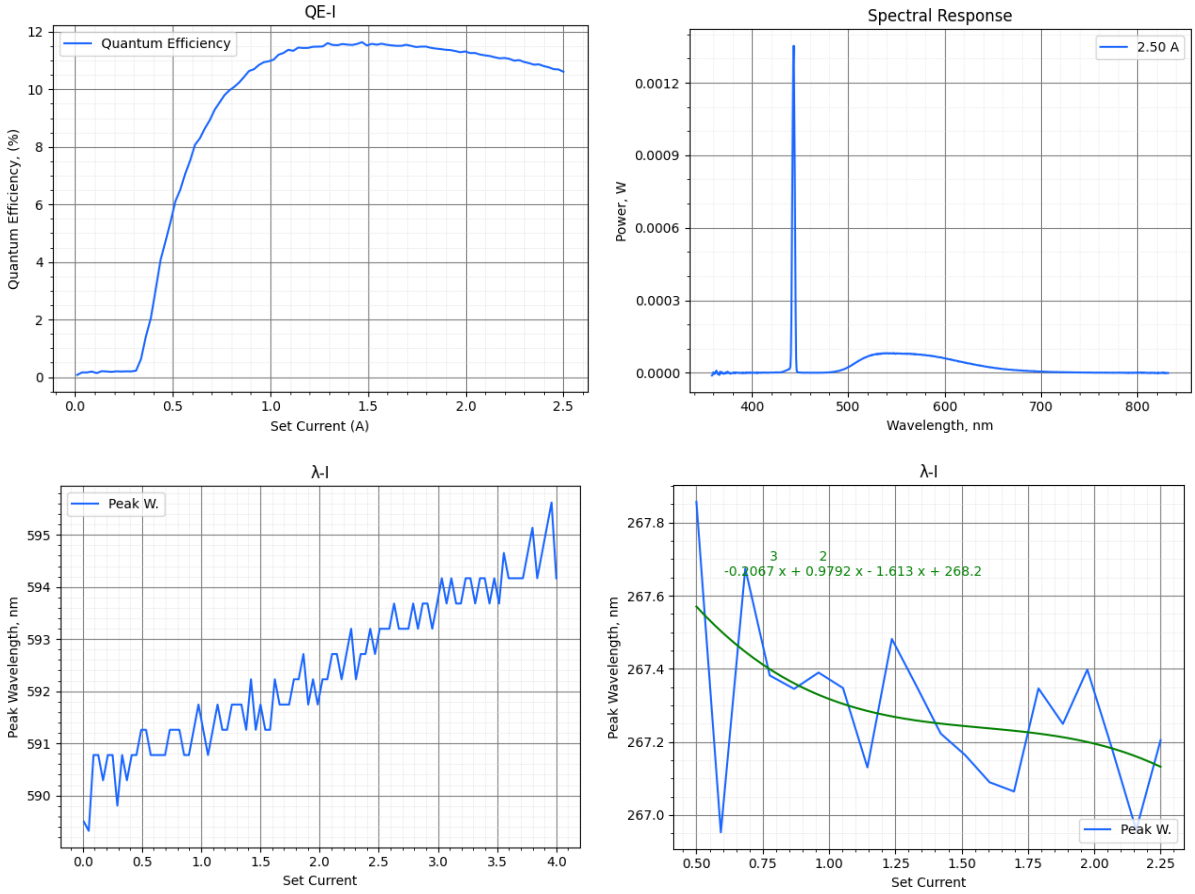








Example Graphs, Continued



Example csv data

Test Date & Time: 2025-06-10 11:04:56

Test Operator: Jeff Hulett

DUT Name: Luminus UV-C LED

Test System Name: BTS2048 with Vektrex Integrating Cup

Integration Time: 2.0

Set_Current,Voltage,W/m2,Peak_Wavelength,SP,LP,Wavelengths,Intensities

0.0350000,18.6662350,0.0274359,280.3793772,0.0292765,0.0274359,166.5946045,0.0000000

0.0494872,18.9608190,0.0404921,280.3167769,0.0407045,0.0404921,166.7635040,0.0000000

0.0639744,19.2677330,0.0519782,280.3992593,0.0557130,0.0519782,166.9324036,0.0000000

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0.1219231,20.1438620,0.0994812,280.3453634,0.1108168,0.0994812,167.6080933,0.00000