Quantum Cascade Solutions
Passage Max.-Meuron 1-3 CH-2000 Neuchâtel Tel: +41 32 729 95 10
Case Postale 1766 Switzerland Fax: +41 32 721 36 19

Datasheet for #sbcw3561 DN

Recommendations:

Please read the starter kit user manual, if available, and have a look at the FAQ at `http://www.alpeslasers.ch/alfaq.pdf`

WARNING: Operating the laser with higher current or voltage than specified in this document may cause damage and will result in loss of warranty, unless Alpes Lasers has permitted to do so!

WARNING: Beware of the polarity of the laser. This laser has to be powered with negative current on the laser contact (= bonding pad, corresponding to the label "laser" on the LLH) and the positive current on the base contact (= submount, corresponding to the label "base" on the LLH). To use with a power-supply ILX Lightwave LDX-3232 or equivalent.

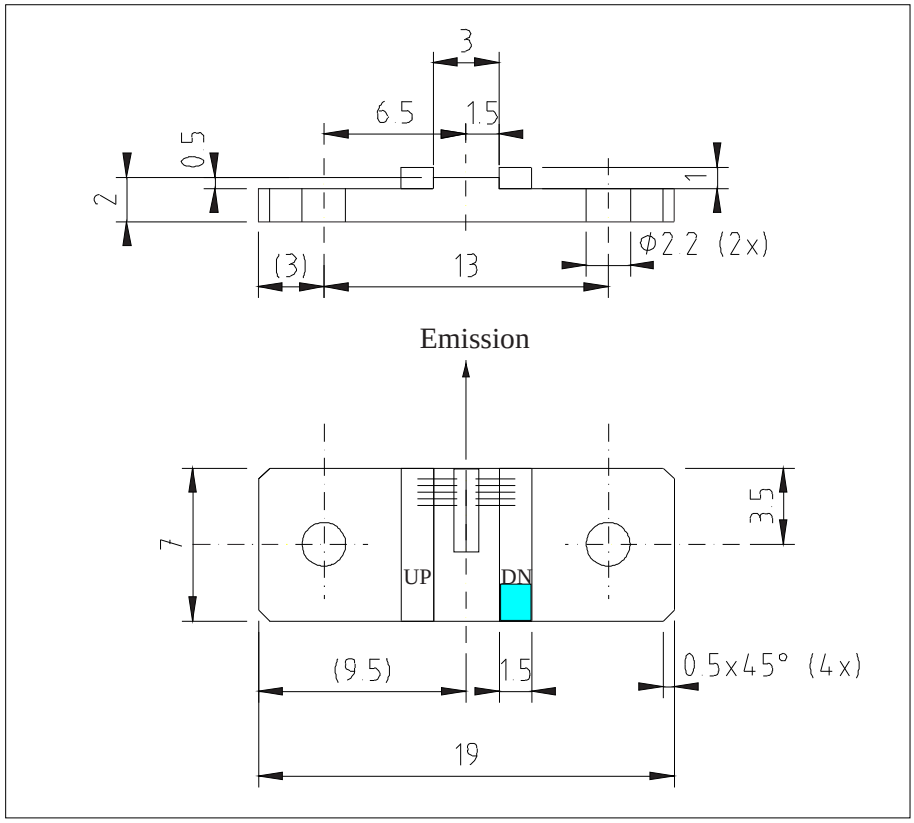


Figure 1: Support mounting for #sbcw3561 DN (please note that the laser is connected to the DN pad drawned in blue)

Performances in continuous-wave at 80K

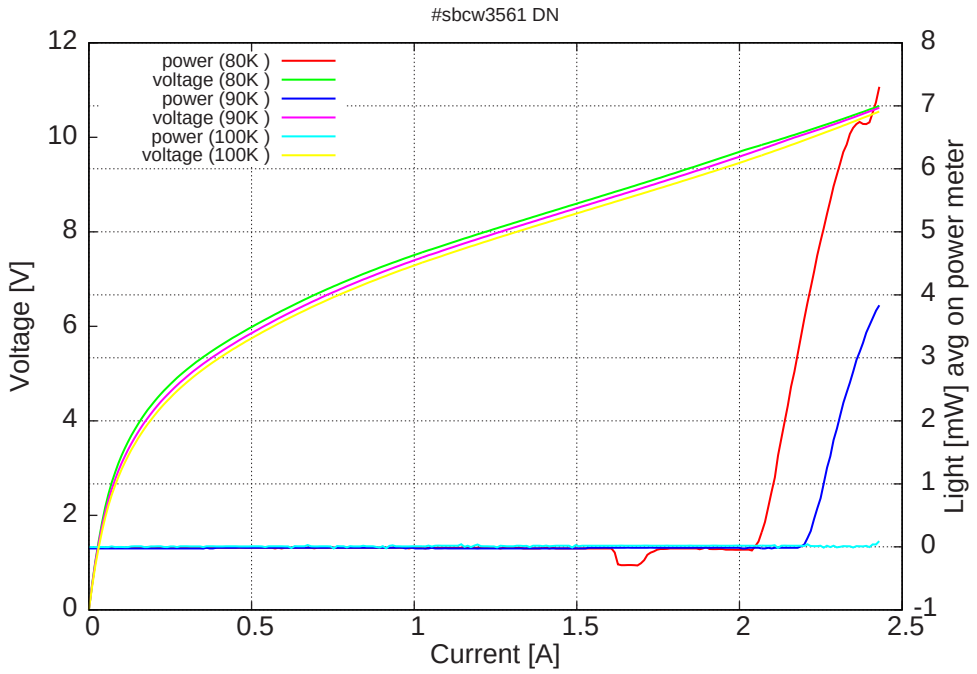
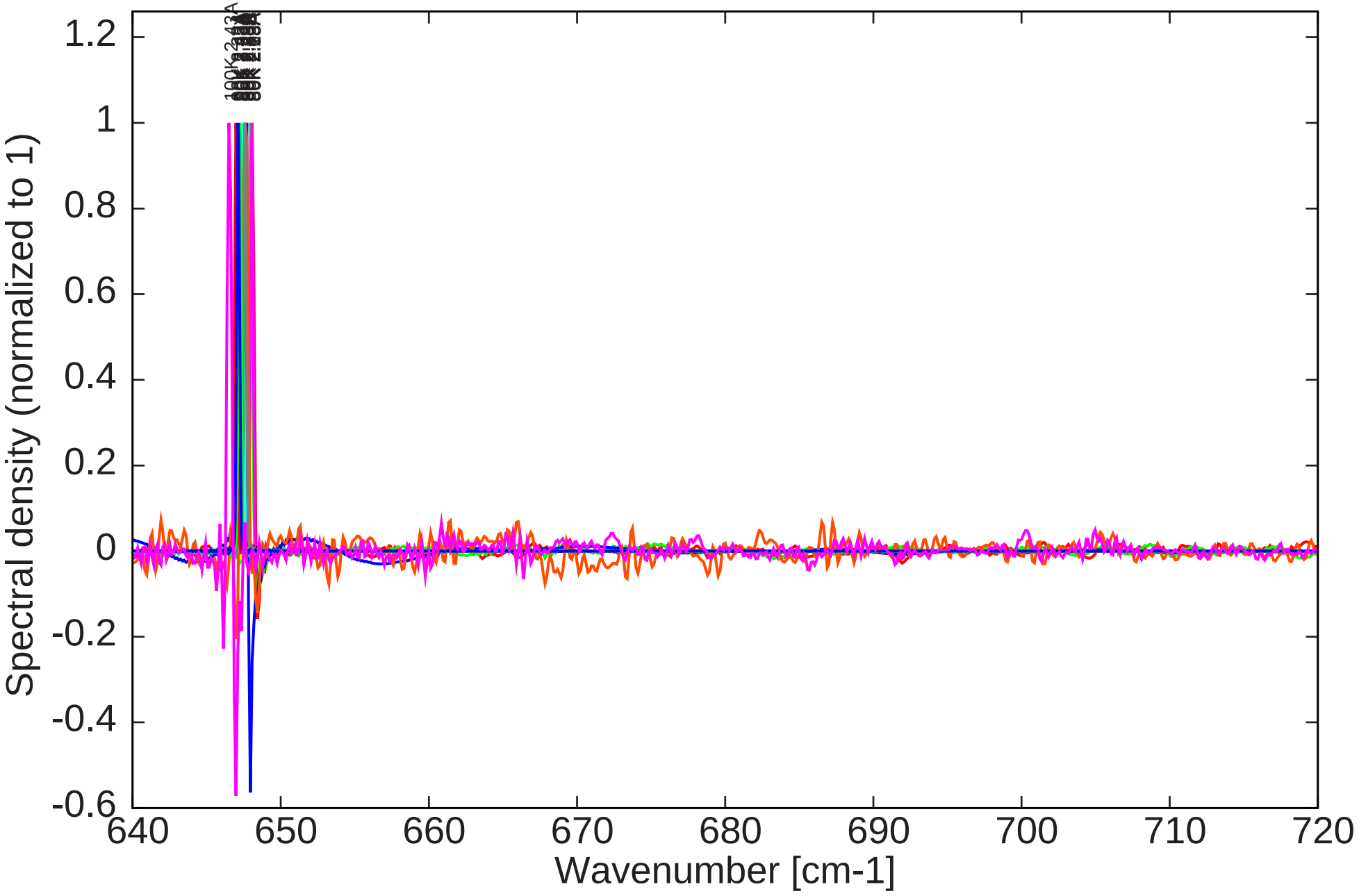


Figure 2: voltage and avg power vs current in continuous-wave operation for a laser having a grating for emission around 628cm-1 (3mm-long, 16.5um-wide)

Note: at 80K: Ith=2.05A / Vth= 9.8V (2-wires measurements).
Maximum operation current: 2.43A for all temperatures.

Figure 3: spectra at different temperatures for various DC currents



#sbcw3561 DN

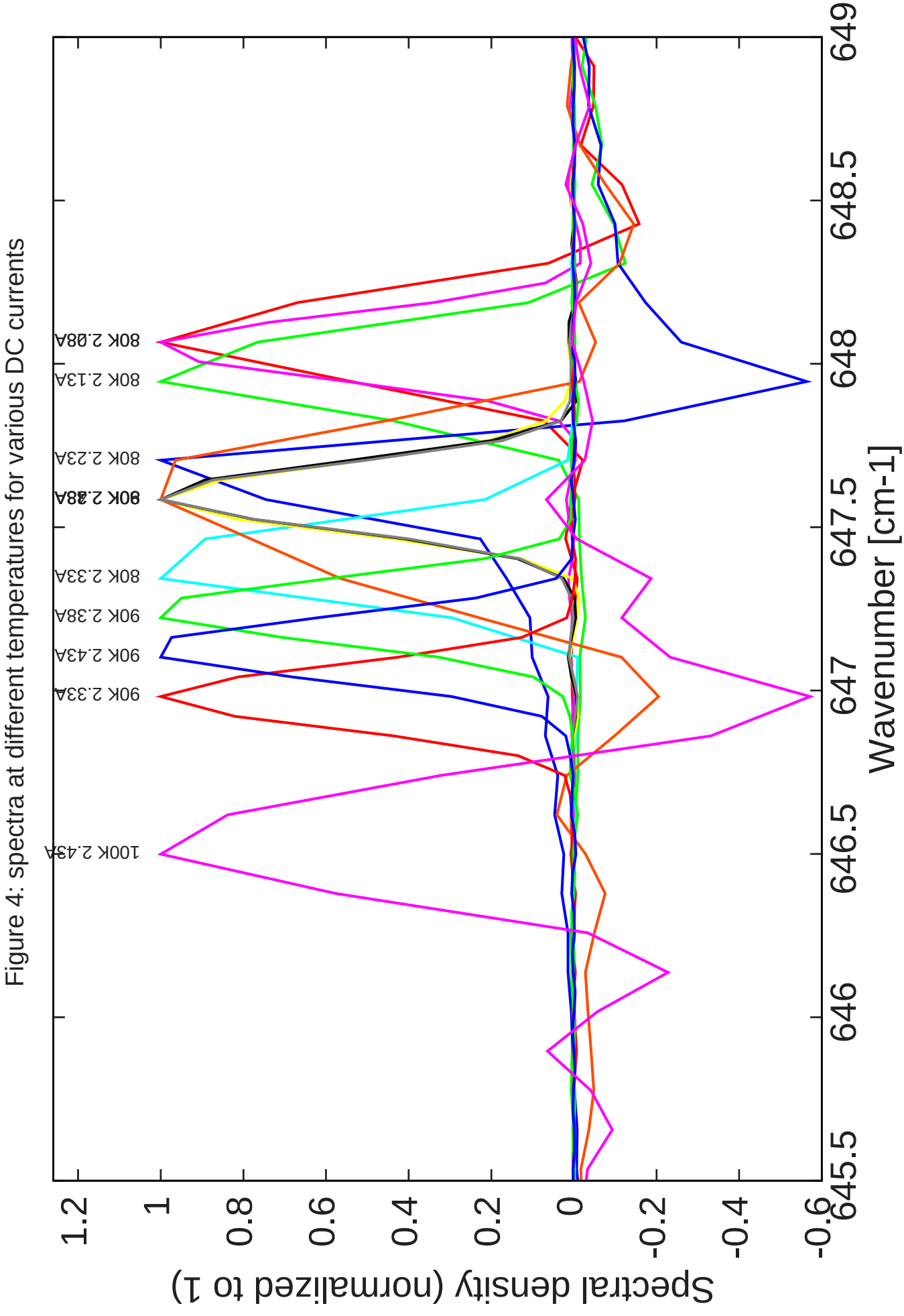


Figure 4: spectra at different temperatures for various DC currents

#sbcw3561 DN

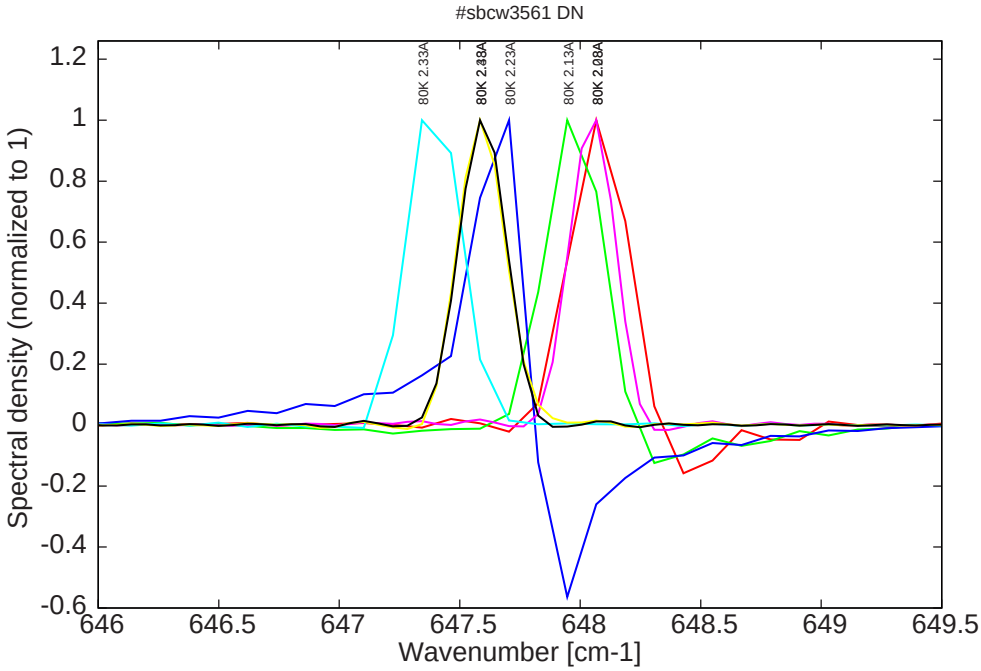


Figure 3: spectra at 80K in continuous-wave for various DC currents (monomode with multiple mode jumpings)

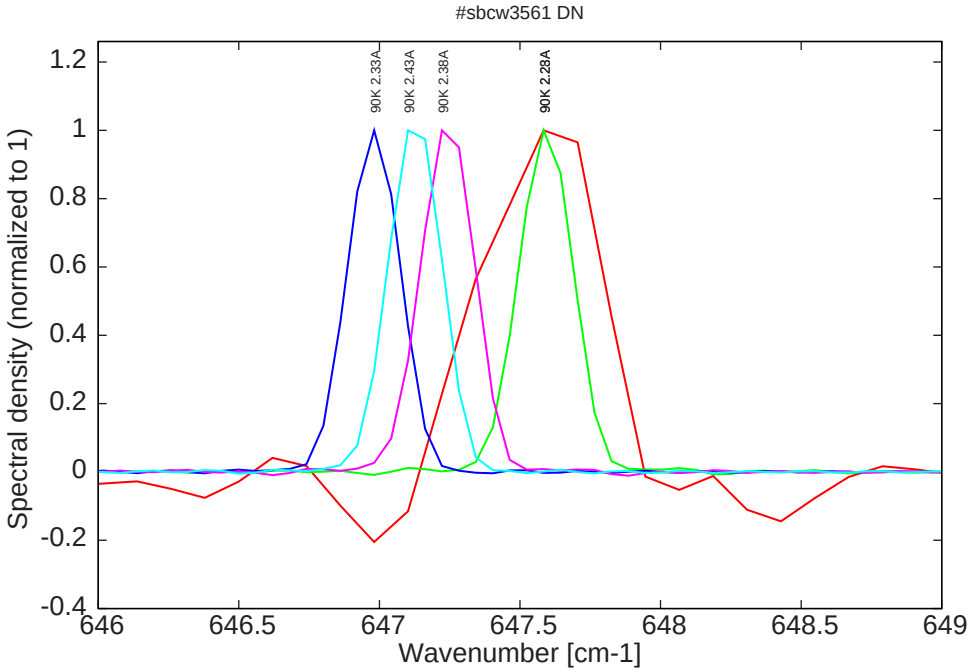


Figure 4: spectra at 90K in continuous-wave for various DC currents (monomode with multiple mode jumpings)

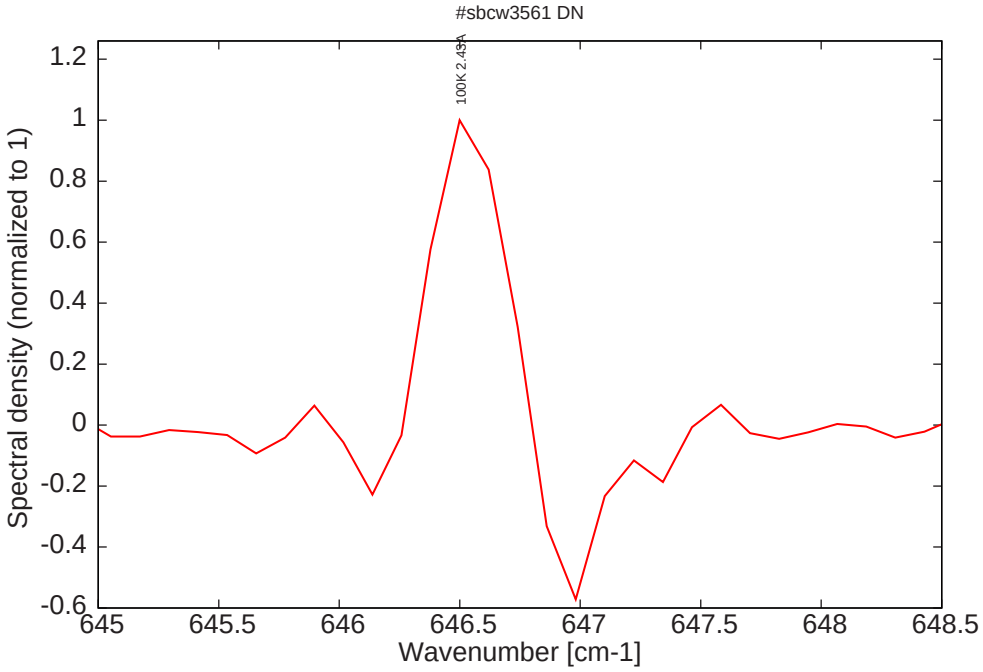


Figure 5: spectrum at 100K in continuous-wave at threshold

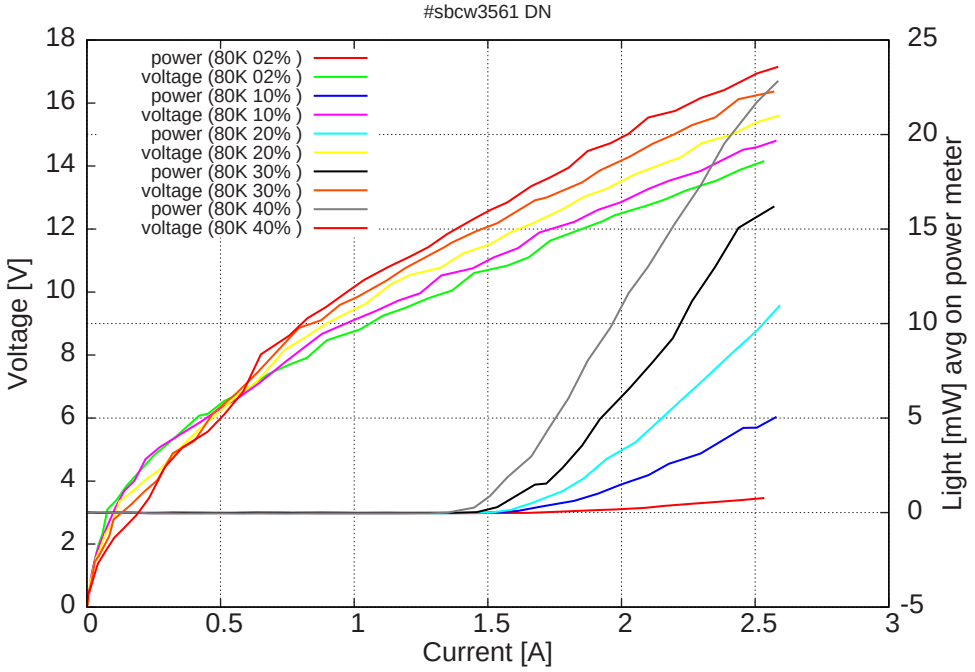


Figure 6: peak voltage and average power vs peak current at 80K for various duty-cycles (100ns pulses on the laser, 5μs period)

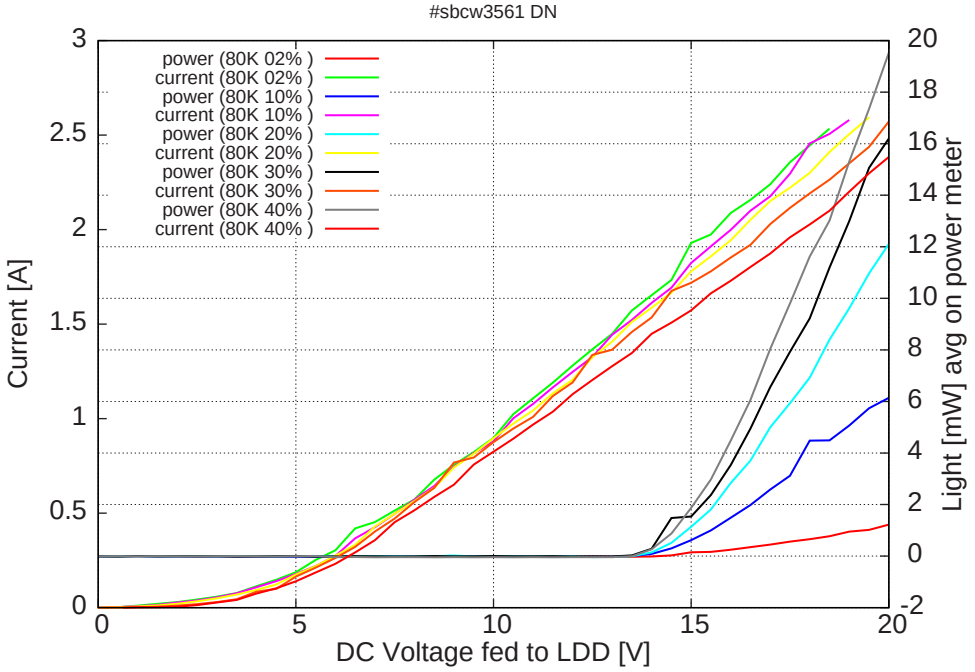


Figure 7: peak current and average power vs LDD voltage at 80K for various duty-cycles (100ns pulses on the laser, 5μs period)

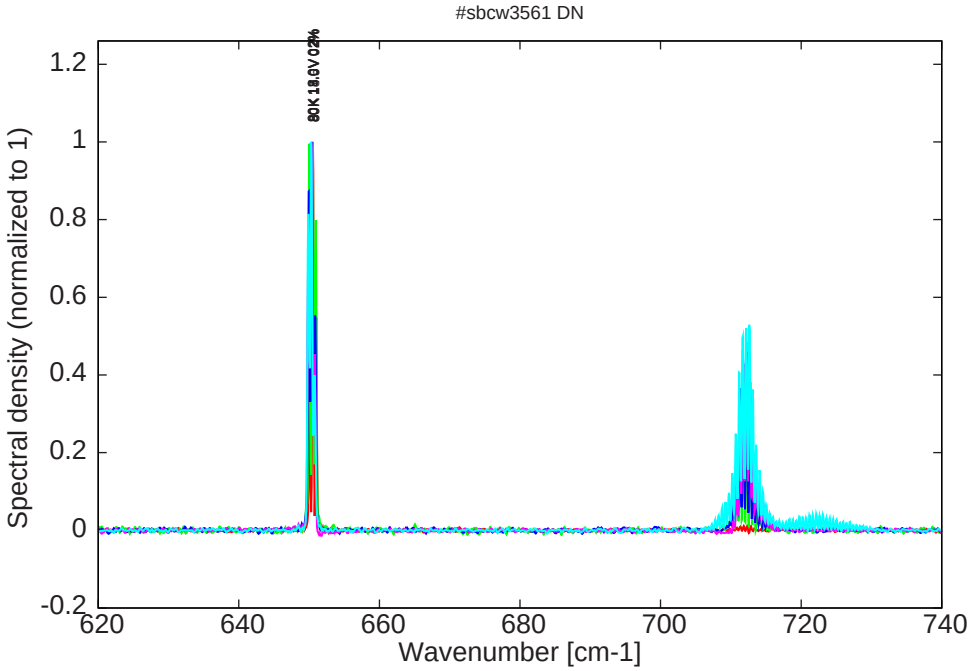


Figure 8: multimode spectra at 80K at 2% duty-cycle for various voltages on LDD

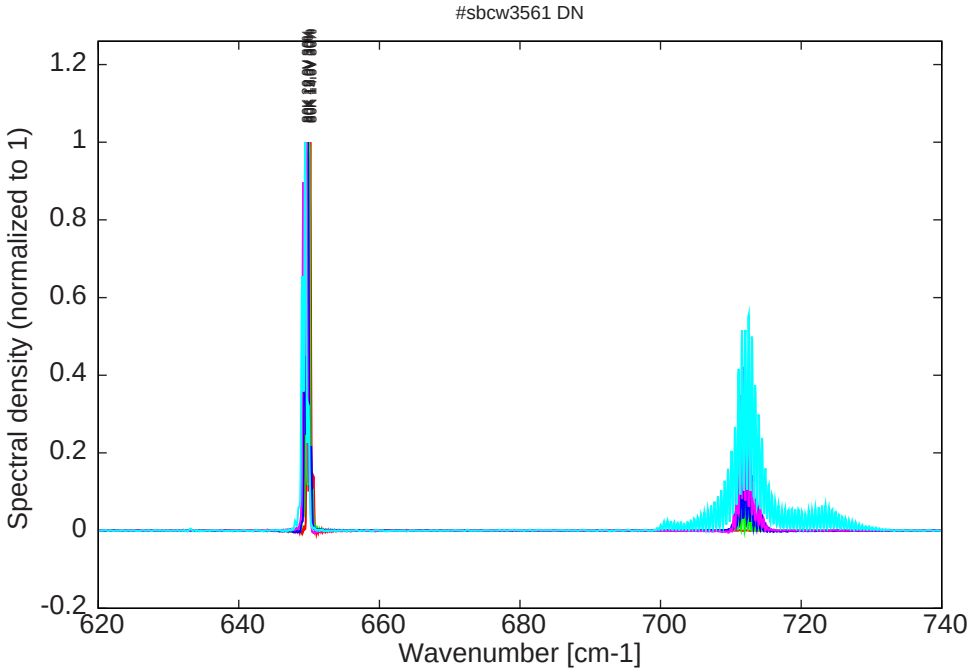


Figure 9: multimode spectra at 80K at 30% duty-cycle for various voltages on LDD