

Datasheet for #sbcw2834 DN

Recommendations:

Please read the starter kit user manual (at least installation chapter 5), 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 #sbcw2834 DN (please note that the laser is connected to the DN pad drawn in blue)

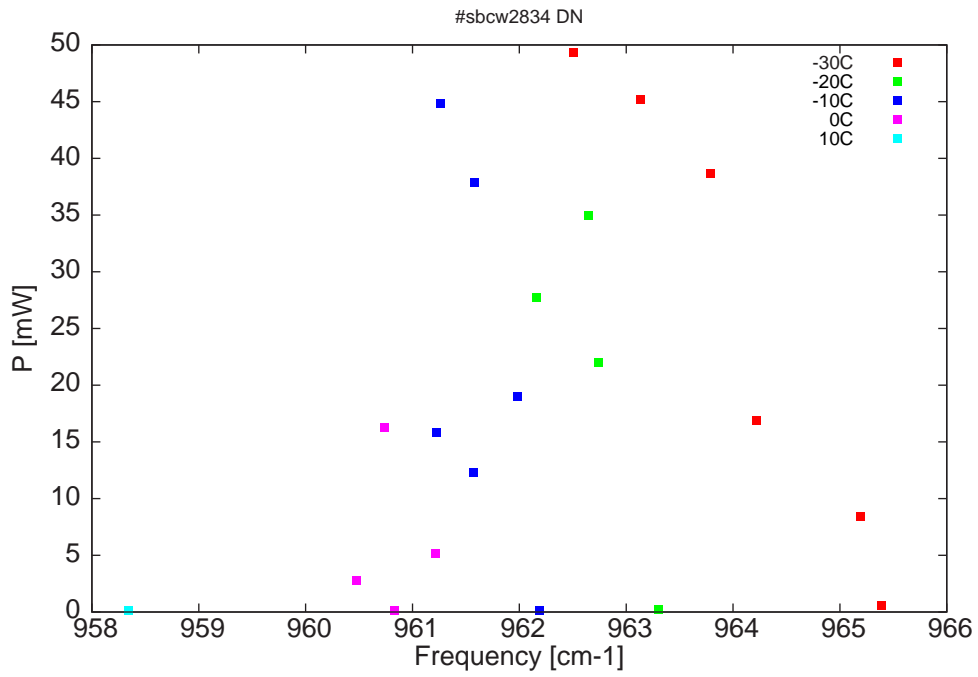


Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

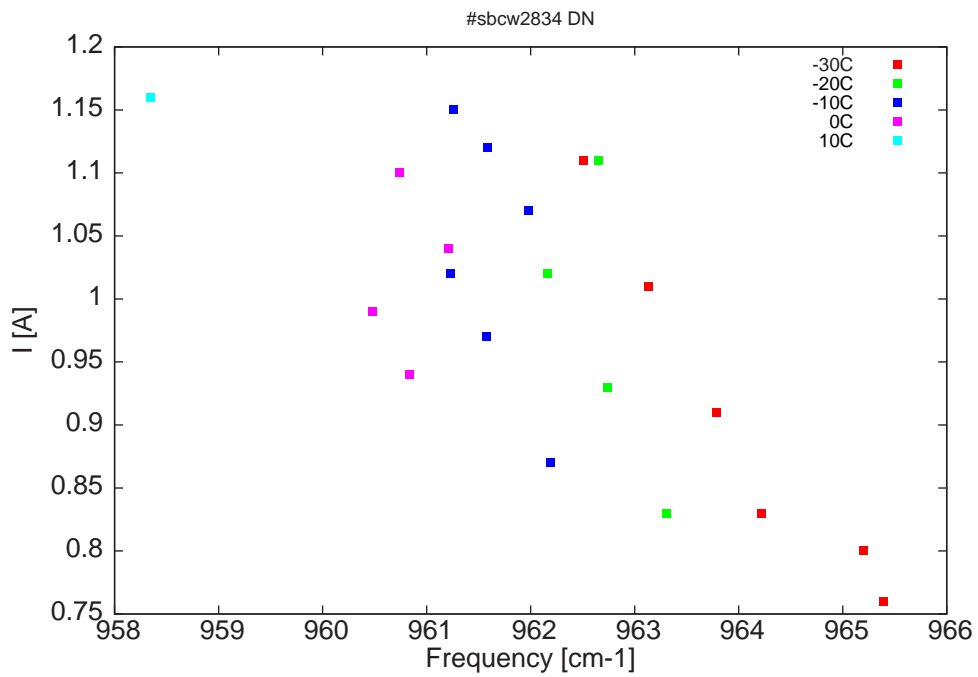


Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

λ [nm]	ν [cm^{-1}]	P[mW]	Temp[$^{\circ}\text{C}$]	U_{LASER} [V]	I[A]
10358.5	965.4	0.6	-30	8.8	0.76
10360.6	965.2	8.4	-30	9	0.8
10371.1	964.2	16.9	-30	9.1	0.83
10375.7	963.8	38.7	-30	9.3	0.91
10382.7	963.1	45.2	-30	9.6	1.01
10389.6	962.5	49.3	-30	10	1.11
10381	963.3	0.2	-20	9	0.83
10387	962.7	22	-20	9.3	0.93
10393.2	962.2	27.7	-20	9.7	1.02
10388	962.7	34.9	-20	10	1.11
10392.9	962.2	0.1	-10	9.1	0.87
10399.6	961.6	12.3	-10	9.5	0.97
10403.3	961.2	15.9	-10	9.6	1.02
10395.2	962	19	-10	9.9	1.07
10399.5	961.6	37.8	-10	10	1.12
10403	961.3	44.8	-10	10.2	1.15
10407.6	960.8	0.2	0	9.3	0.94
10411.5	960.5	2.8	0	9.5	0.99
10403.5	961.2	5.2	0	9.7	1.04
10408.7	960.7	16.2	0	9.9	1.1
10434.7	958.3	0.2	10	10.2	1.16

Table 1 : singlemode optical output power as function of operating parameters

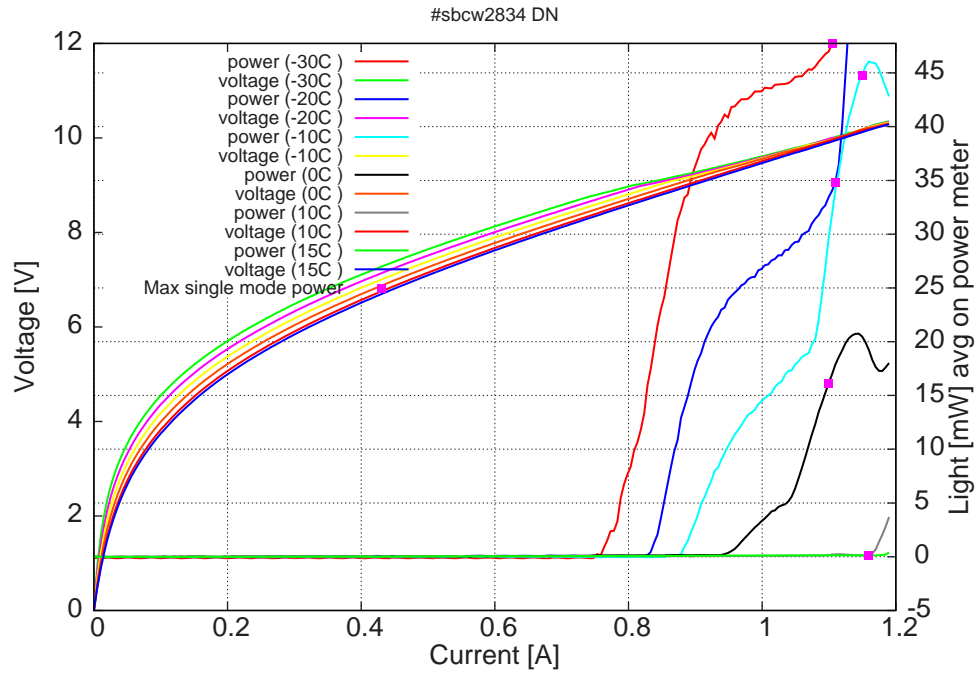


Figure 4: voltage and avg power vs current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

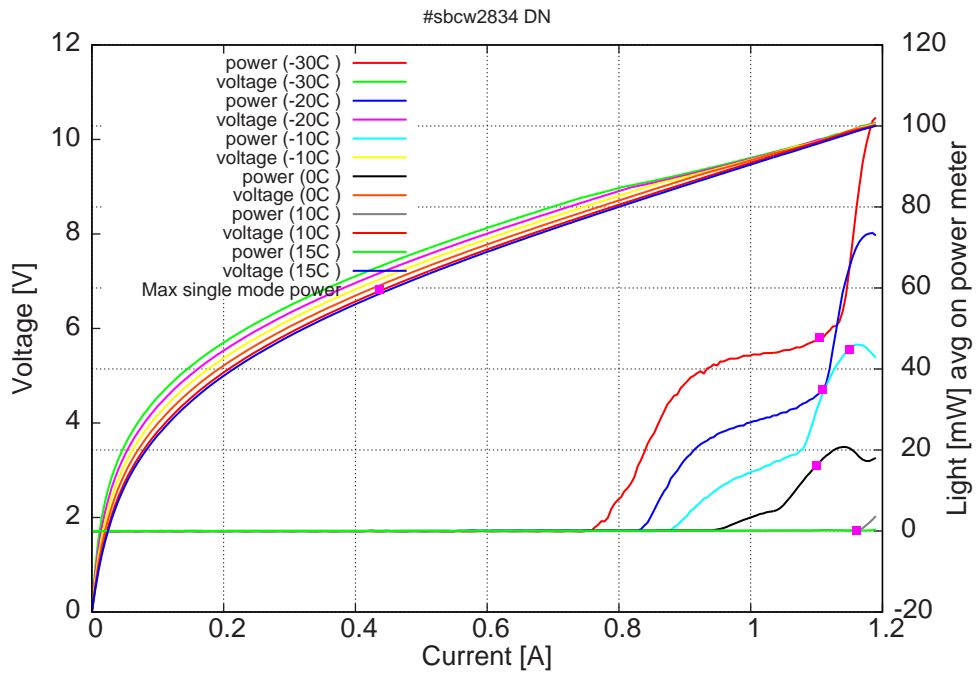
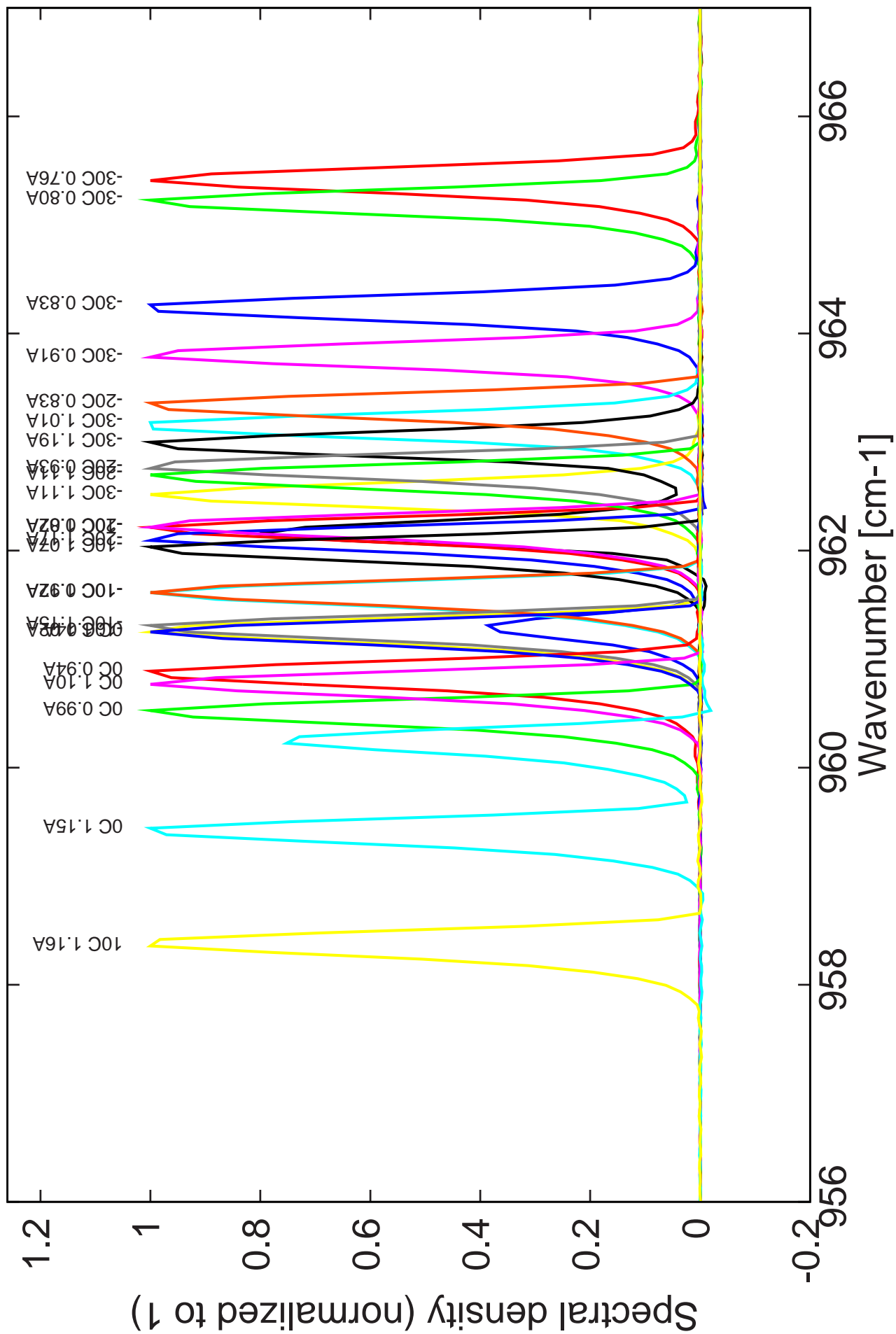


Figure 5: voltage and avg power vs current in continuous-wave operation (including the multimode region)

Note: at -30C: $I_{th}=760\text{mA}$ / $V_{th}= 8.8\text{V}$ (2-wires measurements). Maximum operation current: 1.19A for all temperatures.

Figure 4: spectra at different temperatures for various DC currents



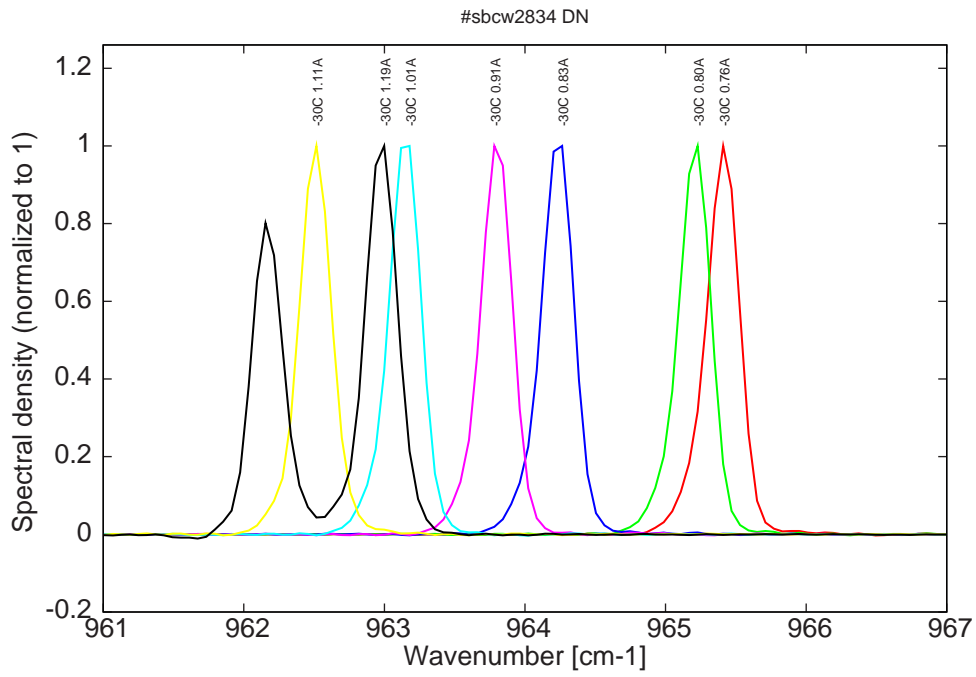


Figure 6: spectra at -30C for various DC currents (monomode up to 1.11A)

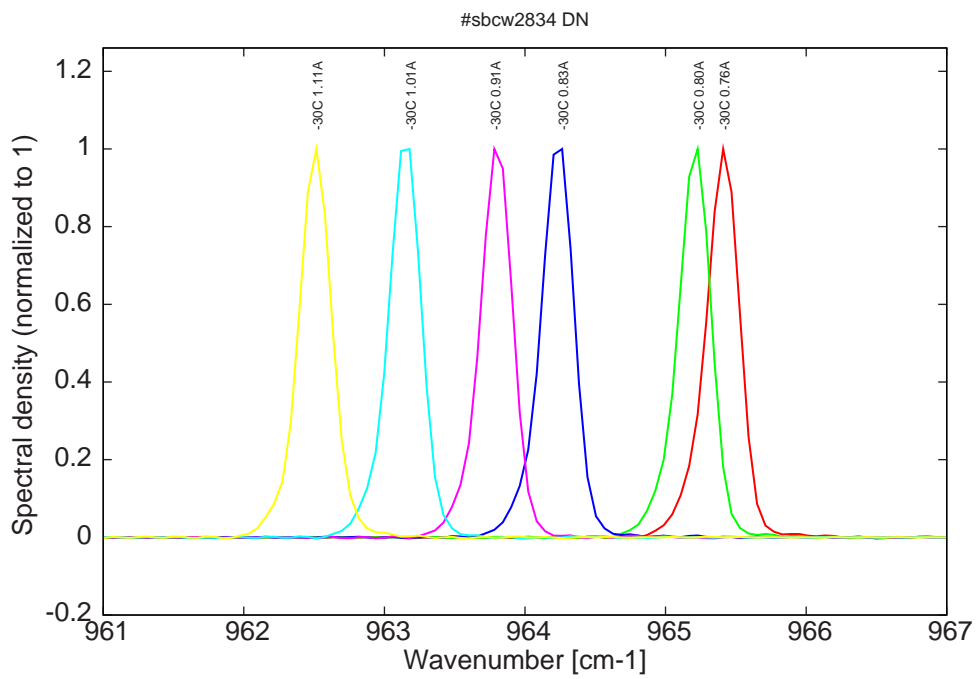


Figure 7: spectra at -30C for various DC currents (monomode range with mode jumping between 0.80A and 0.83A, see Fig. 3)

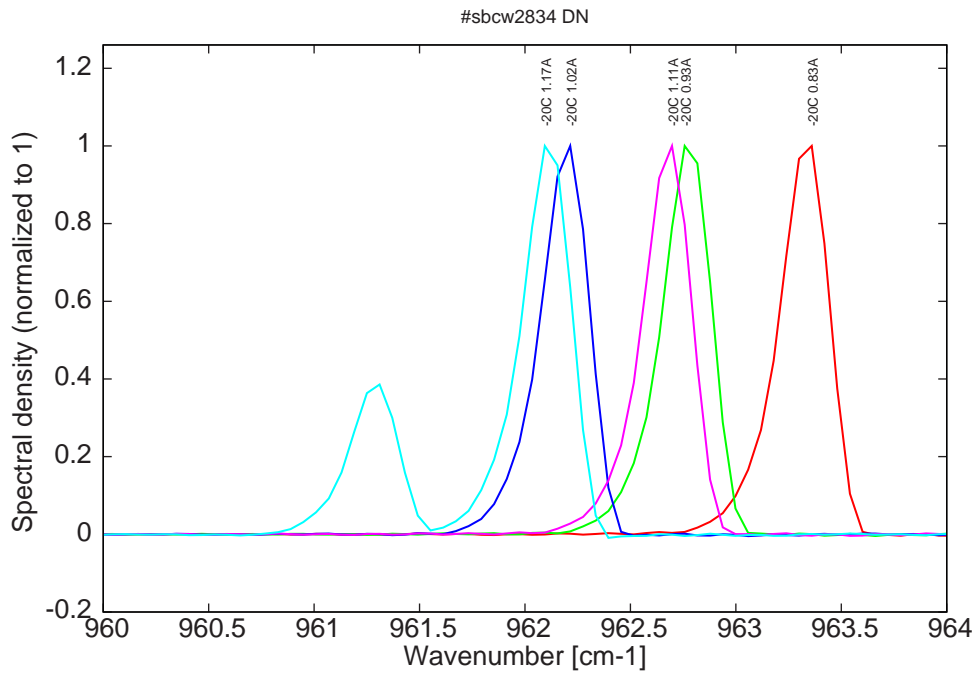


Figure 8: spectra at -20C for various DC currents (monomode up to 1.11A)

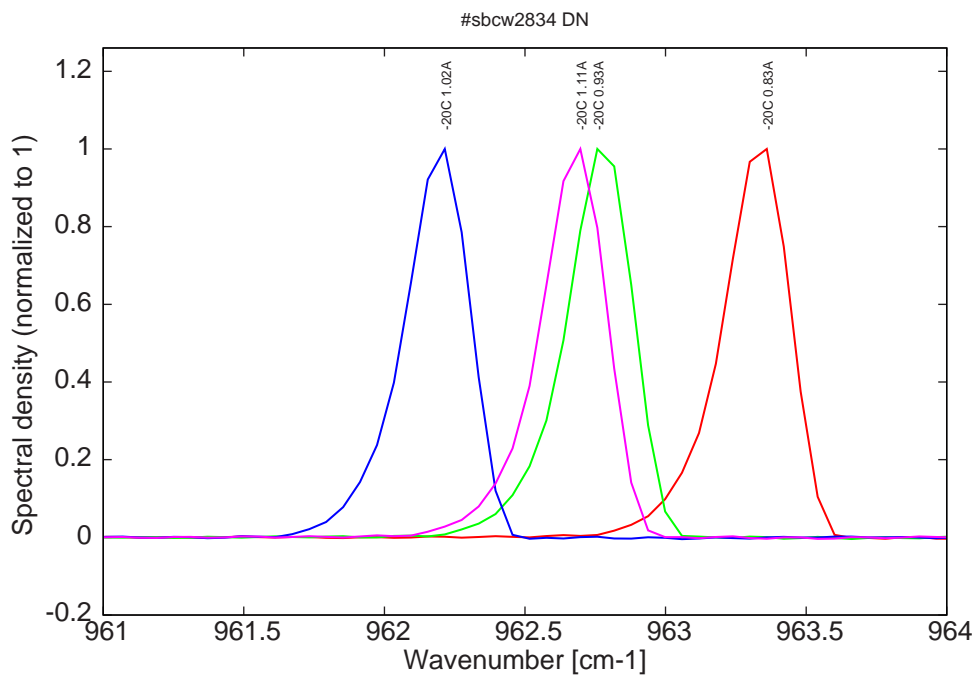


Figure 9: spectra at -20C for various DC currents (monomode range with mode jumping between 1.02A and 1.11A, see Fig. 3)

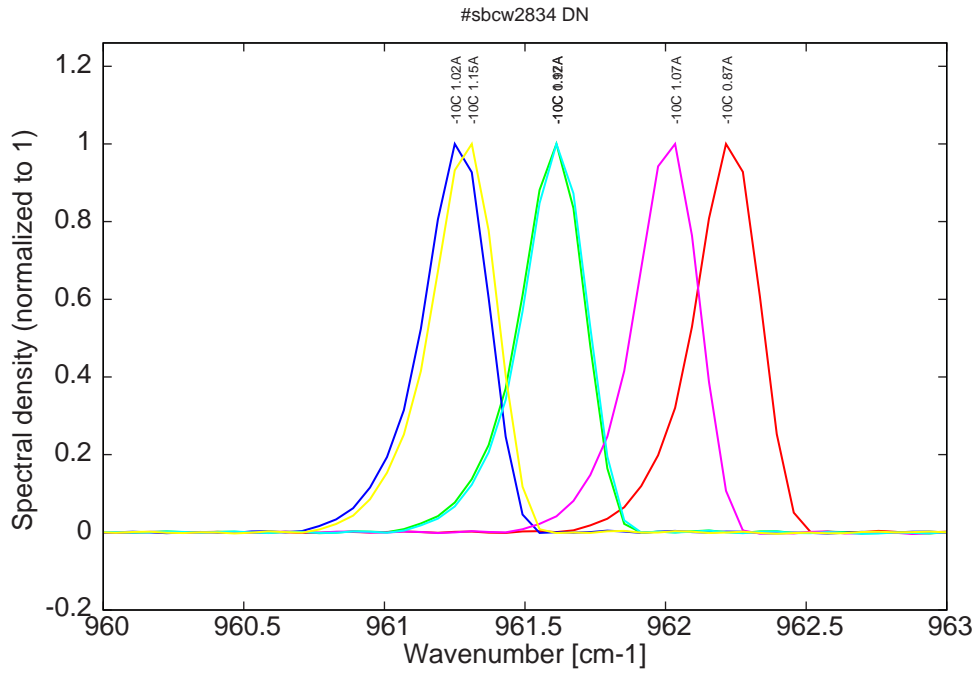


Figure 10: spectra at -10C for various DC currents (all monomode but with mode jumping between 1.02A and 1.07A, see Fig. 3)

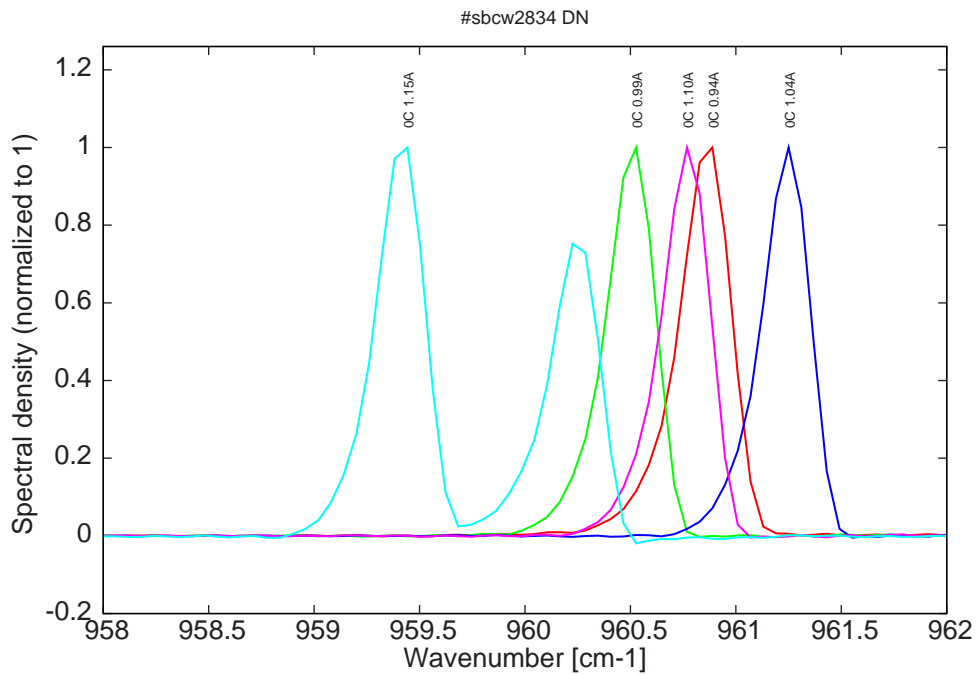


Figure 11: spectra at 0C for various DC currents (monomode up to 1.10A)

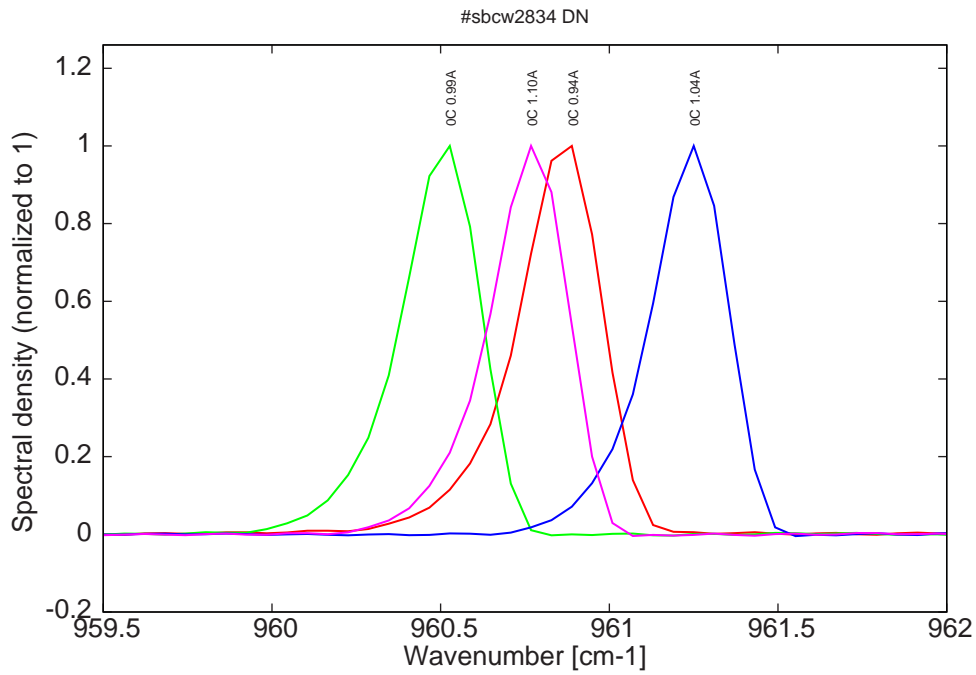


Figure 12: spectra at 0C for various DC currents (monomode range with mode jumping between 0.99A and 1.04A, see Fig. 3)

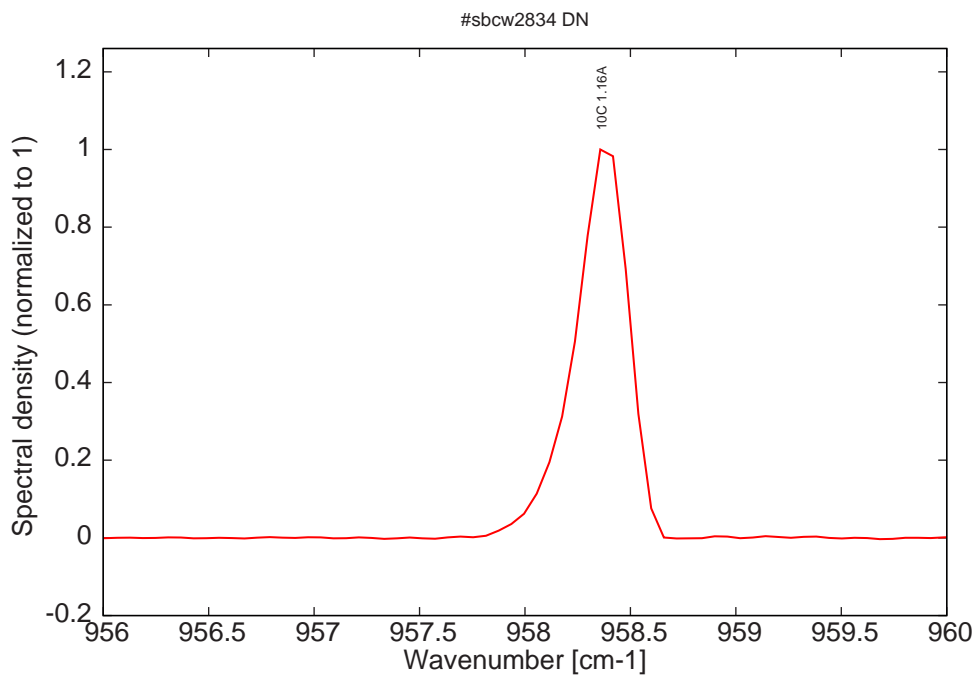


Figure 13: spectrum at 10C at 1.16A (monomode but on a different mode compared the other temperatures, see Fig. 3)