

Datasheet for #sbcw14174 DN

Recommendations:

Please read the User Manual and have a look at the FAQ at <http://www.alpeslasers.ch/?a=142>

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 be used with a high compliance CW laser driver capable of reaching the operating current and voltage indicated in this datasheet, or up to 2.5A/20V.

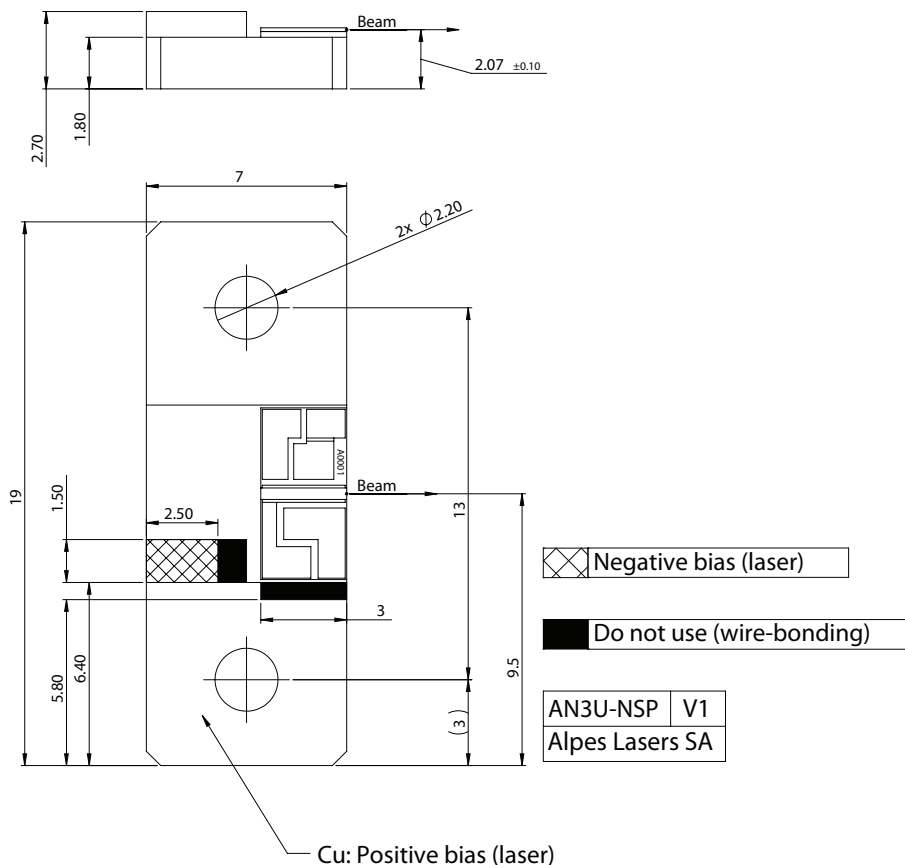


Figure 1: Mechanical and electrical interface for #sbcw14174 DN

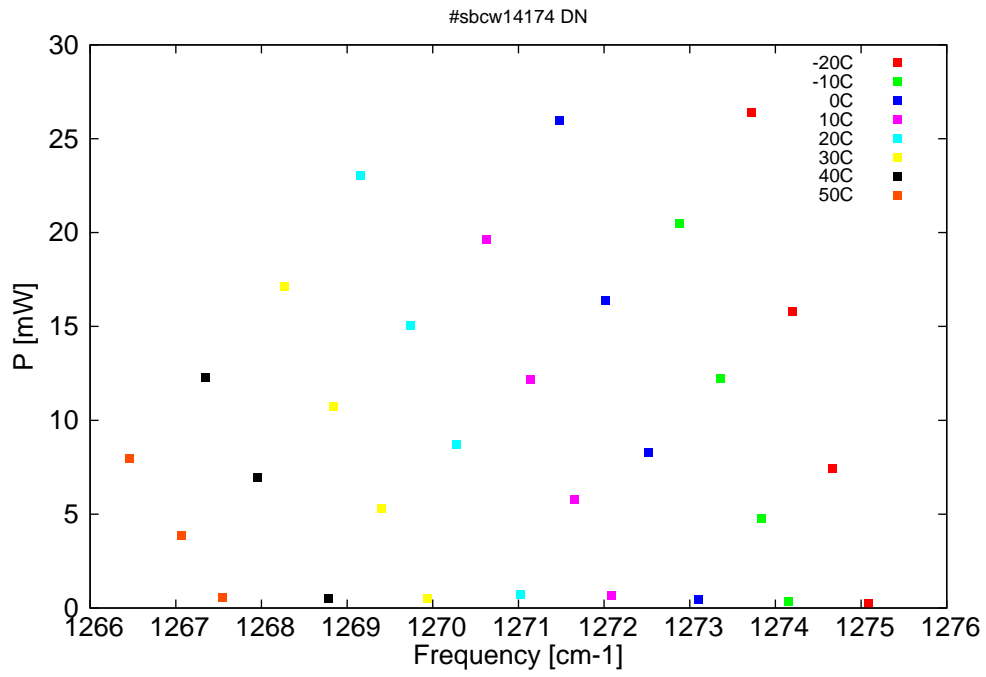


Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

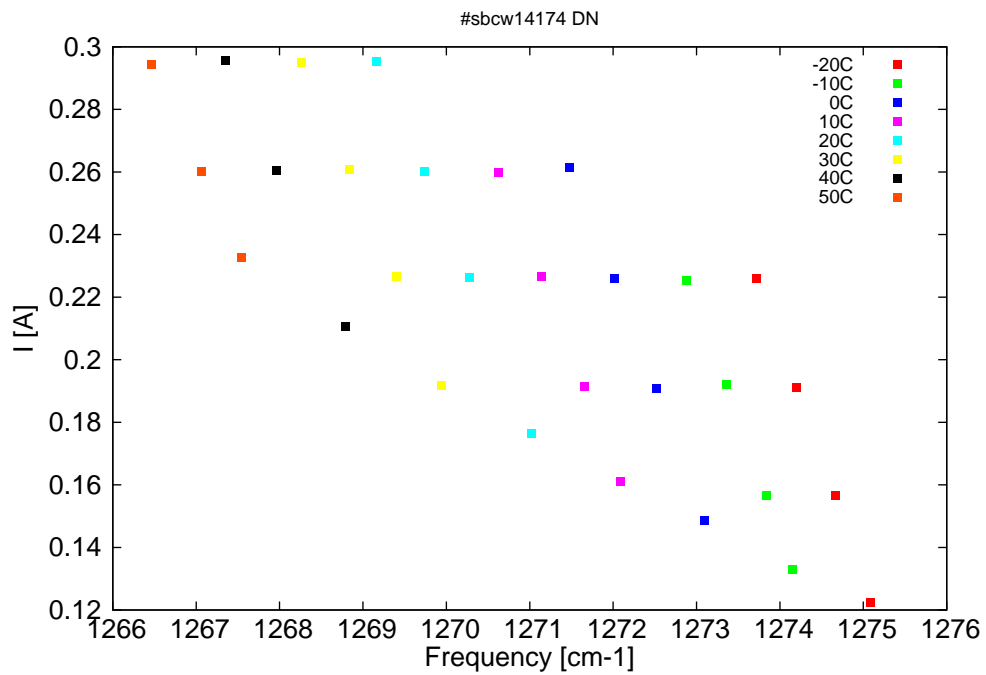


Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

λ [nm]	ν [cm ⁻¹]	P[mW]	Temp[°C]	U_{LASER} [V]	I[A]
7842.6	1275.1	0.2	-20	7.6	0.12
7845.2	1274.7	7.5	-20	8	0.16
7848.1	1274.2	15.8	-20	8.3	0.19
7851	1273.7	26.4	-20	8.5	0.23
7848.4	1274.1	0.4	-10	7.6	0.13
7850.3	1273.8	4.7	-10	7.8	0.16
7853.2	1273.4	12.2	-10	8.1	0.19
7856.2	1272.9	20.5	-10	8.4	0.23
7854.8	1273.1	0.4	0	7.6	0.15
7858.4	1272.5	8.3	0	8	0.19
7861.6	1272	16.4	0	8.3	0.23
7864.8	1271.5	25.9	0	8.5	0.26
7861.1	1272.1	0.6	10	7.6	0.16
7863.7	1271.7	5.8	10	7.9	0.19
7866.9	1271.1	12.2	10	8.2	0.23
7870.2	1270.6	19.6	10	8.4	0.26
7867.7	1271	0.7	20	7.7	0.18
7872.3	1270.3	8.7	20	8.1	0.23
7875.7	1269.7	15.1	20	8.3	0.26
7879.2	1269.2	23.1	20	8.6	0.3
7874.4	1269.9	0.5	30	7.7	0.19
7877.7	1269.4	5.3	30	8	0.23
7881.2	1268.8	10.7	30	8.2	0.26
7884.8	1268.3	17.1	30	8.5	0.3
7881.5	1268.8	0.5	40	7.8	0.21
7886.7	1268	7	40	8.1	0.26
7890.5	1267.4	12.3	40	8.4	0.3
7889.3	1267.5	0.6	50	7.9	0.23
7892.2	1267.1	3.8	50	8.1	0.26
7896	1266.5	7.9	50	8.3	0.29

Table 1: Singlemode optical output power as function of operating parameters.

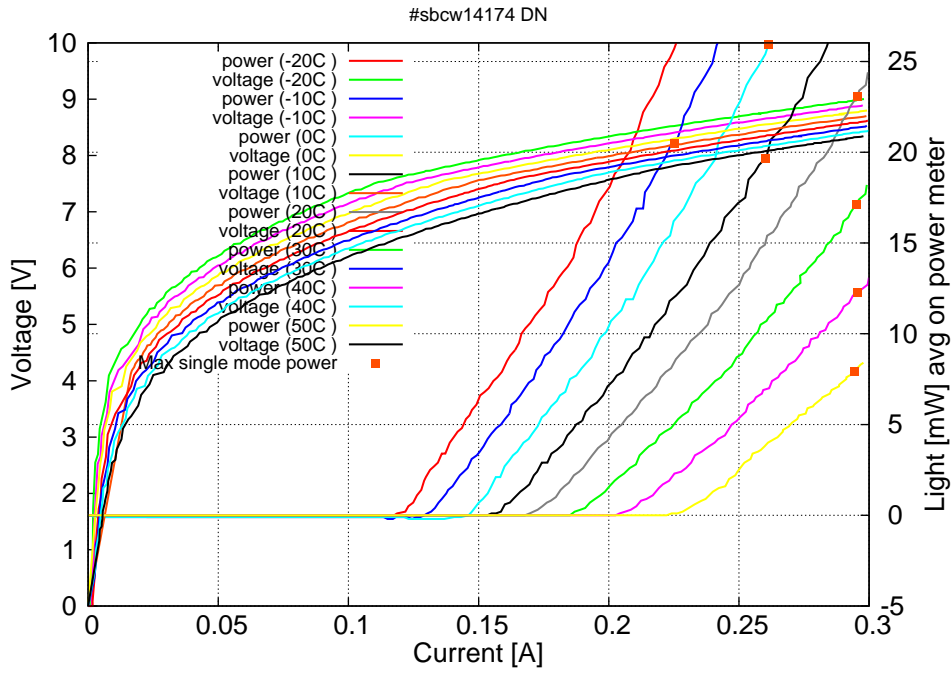


Figure 4: voltage and avg power vs current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

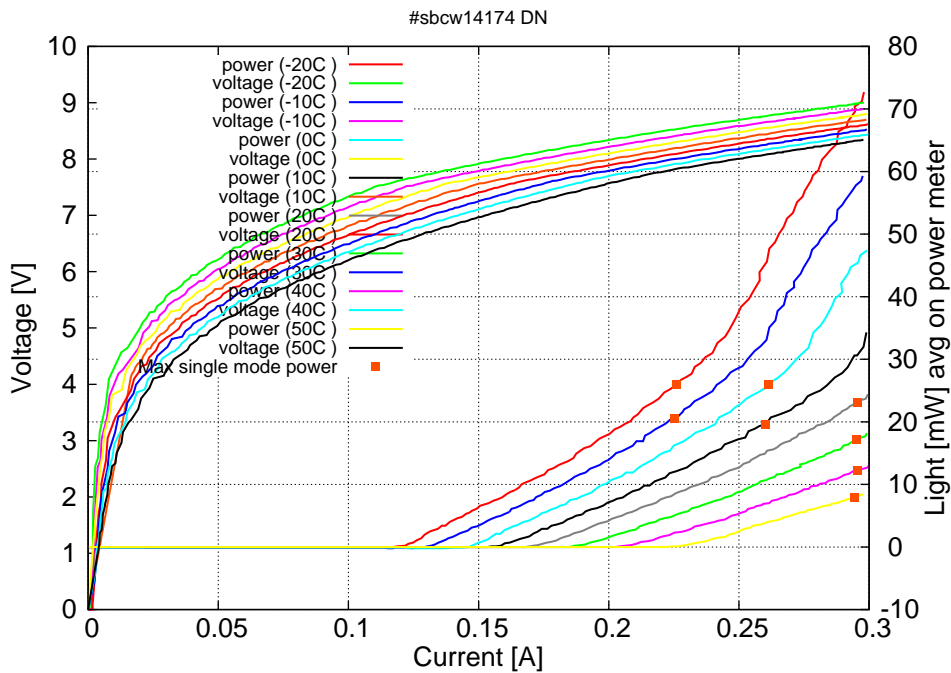
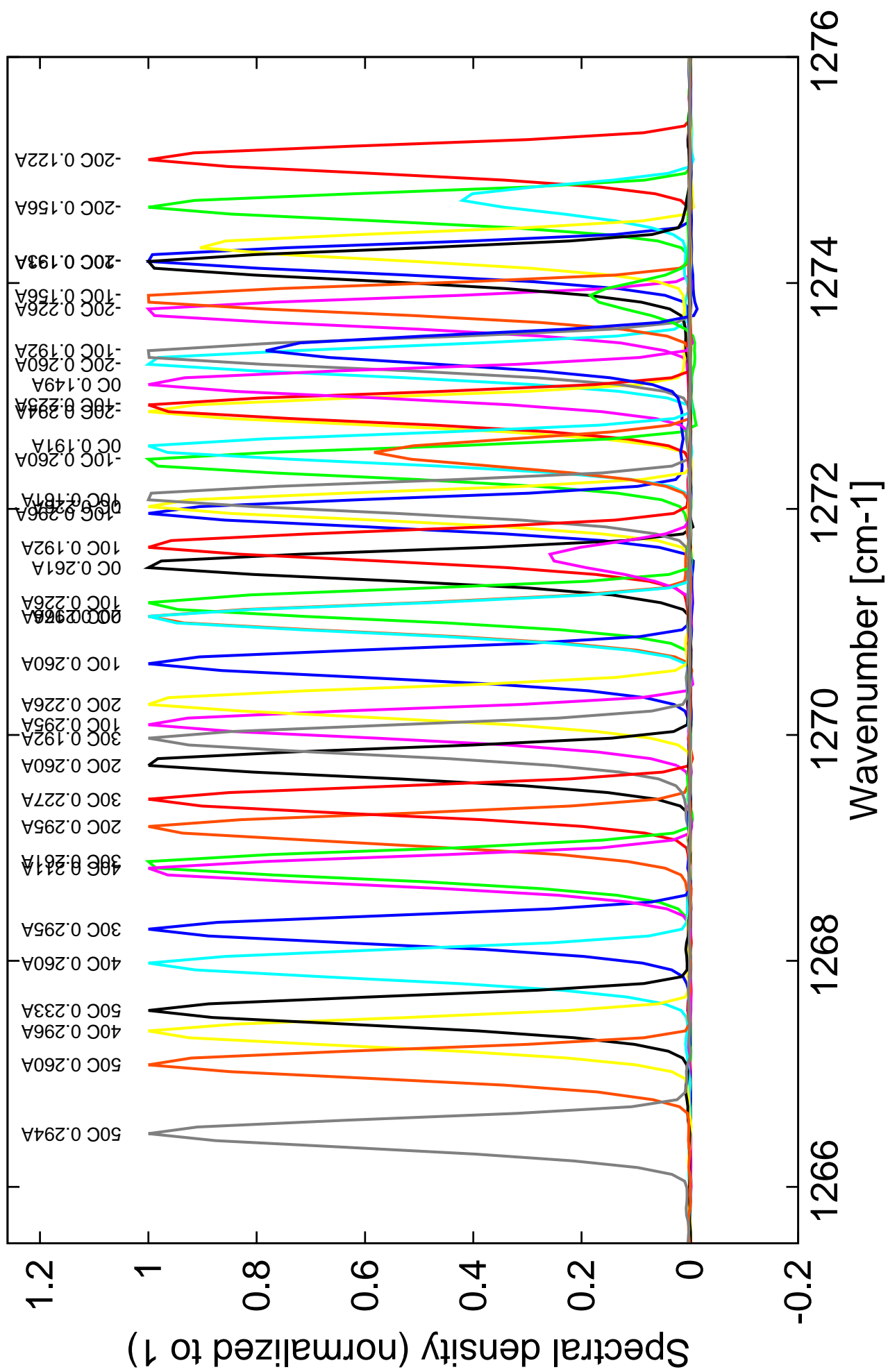


Figure 5: voltage and avg power vs current in continuous-wave operation (including the multimode region)

Note: at -20C: $I_{th}=0.12A$ / $V_{th}=7.6V$ (2-wires measurements). Maximum operation current: 0.225A, between -20C and -10C, 0.26A between 0C and 10C, 0.300A between 20C and 50C.

Figure 4: spectra at different temperatures for various DC currents



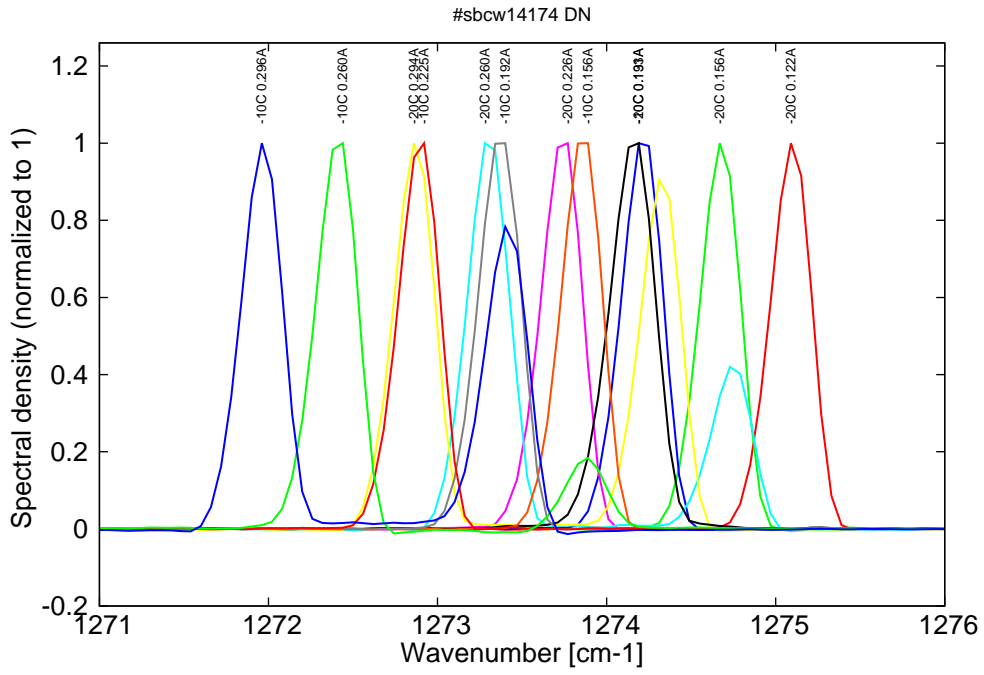


Figure 6: spectra at -20C and -10C for various DC currents (monomode up to 0.225A, then becomes bimode)

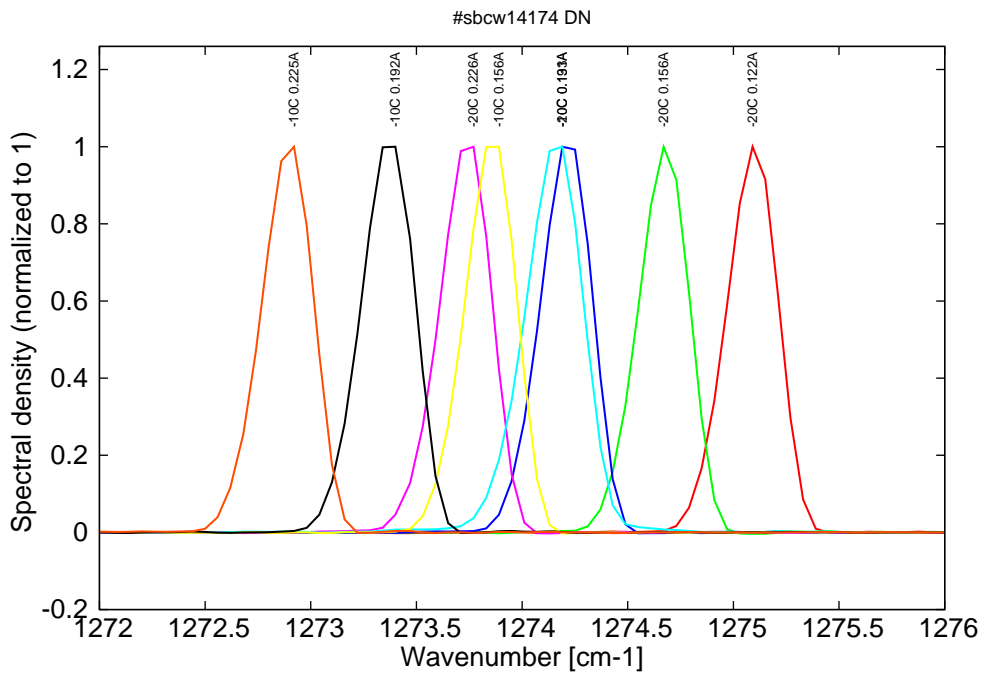


Figure 7: spectra at -20C and -10C for various DC currents (monomode range)

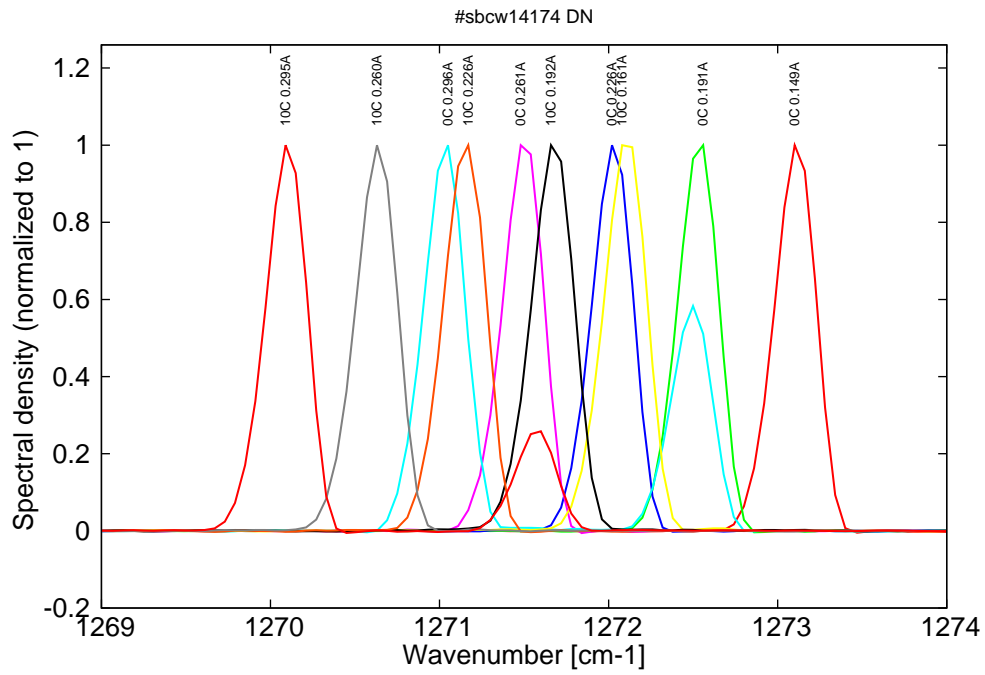


Figure 8: spectra at 0C and 10C for various DC currents (monomode up to 0.26A, then becomes bimode)

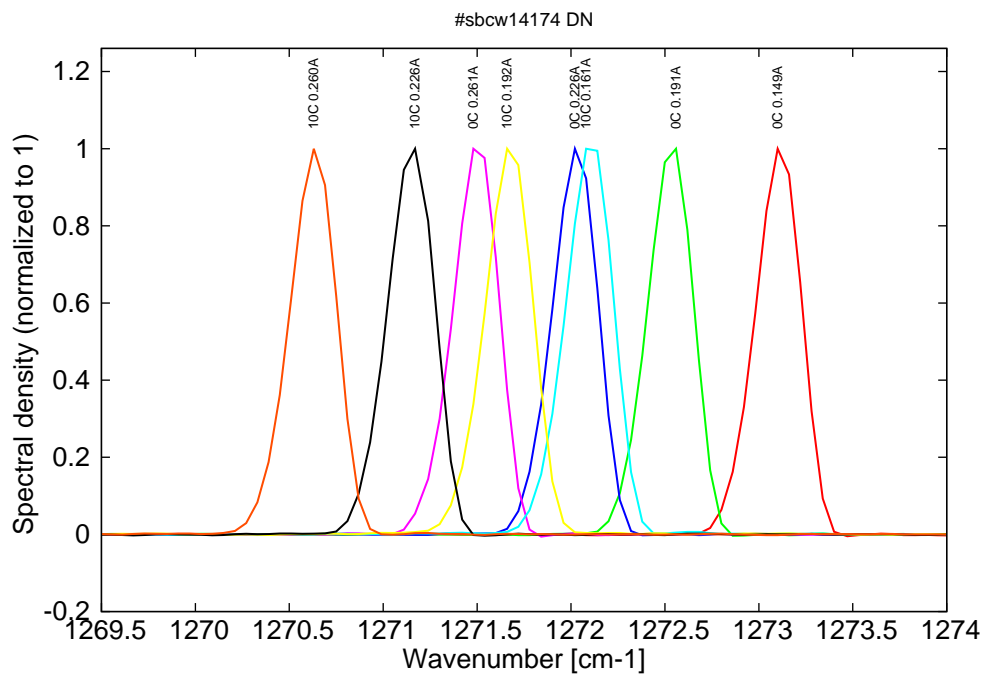


Figure 9: spectra at 0C and 10C for various DC currents (monomode range)

Figure 9: spectra between 20C and 50C for various DC currents (all monomode)

