

Datasheet for #sbcw9205 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.

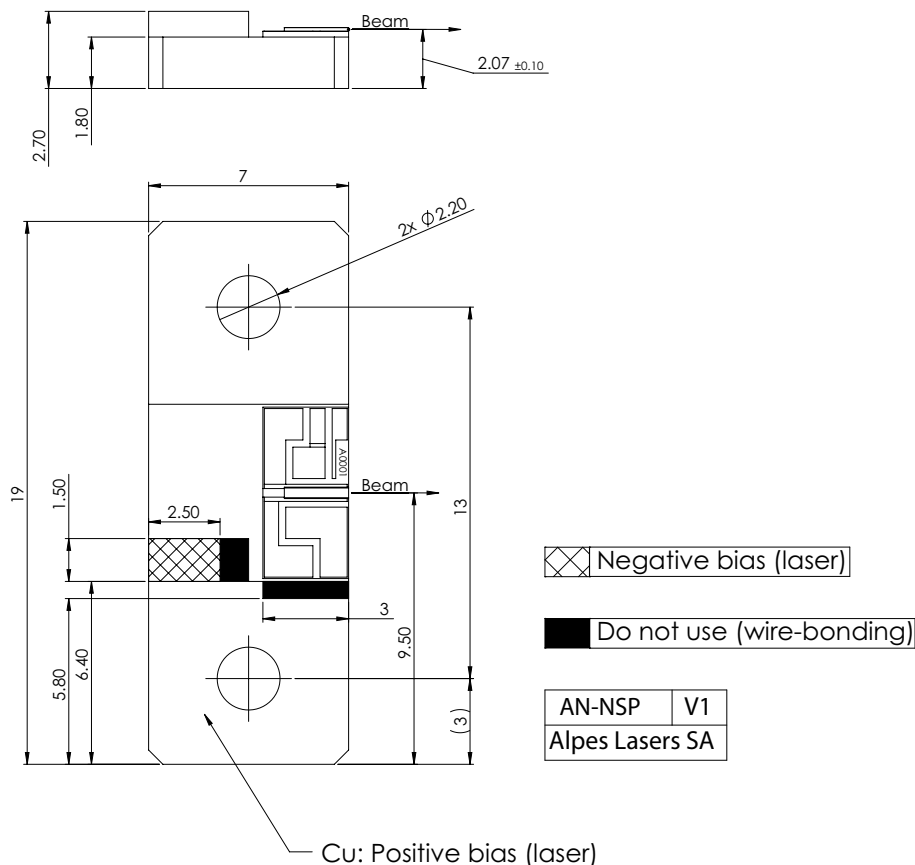


Figure 1: Mechanical and electrical interface for #sbcw9205 DN

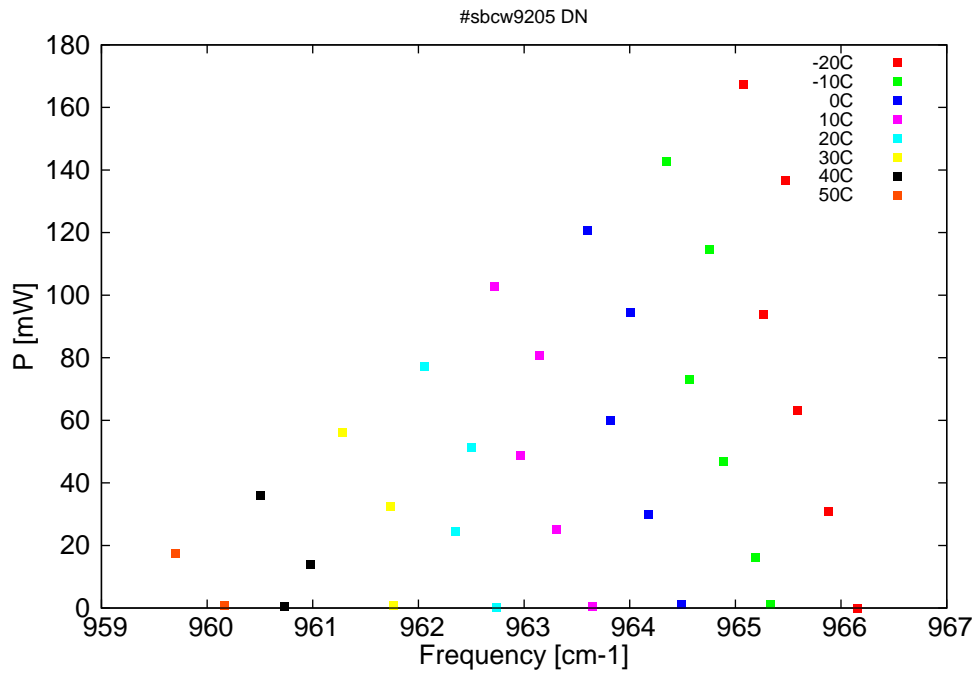


Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

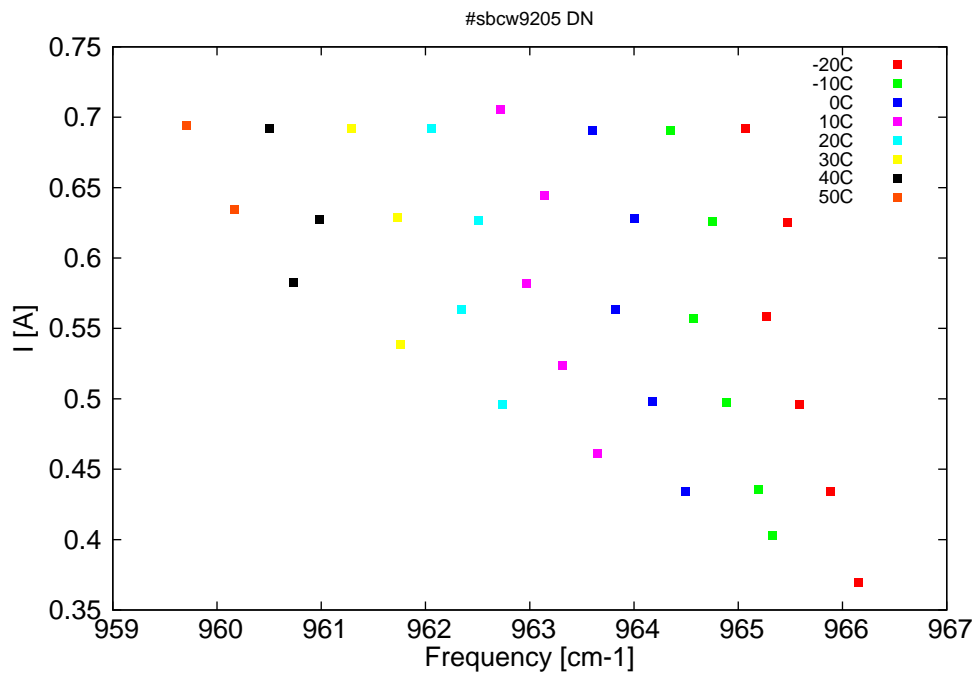


Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

λ [nm]	ν [cm ⁻¹]	P[mW]	Temp[°C]	U_{LASER} [V]	I[A]
10350.3	966.2	0	-20	7.98	0.369
10353.2	965.9	31	-20	8.28	0.434
10356.3	965.6	63.1	-20	8.58	0.496
10359.8	965.3	93.7	-20	8.89	0.558
10357.6	965.5	136.6	-20	9.17	0.625
10361.9	965.1	167.4	-20	9.52	0.692
10359.1	965.3	1.1	-10	8.1	0.403
10360.6	965.2	16	-10	8.26	0.436
10363.9	964.9	46.7	-10	8.56	0.498
10367.3	964.6	73.1	-10	8.86	0.557
10365.4	964.8	114.5	-10	9.17	0.626
10369.7	964.4	142.6	-10	9.52	0.69
10368.1	964.5	1	0	8.22	0.434
10371.5	964.2	30	0	8.54	0.498
10375.4	963.8	59.9	0	8.88	0.563
10373.4	964	94.4	0	9.17	0.628
10377.7	963.6	120.6	0	9.52	0.691
10377.2	963.7	0.4	10	8.33	0.461
10380.9	963.3	25	10	8.66	0.524
10384.6	963	48.7	10	8.97	0.582
10382.7	963.1	80.8	10	9.27	0.644
10387.2	962.7	102.8	10	9.62	0.705
10387	962.7	0.3	20	8.48	0.496
10391.2	962.3	24.4	20	8.85	0.564
10389.5	962.5	51.2	20	9.17	0.627
10394.4	962.1	77.2	20	9.54	0.692
10397.6	961.8	0.7	30	8.69	0.539
10397.9	961.7	32.5	30	9.18	0.629
10402.7	961.3	56.2	30	9.55	0.692
10408.8	960.7	0.5	40	8.93	0.583
10406.1	961	14	40	9.17	0.627
10411.2	960.5	36	40	9.56	0.692
10414.9	960.2	0.7	50	9.22	0.634
10419.9	959.7	17.5	50	9.58	0.694

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

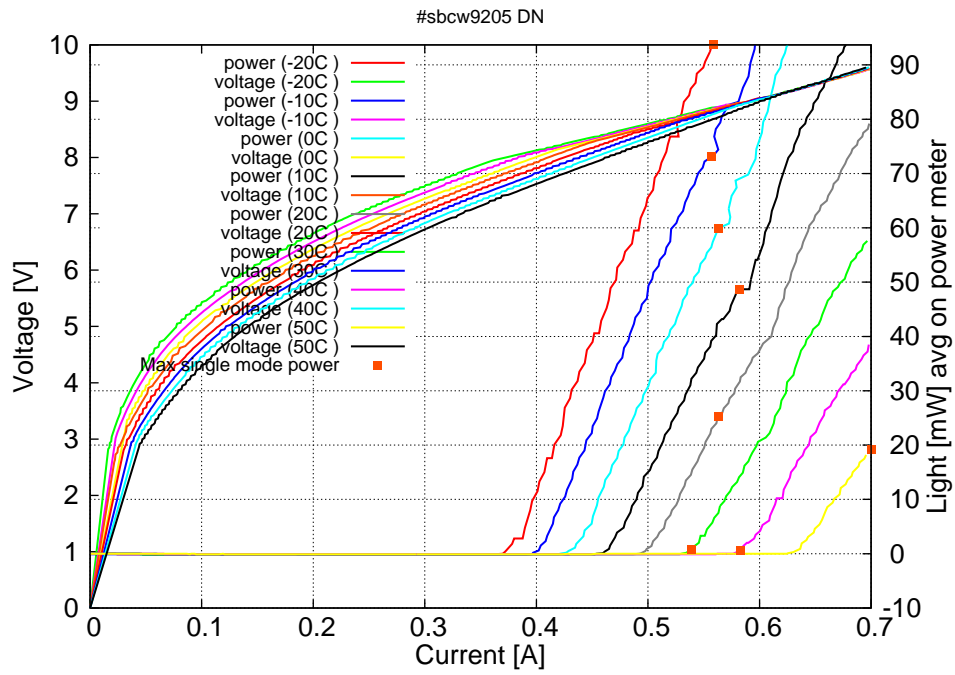
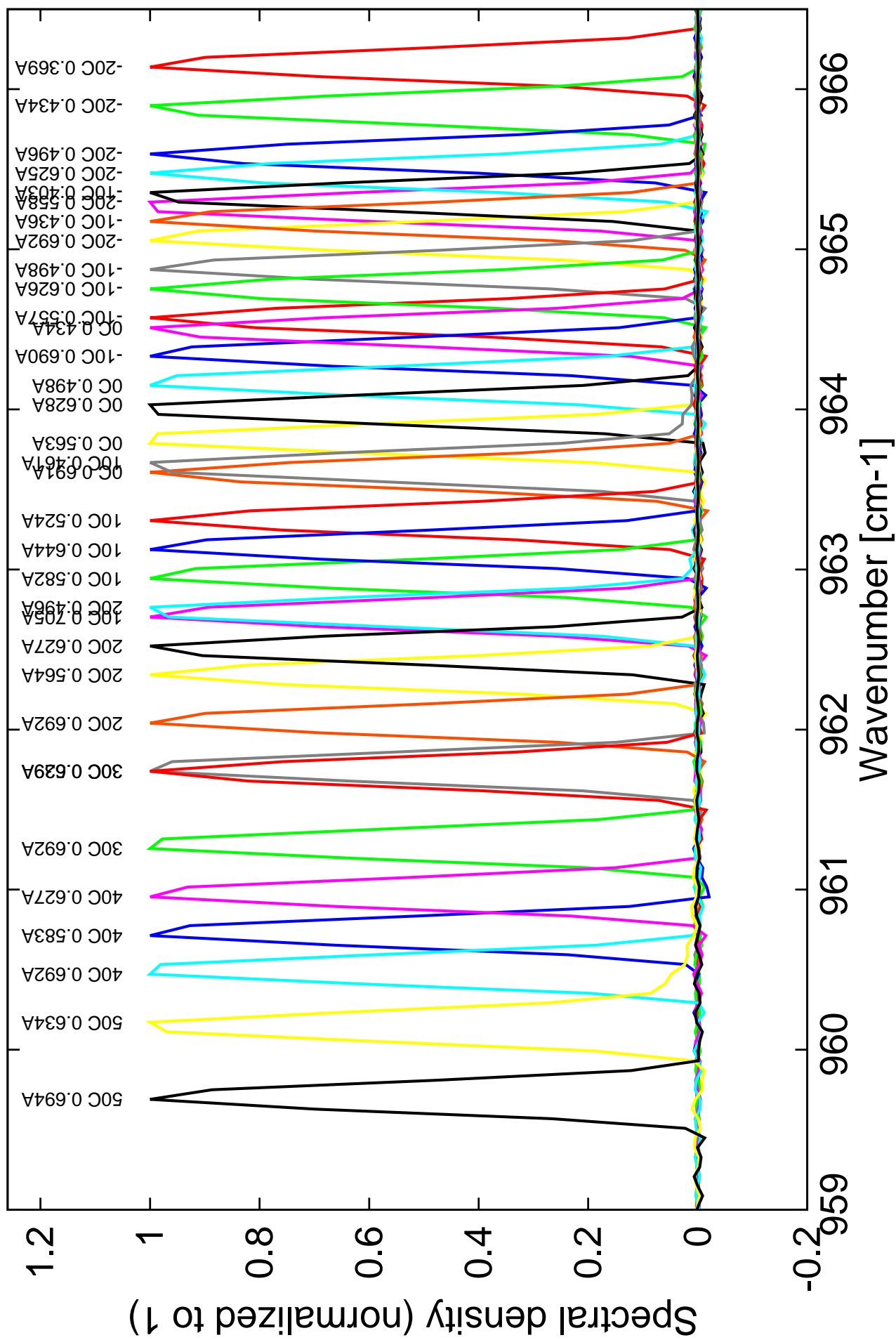


Figure 4: voltage and avg power vs current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

Note: at -20C: $I_{th}=0.37A$ / $V_{th}=8.0V$ (2-wires measurements). Maximum operation current: 0.70A for all temperatures.

Figure 3: spectra at different temperatures for various DC currents



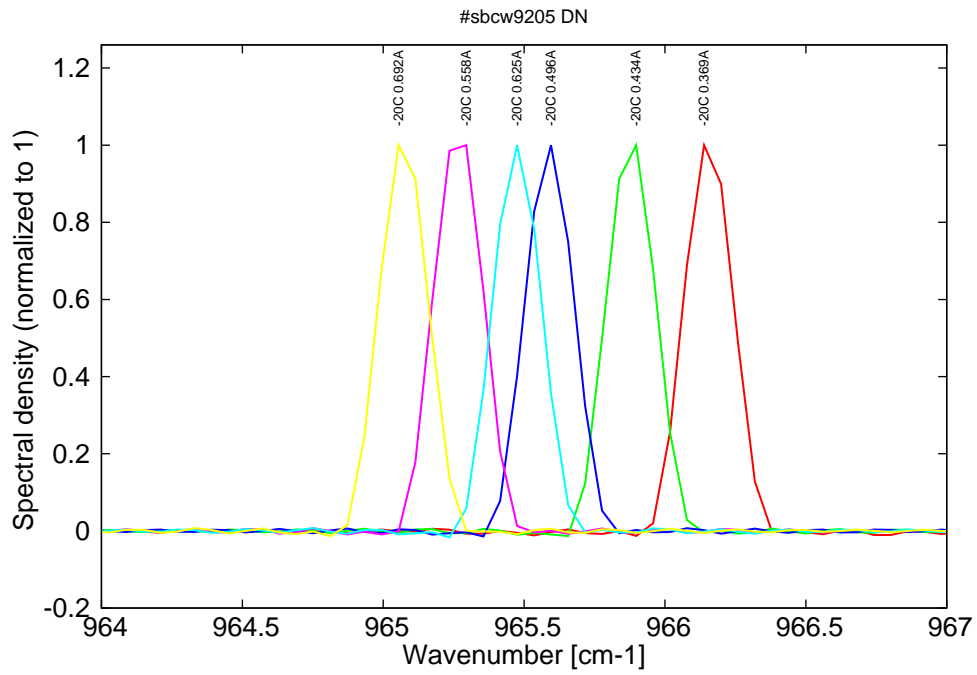


Figure 5: spectra at -20C for various DC currents (monomode on mode 1 up to 0.56A, then monomode on mode 2)

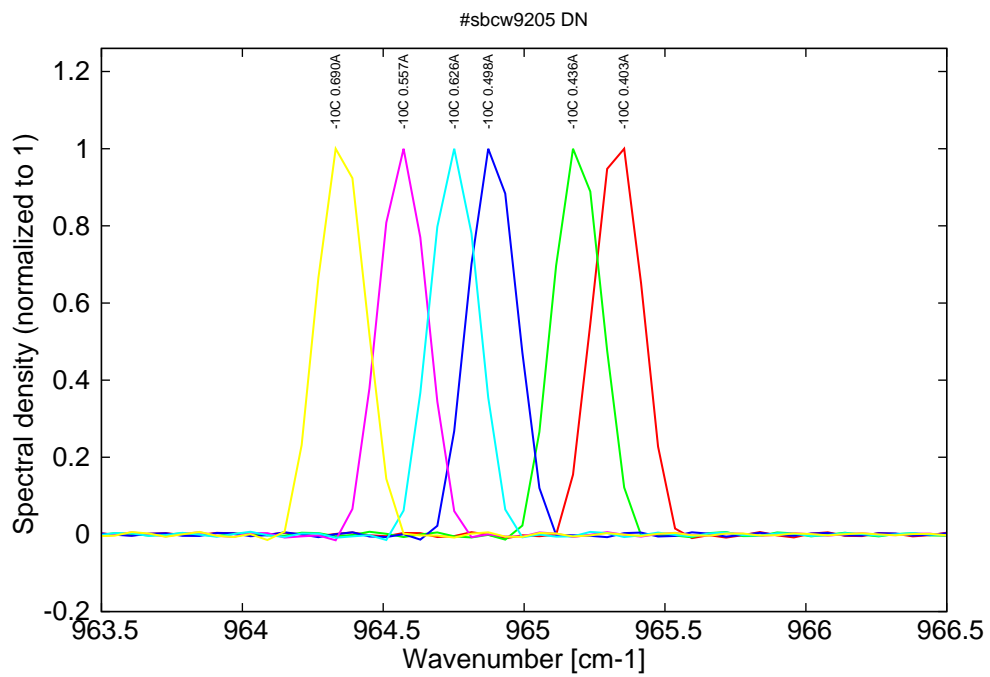


Figure 6: spectra at -10C for various DC currents (monomode on mode 1 up to 0.56A, then monomode on mode 2)

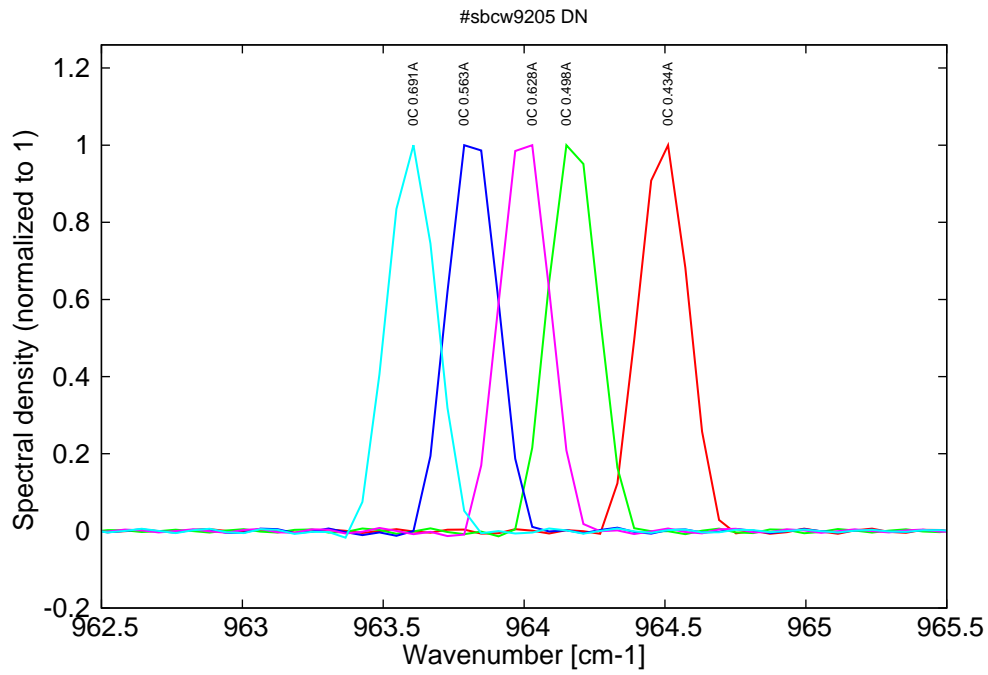


Figure 7: spectra at 0C for various DC currents (monomode on mode 1 up to 0.56A, then monomode on mode 2)

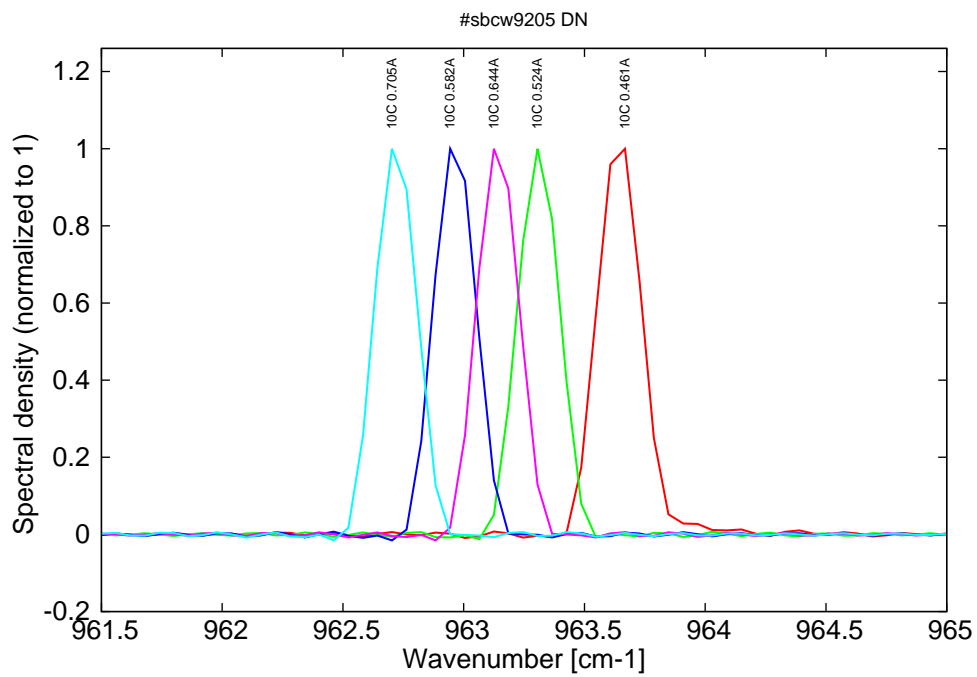


Figure 8: spectra at 10C for various DC currents (monomode on mode 1 up to 0.58A, then monomode on mode 2)

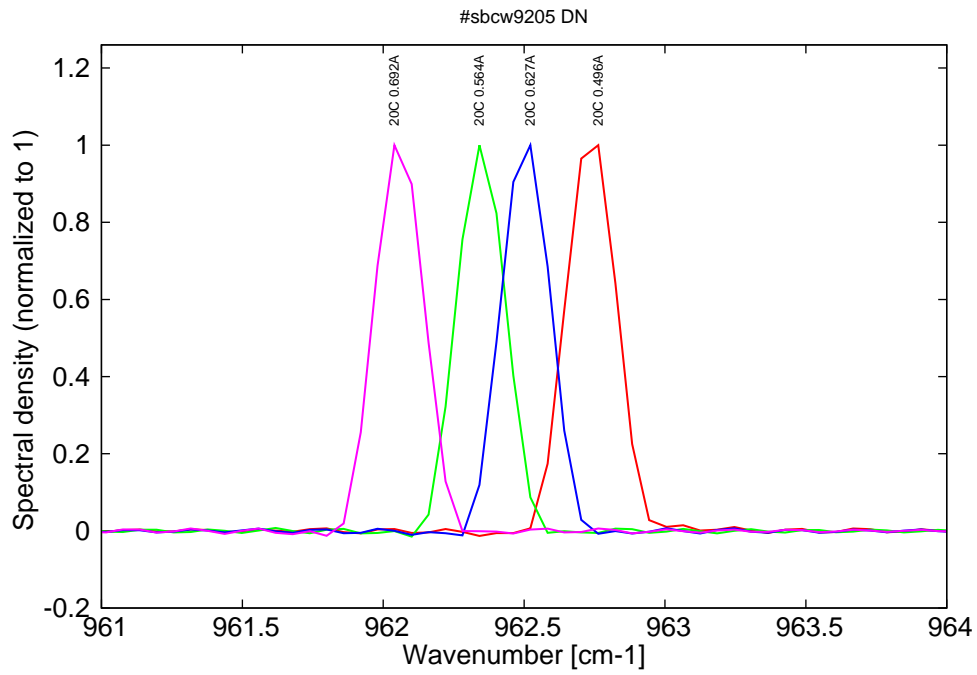


Figure 9: spectra at 20C for various DC currents (monomode on mode 1 up to 0.565A, then monomode on mode 2)

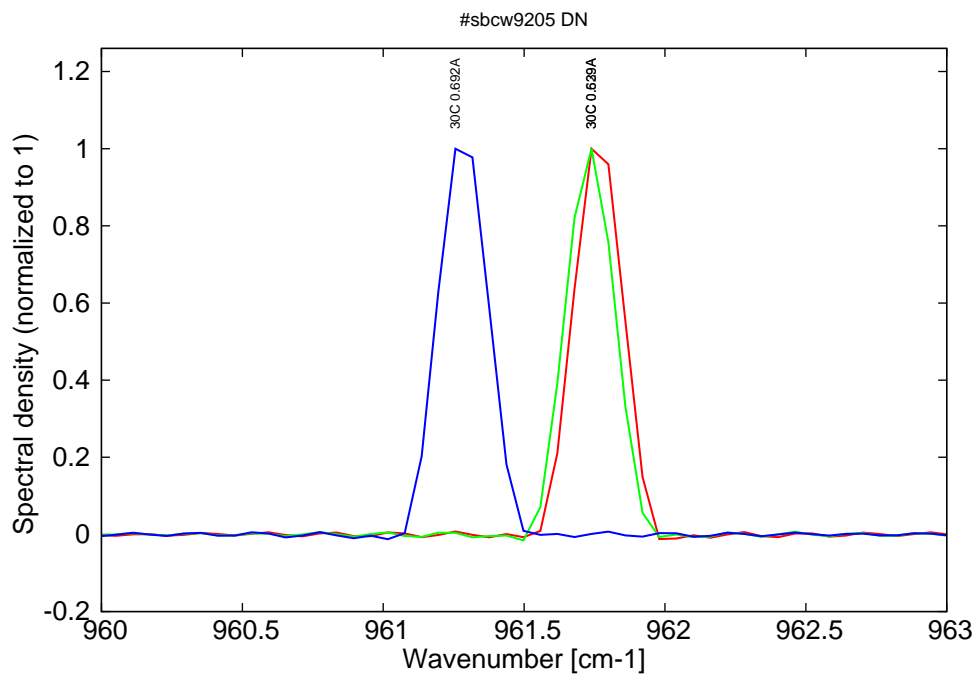


Figure 10: spectra at 30C for various DC currents (monomode on mode 1 up to 0.54A, then monomode on mode 2)

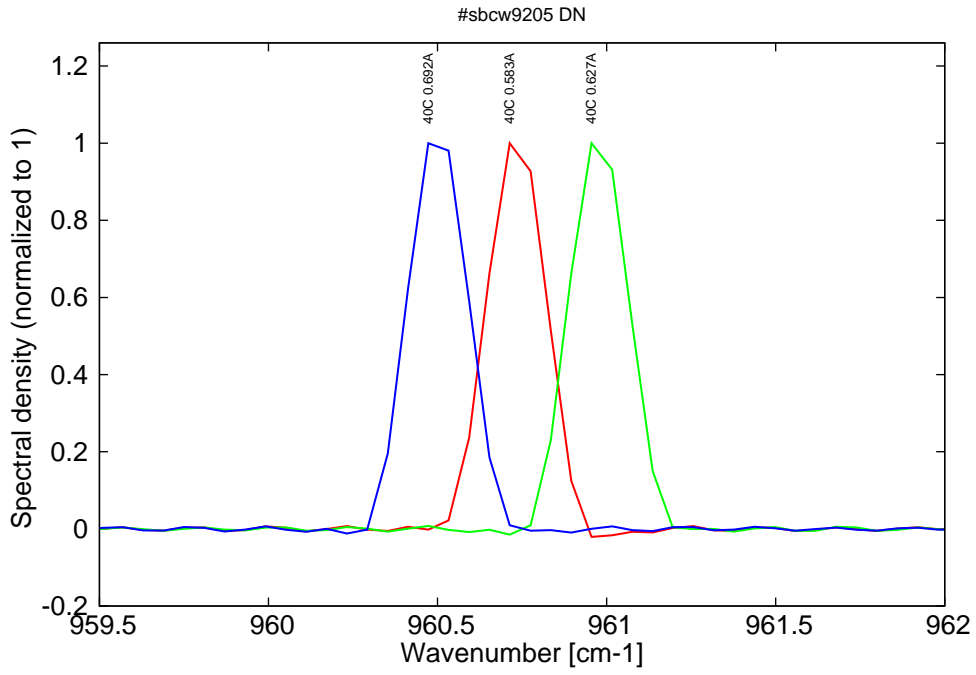


Figure 11: spectra at 40C for various DC currents (monomode on mode 1 up to 0.585A, then monomode on mode 2)

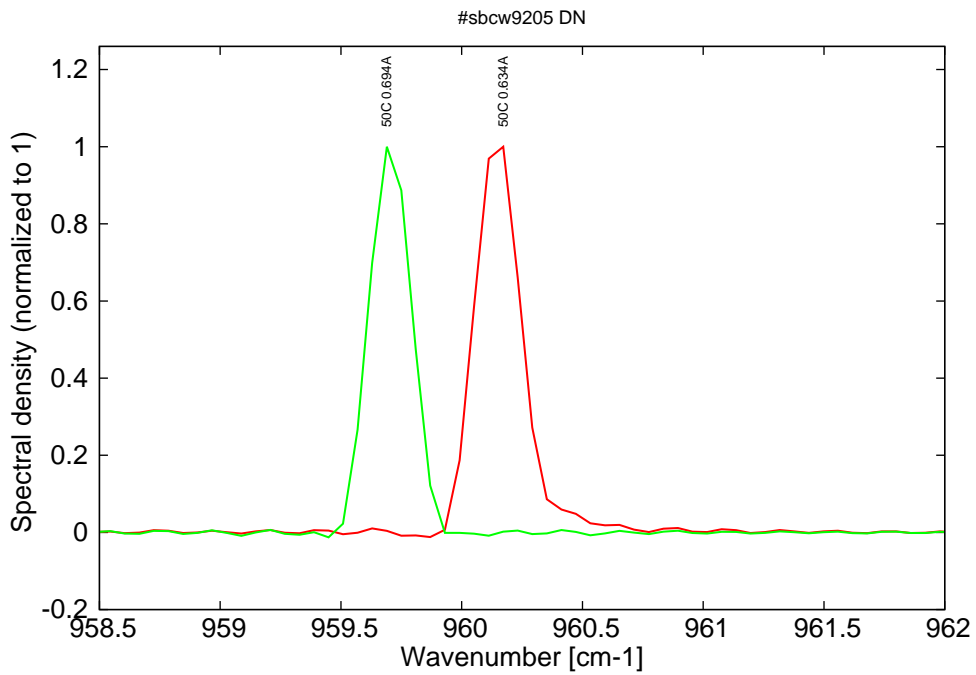


Figure 12: spectra at 50C for various DC currents (monomode on mode 2)