

Datasheet for #sbcw7963 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 use with a power-supply ILX Lightwave LDX-3232 or equivalent.

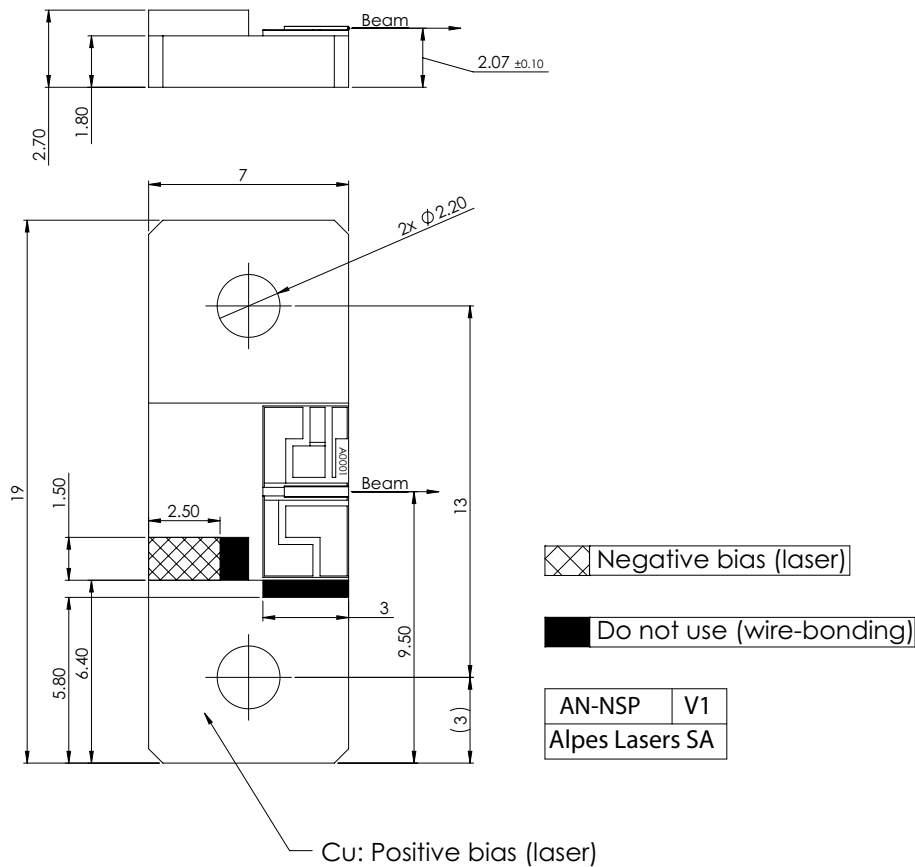


Figure 1: Mechanical and electrical interface for #sbcw7963 DN

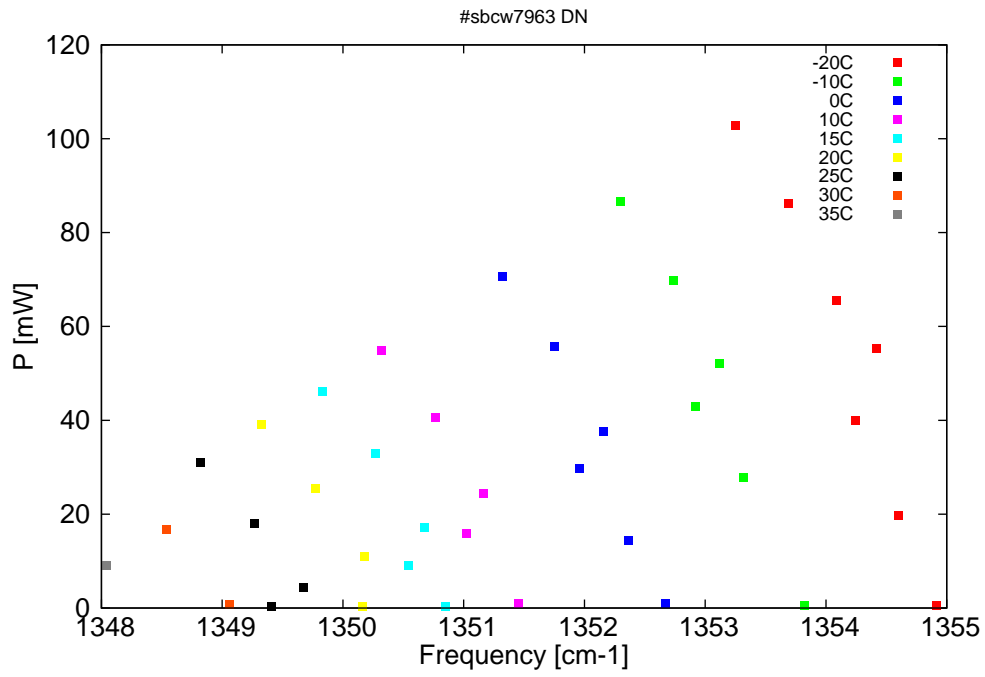


Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

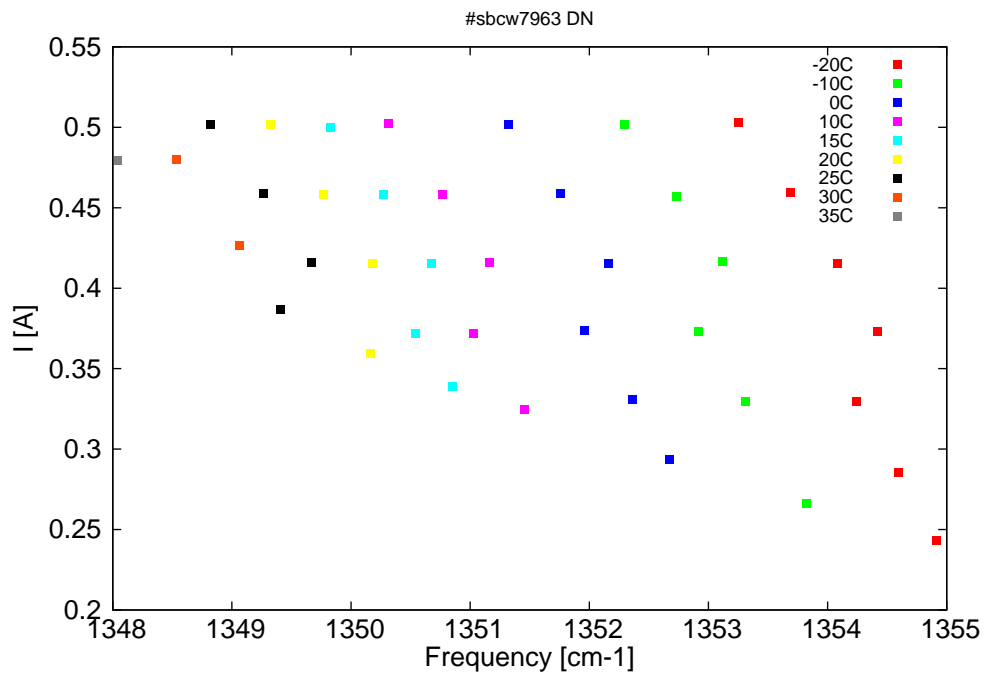


Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

λ [nm]	ν [cm ⁻¹]	P[mW]	Temp[°C]	U_{LASER} [V]	I[A]
7380.5	1354.9	0.5	-20	8.4	0.24
7382.3	1354.6	19.6	-20	8.6	0.29
7384.2	1354.2	39.9	-20	8.9	0.33
7383.2	1354.4	55.3	-20	9.2	0.37
7385.1	1354.1	65.5	-20	9.4	0.42
7387.2	1353.7	86.2	-20	9.6	0.46
7389.6	1353.3	102.9	-20	9.8	0.5
7386.5	1353.8	0.6	-10	8.5	0.27
7389.3	1353.3	27.9	-10	8.8	0.33
7391.4	1352.9	43	-10	9.1	0.37
7390.3	1353.1	52.2	-10	9.3	0.42
7392.4	1352.7	69.7	-10	9.5	0.46
7394.8	1352.3	86.7	-10	9.8	0.5
7392.8	1352.7	0.9	0	8.6	0.29
7394.5	1352.4	14.4	0	8.8	0.33
7396.7	1352	29.7	0	9	0.37
7395.6	1352.2	37.5	0	9.3	0.42
7397.8	1351.8	55.7	0	9.5	0.46
7400.2	1351.3	70.6	0	9.7	0.5
7399.4	1351.5	0.9	10	8.7	0.32
7401.8	1351	15.9	10	9	0.37
7401	1351.2	24.4	10	9.2	0.42
7403.2	1350.8	40.7	10	9.4	0.46
7405.7	1350.3	54.9	10	9.7	0.5
7402.7	1350.9	0.3	15	8.7	0.34
7404.4	1350.5	9	15	8.9	0.37
7403.7	1350.7	17.2	15	9.2	0.42
7405.9	1350.3	33	15	9.4	0.46
7408.3	1349.8	46.1	15	9.6	0.5
7406.5	1350.2	0.3	20	8.8	0.36
7406.4	1350.2	11	20	9.2	0.42
7408.7	1349.8	25.4	20	9.4	0.46
7411.1	1349.3	39	20	9.6	0.5
7410.6	1349.4	0.2	25	9	0.39
7409.2	1349.7	4.4	25	9.1	0.42
7411.4	1349.3	18.1	25	9.4	0.46
7413.9	1348.8	31.1	25	9.6	0.5
7412.6	1349.1	0.8	30	9.2	0.43
7415.4	1348.5	16.7	30	9.5	0.48
7418.2	1348	9.1	35	9.4	0.48

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

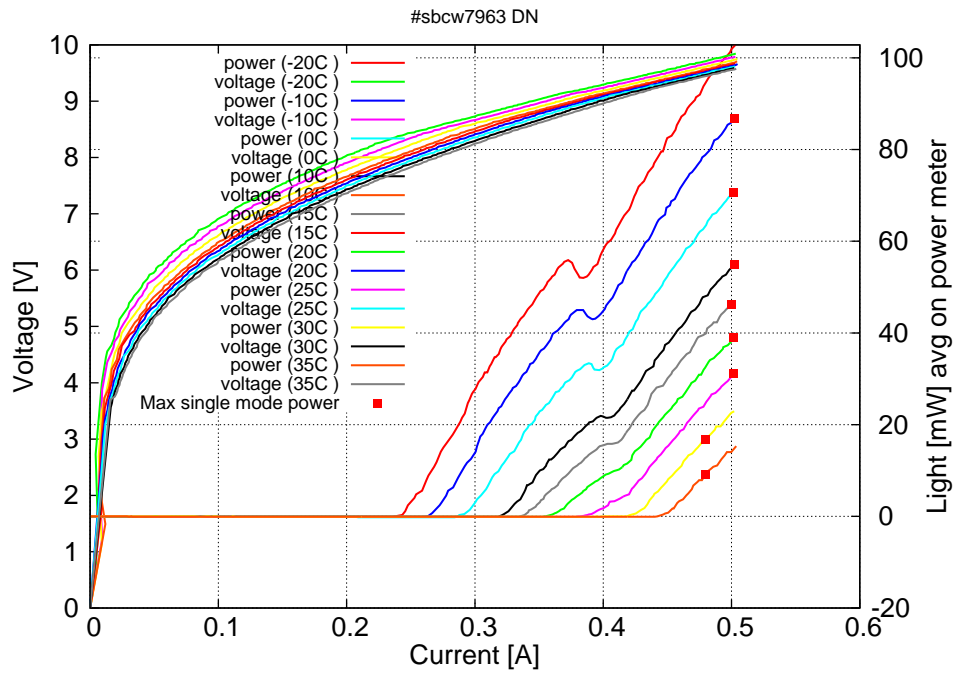
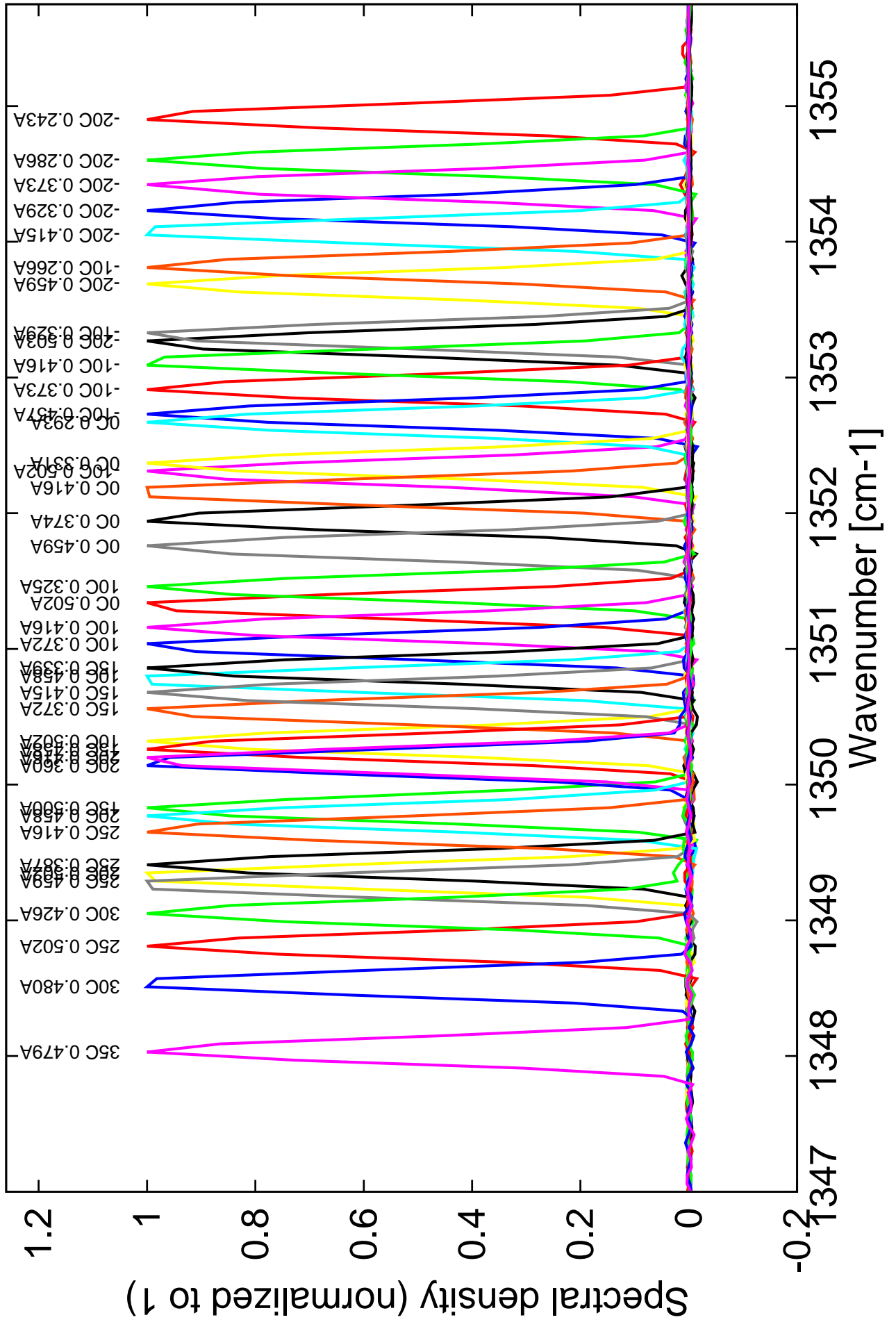


Figure 4: voltage and avg power vs current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

Note: at -20C: $I_{th}=0.24A$ / $V_{th}=8.4V$ (2-wires measurements). Maximum operation current: 0.505A for all temperatures.

Figure 3: spectra at different temperatures for various DC currents



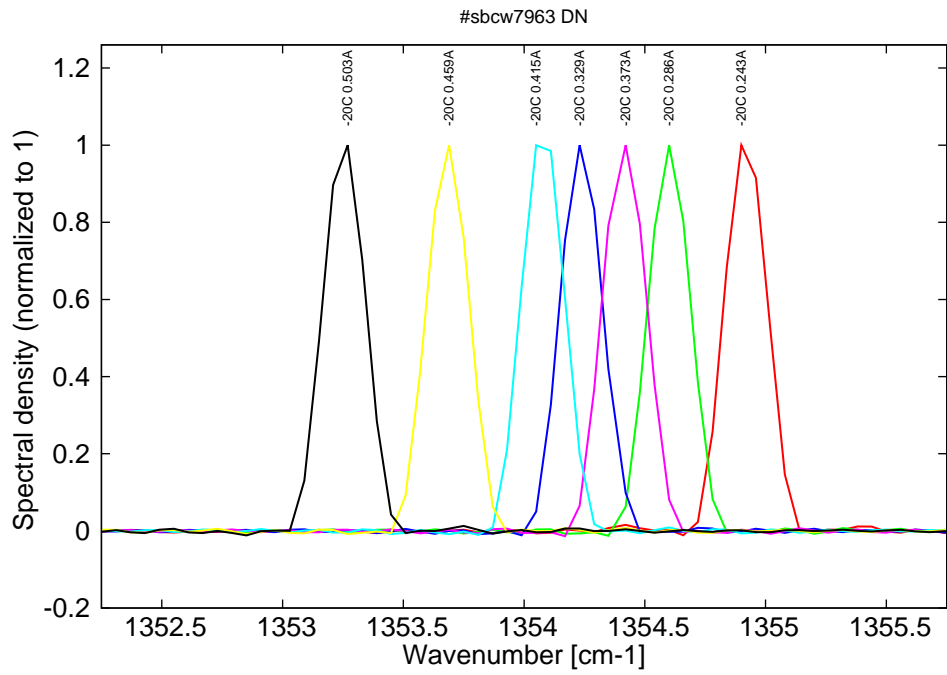


Figure 5: Spectra at -20C for various DC currents (monomode on mode 1 up to 0.329A then becomes monomode on mode 2)

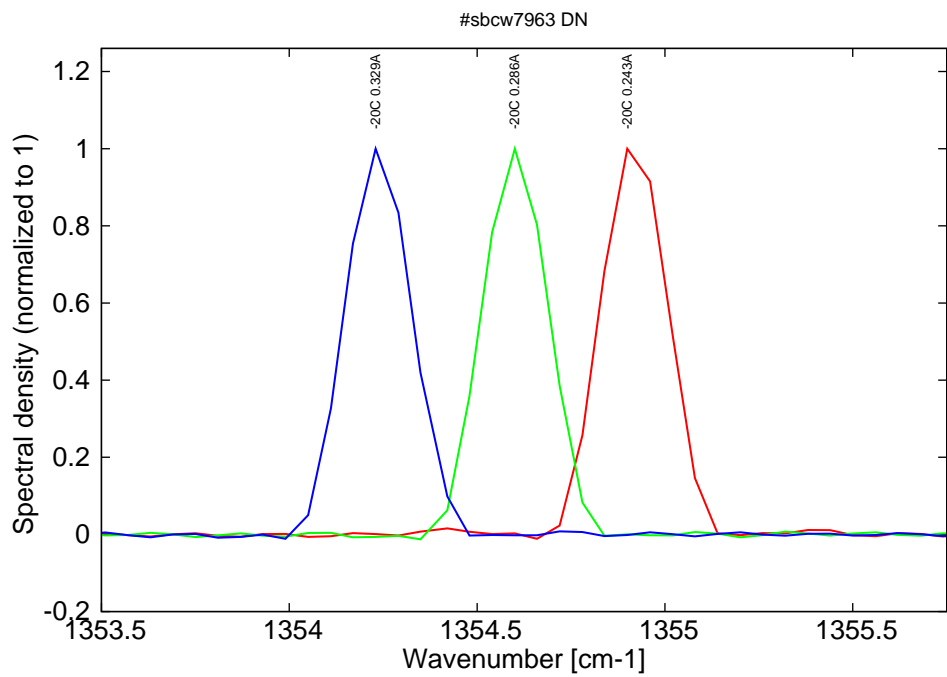


Figure 6: Spectra at -20C for various DC currents (monomode on mode 1 range)

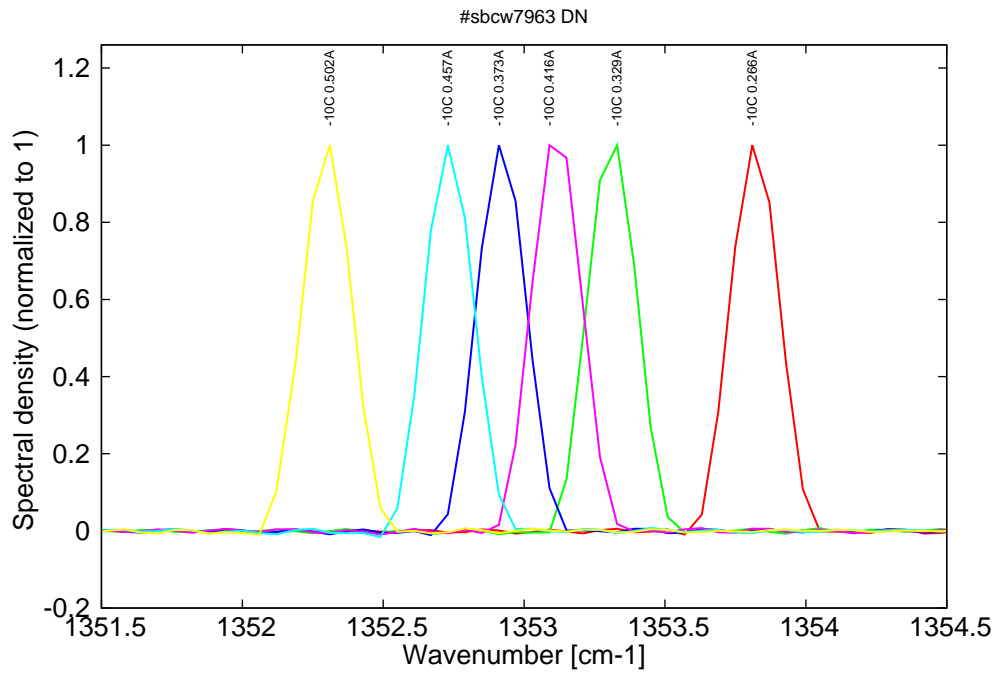


Figure 7: Spectra at -10C for various DC currents (monomode on mode 1 up to 0.373A then becomes monomode on mode 2)

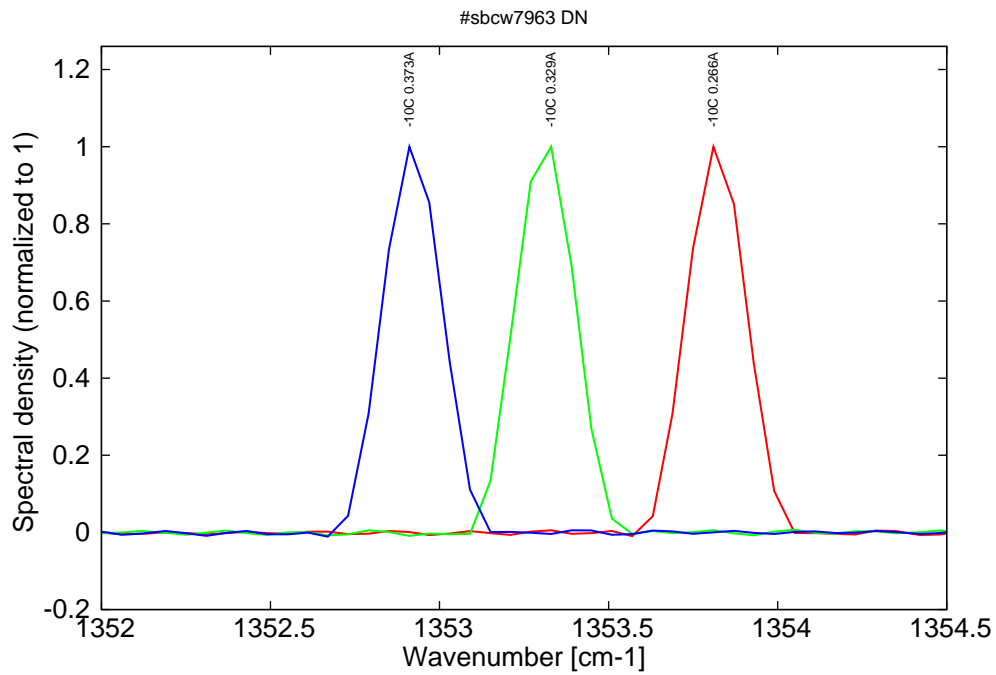


Figure 8: Spectra at -10C for various DC currents (monomode on mode 1 range)

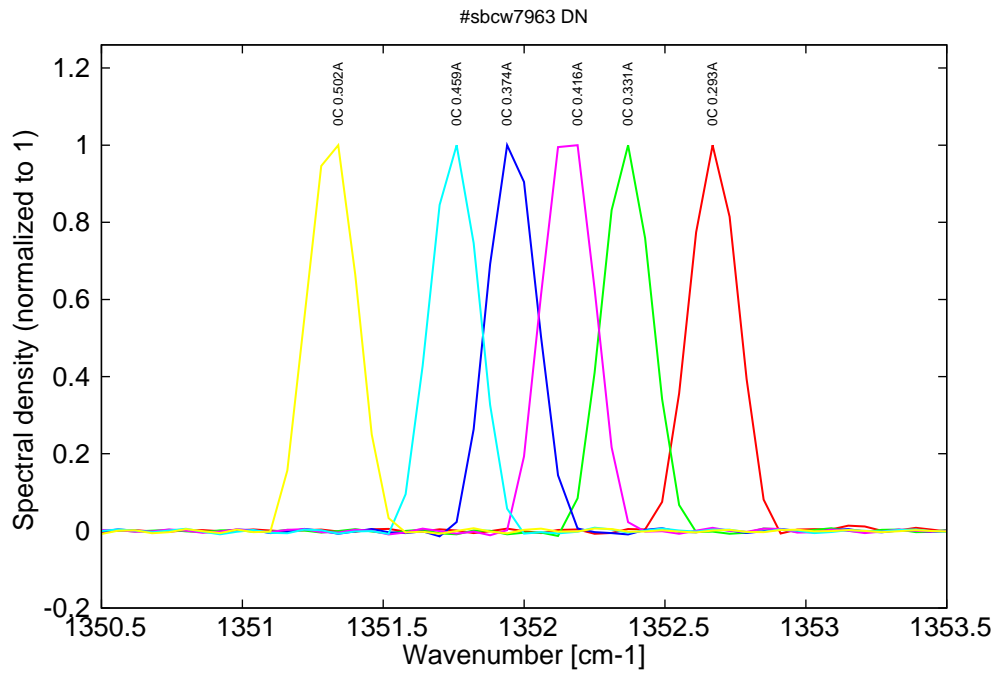


Figure 9: Spectra at 0C for various DC currents (monomode on mode 1 up to 0.374A then becomes monomode on mode 2)

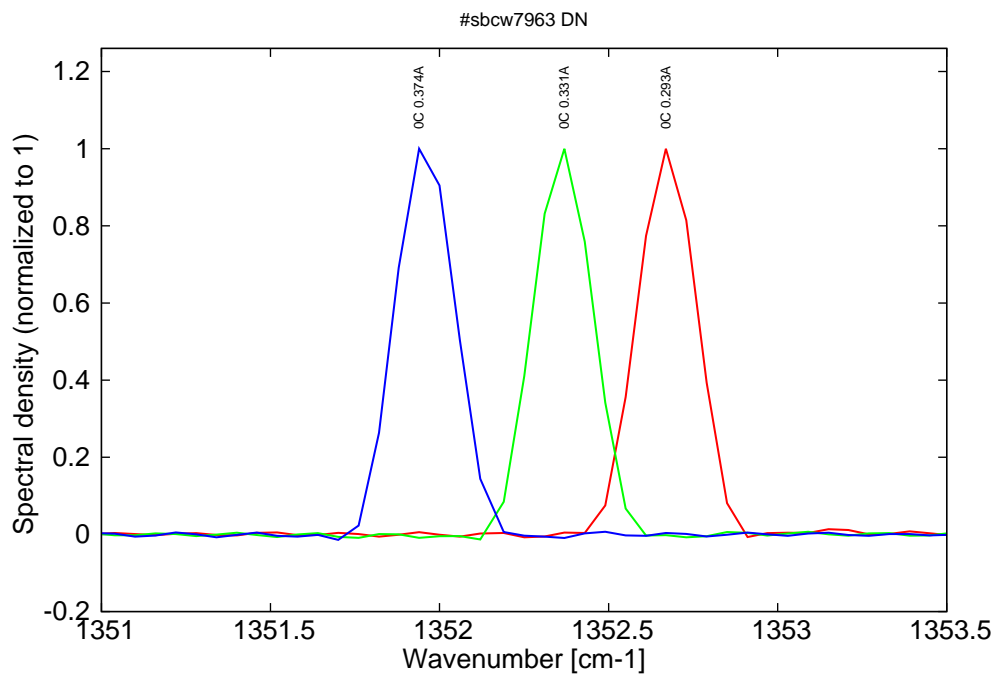


Figure 10: Spectra at 0C for various DC currents (monomode on mode 1 range)

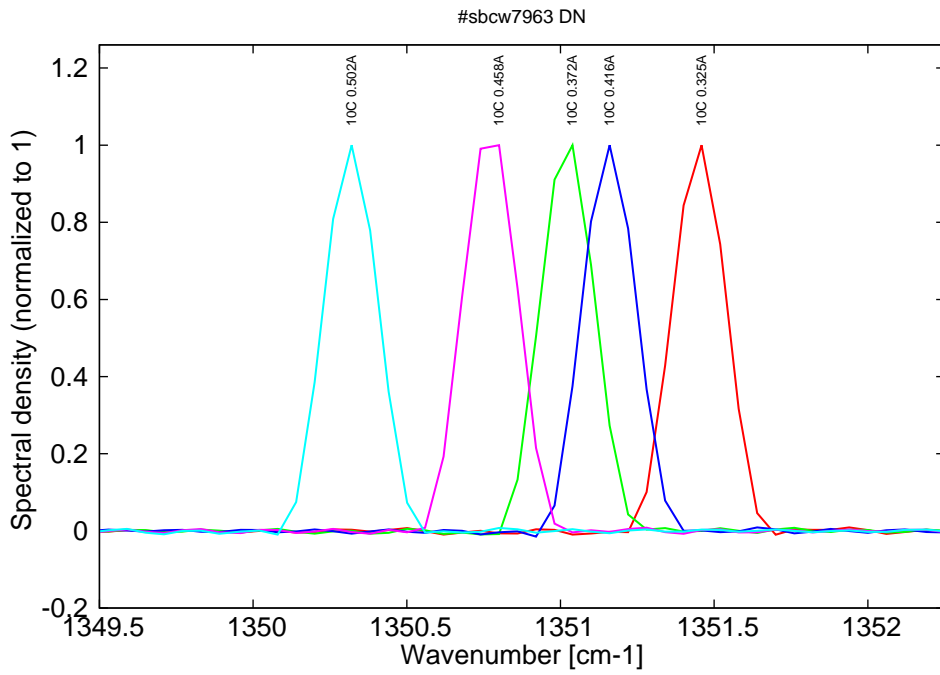


Figure 11: Spectra at 10C for various DC currents (monomode on mode 1 up to 0.372A then becomes monomode on mode 2)

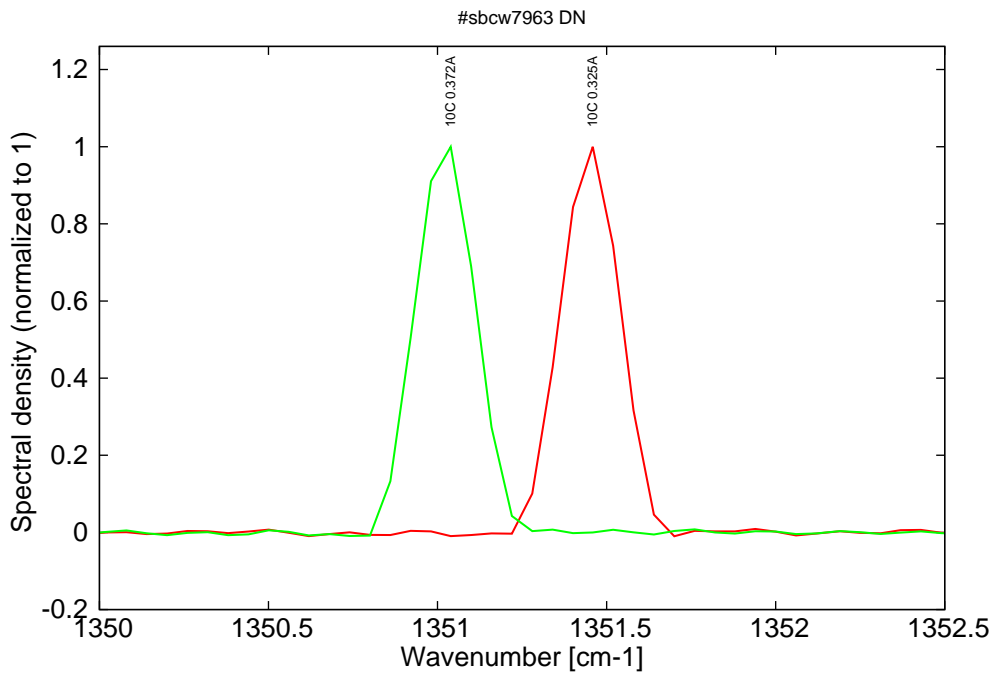


Figure 12: Spectra at 10C for various DC currents (monomode on mode 1 range)

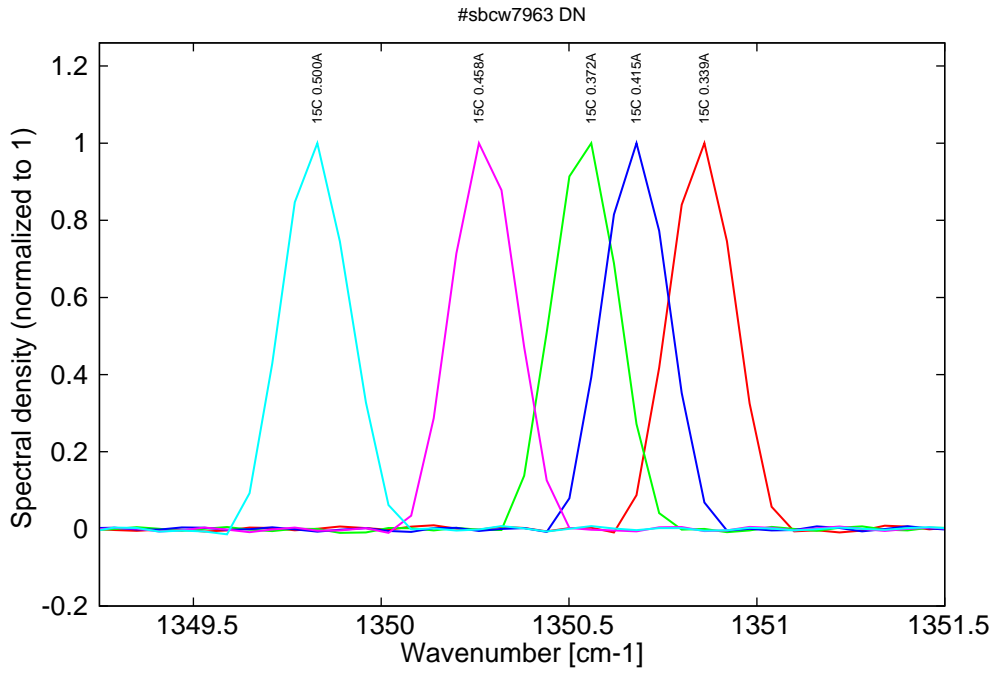


Figure 13: Spectra at 15C for various DC currents (monomode on mode 1 up to 0.372A then becomes monomode on mode 2)

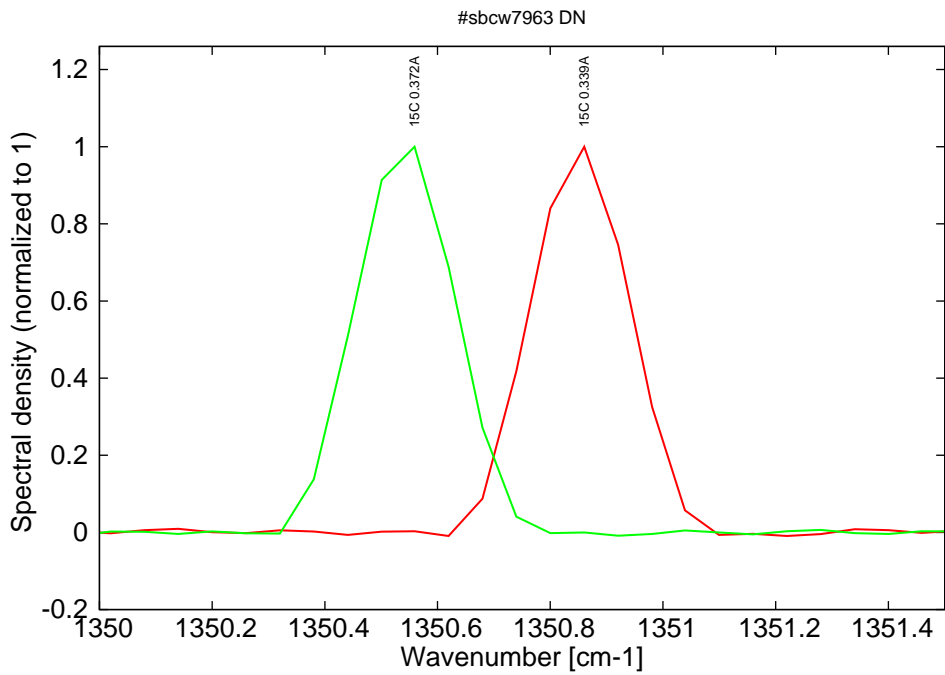


Figure 14: Spectra at 15C for various DC currents (monomode on mode 1 range)

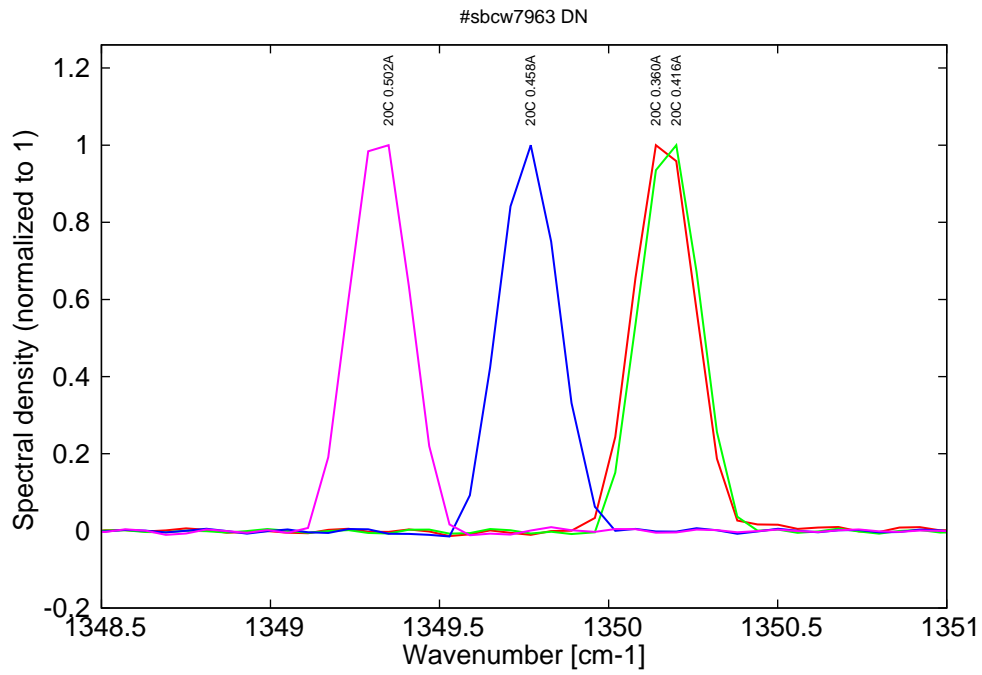


Figure 15: Spectra at 20C for various DC currents (monomode on mode 1 only at threshold then becomes monomode on mode 2)

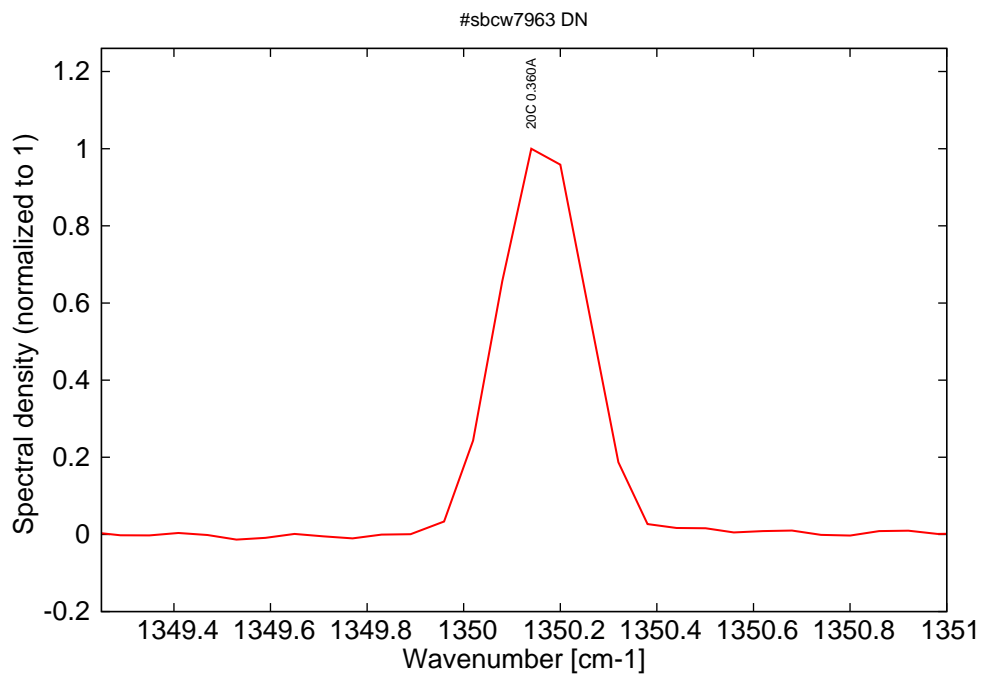


Figure 16: Spectra at 20C for various DC currents (monomode on mode 1 range)

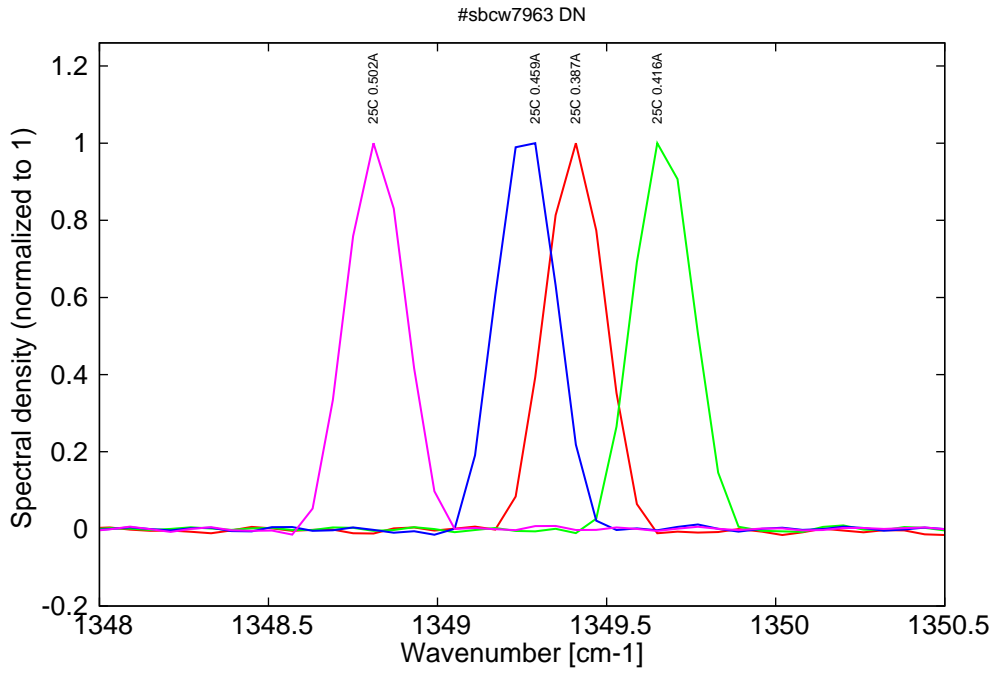


Figure 17: Spectra at 25C for various DC currents (monomode on mode 1 only at threshold then becomes monomode on mode 2)

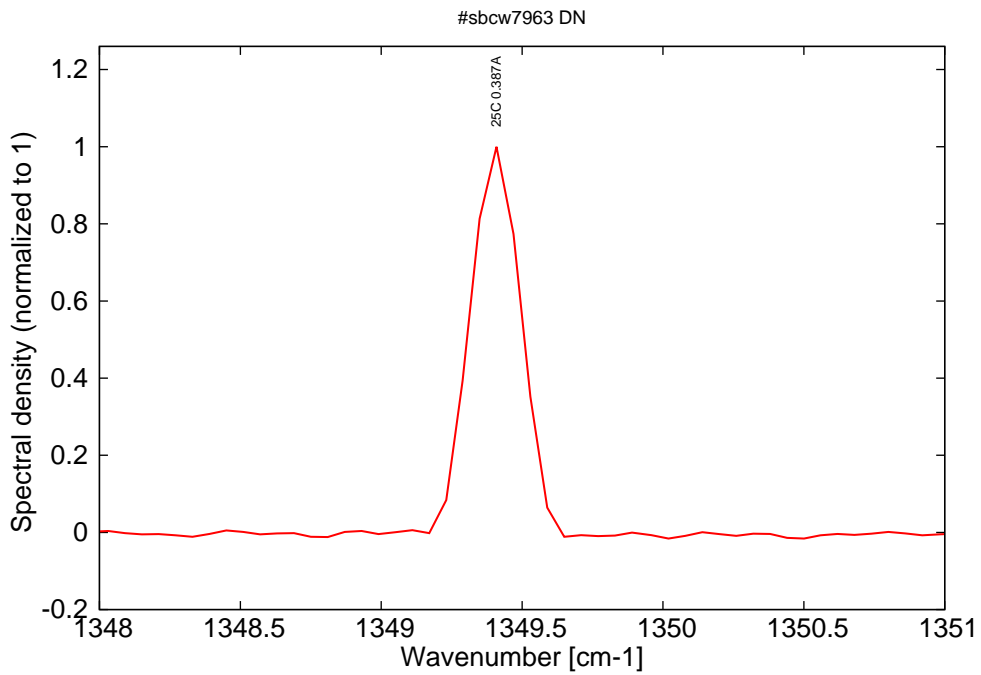


Figure 18: Spectra at 25C for various DC currents (monomode on mode 1 range)

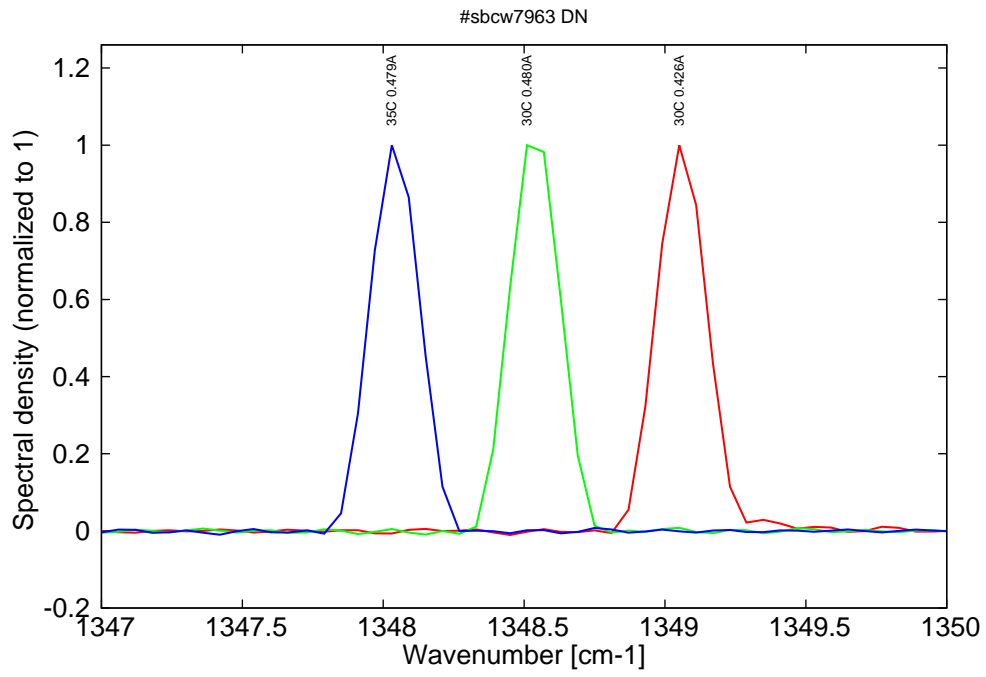


Figure 19: Spectra at 30C and 35C for various DC currents (all monomode on mode 2)