

Datasheet for #sbcw3956 DN

Recommendations:

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

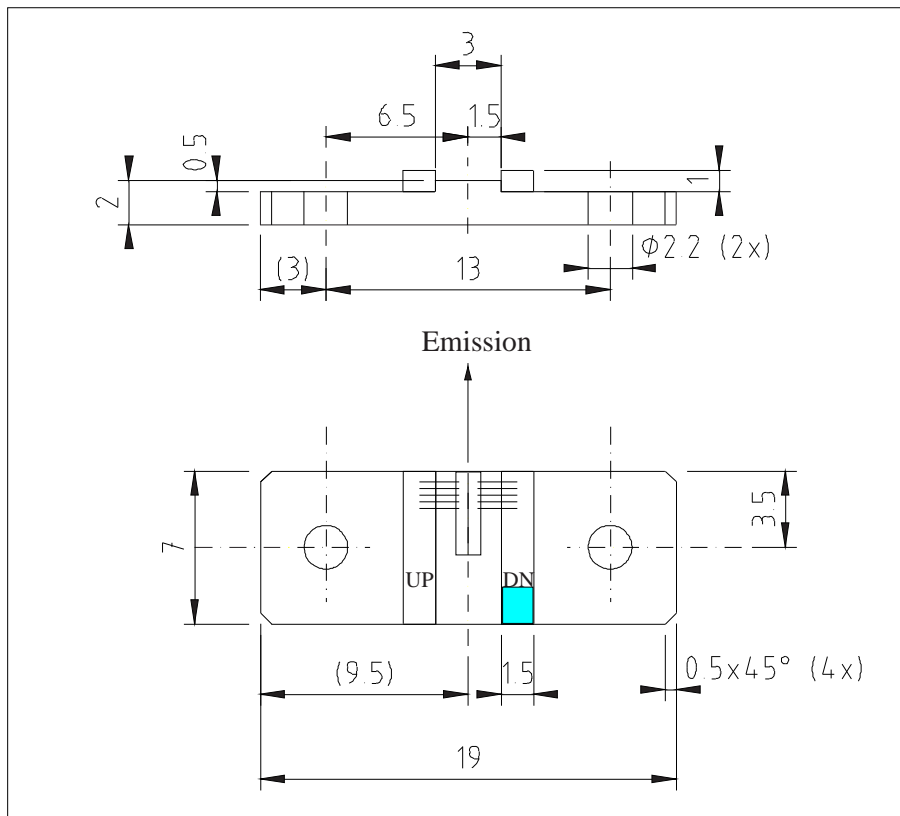


Figure 1: Support mounting for #sbcw3956 DN (please note that the laser is connected to the DN pad drawn in blue)

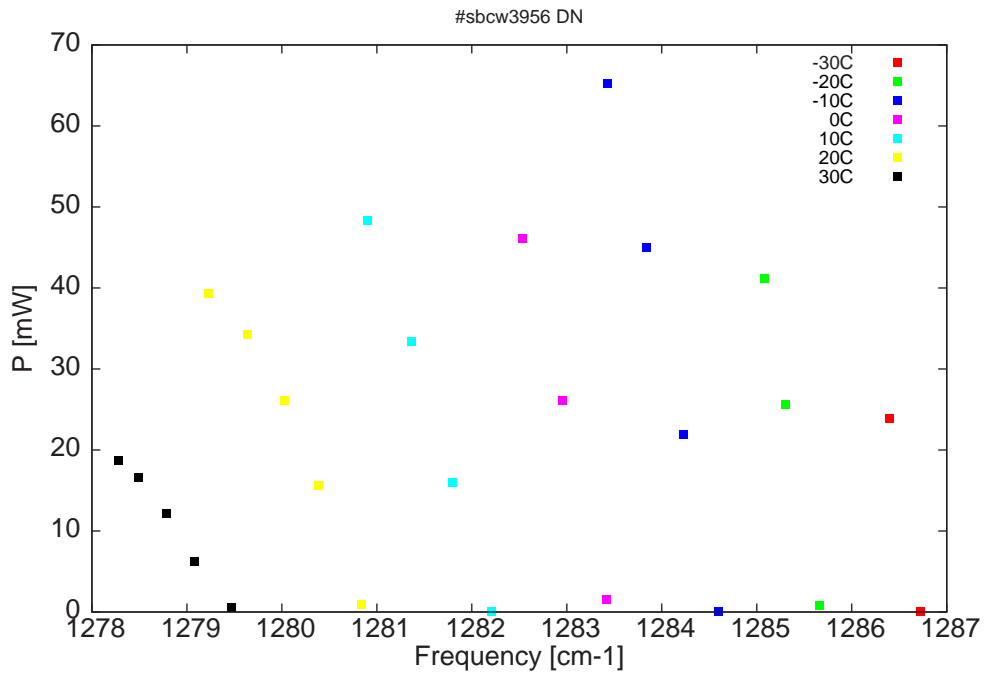


Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

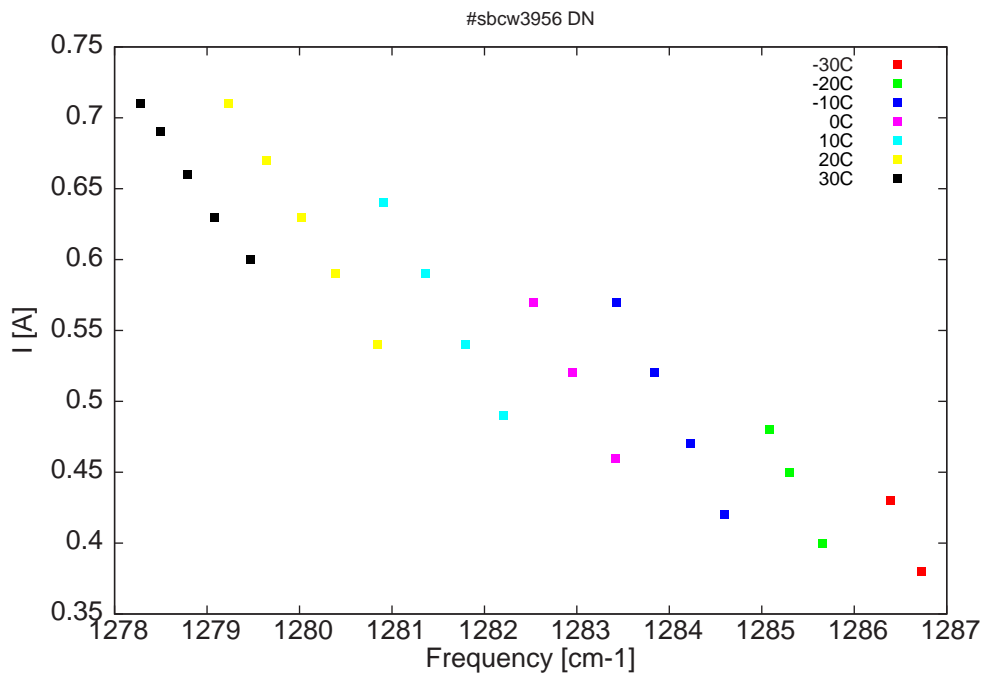


Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

λ [nm]	ν [cm ⁻¹]	P[mW]	Temp[°C]	U_{LASER} [V]	I[A]
7771.7	1286.7	0.1	-30	8.5	0.38
7773.6	1286.4	23.9	-30	8.7	0.43
7778.1	1285.7	0.8	-20	8.5	0.4
7780.3	1285.3	25.7	-20	8.7	0.45
7781.6	1285.1	41.2	-20	8.8	0.48
7784.6	1284.6	0.1	-10	8.5	0.42
7786.8	1284.2	21.9	-10	8.7	0.47
7789.1	1283.8	45	-10	8.9	0.52
7791.6	1283.4	65.3	-10	9.1	0.57
7791.7	1283.4	1.5	0	8.6	0.46
7794.5	1283	26.1	0	8.8	0.52
7797.1	1282.5	46	0	9.1	0.57
7799.1	1282.2	0.1	10	8.6	0.49
7801.5	1281.8	16	10	8.8	0.54
7804.2	1281.4	33.4	10	9.1	0.59
7807	1280.9	48.3	10	9.3	0.64
7807.4	1280.8	0.9	20	8.8	0.54
7810.1	1280.4	15.6	20	9	0.59
7812.4	1280	26.2	20	9.2	0.63
7814.7	1279.6	34.2	20	9.4	0.67
7817.2	1279.2	39.3	20	9.5	0.71
7815.7	1279.5	0.5	30	9	0.6
7818.1	1279.1	6.2	30	9.1	0.63
7819.9	1278.8	12.1	30	9.2	0.66
7821.7	1278.5	16.6	30	9.4	0.69
7823	1278.3	18.7	30	9.5	0.71

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

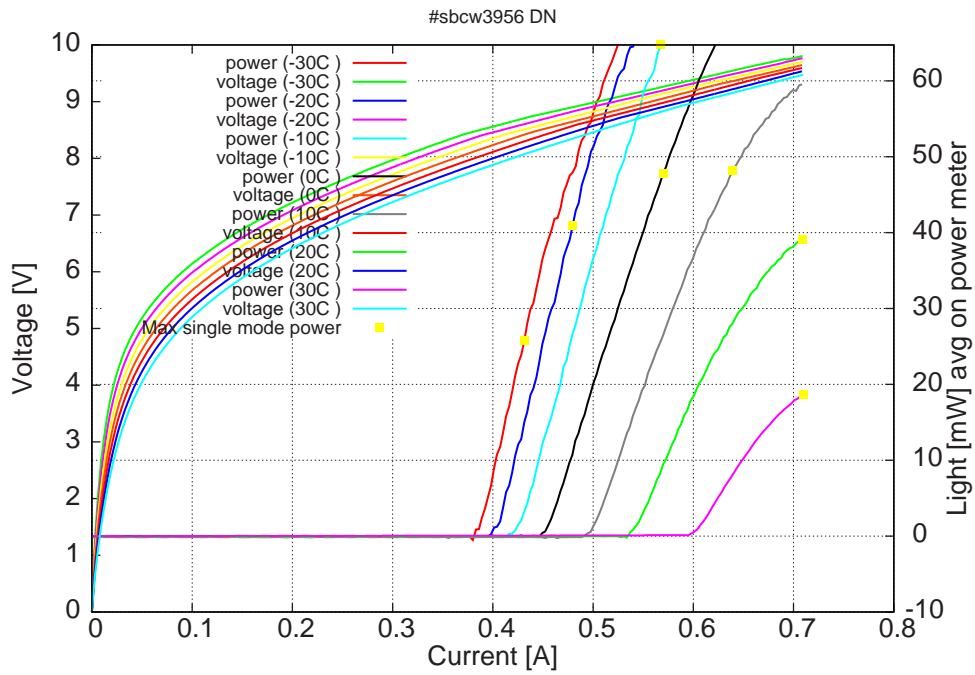


Figure 4: voltage and avg power vs current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

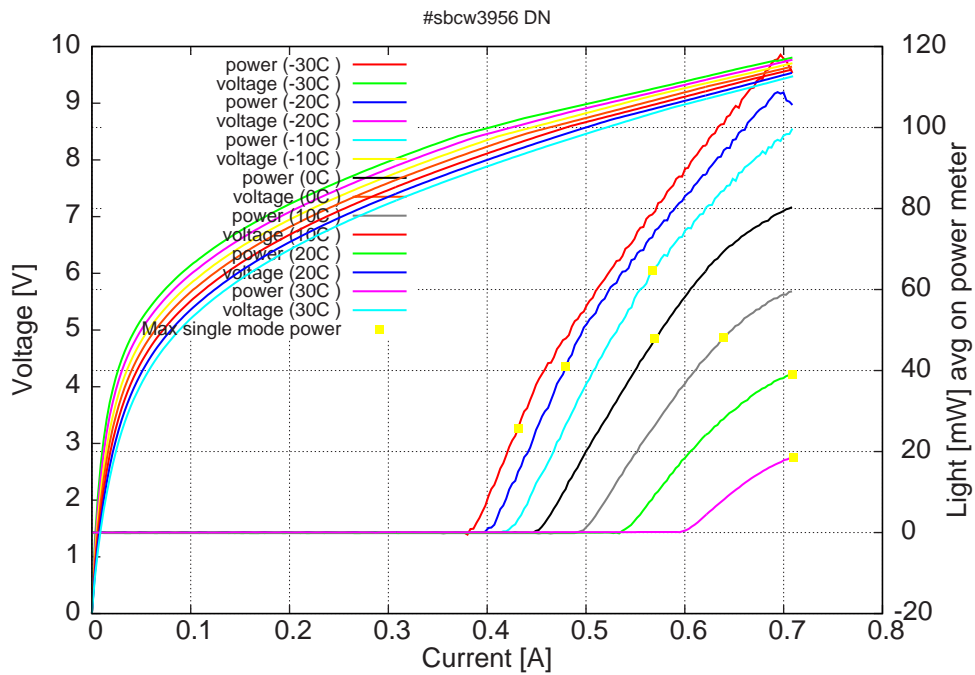
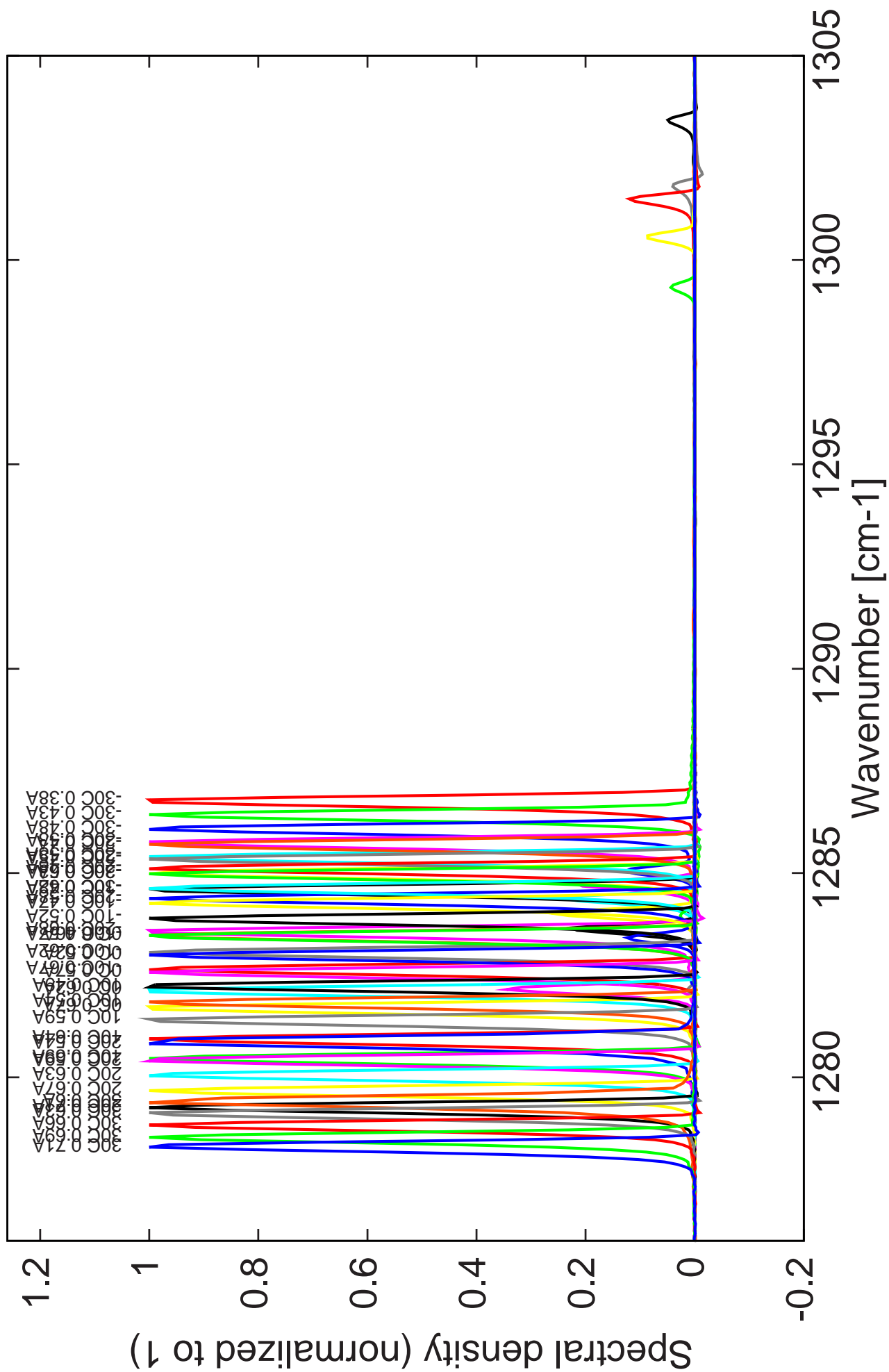


Figure 5: voltage and avg power vs current in continuous-wave operation (including the multimode region)

Note: at -30C: $I_{th}=380\text{mA}$ / $V_{th}= 8.5\text{V}$ (2-wires measurements).

Maximum operation current: 0.68A between -30C and -20C and 0.71A for other temperatures.

Figure 4: spectra at different temperatures for various DC currents.



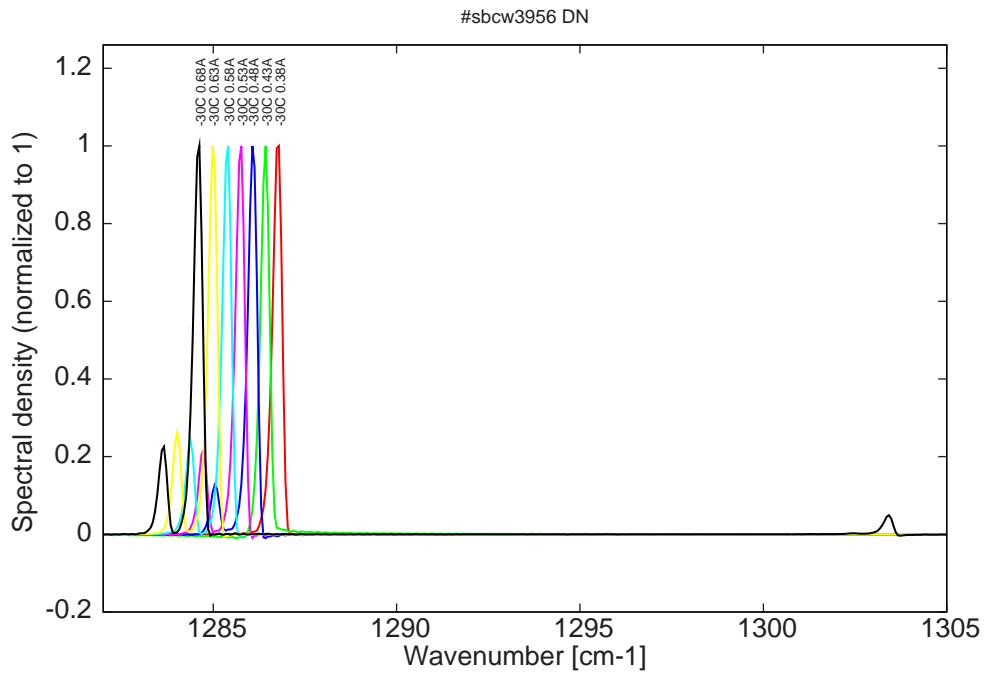


Figure 6: spectra -30C for various DC currents (monomode up to 0.43A)

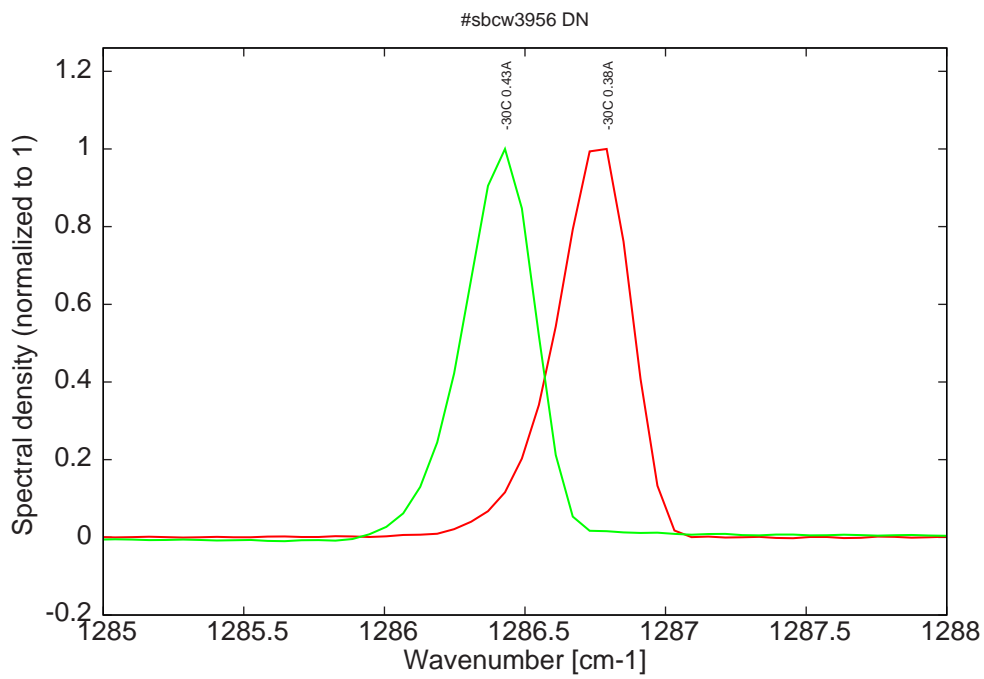


Figure 7: spectra -30C for various DC currents (monomode range)

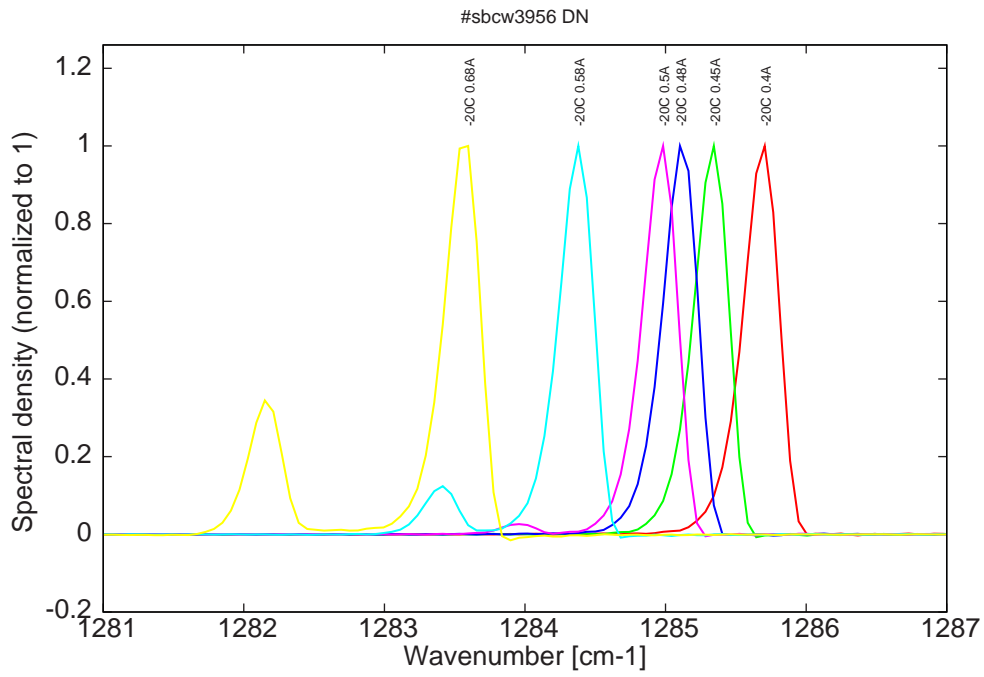


Figure 8: spectra -20C for various DC currents (monomode up to 0.48A)

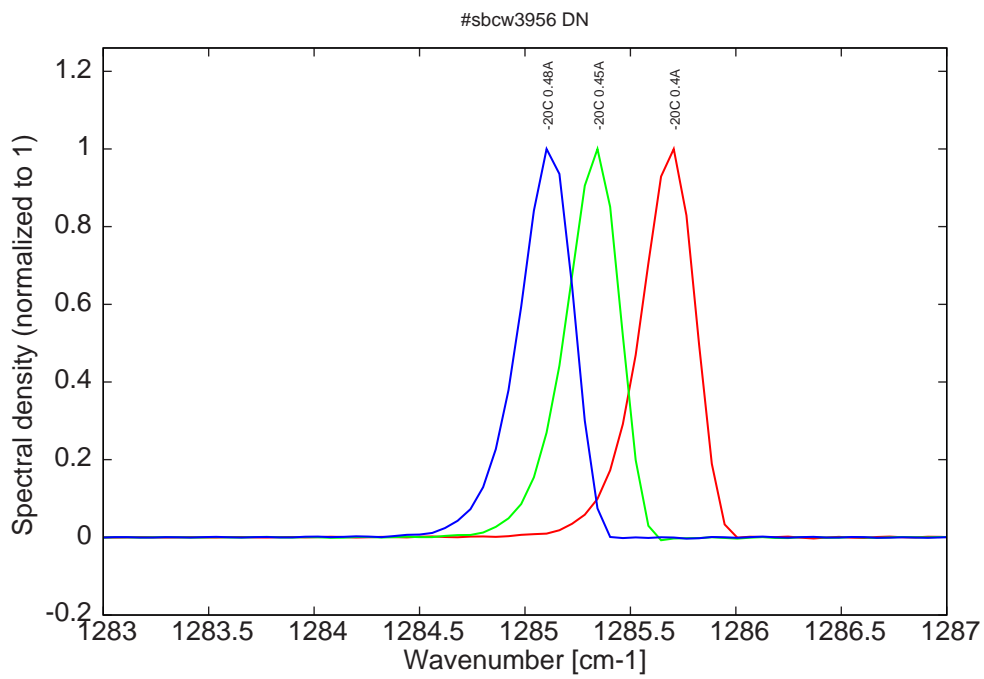


Figure 9: spectra -20C for various DC currents (monomode range)

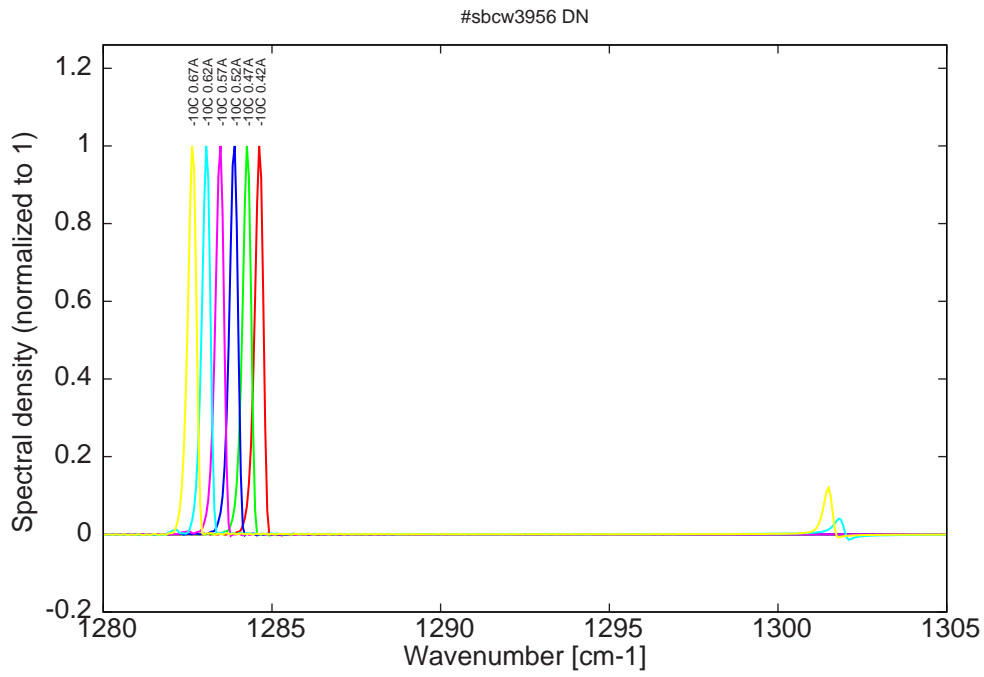


Figure 10: spectra -10C for various DC currents (monomode up to 0.57A)

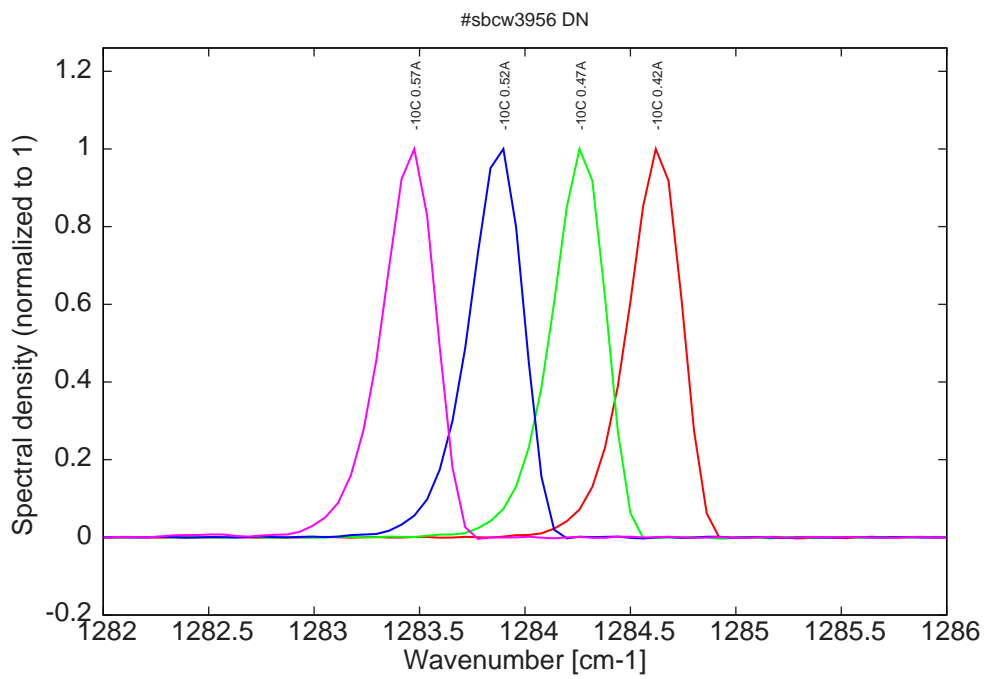


Figure 11: spectra -10C for various DC currents (monomode range)

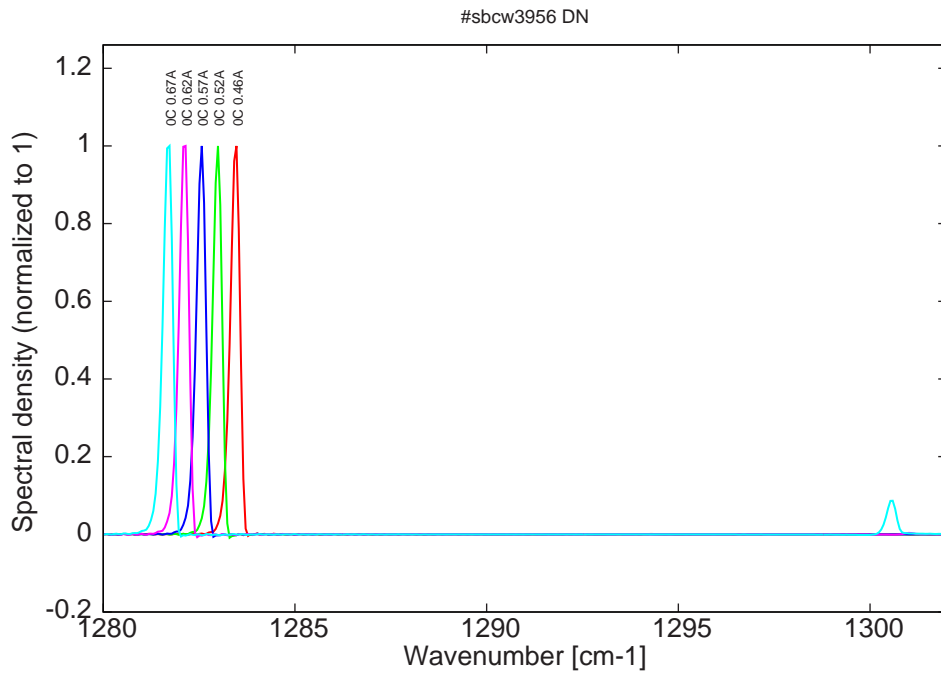


Figure 12: spectra 0C for various DC currents (monomode up to 0.57A)

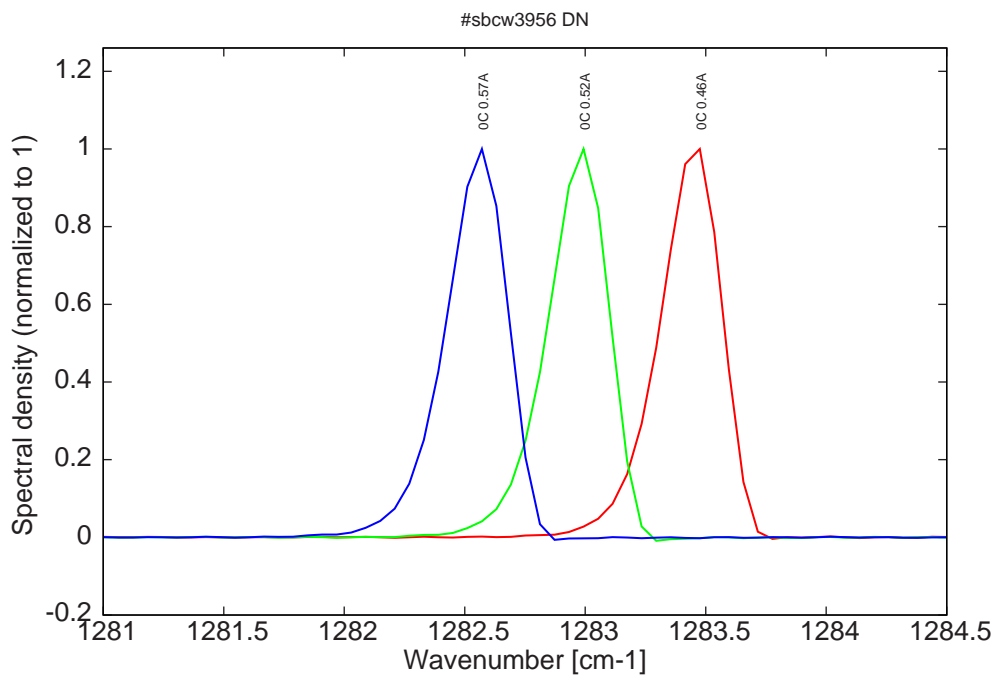


Figure 13: spectra 0C for various DC currents (monomode range)

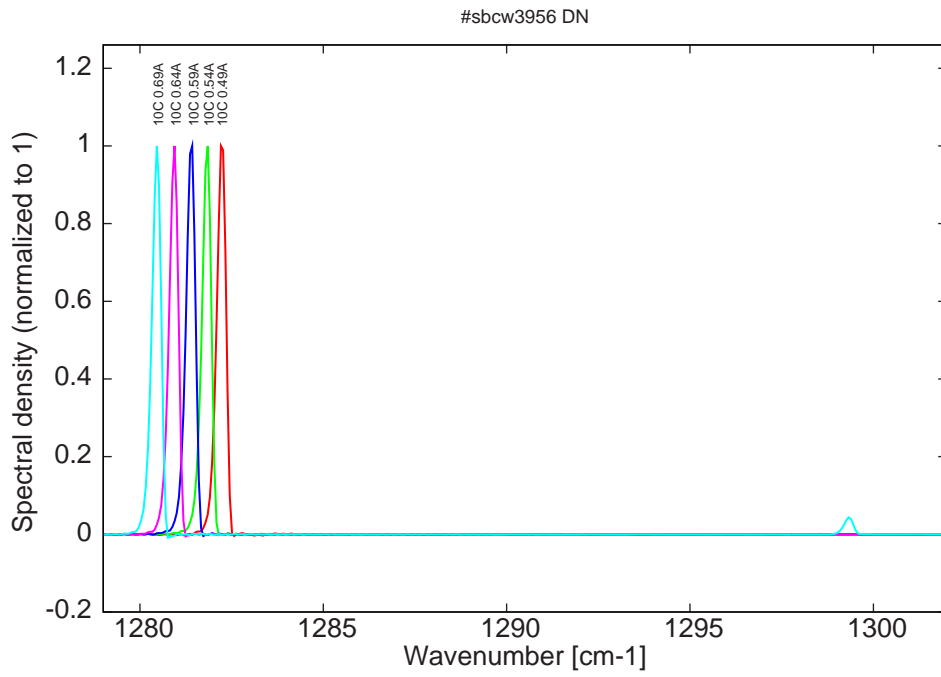


Figure 14: spectra 10C for various DC currents (monomode up to 0.64A)

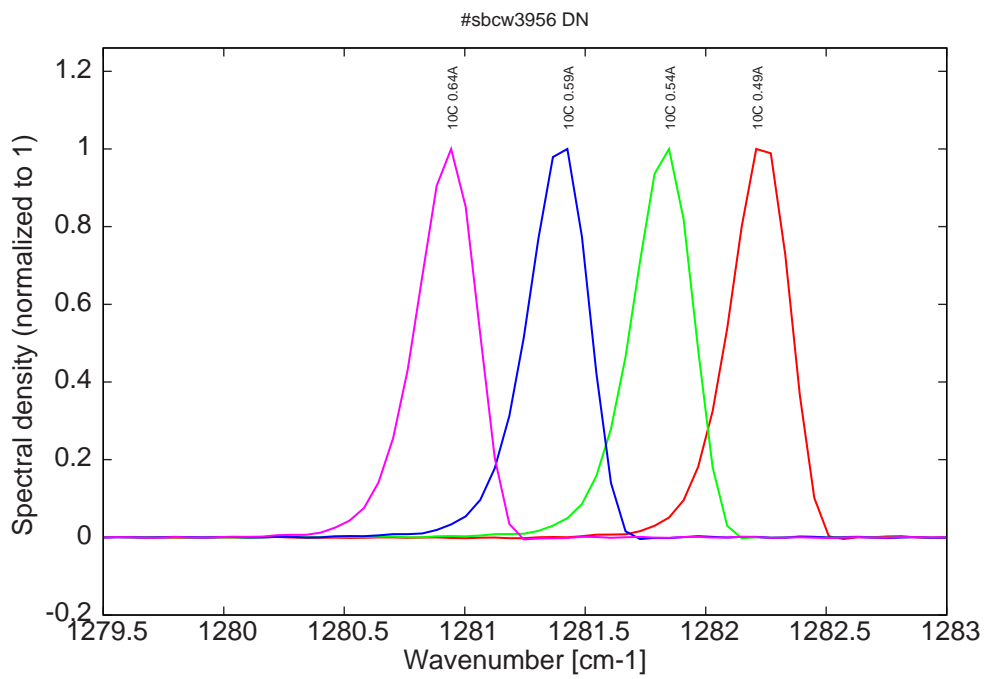


Figure 15: spectra 10C for various DC currents (monomode range)

Figure 15: spectra between 20C and 30C for various DC currents (all monomode)

