

Datasheet for #sbcw8240 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 bias and positive bias on the specific zones drawn below. To use with an ILX Lightwave LDX-3232 laser driver, or equivalent.

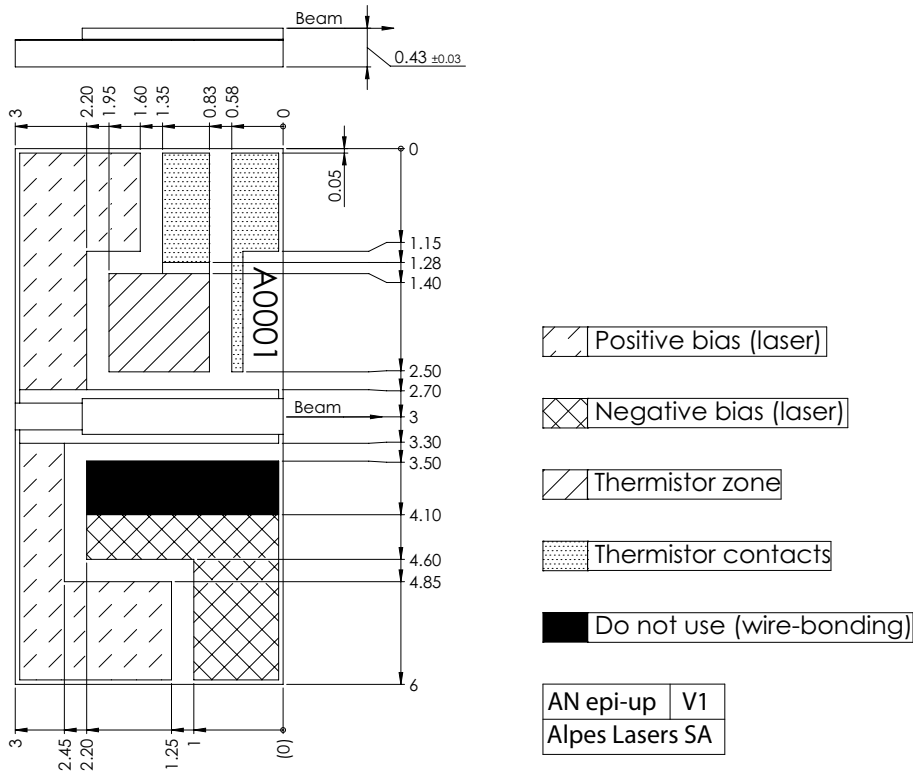


Figure 1: Support mounting for #sbcw8240 DN (please note that AlN submount numbering is A023T)

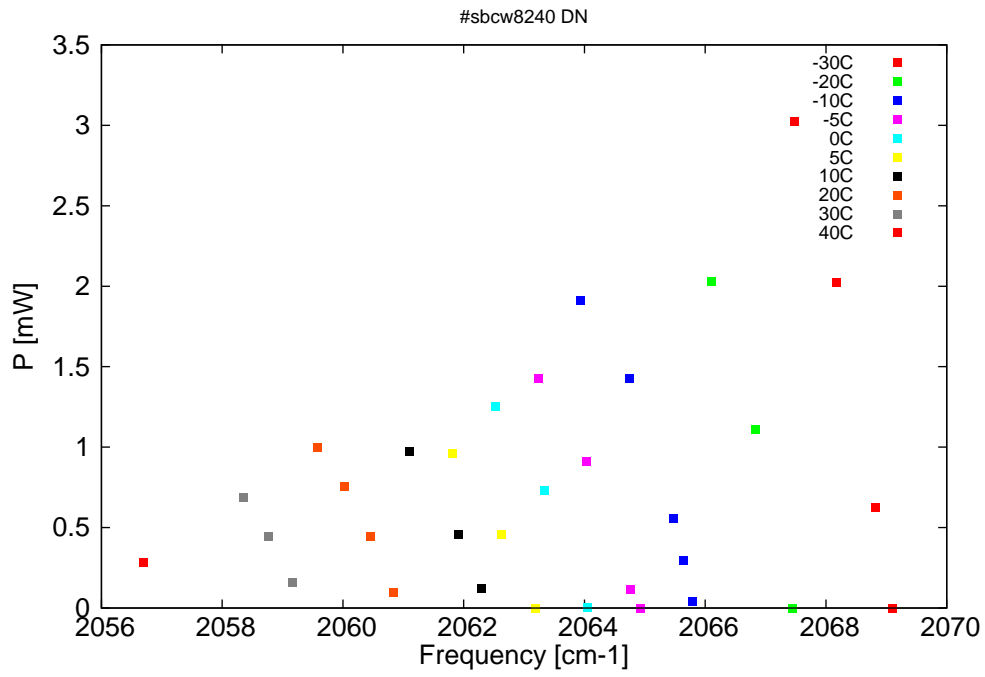


Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

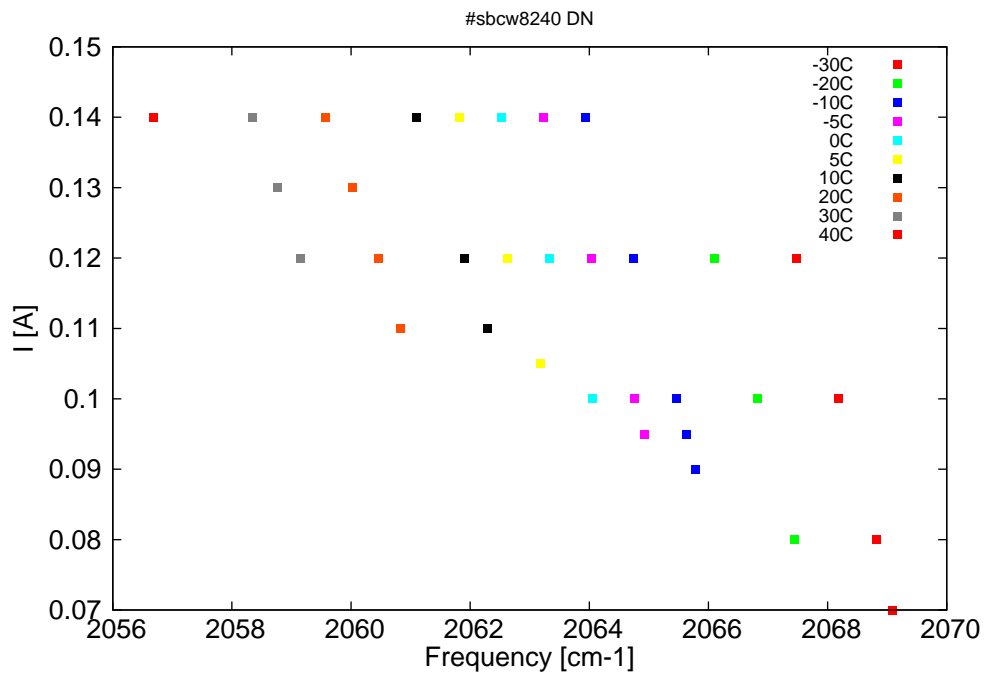


Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

$\lambda$ [nm]	$\nu$ [cm <sup>-1</sup> ]	P[mW]	Temp[°C]	$U_{LASER}$ [V]	I[A]
4833	2069.1	0	-30	8.4	0.07
4833.7	2068.8	0.6	-30	8.5	0.08
4835.2	2068.2	2	-30	8.9	0.1
4836.8	2067.5	3	-30	9.3	0.12
4836.9	2067.4	0	-20	8.5	0.08
4838.3	2066.8	1.1	-20	8.9	0.1
4840	2066.1	2	-20	9.3	0.12
4840.8	2065.8	0	-10	8.7	0.09
4841.1	2065.6	0.3	-10	8.8	0.1
4841.5	2065.5	0.6	-10	8.9	0.1
4843.2	2064.7	1.4	-10	9.3	0.12
4845.1	2063.9	1.9	-10	9.7	0.14
4842.8	2064.9	0	-5	8.8	0.1
4843.2	2064.8	0.1	-5	8.9	0.1
4844.9	2064	0.9	-5	9.3	0.12
4846.8	2063.2	1.4	-5	9.7	0.14
4844.8	2064.1	0	0	8.9	0.1
4846.5	2063.3	0.7	0	9.2	0.12
4848.4	2062.5	1.3	0	9.7	0.14
4846.9	2063.2	0	5	8.9	0.11
4848.2	2062.6	0.5	5	9.2	0.12
4850.1	2061.8	1	5	9.6	0.14
4849	2062.3	0.1	10	9	0.11
4849.9	2061.9	0.5	10	9.2	0.12
4851.8	2061.1	1	10	9.6	0.14
4852.4	2060.8	0.1	20	8.9	0.11
4853.3	2060.5	0.4	20	9.1	0.12
4854.3	2060	0.8	20	9.3	0.13
4855.4	2059.6	1	20	9.5	0.14
4856.4	2059.2	0.2	30	9	0.12
4857.3	2058.8	0.4	30	9.2	0.13
4858.3	2058.3	0.7	30	9.4	0.14
4862.2	2056.7	0.3	40	9.4	0.14

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

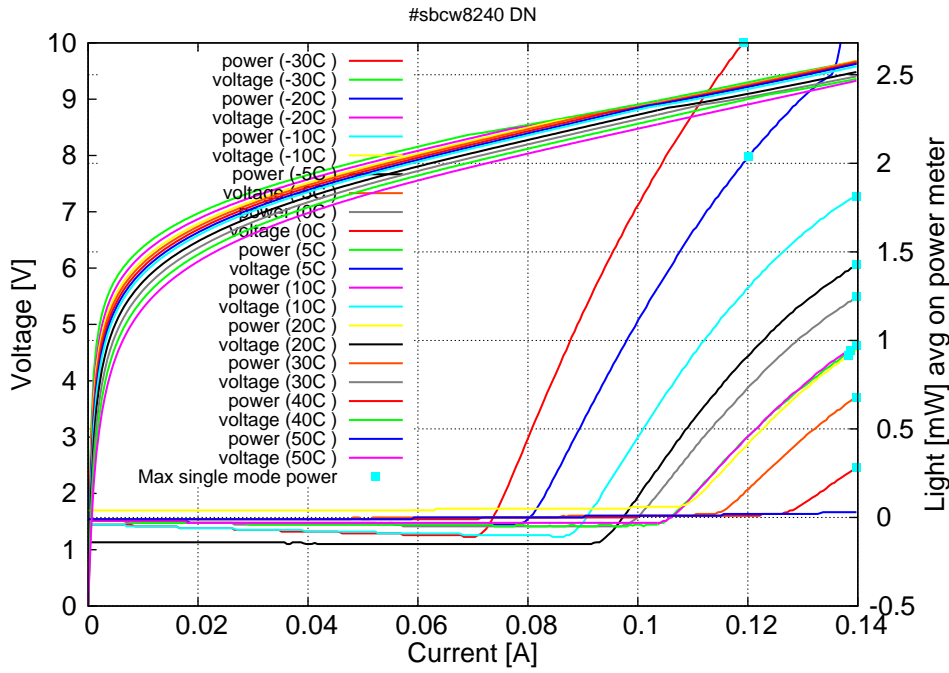


Figure 4: voltage and avg power vs current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

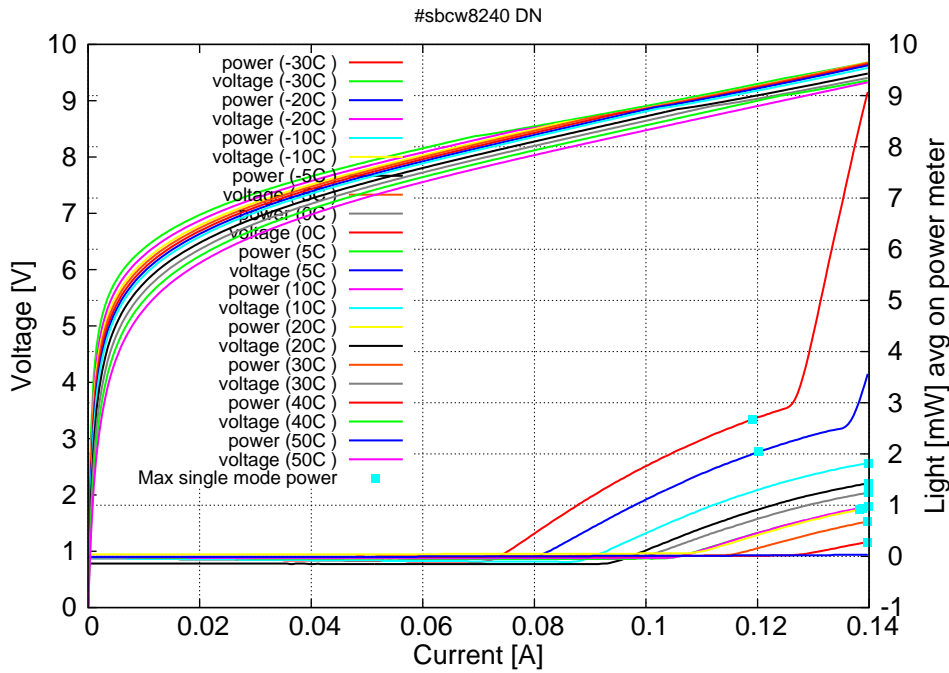
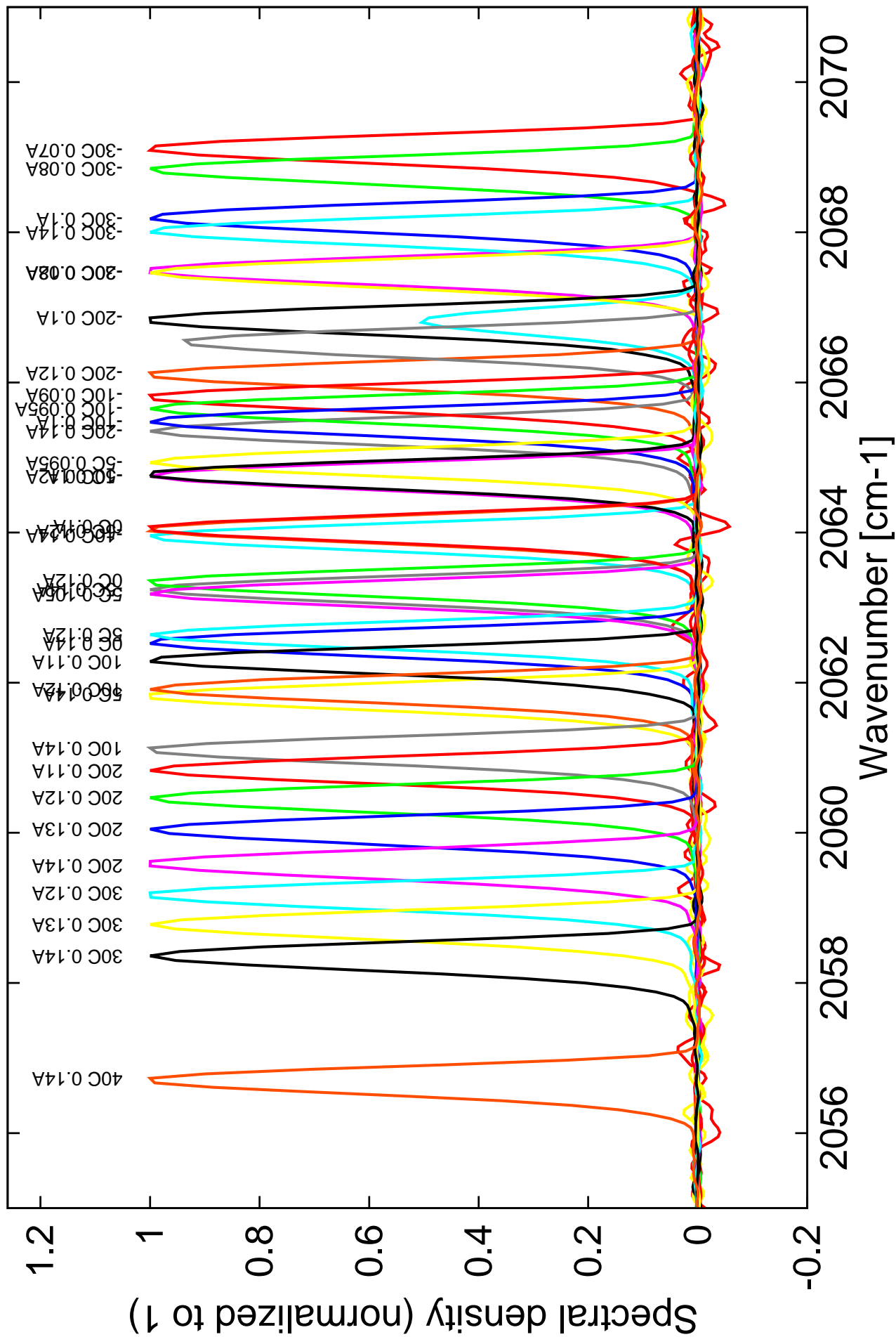


Figure 5: voltage and avg power vs current in continuous-wave operation (including the multimode region)

Note: at -30C:  $I_{th}=0.07A$  /  $V_{th}=8.3V$  (2-wires measurements). Maximum operation current: 0.14A for all temperatures.

Figure 4: spectra at different temperatures for various DC currents



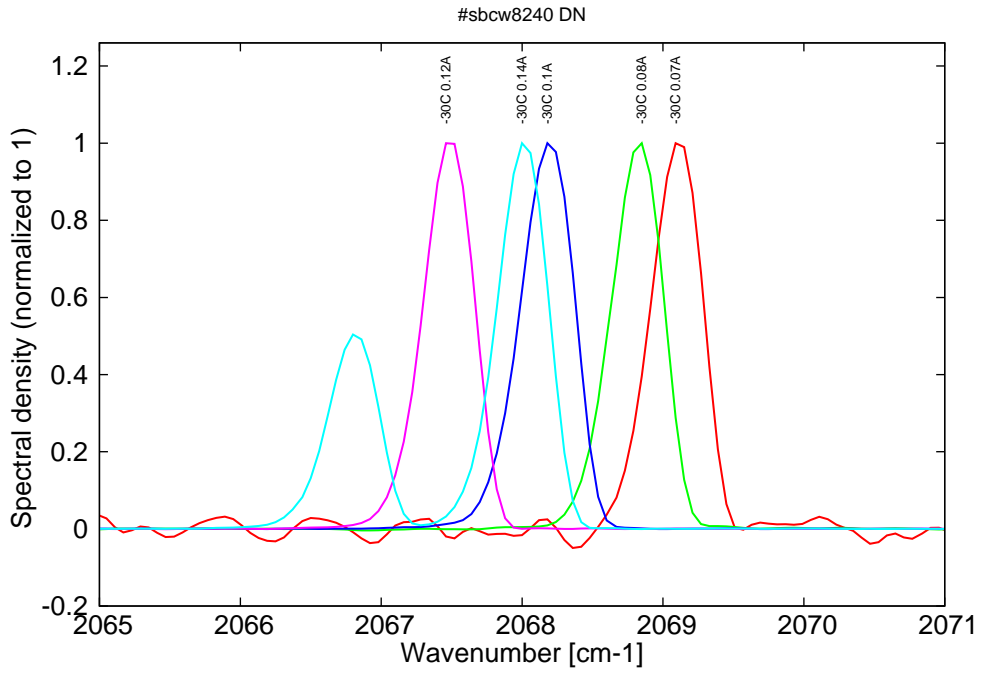


Figure 6: spectra at -30C for various DC currents (become bimode for  $I > 0.12A$ )

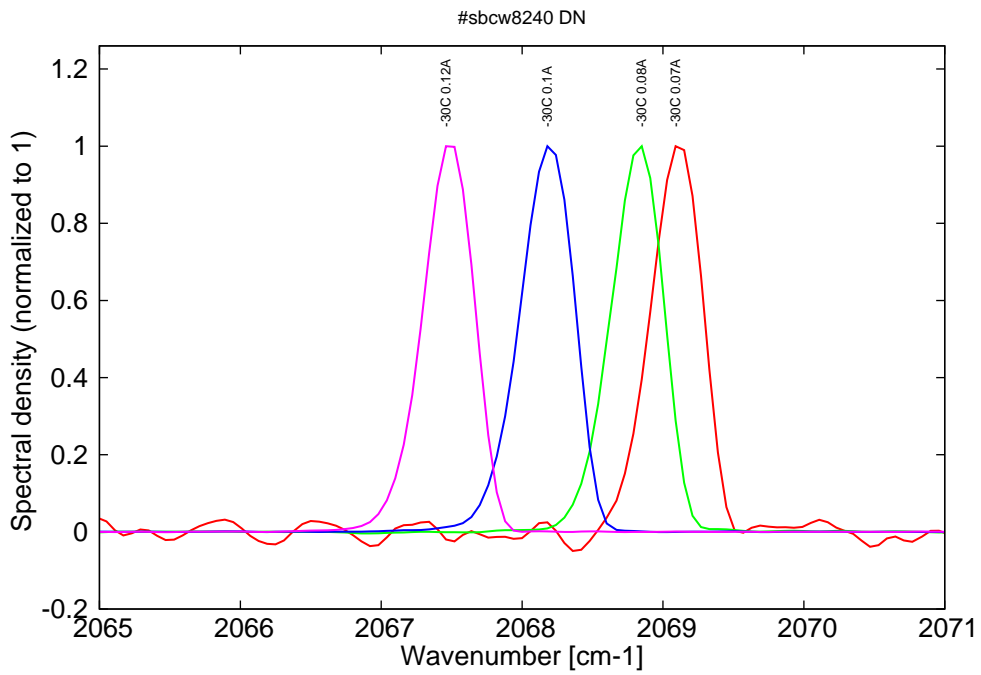


Figure 7: spectra at -30C for various DC currents (monomode range)

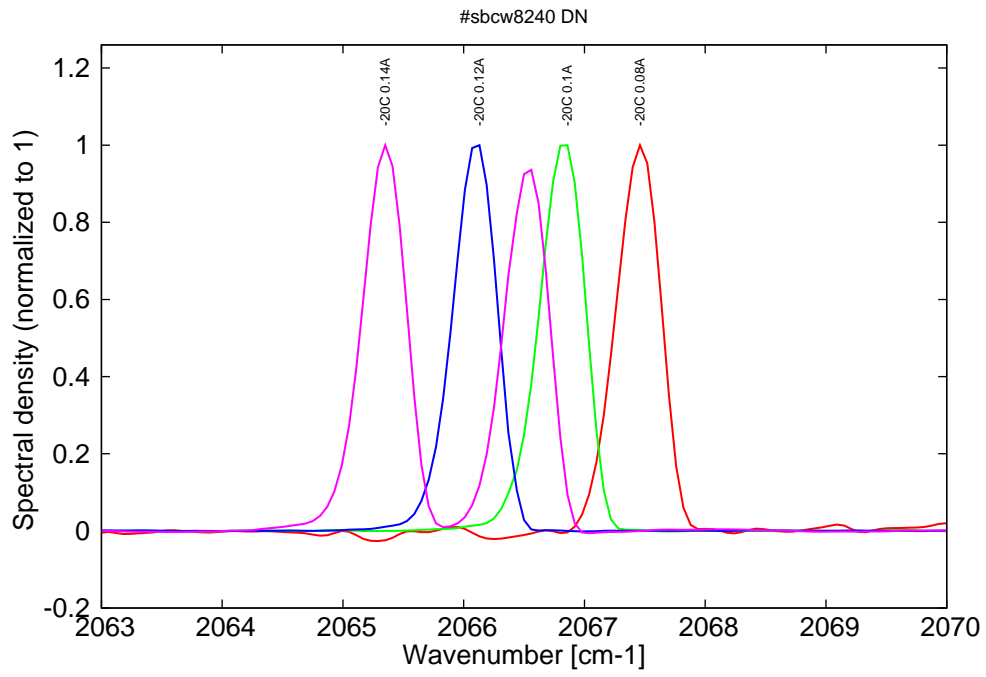


Figure 8: spectra at -20C for various DC currents (become bimode for  $I > 0.12A$ )

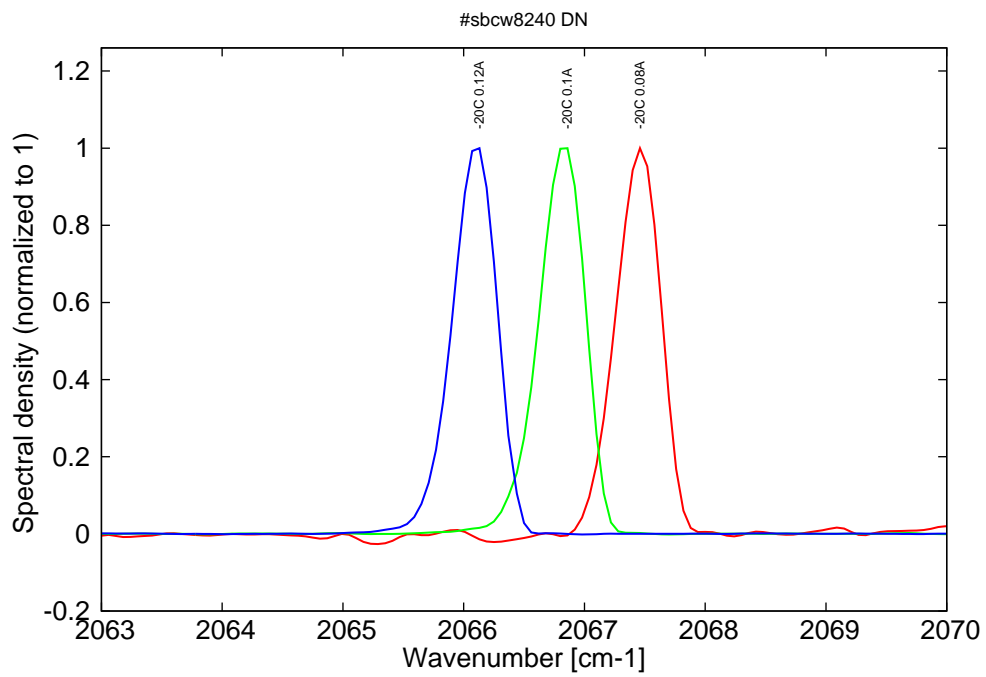


Figure 9: spectra at -20C for various DC currents (monomode range)

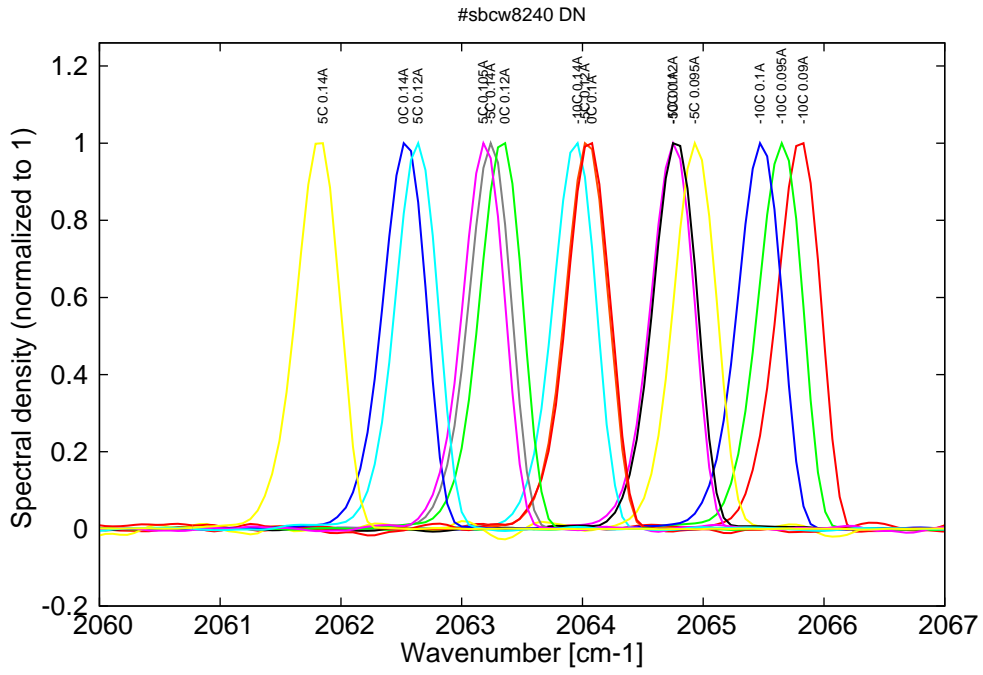


Figure 10: spectra between -10C and 5C for various DC currents (all monomode on mode 1)

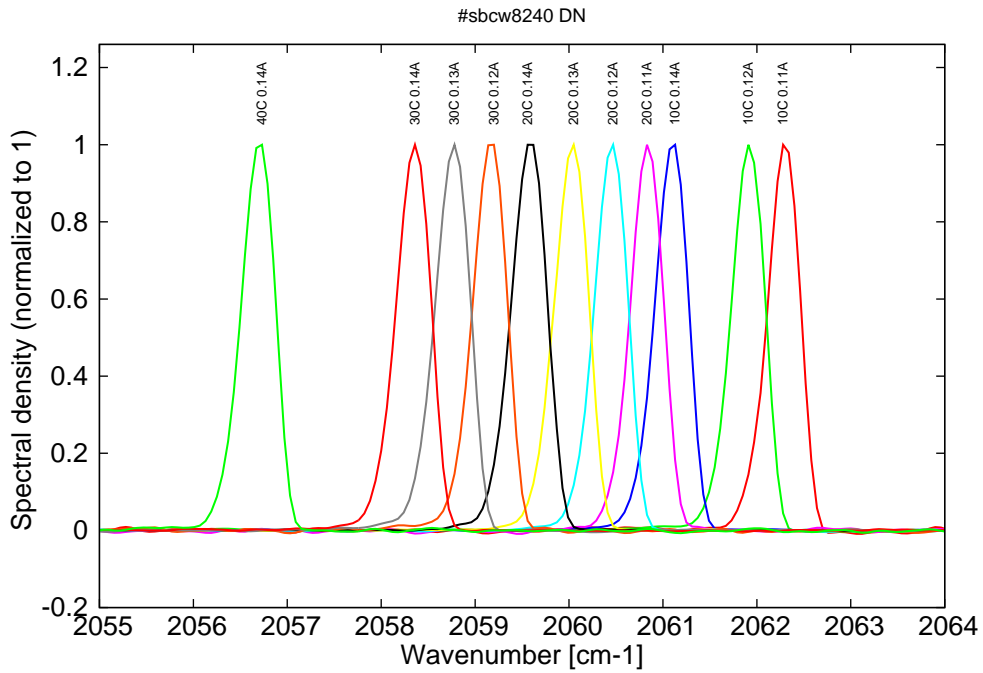


Figure 11: spectra between 10C and 40C for various DC currents (all monomode potentially on mode 2; threshold current at 5C identical to the one at 10C)