

**Datasheet for #sbcw2412 DN**

Recommendations:

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

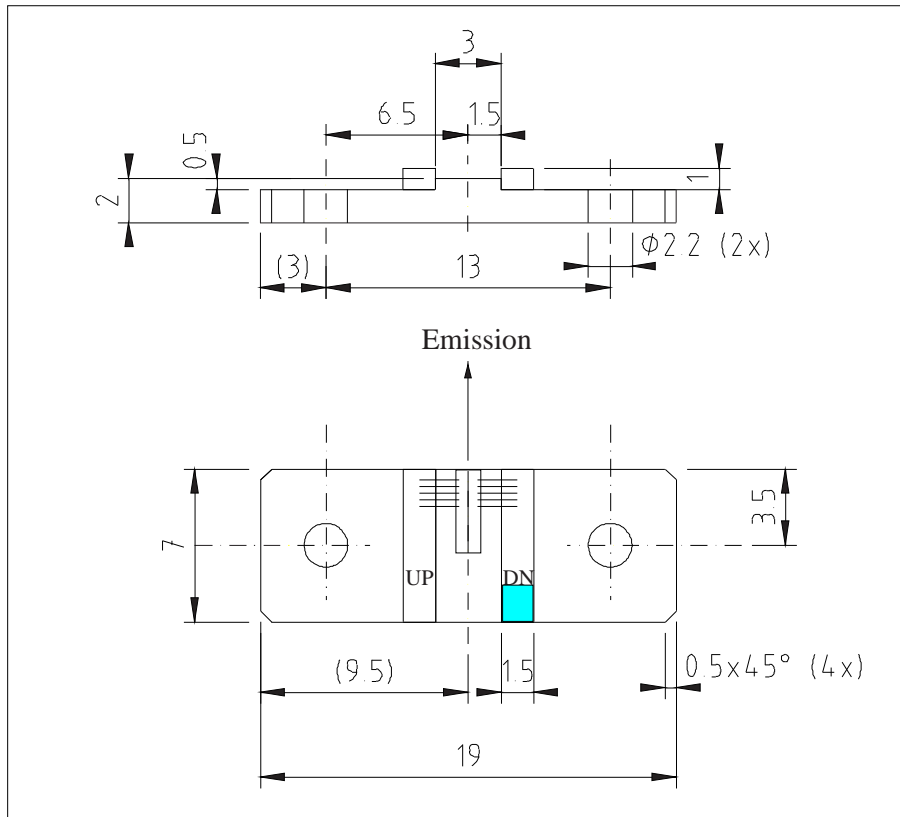


Figure 1: Support mounting for #sbcw2412 DN (please note that the laser is connected to the DN pad drawn in blue)

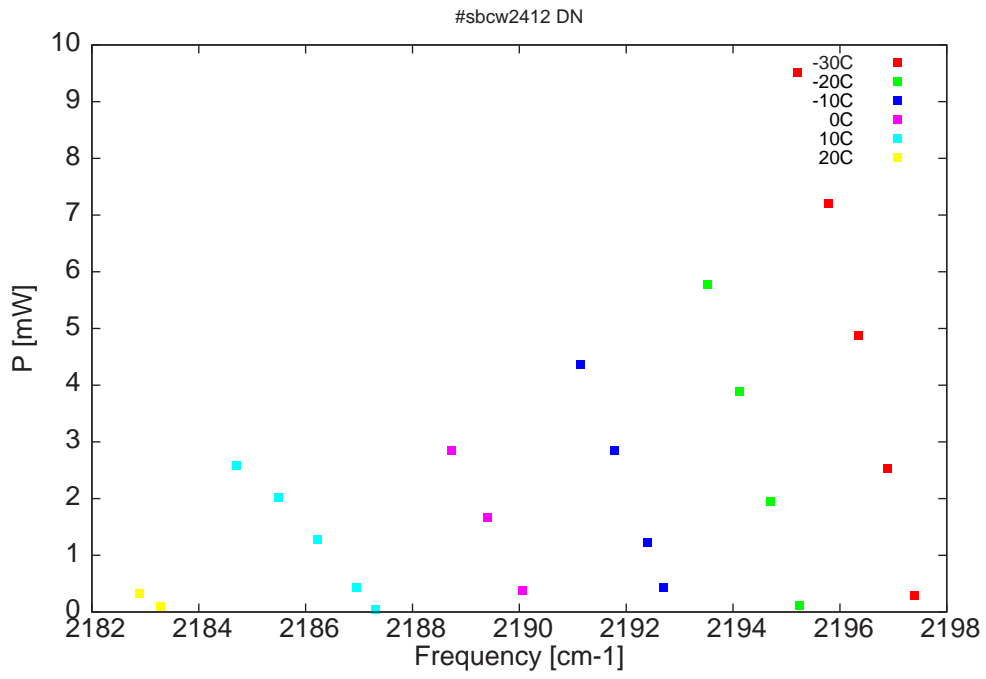


Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

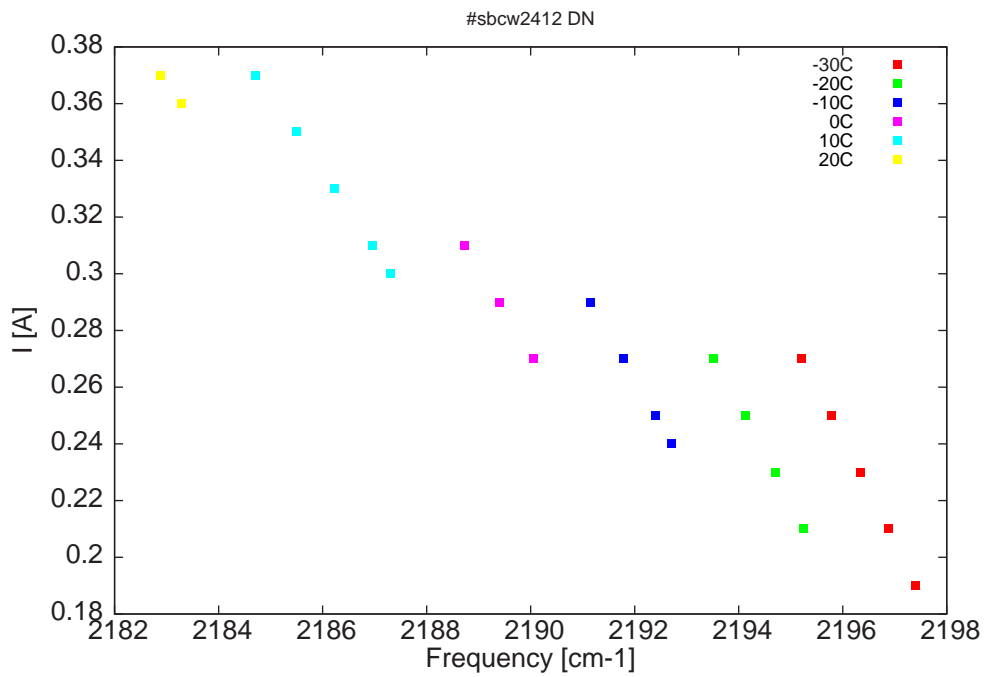


Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

$\lambda$ [nm]	$\nu$ [cm <sup>-1</sup> ]	P[mW]	Temp[°C]	$U_{LASER}$ [V]	I[A]
4550.8	2197.4	0.3	-30	8.7	0.19
4551.9	2196.9	2.5	-30	8.9	0.21
4553	2196.3	4.9	-30	9	0.23
4554.2	2195.8	7.2	-30	9.1	0.25
4555.4	2195.2	9.5	-30	9.3	0.27
4555.3	2195.3	0.1	-20	8.8	0.21
4556.4	2194.7	2	-20	8.9	0.23
4557.6	2194.1	3.9	-20	9.1	0.25
4558.9	2193.5	5.8	-20	9.2	0.27
4560.6	2192.7	0.4	-10	9	0.24
4561.2	2192.4	1.2	-10	9	0.25
4562.5	2191.8	2.8	-10	9.2	0.27
4563.8	2191.2	4.4	-10	9.3	0.29
4566.1	2190.1	0.4	0	9.1	0.27
4567.5	2189.4	1.7	0	9.2	0.29
4568.9	2188.7	2.8	0	9.4	0.31
4571.8	2187.3	0.1	10	9.3	0.3
4572.6	2187	0.4	10	9.3	0.31
4574.1	2186.2	1.3	10	9.5	0.33
4575.6	2185.5	2	10	9.6	0.35
4577.3	2184.7	2.6	10	9.7	0.37
4580.3	2183.3	0.1	20	9.6	0.36
4581.1	2182.9	0.3	20	9.7	0.37

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

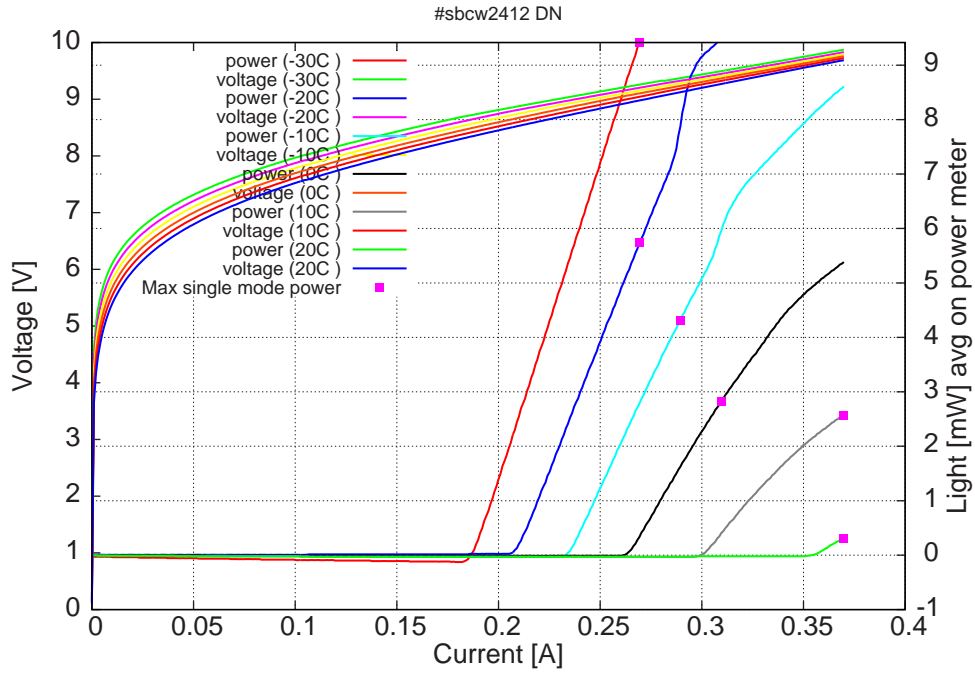


Figure 4: peak voltage and average power vs peak current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

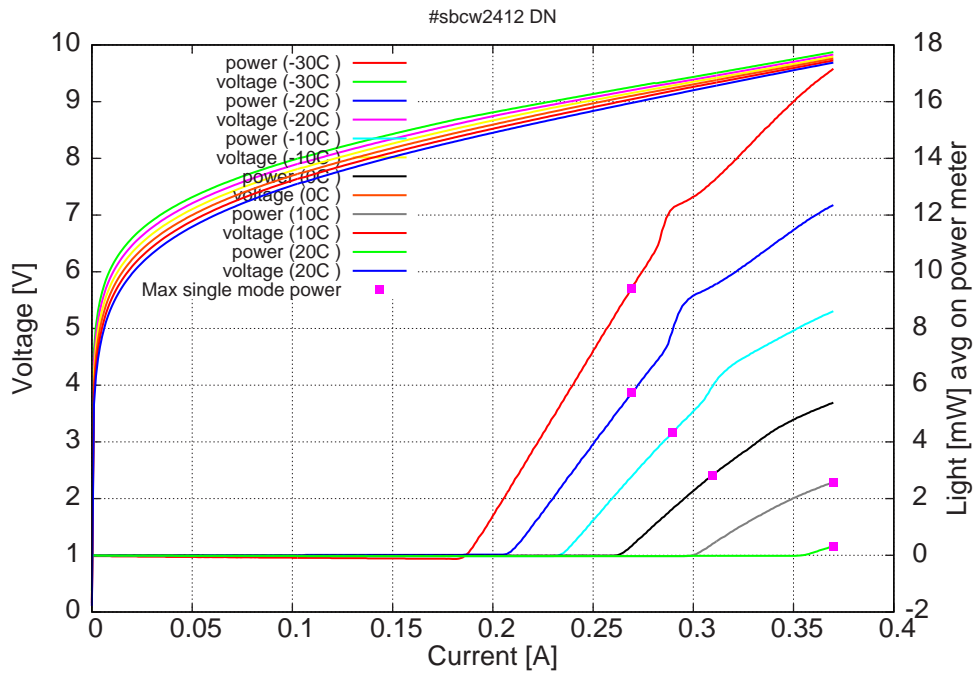
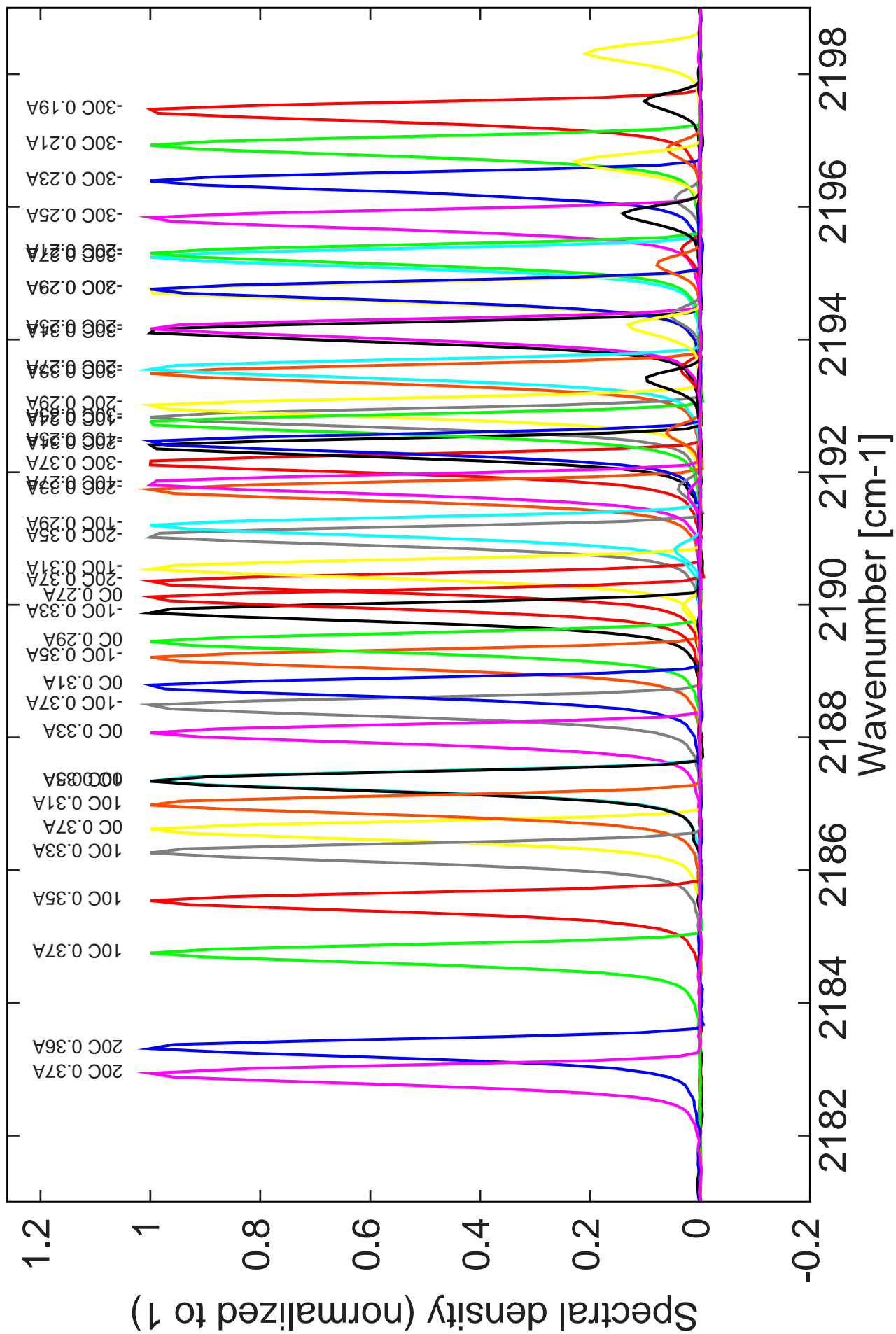


Figure 5: peak voltage and average power vs peak current in continuous-wave operation (including the multimode region)

Note: at -30C:  $I_{th}=190\text{mA}$  /  $V_{th}= 8.8\text{V}$  (2-wires measurements). Maximum operation current: 370mA for all temperatures.

Figure 4: spectra at different temperatures for various DC currents



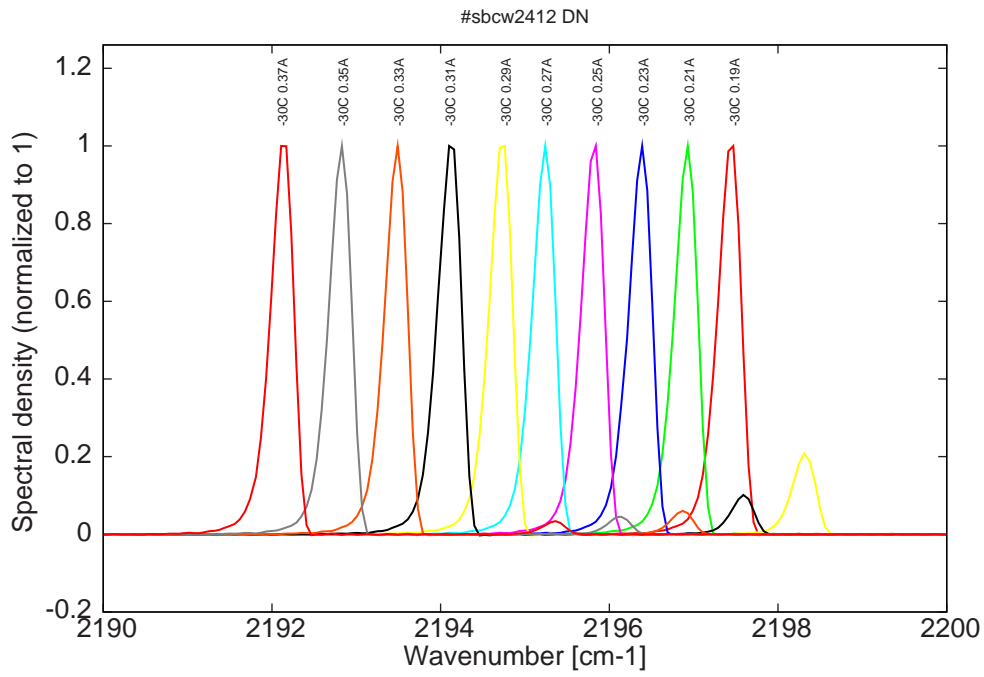


Figure 6: spectra at -30C for various DC currents (become bimode for  $I > 0.27A$ )

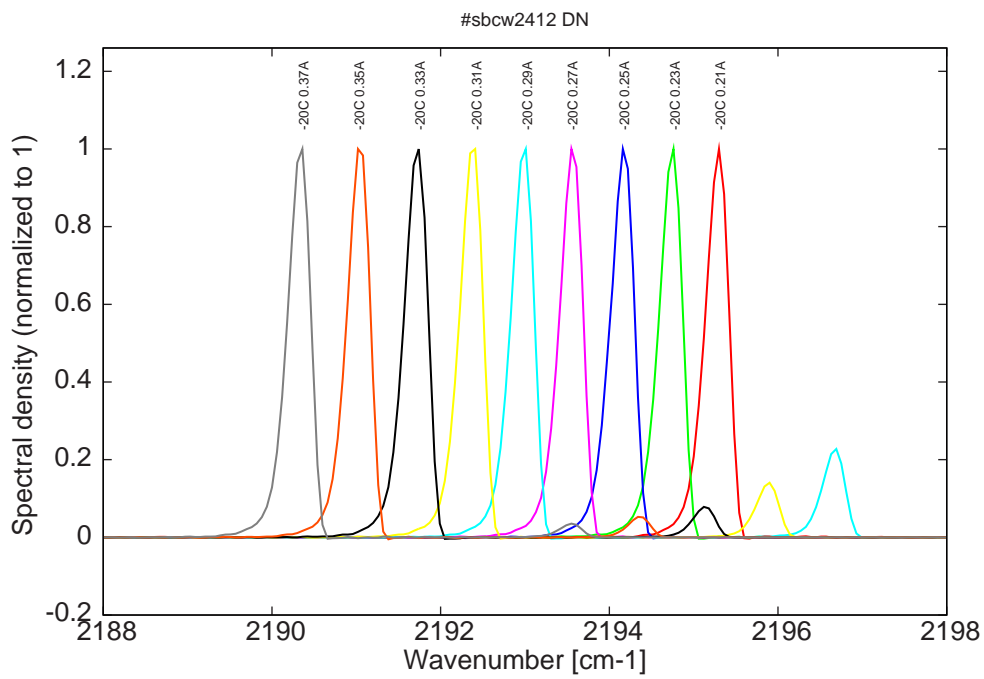


Figure 7: spectra at -20C for various DC currents (become bimode for  $I > 0.27A$ )

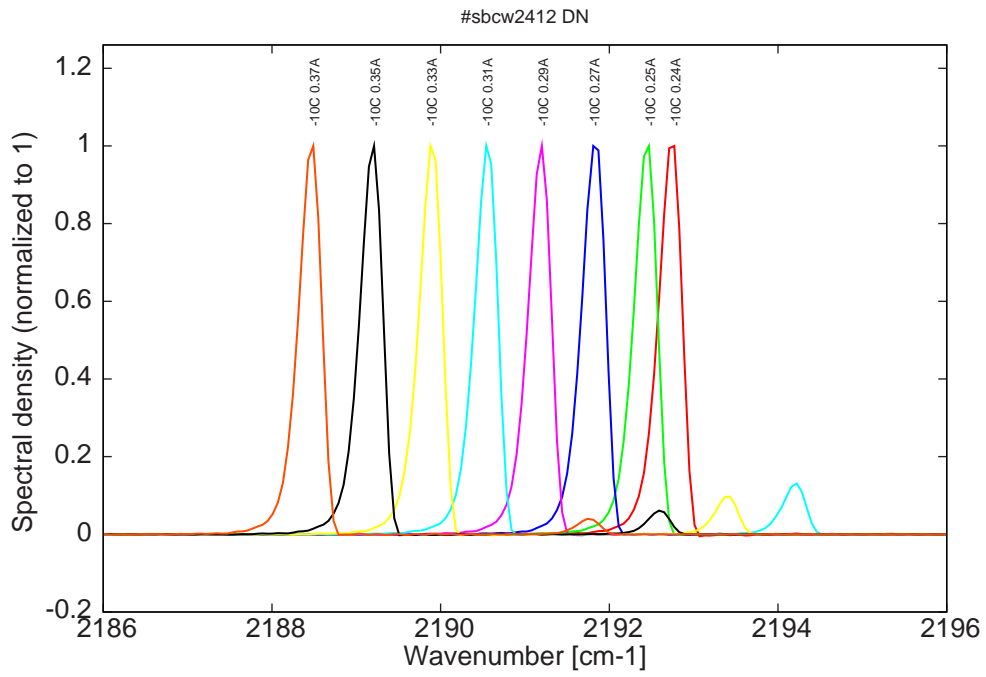


Figure 8: spectra at -10C for various DC currents (become bimode for  $I > 0.29A$ )

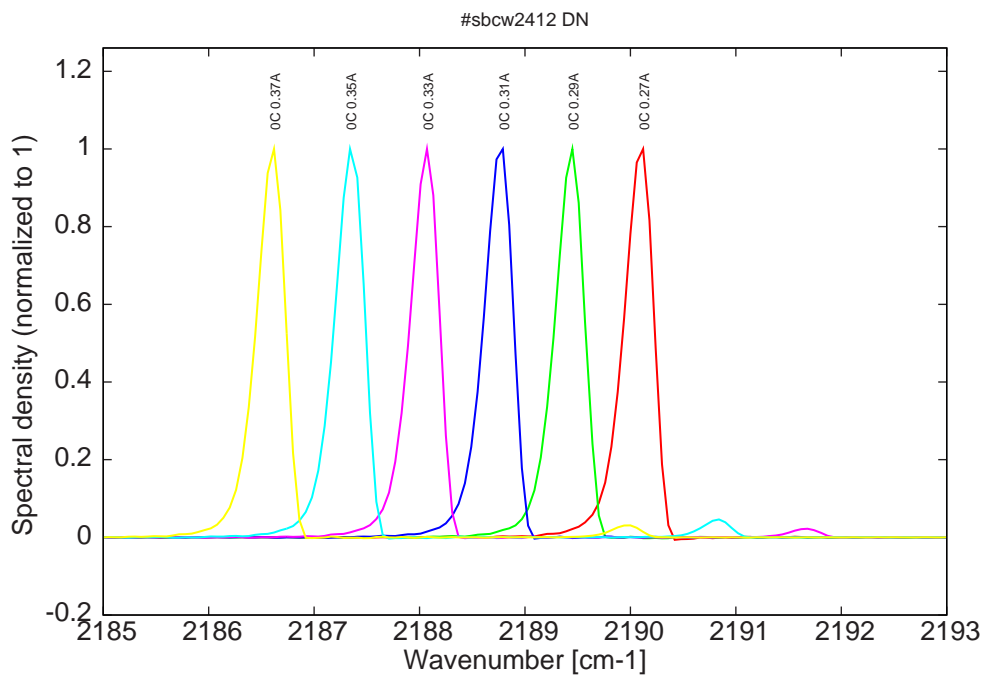


Figure 9: spectra at 0C for various DC currents (become bimode for  $I > 0.31A$ )

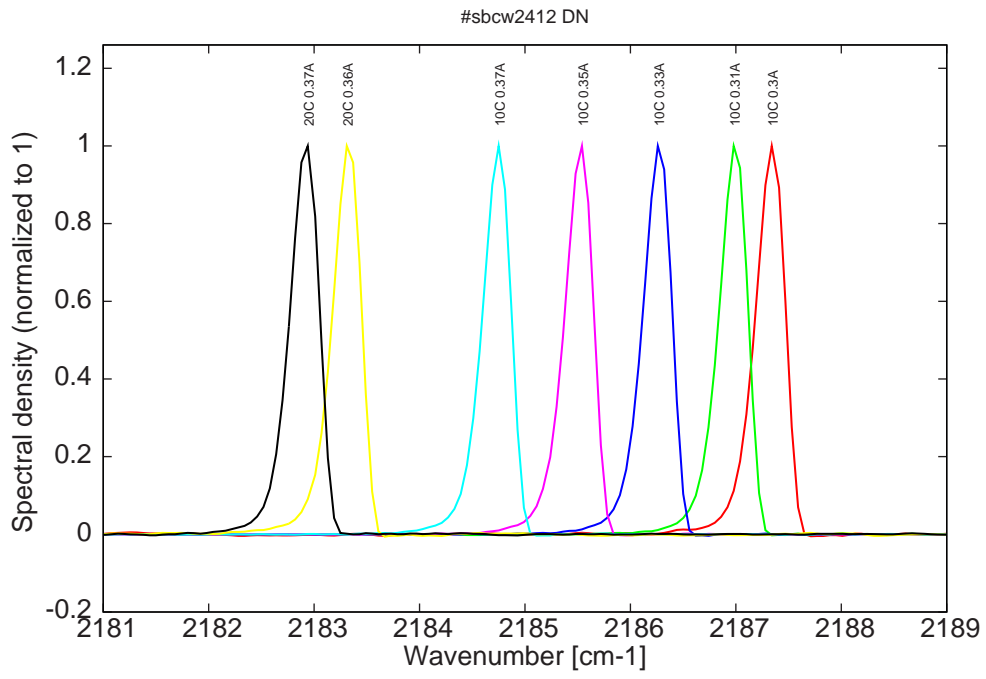


Figure 10: spectra at 10C and 20C for various DC currents (all monomode)