

Datasheet for #sb20762 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 longer pulses, higher repetition rate, higher voltage or higher current than specified in this document may cause damage. It will result in loss of warranty, unless agreed upon with Alpes Lasers!

**WARNING:** Beware of the polarity of the laser. This laser has to be powered with negative bias on the laser contact (= bonding pad, corresponding to the label "laser" on the LLH) and the positive bias on the base contact (= submount, corresponding to the label "base" on the LLH).

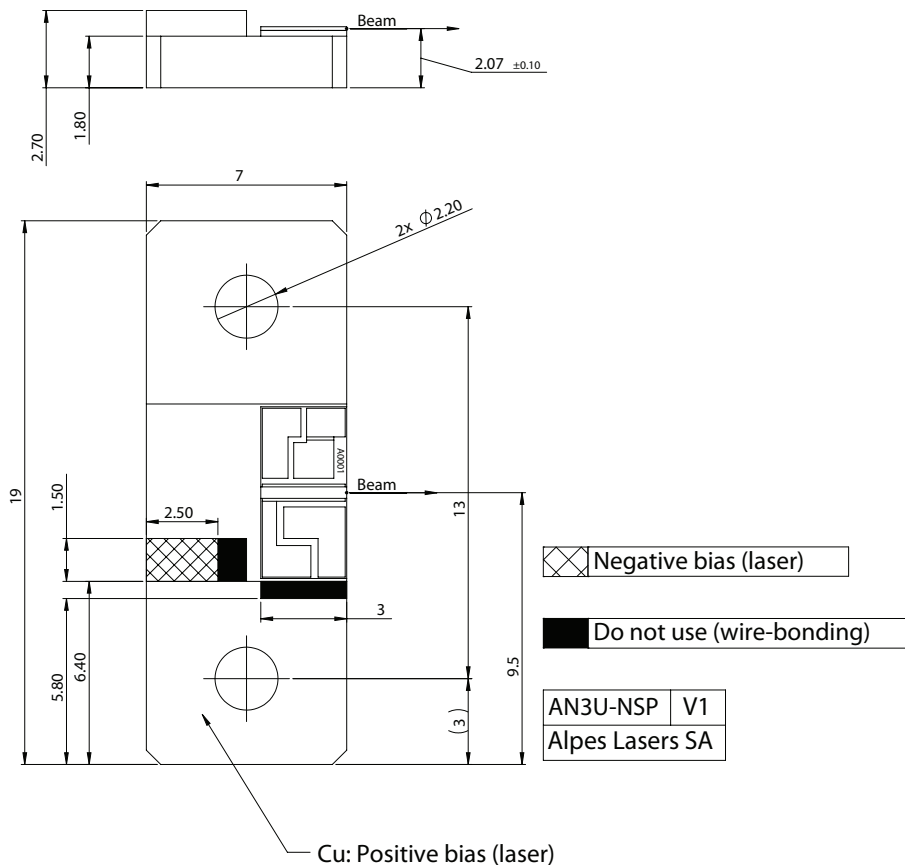


Figure 1: Mechanical and electrical interface for #sb20762 DN

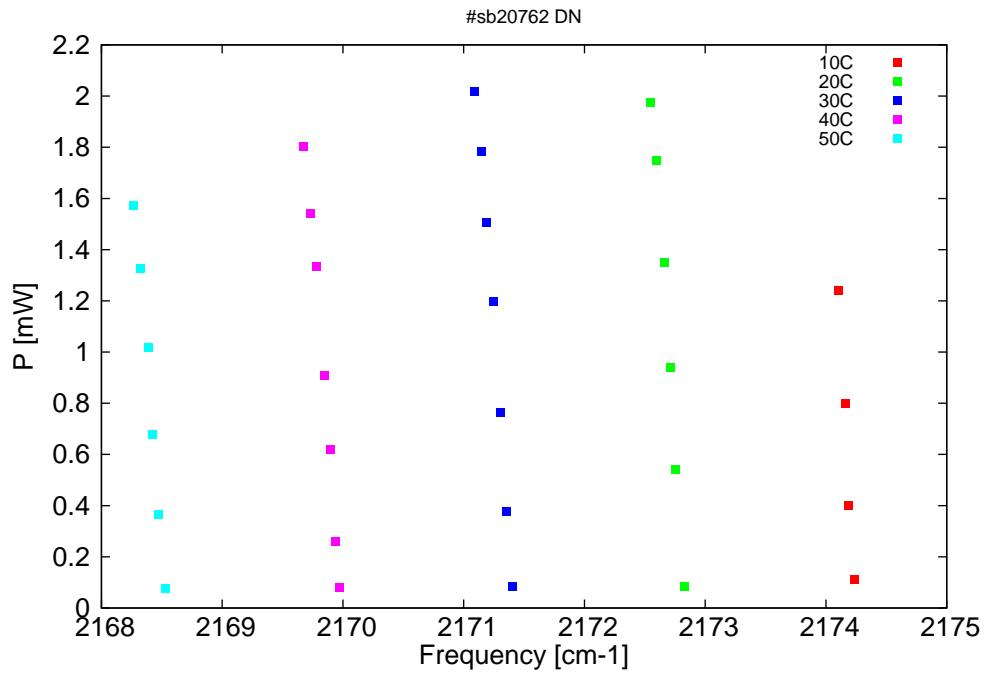


Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

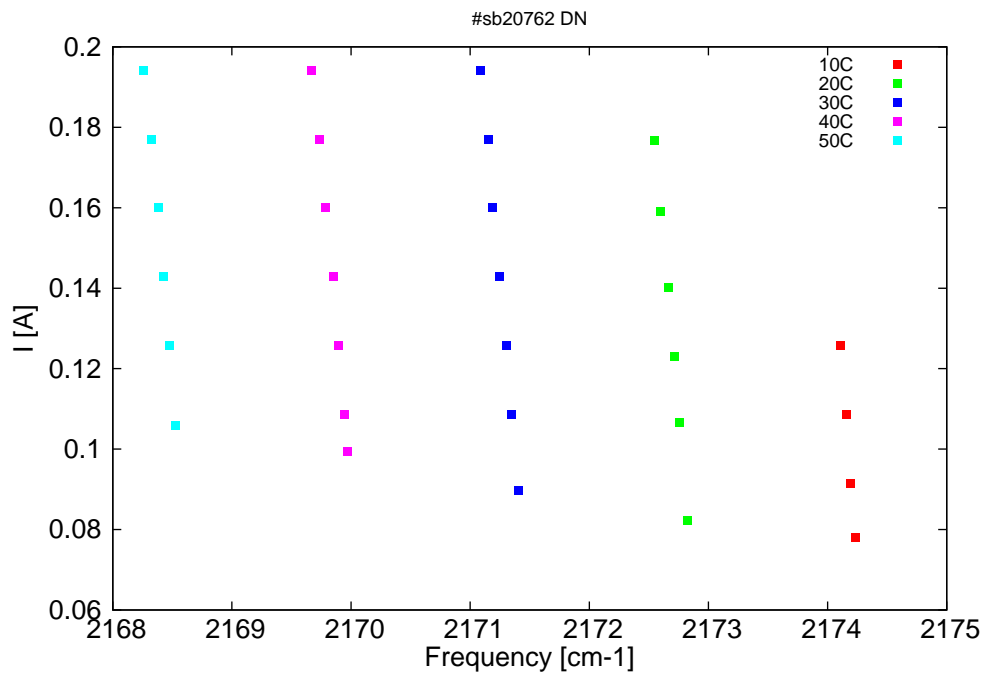


Figure 3: Peak current as a function of singlemode emission frequencies and temperatures

$\lambda$ [nm]	$\nu$ [cm <sup>-1</sup> ]	P[mW]	Temp[°C]	$U_{pulse}$ [V]	$I_{pulse}$ [A]
4599.3	2174.2	0.1	10	12.38	0.078
4599.4	2174.2	0.4	10	12.7	0.091
4599.5	2174.2	0.8	10	12.98	0.109
4599.6	2174.1	1.2	10	13.3	0.126
4602.3	2172.8	0.1	20	12.41	0.082
4602.5	2172.8	0.5	20	12.86	0.107
4602.5	2172.7	0.9	20	13.15	0.123
4602.6	2172.7	1.4	20	13.46	0.14
4602.8	2172.6	1.7	20	13.81	0.159
4602.9	2172.5	2	20	14.04	0.177
4605.3	2171.4	0.1	30	12.41	0.09
4605.4	2171.4	0.4	30	12.78	0.109
4605.5	2171.3	0.8	30	13.06	0.126
4605.7	2171.2	1.2	30	13.4	0.143
4605.8	2171.2	1.5	30	13.65	0.16
4605.9	2171.2	1.8	30	13.92	0.177
4606	2171.1	2	30	14.2	0.194
4608.4	2170	0.1	40	12.52	0.099
4608.4	2169.9	0.3	40	12.73	0.109
4608.5	2169.9	0.6	40	13	0.126
4608.6	2169.9	0.9	40	13.22	0.143
4608.8	2169.8	1.3	40	13.58	0.16
4608.9	2169.7	1.5	40	13.78	0.177
4609	2169.7	1.8	40	14.06	0.194
4611.4	2168.5	0.1	50	12.57	0.106
4611.5	2168.5	0.4	50	12.88	0.126
4611.6	2168.4	0.7	50	13.12	0.143
4611.7	2168.4	1	50	13.37	0.16
4611.9	2168.3	1.3	50	13.66	0.177
4612	2168.3	1.6	50	13.92	0.194

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

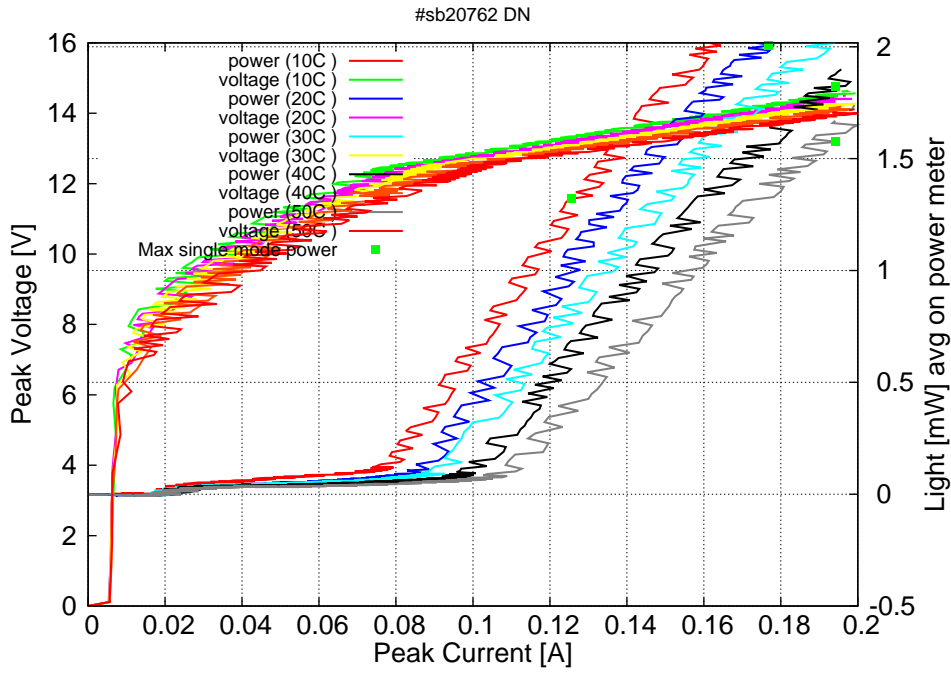


Figure 4: Peak voltage and average power vs peak current at 2% duty-cycle (500ns pulses on the laser) (the solid squares indicate the maximum singlemode emitted power)

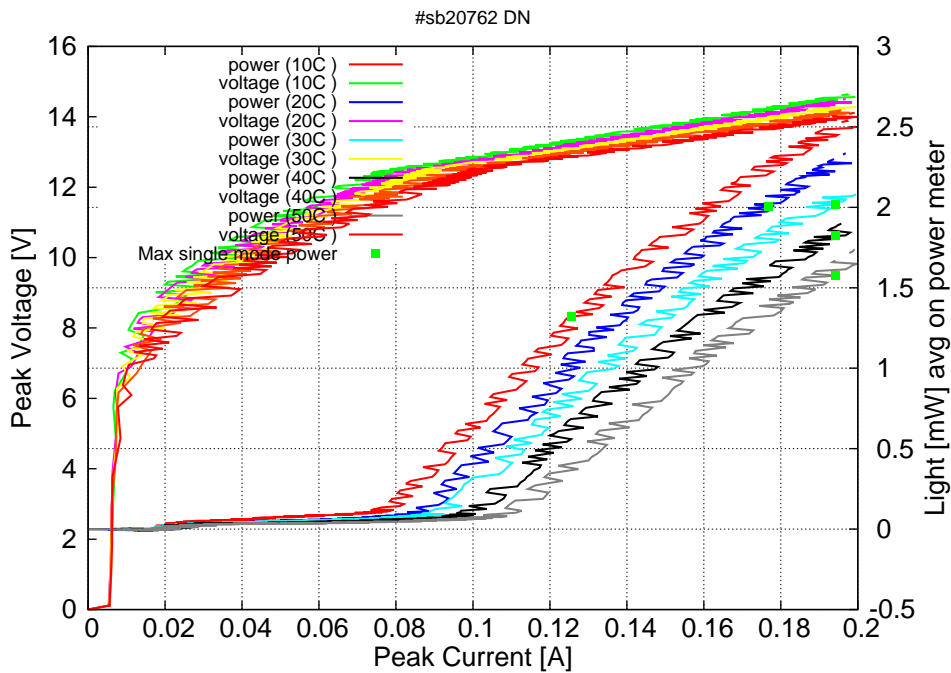
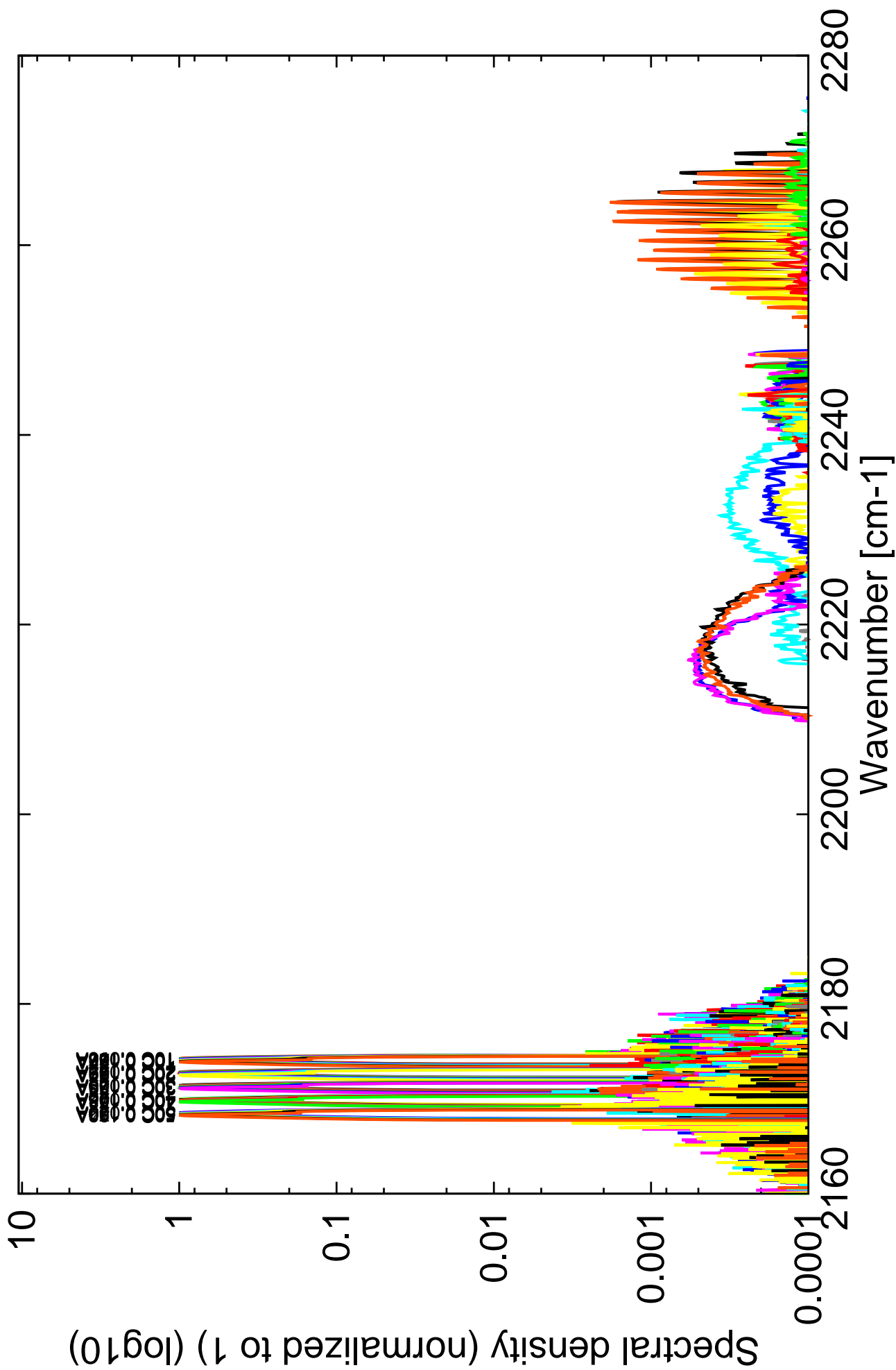


Figure 5: Peak voltage and average power vs peak current at 2% duty-cycle (500ns pulses on the laser) (including the multimode region)

Figure 4: spectra at different temperatures for various peak currents



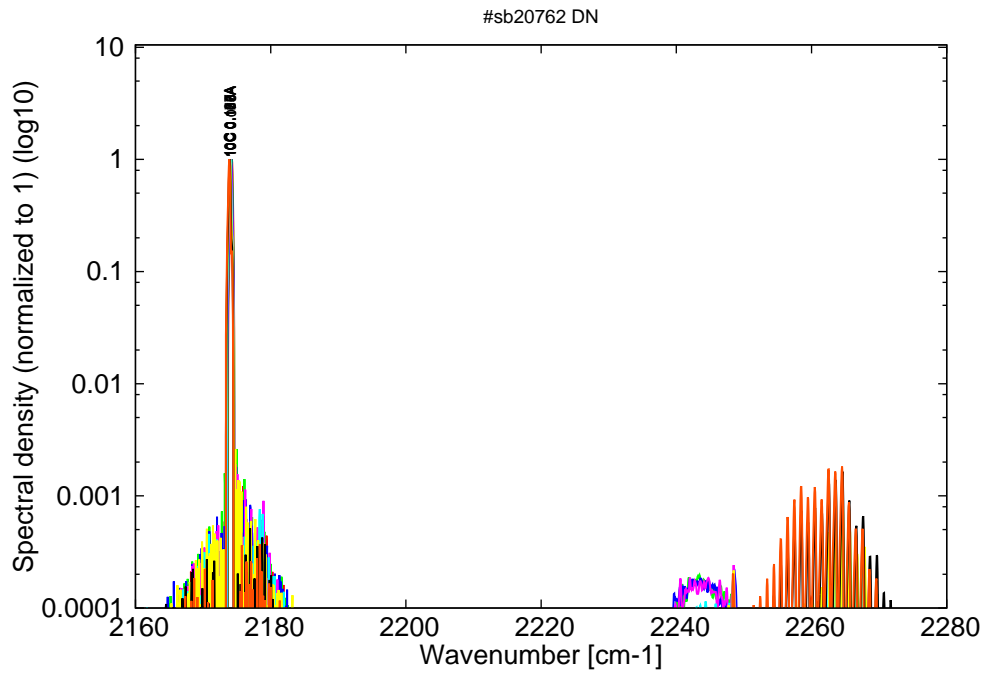


Figure 6: spectra at 2% duty-cycle at 10C, monomode up to 0.125A, then become multi-mode (20ns pulses on the laser)

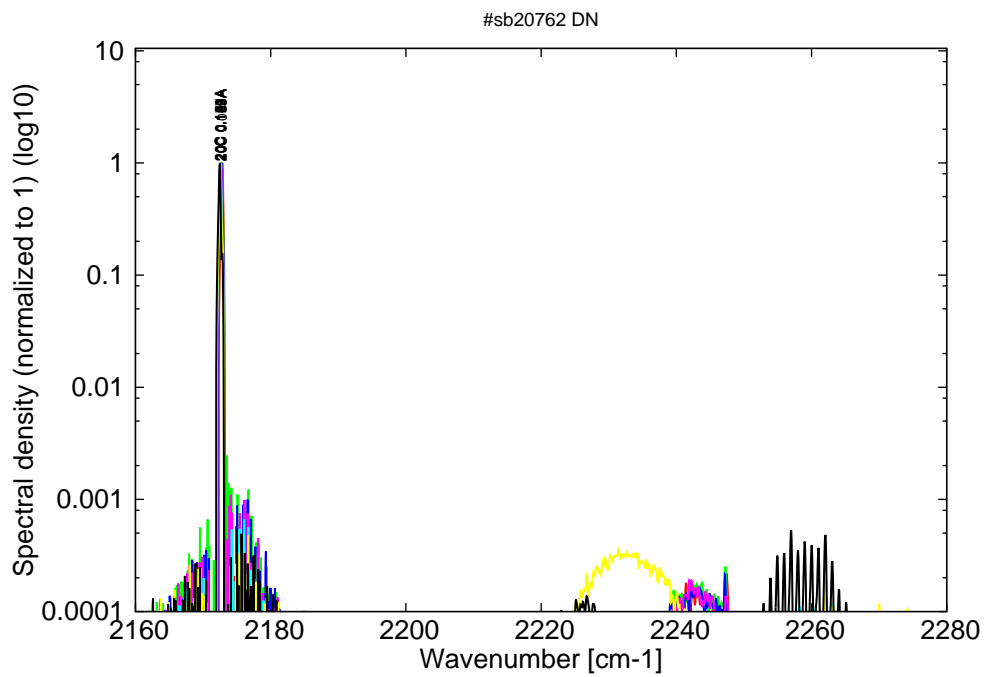


Figure 7: spectra at 2% duty-cycle at 20C, monomode up to 0.18A, then become multi-mode (20ns pulses on the laser)

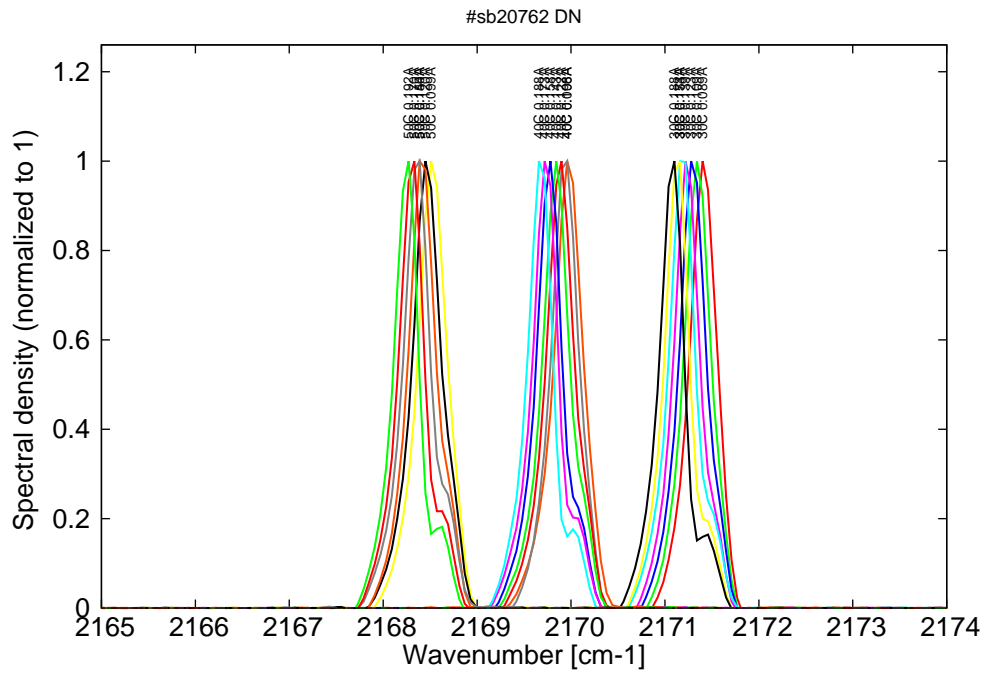


Figure 8: spectra at 2% duty-cycle between 30C and 50C, all monomode up to 0.20A (20ns pulses on the laser)