

**Datasheet for #sb6491 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: Support mounting for #sb6491 DN (please note that the laser is connected to the DN pad drawn in blue)

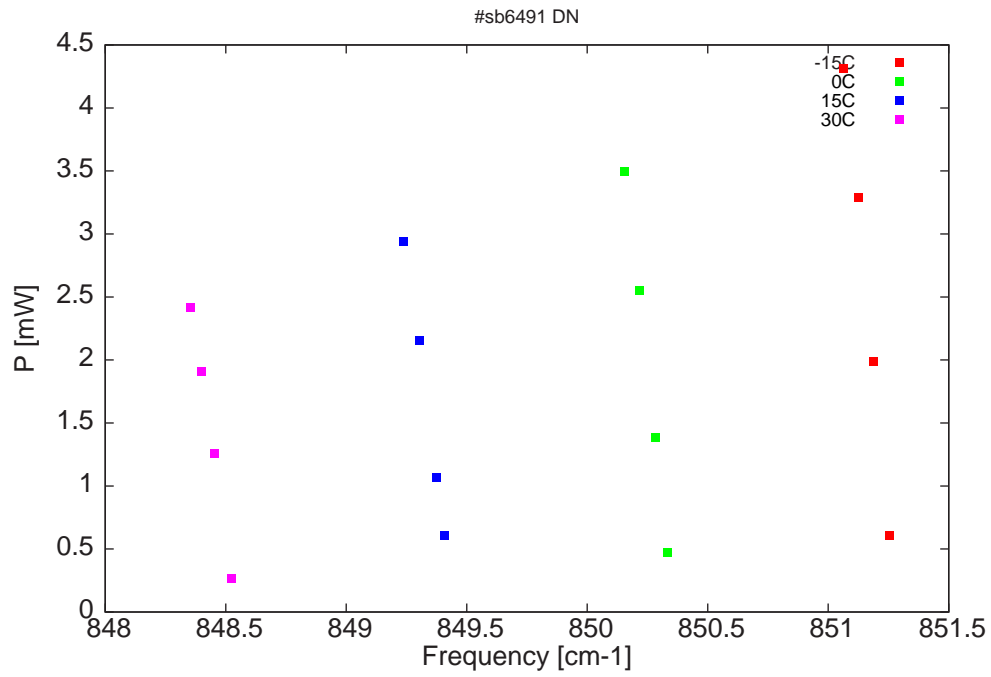


Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

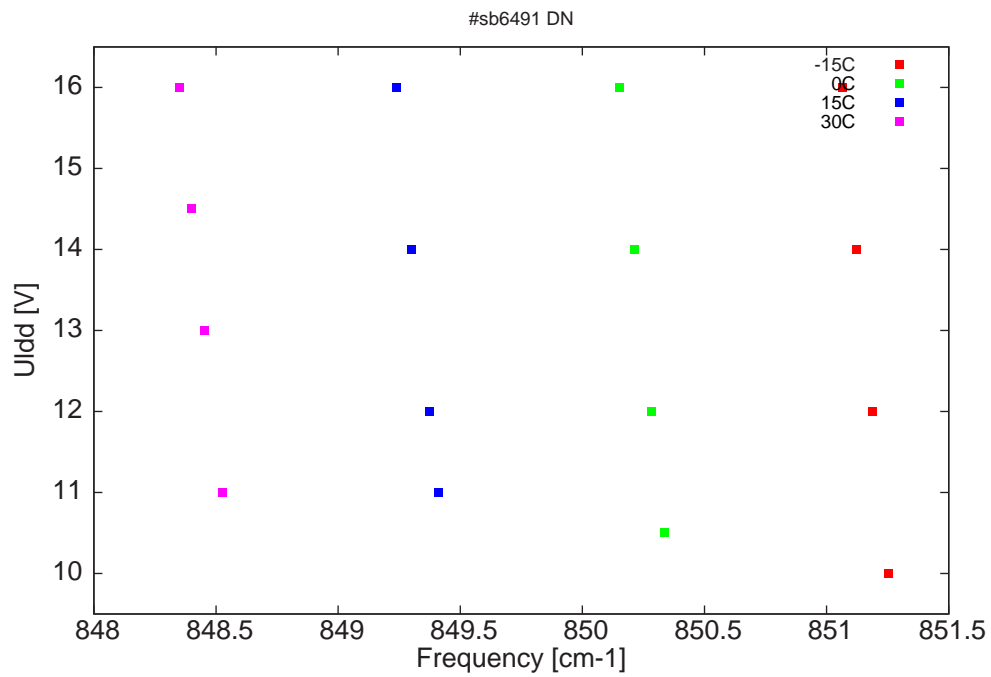


Figure 3: DC voltage fed to LDD (Uldd) as a function of the singlemode emission frequencies and temperatures

$\lambda$ [nm]	$\nu$ [ $\text{cm}^{-1}$ ]	P[mW]	Temp[ $^{\circ}\text{C}$ ]	$U_{LDD}$ [V]	$I_{pulse}$ [A]
11747.4	851.3	0.6	-15	10	1.09
11748.3	851.2	2	-15	12	1.36
11749.2	851.1	3.3	-15	14	1.6
11750	851.1	4.3	-15	16	1.83
11760.1	850.3	0.5	0	10.5	1.18
11760.8	850.3	1.4	0	12	1.38
11761.7	850.2	2.6	0	14	1.64
11762.6	850.2	3.5	0	16	1.88
11772.9	849.4	0.6	15	11	1.27
11773.4	849.4	1.1	15	12	1.4
11774.4	849.3	2.2	15	14	1.67
11775.2	849.2	2.9	15	16	1.92
11785.2	848.5	0.3	30	11	1.29
11786.2	848.5	1.3	30	13	1.57
11786.9	848.4	1.9	30	14.5	1.77
11787.6	848.4	2.4	30	16	1.96

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

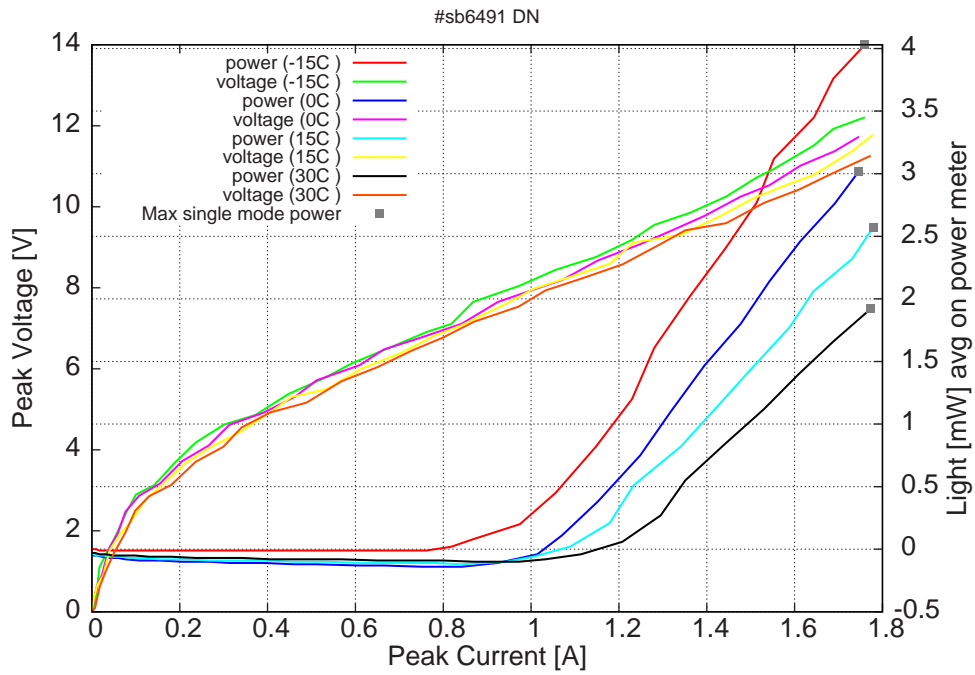


Figure 4: average power vs peak current at 2% duty-cycle (50ns pulses on the laser) (the solid squares indicate the maximum singlemode emitted power)

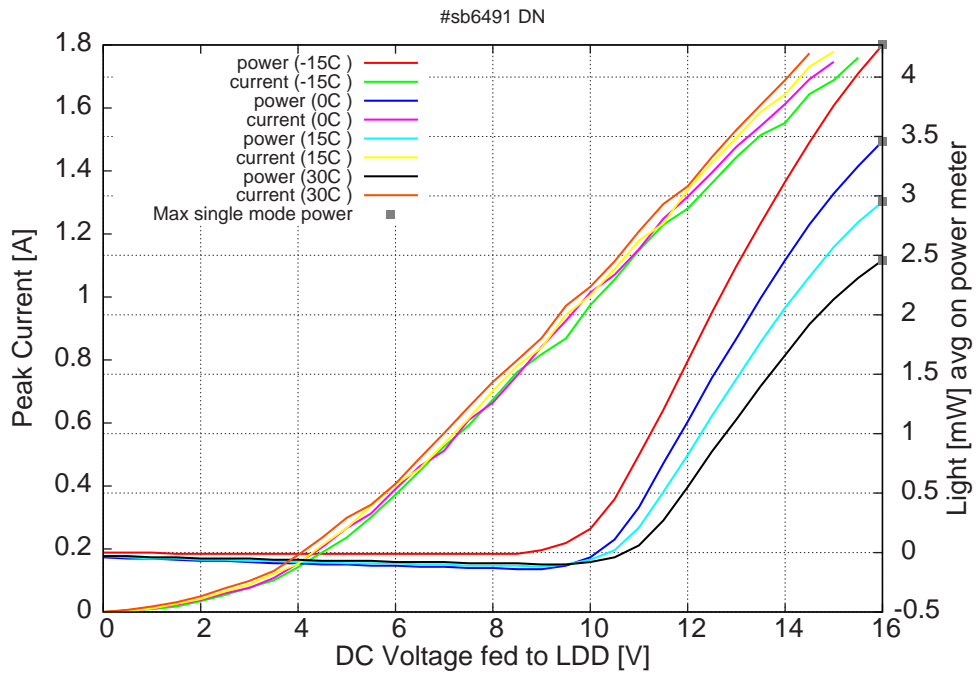
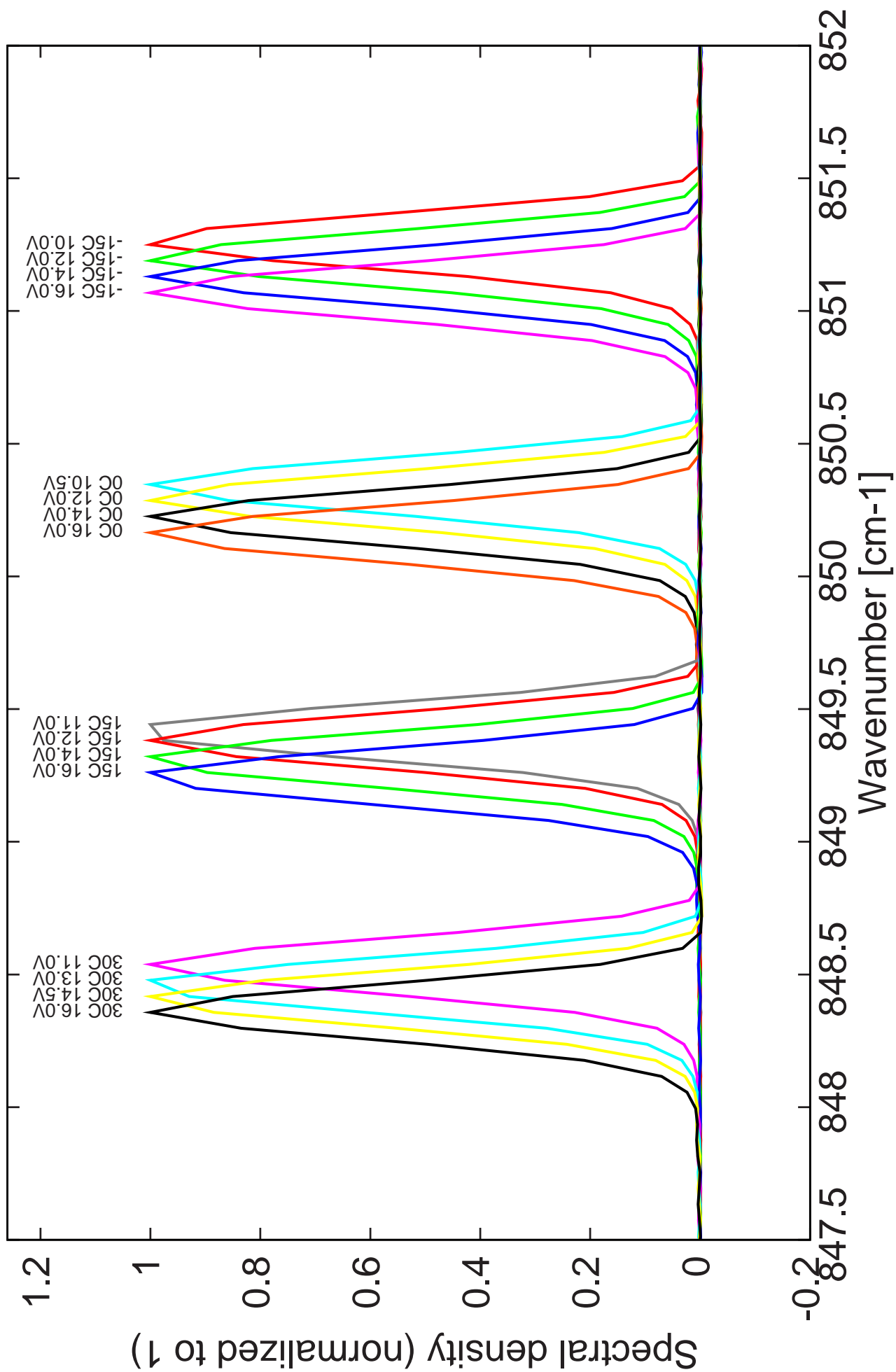


Figure 5: peak current and average power vs LDD voltage at 2% duty-cycle (50ns pulses on the laser) (the solid squares indicate the maximum singlemode emitted power)

Figure 4: spectra at various temperatures at 2% duty-cycle (22ns pulses) for various LDD voltages



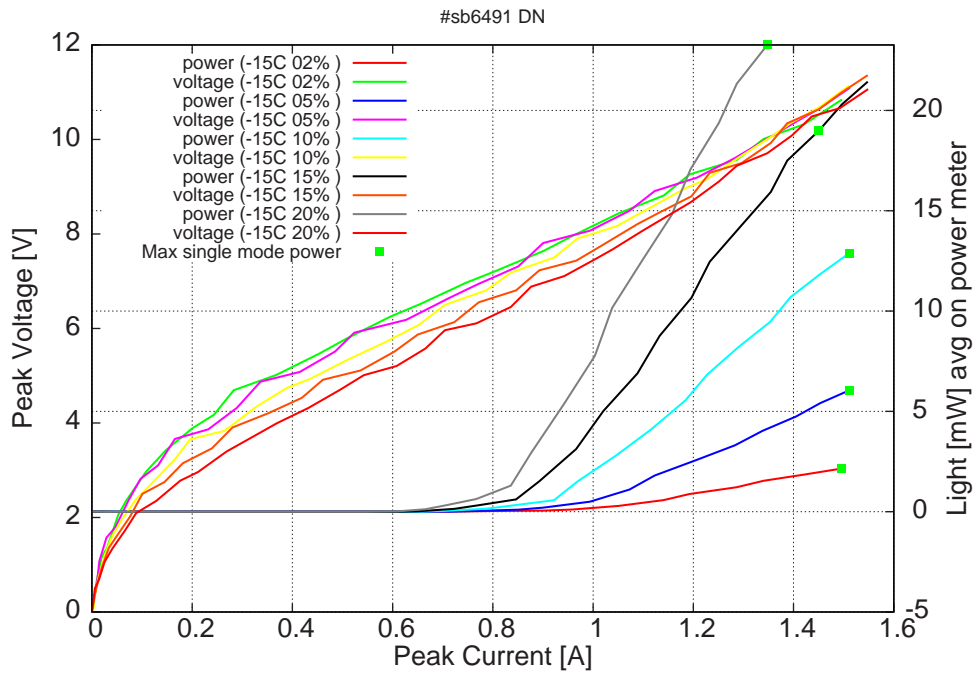


Figure 6: average power vs peak current at -15C for various duty-cycles (100ns pulses on the laser) (the solid squares indicate the maximum singlemode emitted power)

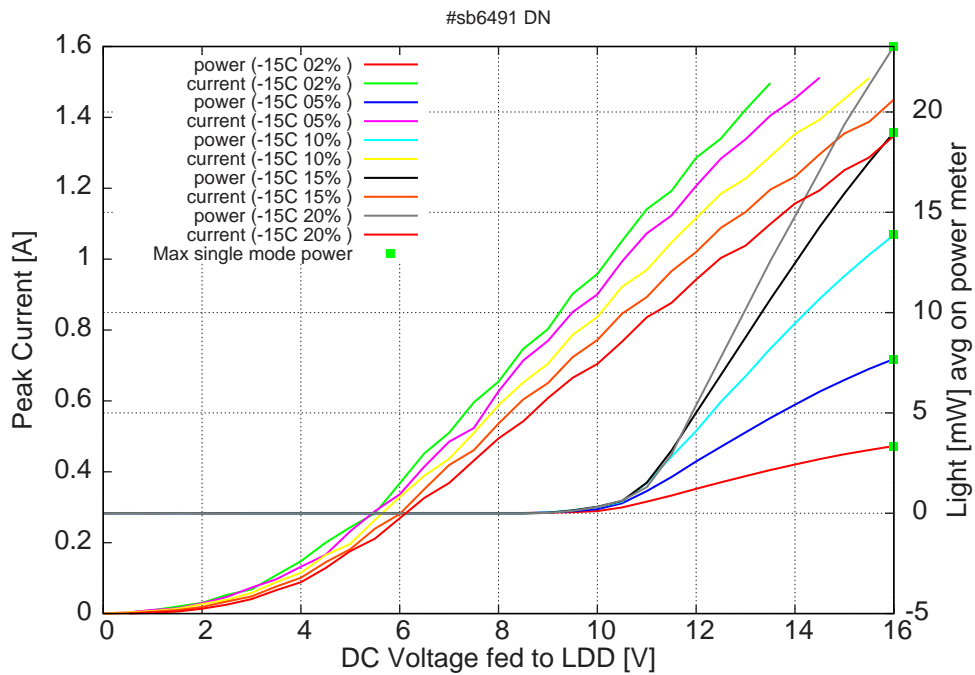


Figure 7: peak current and average power vs LDD voltage at -15C for various duty-cycles (100ns pulses on the laser) (the solid squares indicate the maximum singlemode emitted power)

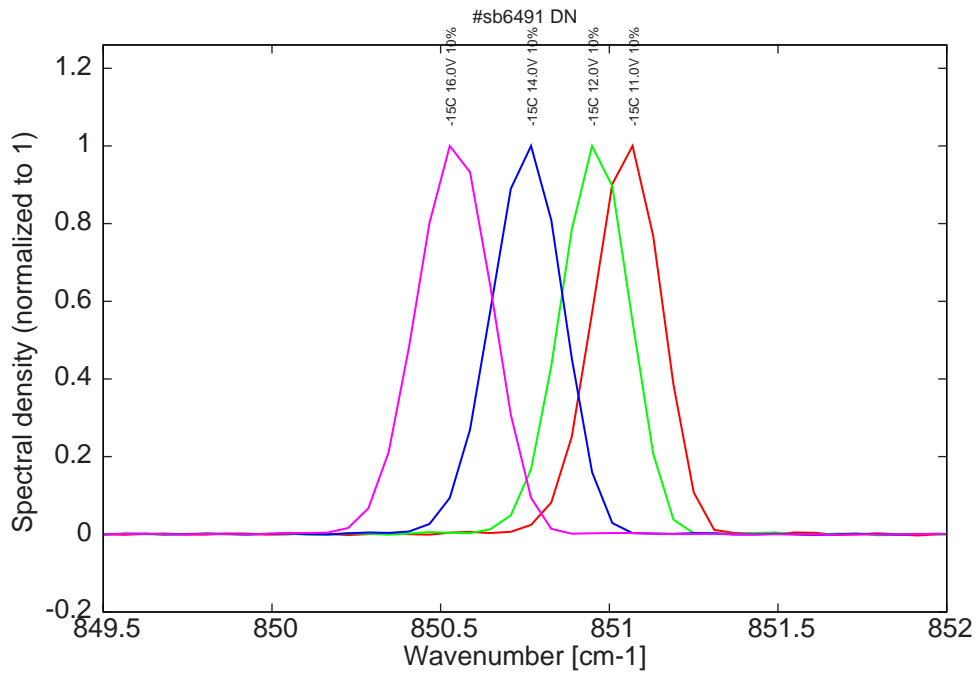


Figure 8: spectra at -15C at 10% duty-cycle (100ns pulses) for various LDD voltages (all monomode)

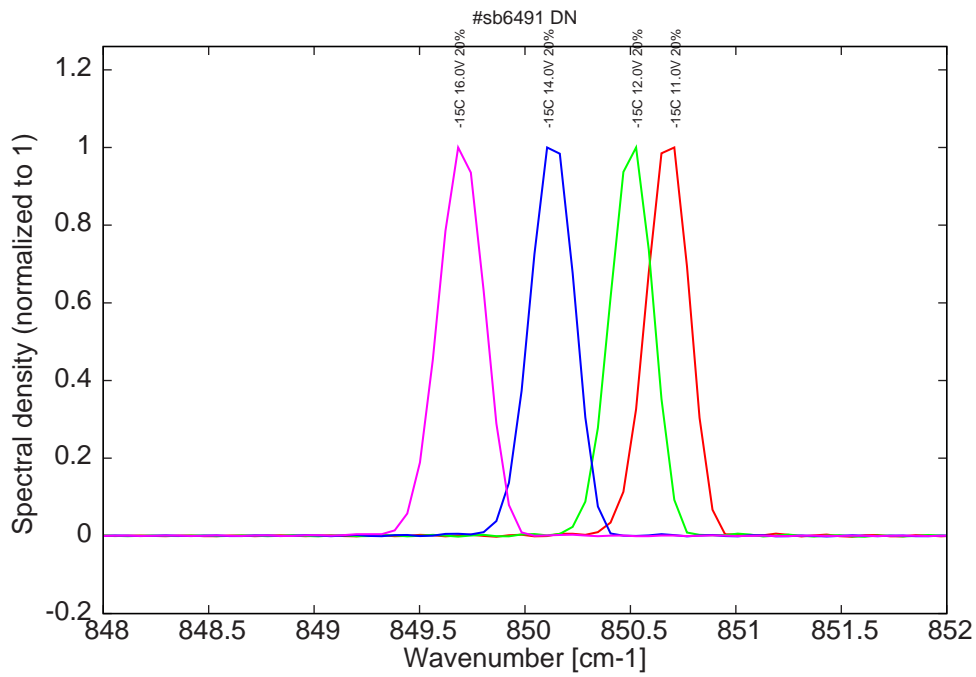


Figure 9: spectra at -15C at 20% duty-cycle (100ns pulses) for various LDD voltages (all monomode)

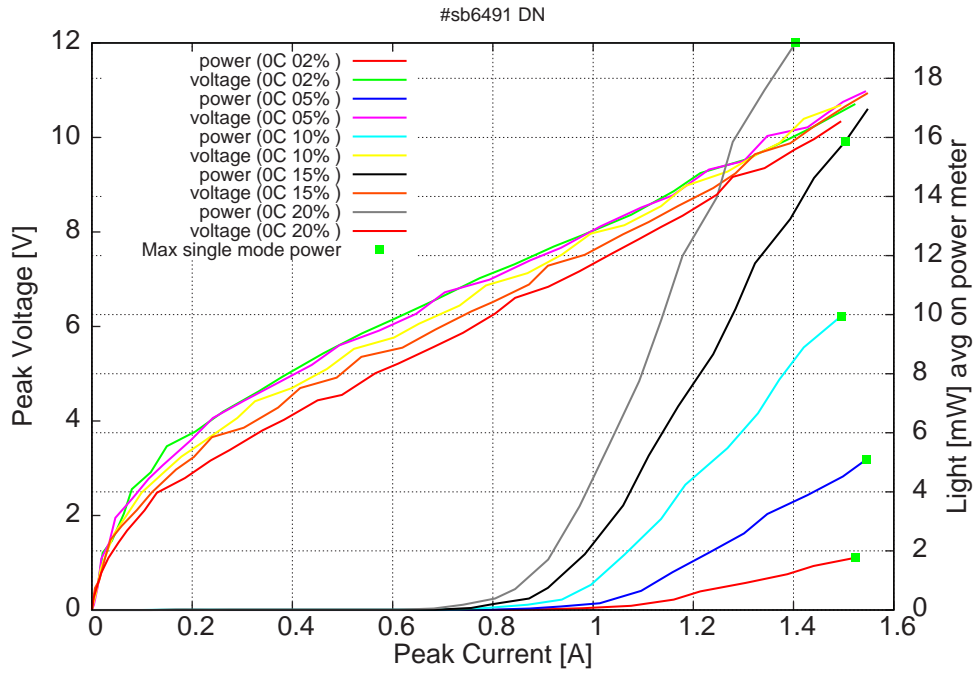


Figure 10: average power vs peak current at 0C for various duty-cycles (100ns pulses on the laser) (the solid squares indicate the maximum singlemode emitted power)

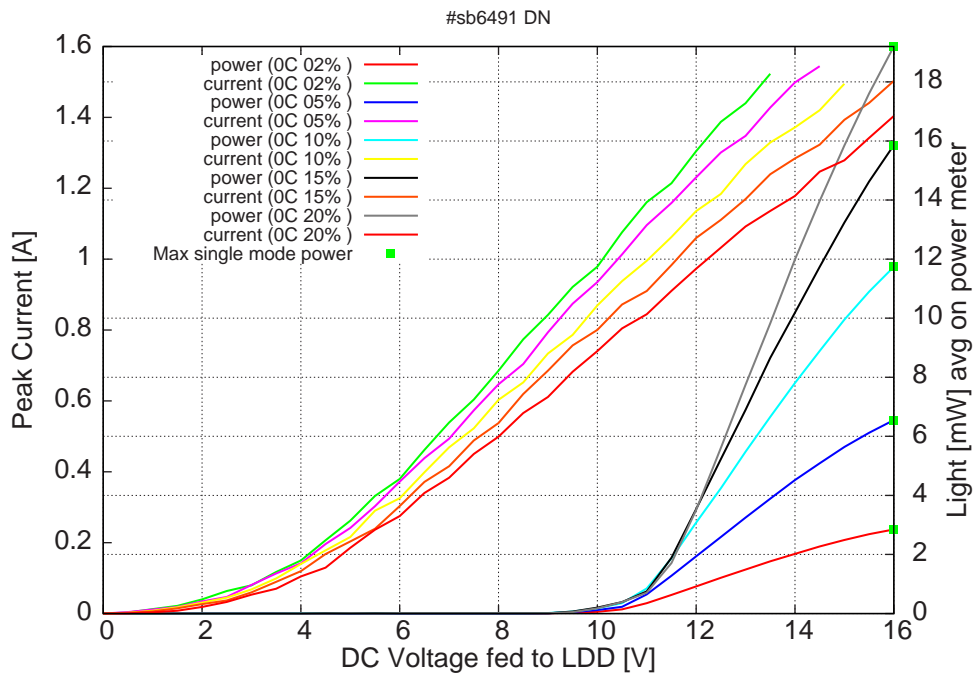


Figure 11: peak current and average power vs LDD voltage at 0C for various duty-cycles (100ns pulses on the laser) (the solid squares indicate the maximum singlemode emitted power)



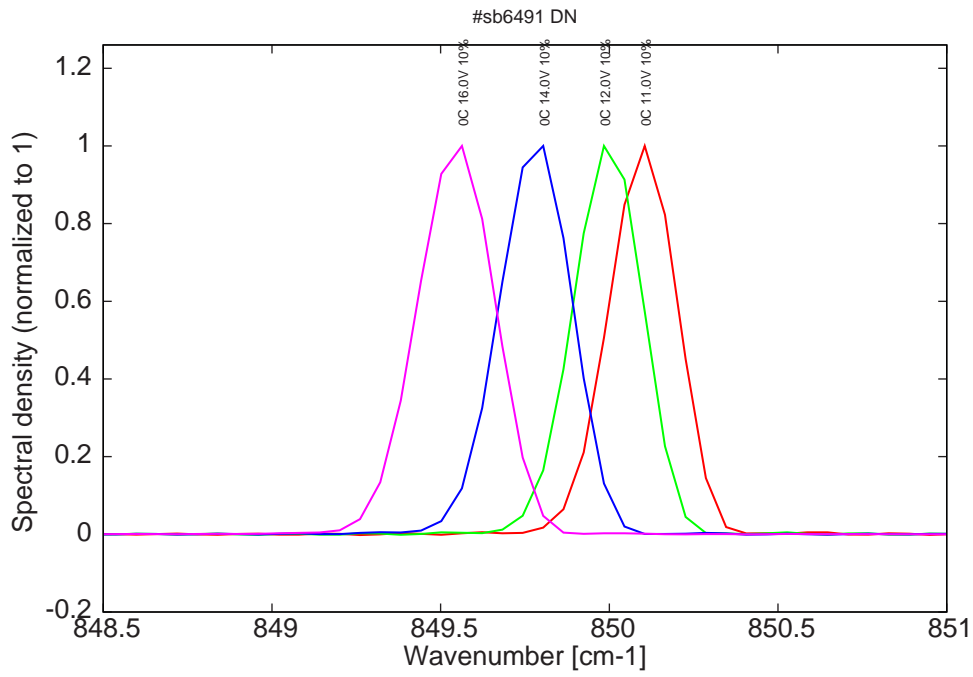


Figure 12: spectra at 0C at 10% duty-cycle (100ns pulses) for various LDD voltages (all monomode)

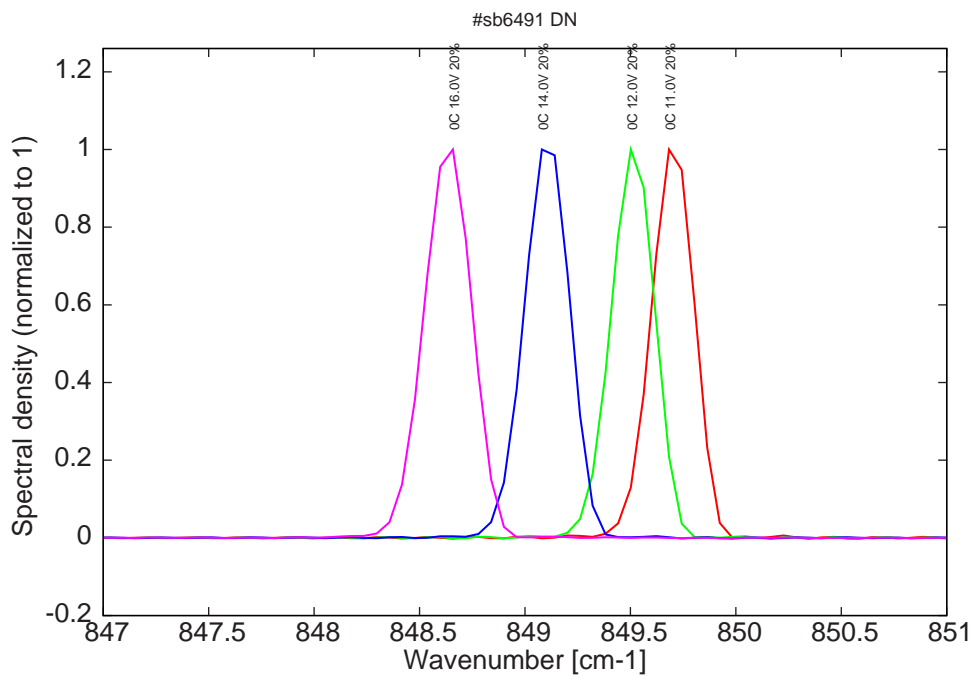


Figure 13: spectra at 0C at 20% duty-cycle (100ns pulses) for various LDD voltages (all monomode)