

Datasheet for #sb11554 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).

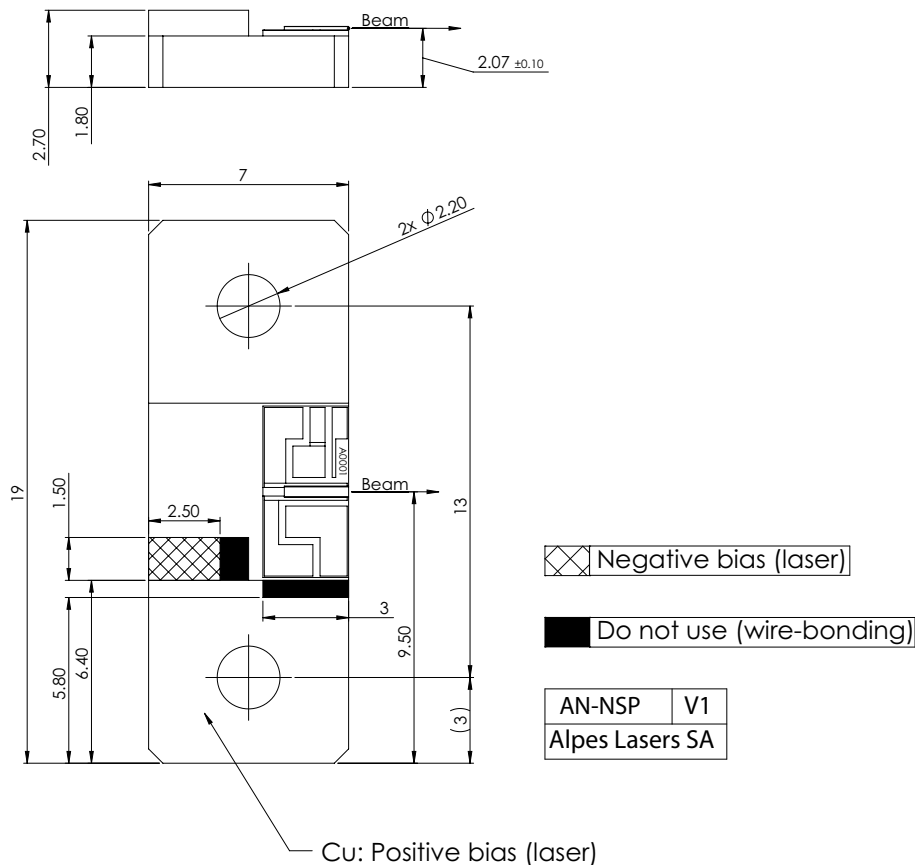


Figure 1: Mechanical and electrical interface for #sb11554 DN

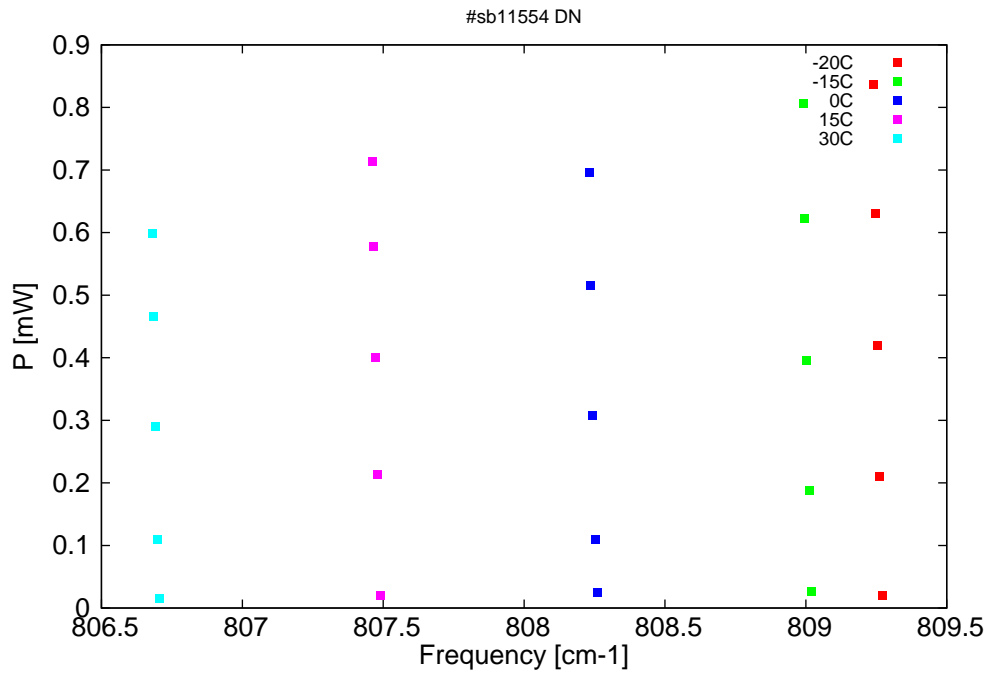


Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

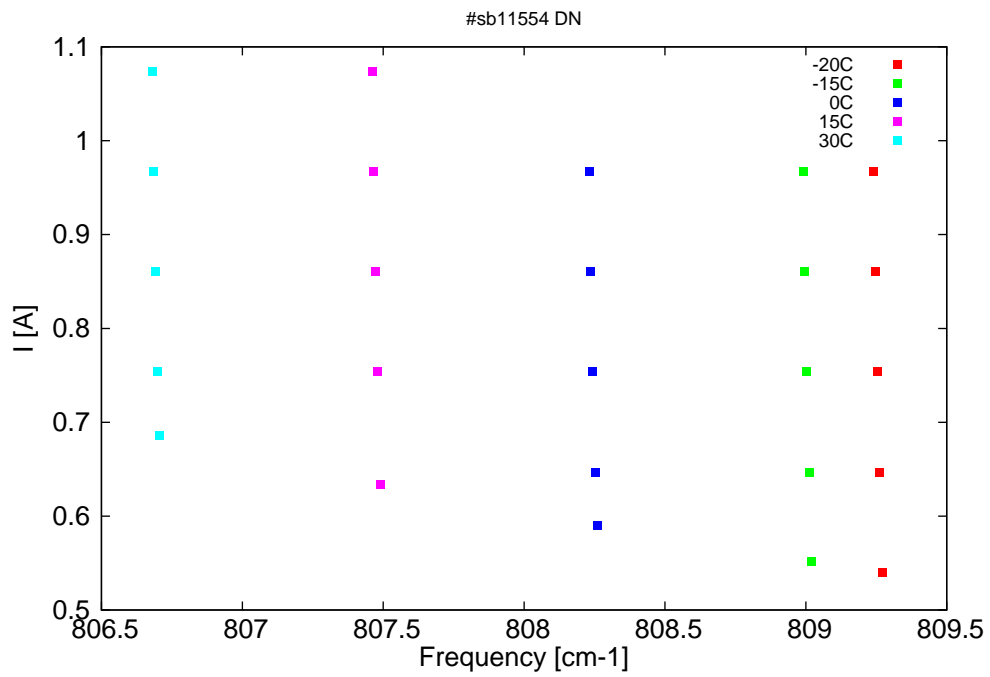


Figure 3: Peak current as a function of singlemode emission frequencies and temperatures

λ [nm]	ν [cm ⁻¹]	P[mW]	Temp[°C]	U_{pulse} [V]	I_{pulse} [A]
12356.8	809.3	0	-20	7.3	0.54
12356.9	809.3	0.2	-20	7.6	0.65
12357.1	809.3	0.4	-20	8	0.75
12357.2	809.2	0.6	-20	8.3	0.86
12357.3	809.2	0.8	-20	8.8	0.97
12360.6	809	0	-15	7.3	0.55
12360.7	809	0.2	-15	7.6	0.65
12360.9	809	0.4	-15	8	0.75
12361	809	0.6	-15	8.3	0.86
12361.1	809	0.8	-15	8.7	0.97
12372.3	808.3	0	0	7.4	0.59
12372.4	808.3	0.1	0	7.6	0.65
12372.5	808.2	0.3	0	7.9	0.75
12372.6	808.2	0.5	0	8.3	0.86
12372.7	808.2	0.7	0	8.7	0.97
12384.1	807.5	0	15	7.5	0.63
12384.2	807.5	0.2	15	7.9	0.75
12384.3	807.5	0.4	15	8.2	0.86
12384.4	807.5	0.6	15	8.6	0.97
12384.5	807.5	0.7	15	9.1	1.07
12396.1	806.7	0	30	7.6	0.69
12396.2	806.7	0.1	30	7.8	0.75
12396.3	806.7	0.3	30	8.2	0.86
12396.4	806.7	0.5	30	8.6	0.97
12396.5	806.7	0.6	30	9	1.07

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

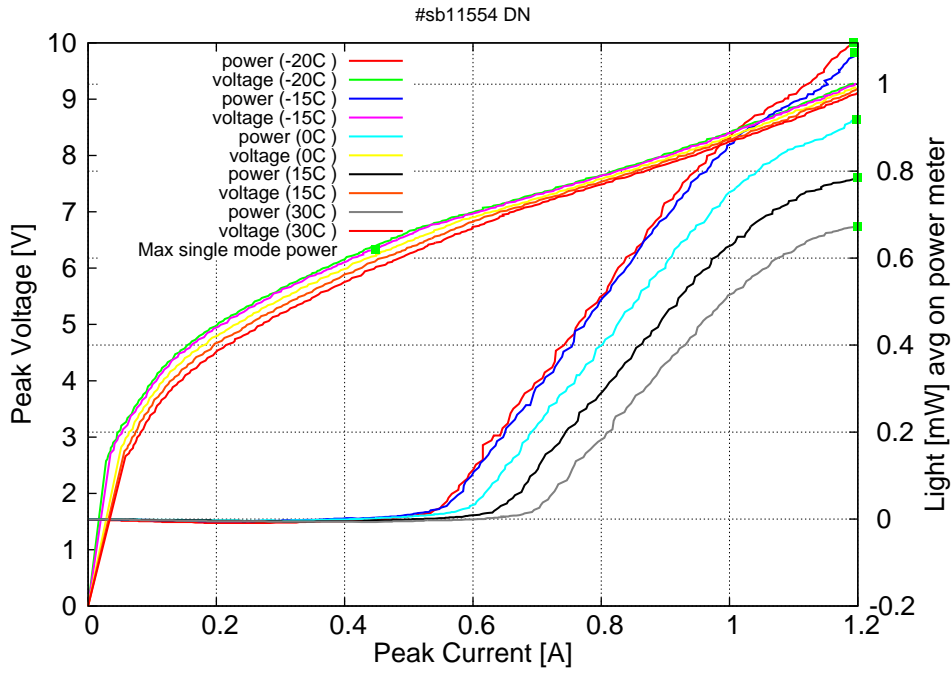


Figure 4: Peak voltage and average power vs peak current at 2% duty-cycle (200ns pulses on the laser) (the solid squares indicate the maximum singlemode emitted power)

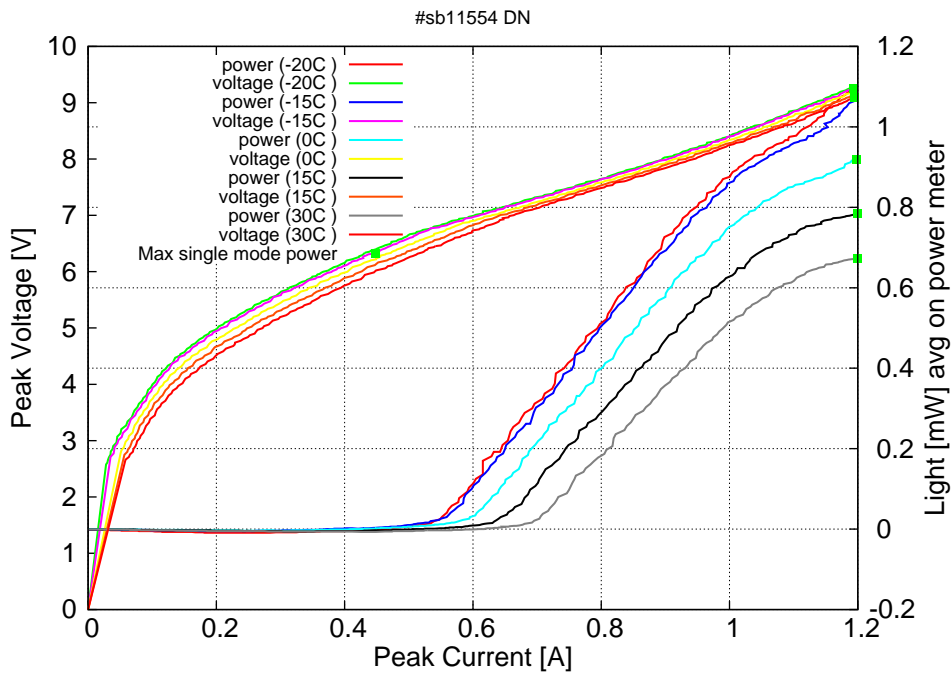
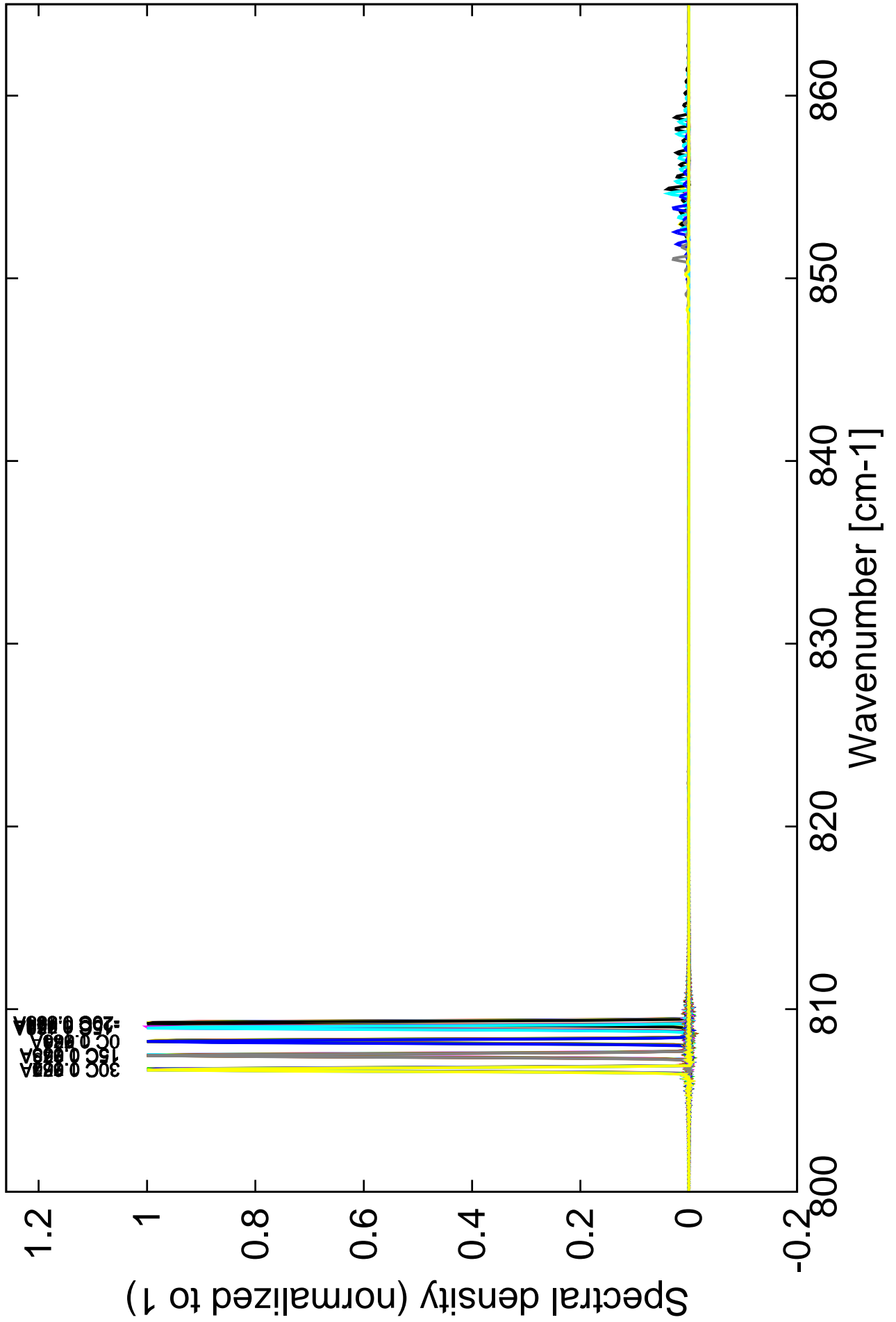


Figure 5: Peak voltage and average power vs peak current at 2% duty-cycle (200ns pulses on the laser) (including the multimode region)

Figure 4: spectra at different temperatures for various peak currents



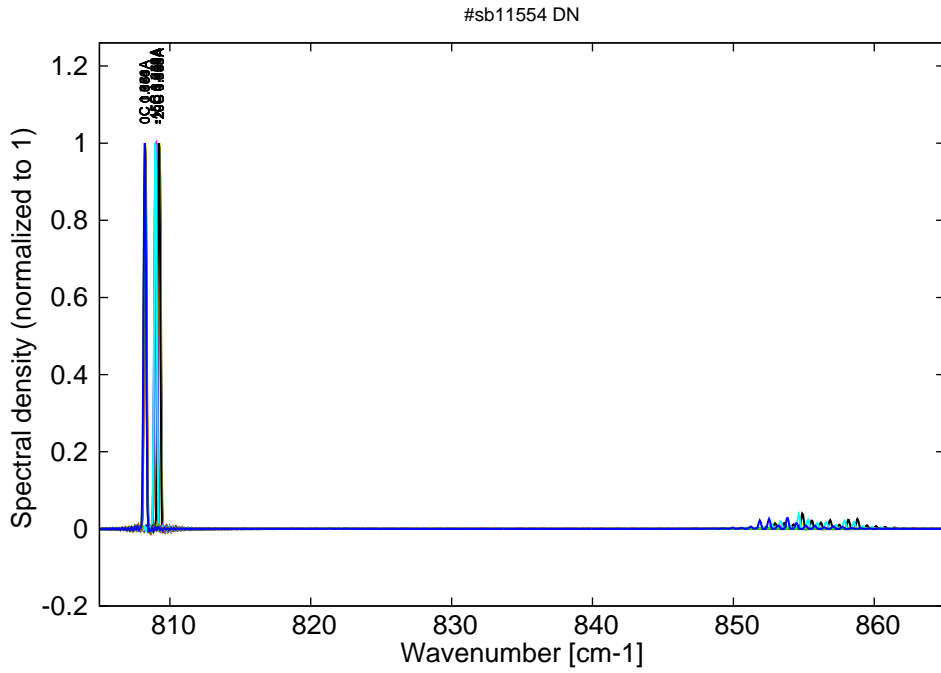


Figure 6: spectra between -20C and 0C for various peak current at 2% duty-cycle (20ns pulses on the laser). (monomode up to 0.965A, then becomes multimode)

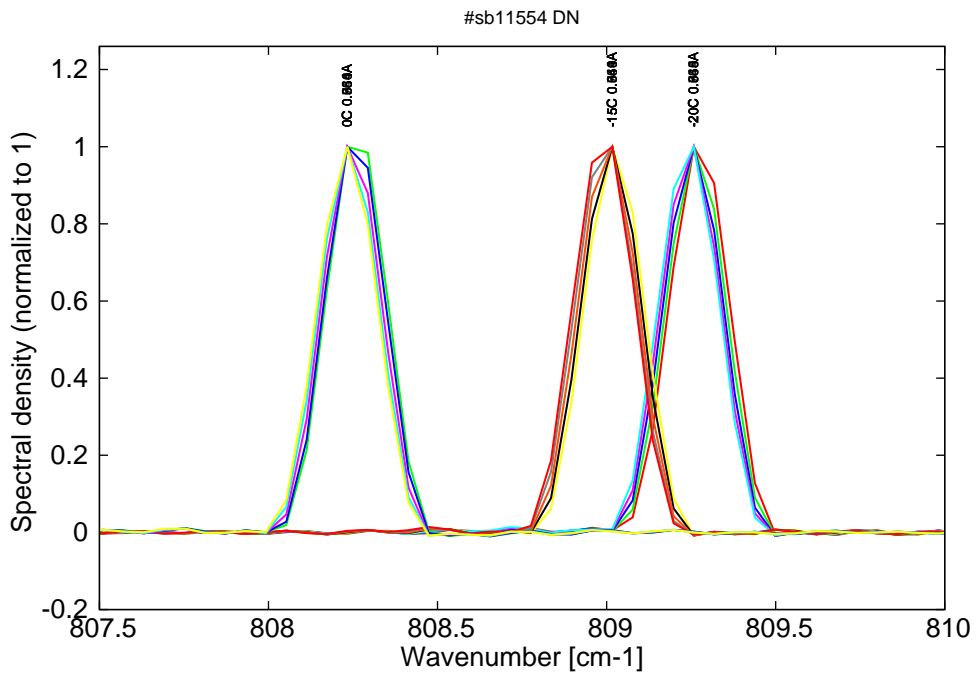


Figure 7: spectra between -20C and 0C for various peak current at 2% duty-cycle (20ns pulses on the laser). (monomode range)

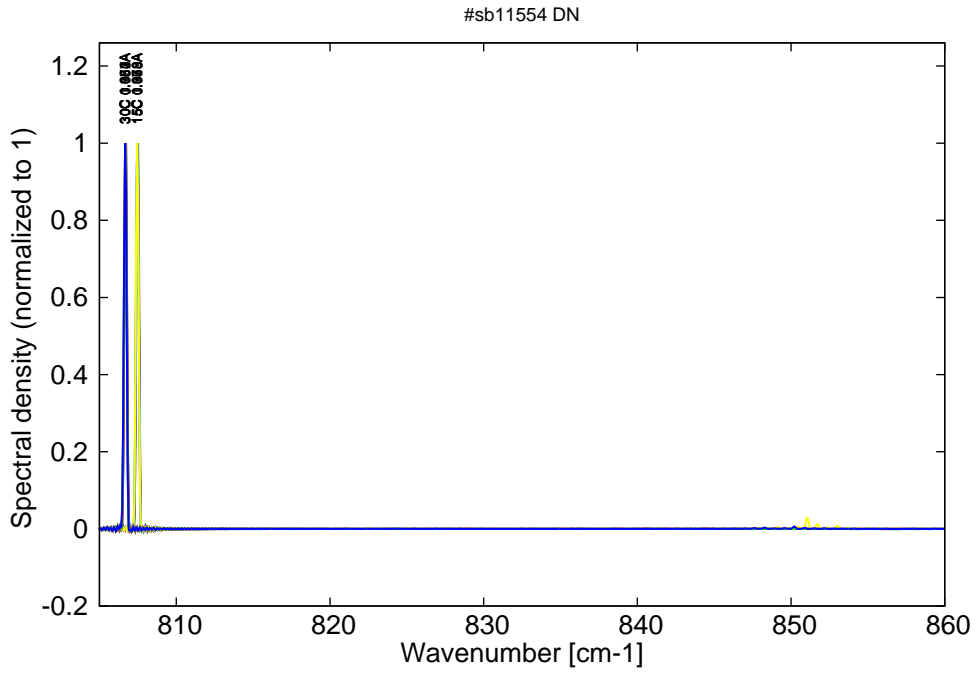


Figure 8: spectra at 15C and 30C for various peak current at 2% duty-cycle (20ns pulses on the laser). (monomode up to 1.07A, then becomes multimode)

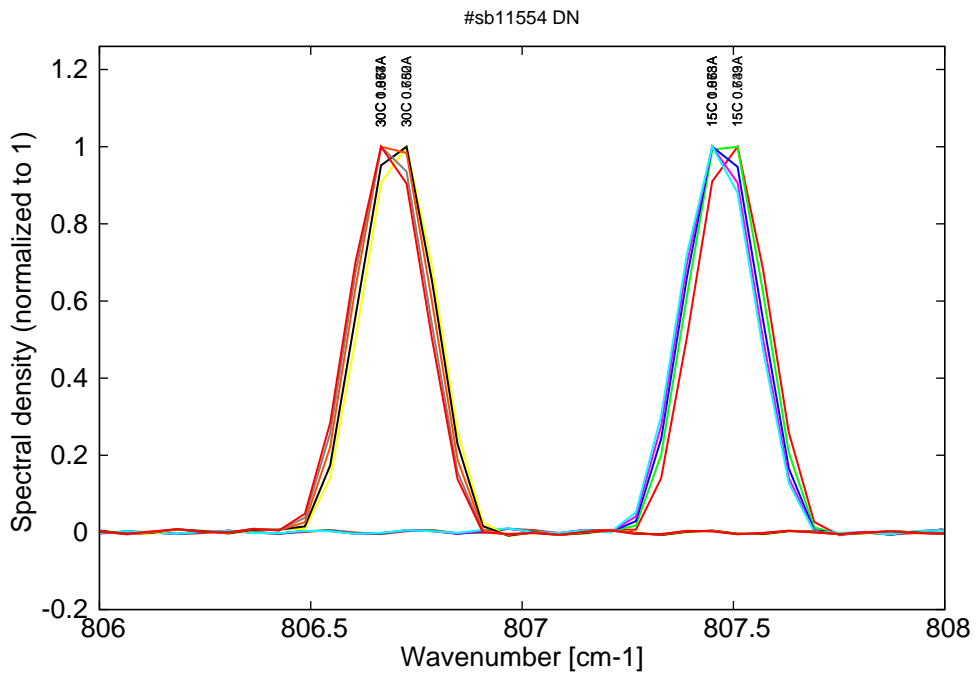


Figure 9: spectra at 15C and 30C for various peak current at 2% duty-cycle (20ns pulses on the laser). (monomode range)

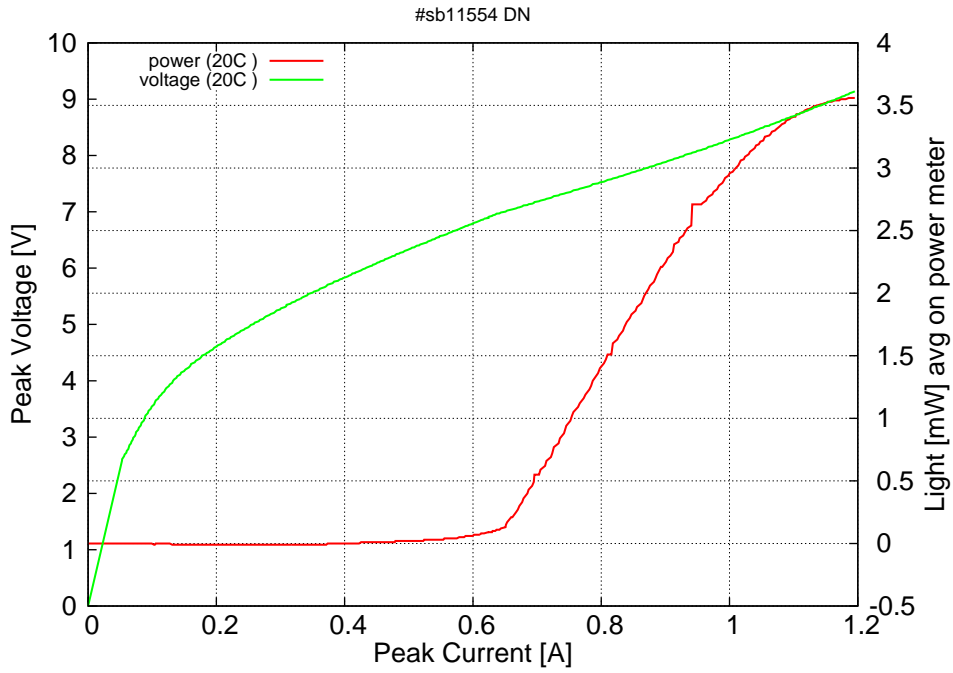


Figure 10: Peak voltage and average power vs peak current at 10% duty-cycle (200ns pulses on the laser) (the solid squares indicate the maximum singlemode emitted power)

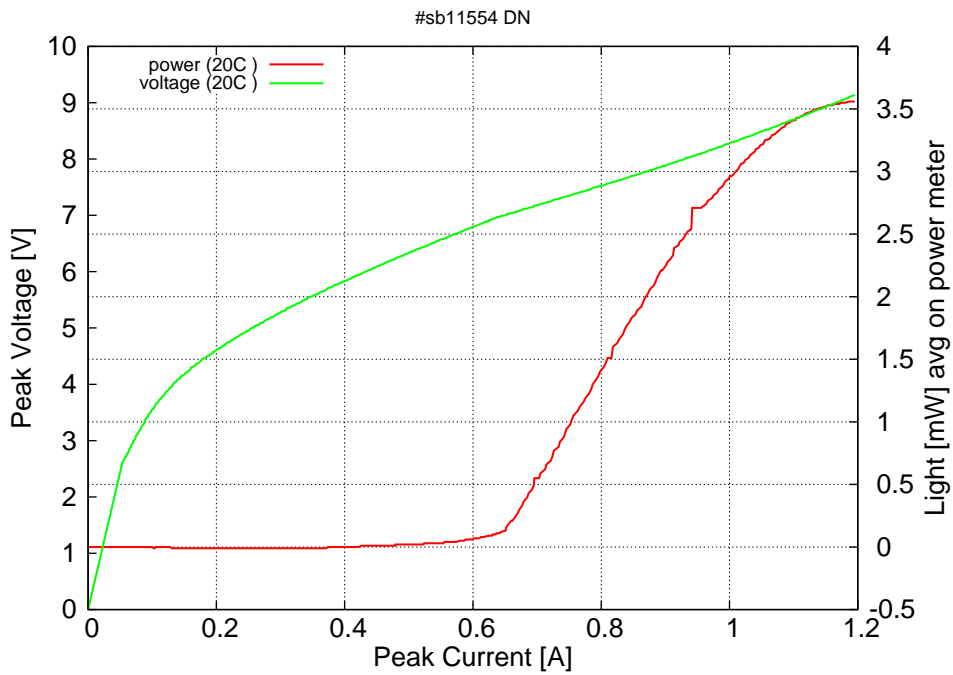


Figure 11: Peak voltage and average power vs peak current at 10% duty-cycle (200ns pulses on the laser) (including the multimode region)

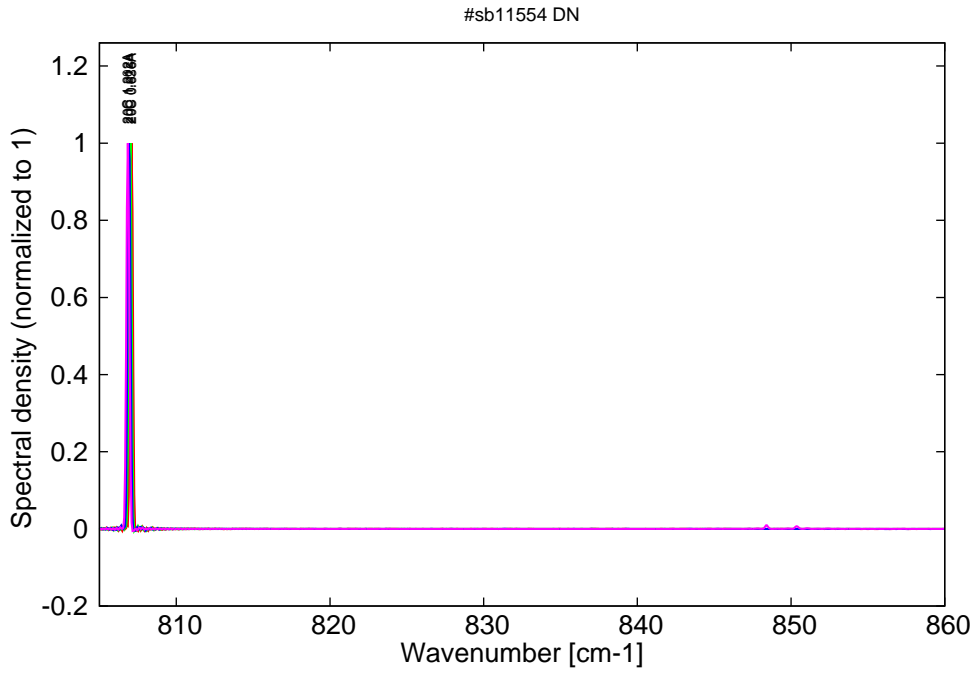


Figure 12: spectra at 20C for various peak current at 10% duty-cycle (60ns pulses on the laser). (monomode up to 1.01A, then becomes multimode)

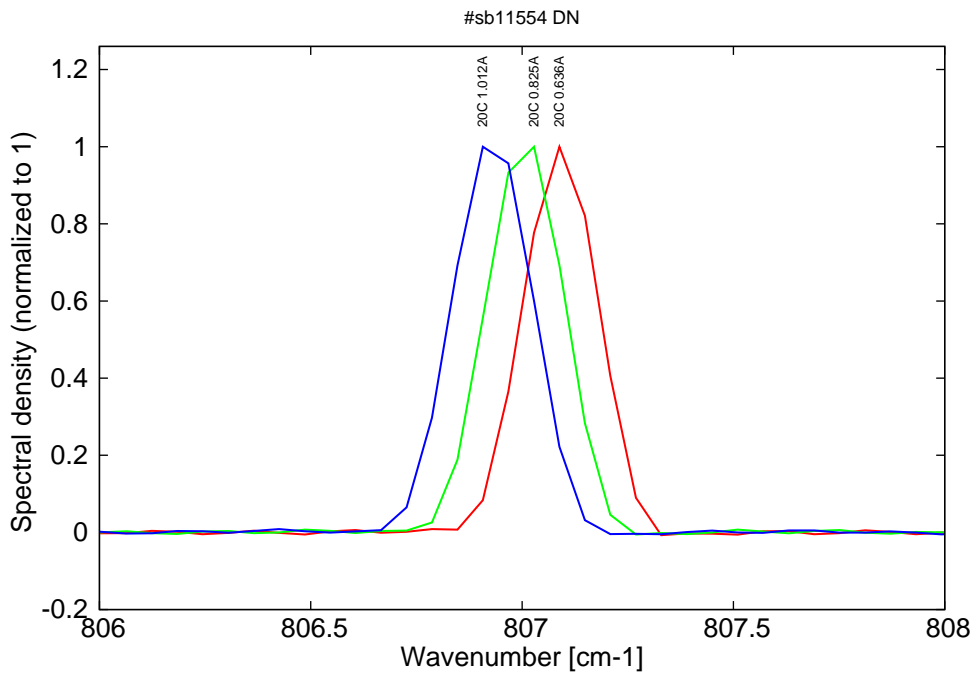


Figure 13: spectra at 20C for various peak current at 10% duty-cycle (60ns pulses on the laser). (monomode range)