

Datasheet for #sb3242 DN

Recommendations:

Please read the starter kit user manual, if available, and have a look at the FAQ at <http://www.alpeslasers.ch/alfaqa.pdf>

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).

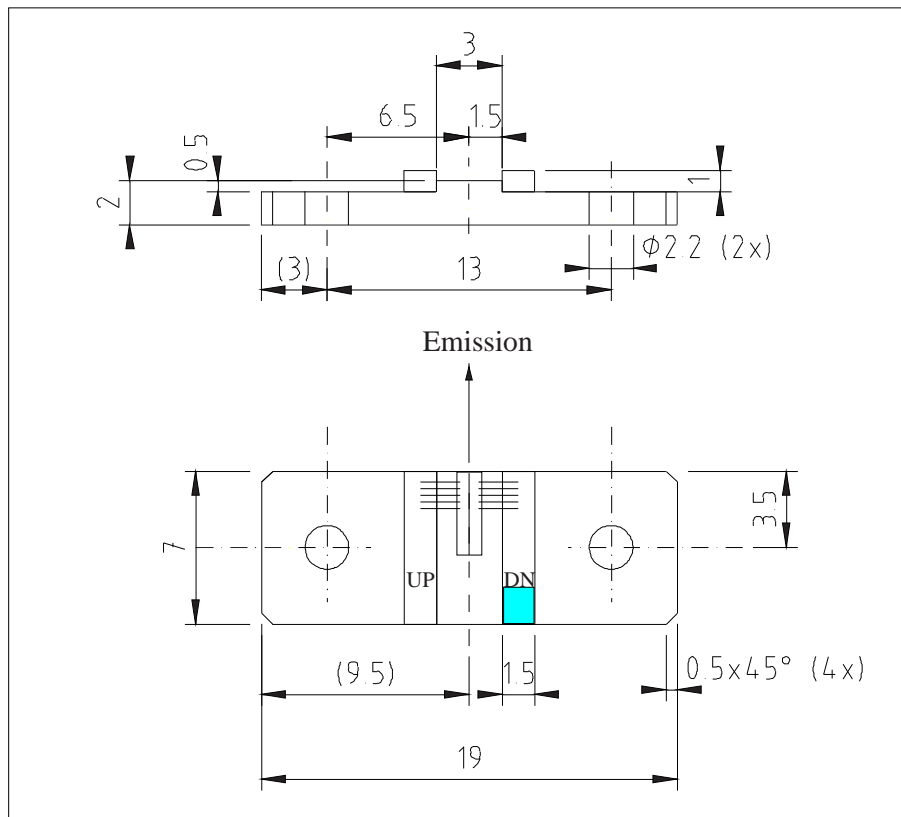


Figure 1: Support mounting for #sb3242 DN (please note that the laser is connected to the DN pad drawn in blue)

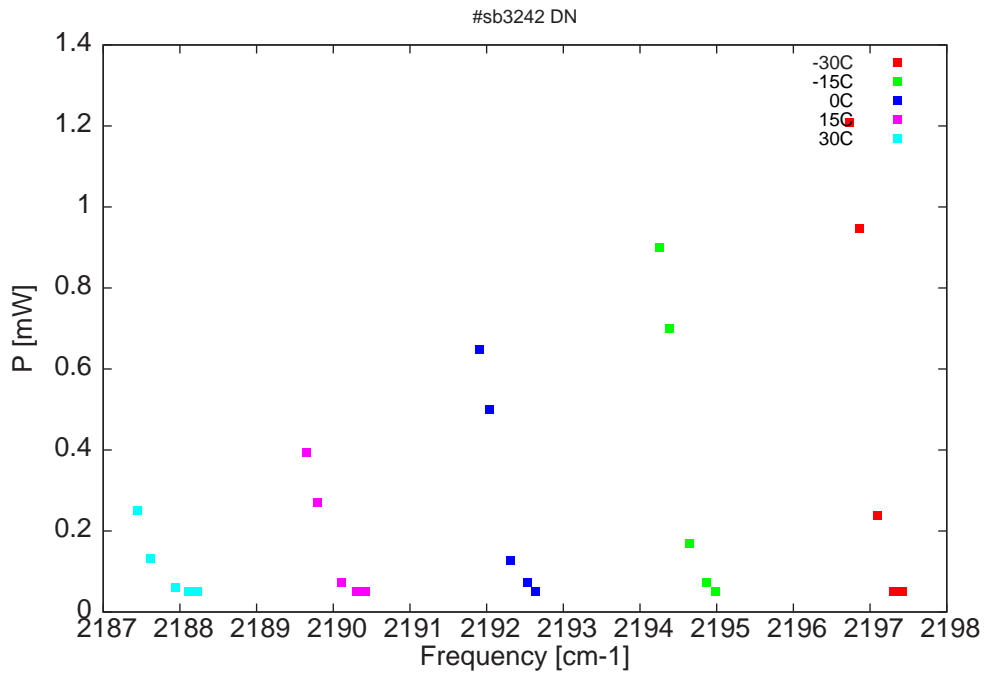


Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

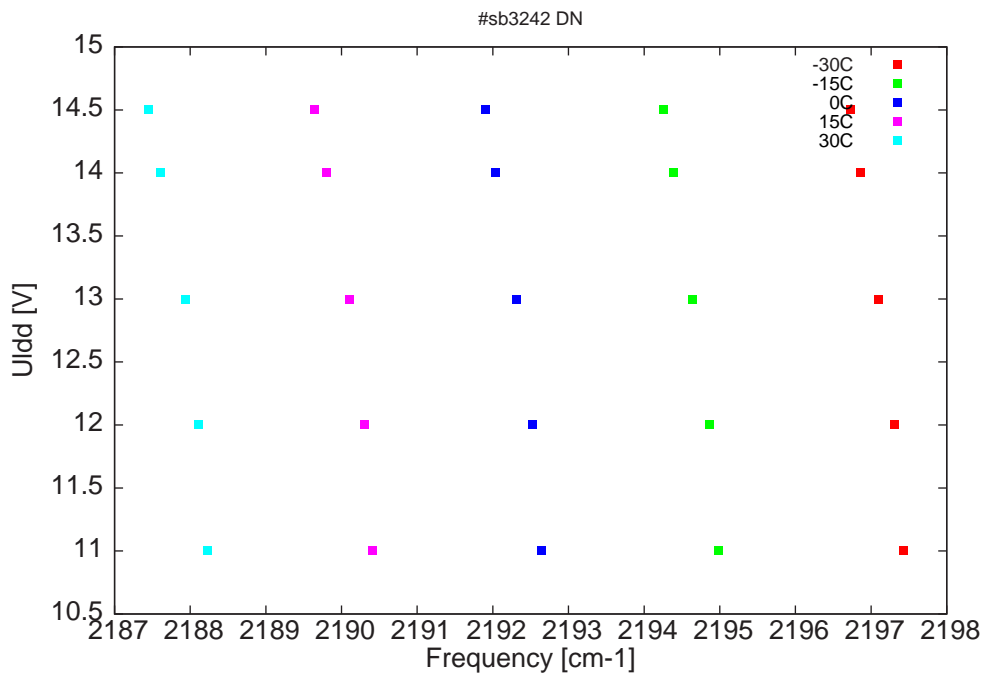


Figure 3: DC voltage fed to LDD (U_{ldd}) as a function of the singlemode emission frequencies and temperatures

λ [nm]	ν [cm ⁻¹]	P[mW]	Temp[°C]	U_{LDD} [V]	I_{pulse} [A]
4550.8	2197.4	0.1	-30	11	0.14
4551	2197.3	0.1	-30	12	0.21
4551.5	2197.1	0.2	-30	13	0.3
4552	2196.9	0.9	-30	14	0.43
4552.2	2196.7	1.2	-30	14.5	0.5
4555.8	2195	0.1	-15	11	0.15
4556.1	2194.9	0.1	-15	12	0.23
4556.6	2194.6	0.2	-15	13	0.3
4557.1	2194.4	0.7	-15	14	0.43
4557.3	2194.3	0.9	-15	14.5	0.51
4560.7	2192.6	0.1	0	11	0.17
4560.9	2192.5	0.1	0	12	0.24
4561.4	2192.3	0.1	0	13	0.33
4562	2192	0.5	0	14	0.44
4562.2	2191.9	0.6	0	14.5	0.5
4565.3	2190.4	0.1	15	11	0.17
4565.6	2190.3	0.1	15	12	0.25
4566	2190.1	0.1	15	13	0.34
4566.6	2189.8	0.3	15	14	0.45
4566.9	2189.6	0.4	15	14.5	0.51
4569.9	2188.2	0.1	30	11	0.2
4570.2	2188.1	0.1	30	12	0.27
4570.5	2187.9	0.1	30	13	0.35
4571.2	2187.6	0.1	30	14	0.46
4571.5	2187.5	0.3	30	14.5	0.51

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

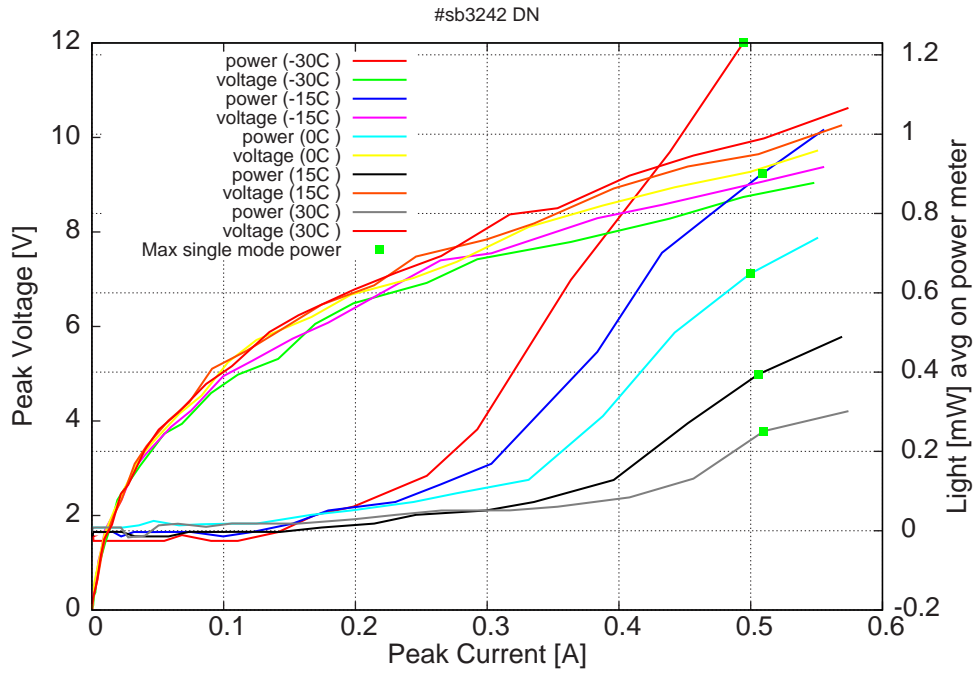


Figure 4: peak voltage and average power vs peak current at 2% duty-cycle (50ns pulses on the laser, $2.5\mu\text{s}$ period) (the solid squares indicate the maximum singlemode emitted power)

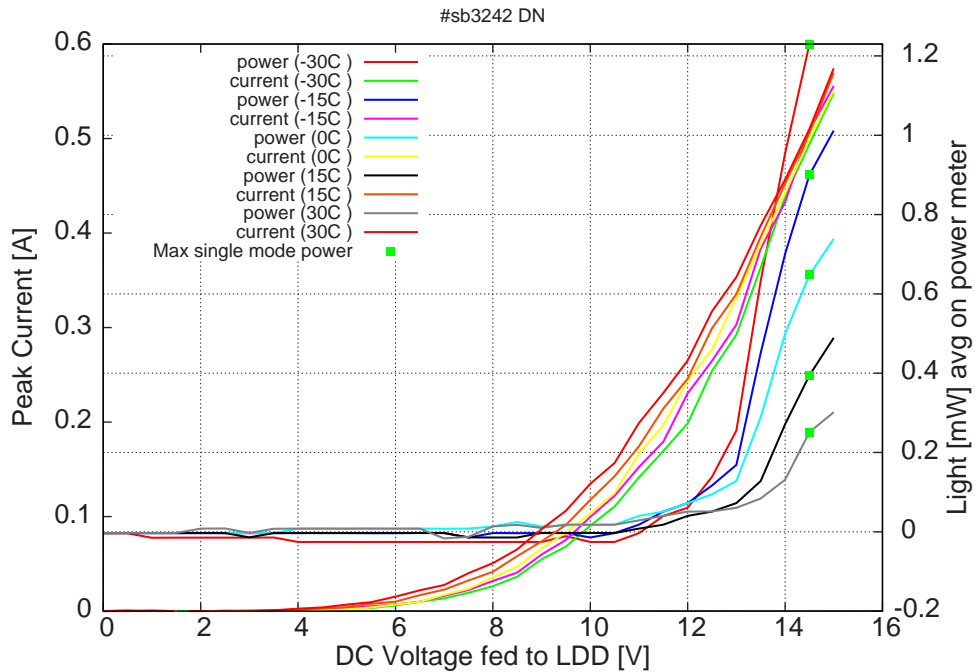
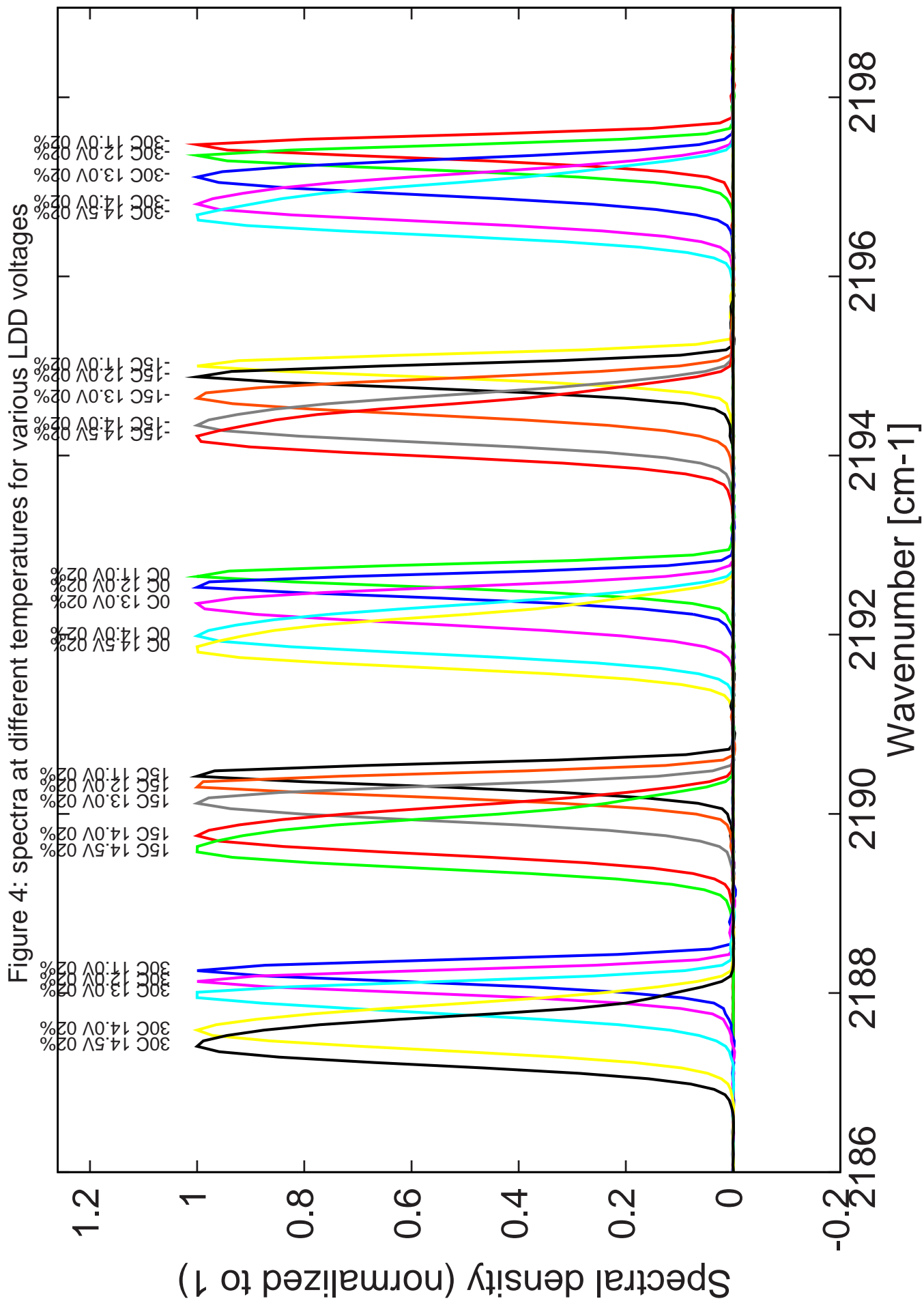


Figure 5: peak current and average power vs LDD voltage at 2% duty-cycle (50ns pulses on the laser, $2.5\mu\text{s}$ period) (the solid squares indicate the maximum singlemode emitted power)



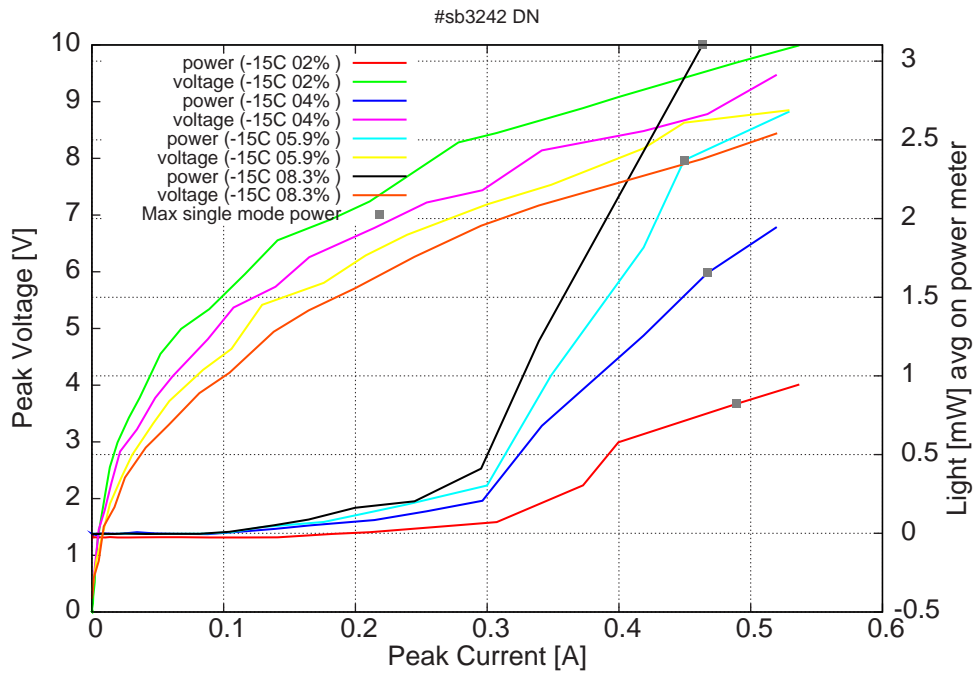


Figure 6: peak voltage and average power vs peak current for various duty-cycle at -15C (100ns pulses on the laser) (the solid squares indicate the maximum singlemode emitted power)

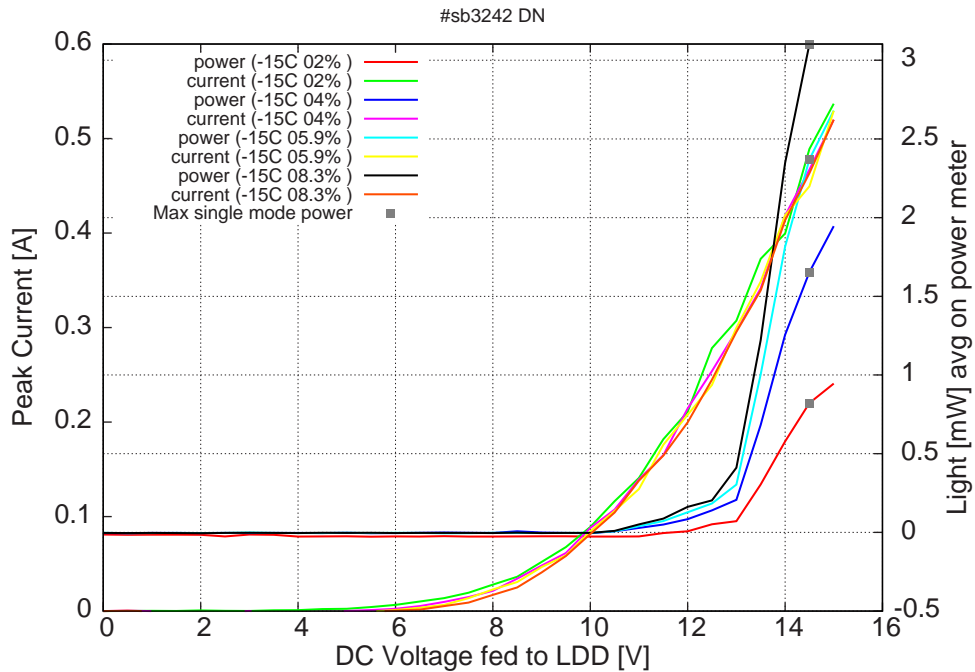


Figure 7: peak current and average power vs LDD voltage for various duty-cycle at -15C (100ns pulses on the laser) (the solid squares indicate the maximum singlemode emitted power)

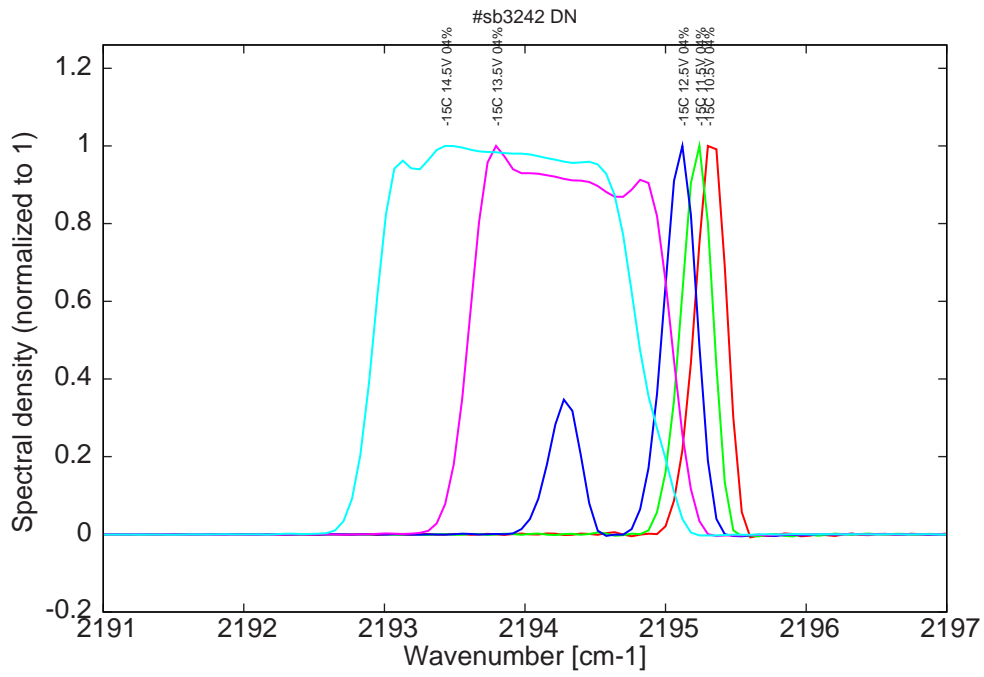


Figure 8: spectra at -15C at 4% duty-cycle (100ns pulses) for various LDD voltages (all monomode)

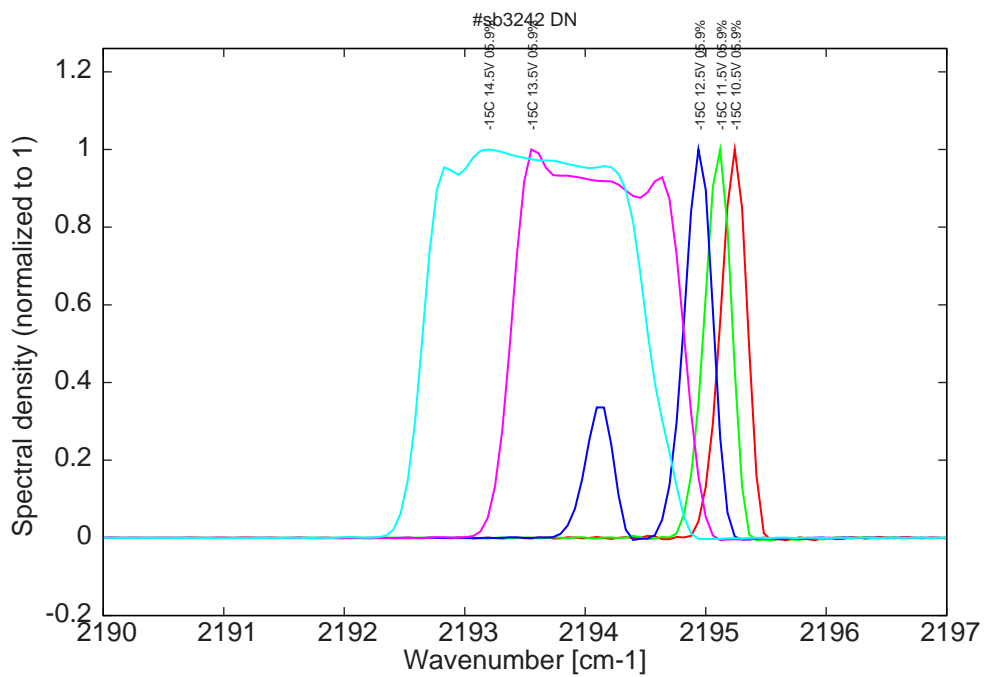


Figure 9: spectra at -15C at 6% duty-cycle (100ns pulses) for various LDD voltages (all monomode)

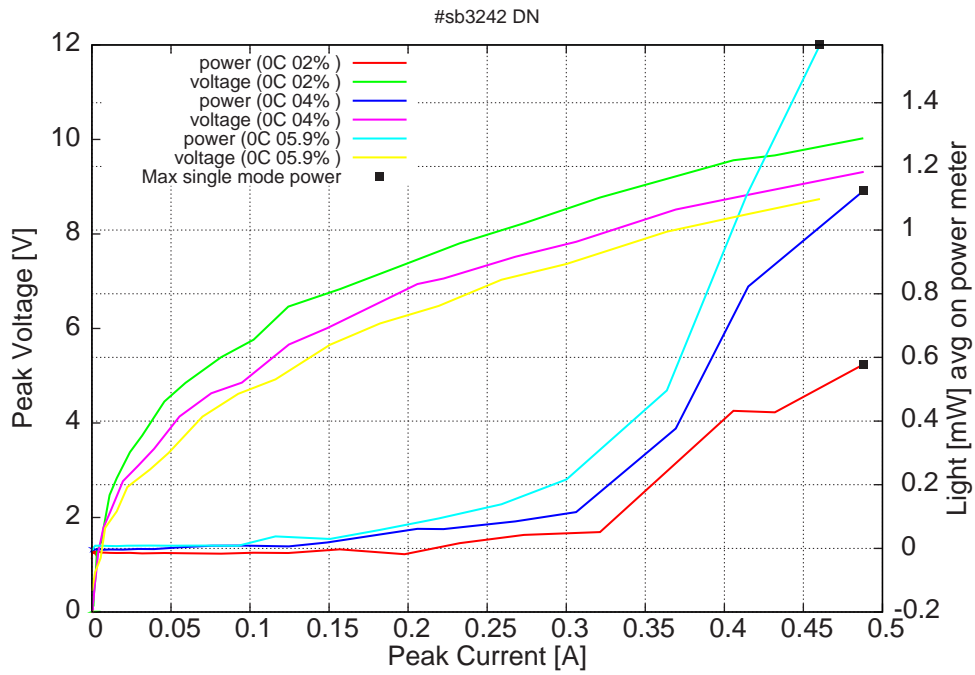


Figure 10: peak voltage and average power vs peak current for various duty-cycle at 0C (100ns pulses on the laser) (the solid squares indicate the maximum singlemode emitted power)

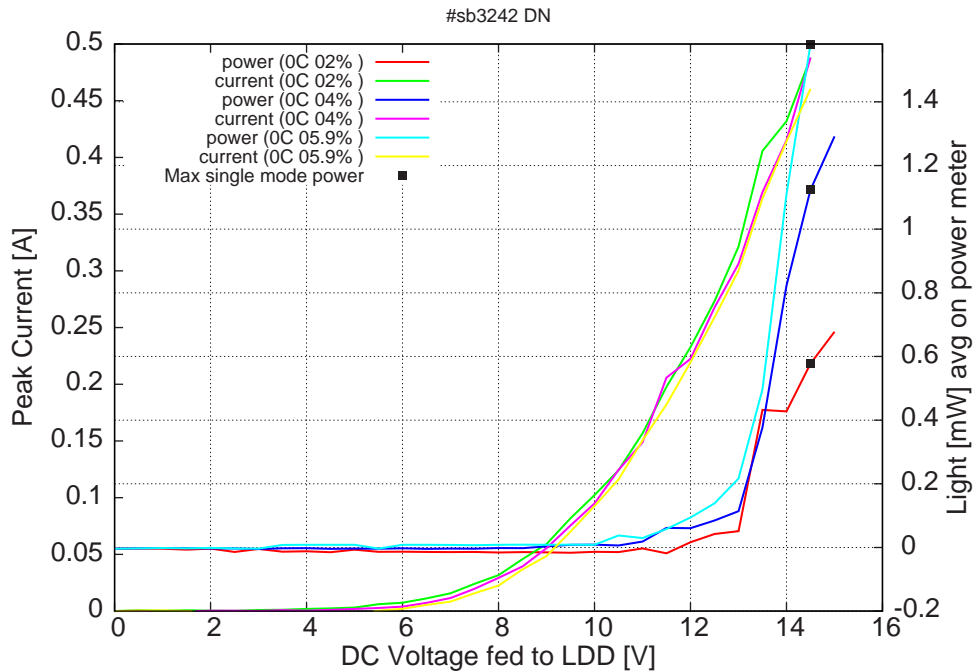


Figure 11: peak current and average power vs LDD voltage for various duty-cycle at 0C (100ns pulses on the laser) (the solid squares indicate the maximum singlemode emitted power)

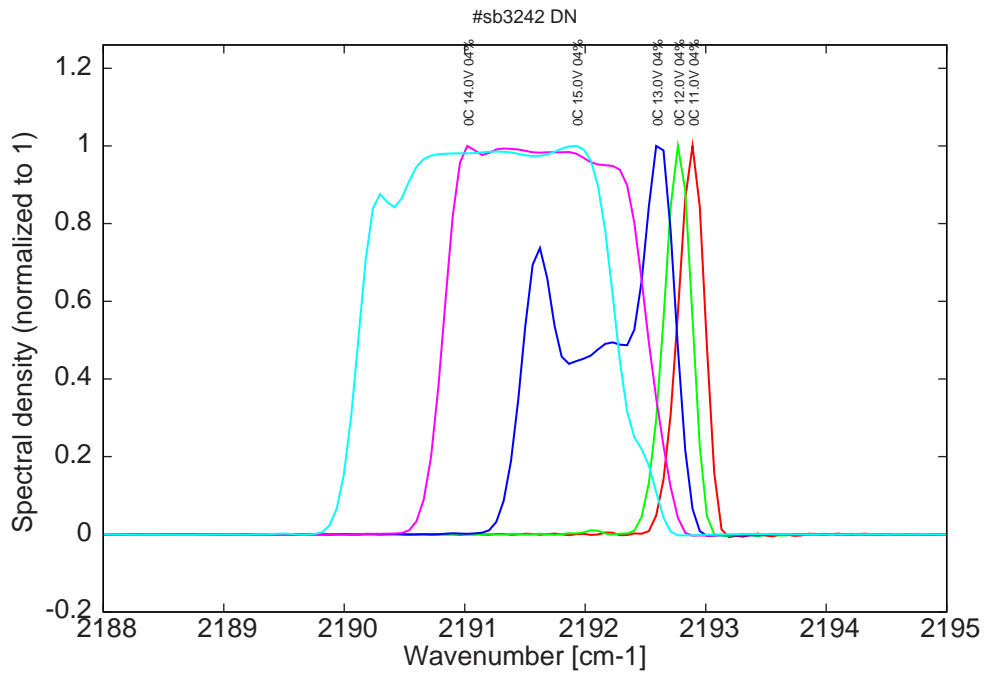


Figure 12: spectra at 0C at 4% duty-cycle (100ns pulses) for various LDD voltages (all monomode)

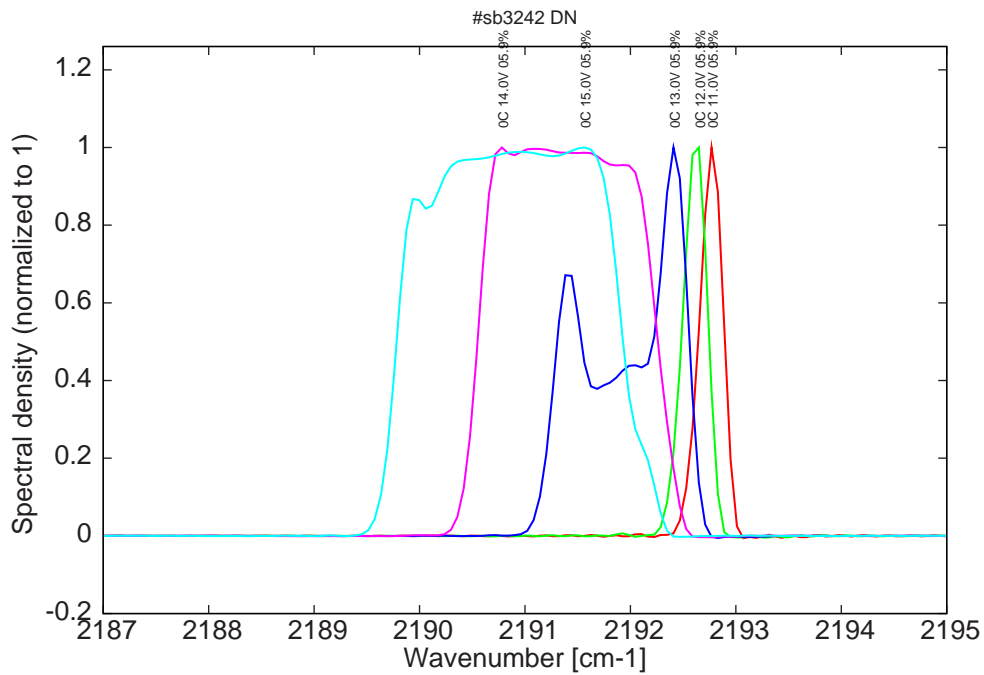


Figure 13: spectra at 0C at 6% duty-cycle (100ns pulses) for various LDD voltages (all monomode)

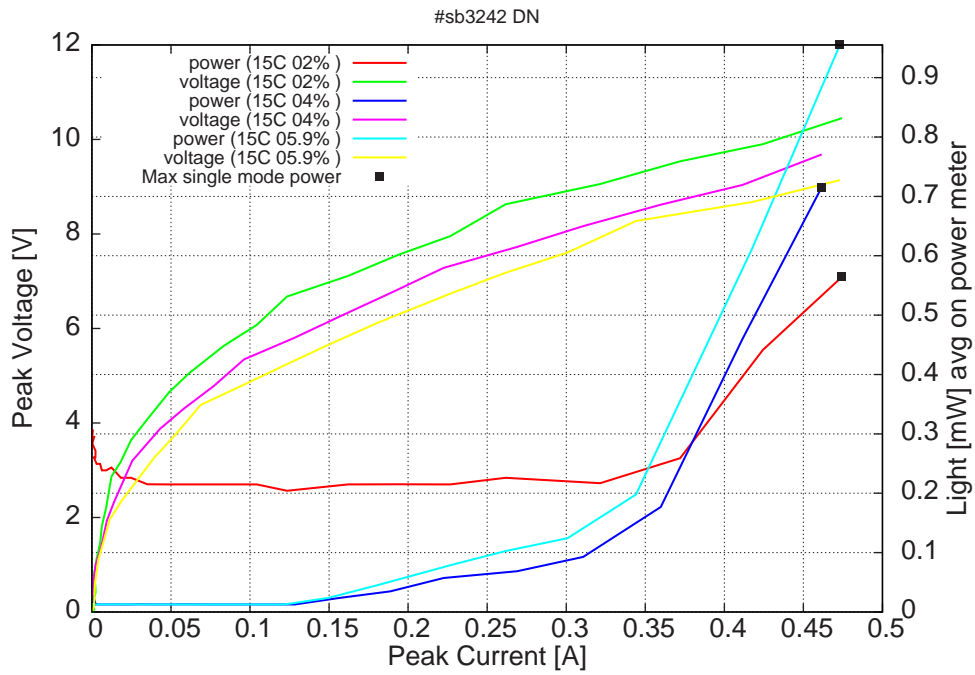


Figure 14: peak voltage and average power vs peak current for various duty-cycle at 15C (100ns pulses on the laser) (the solid squares indicate the maximum singlemode emitted power)

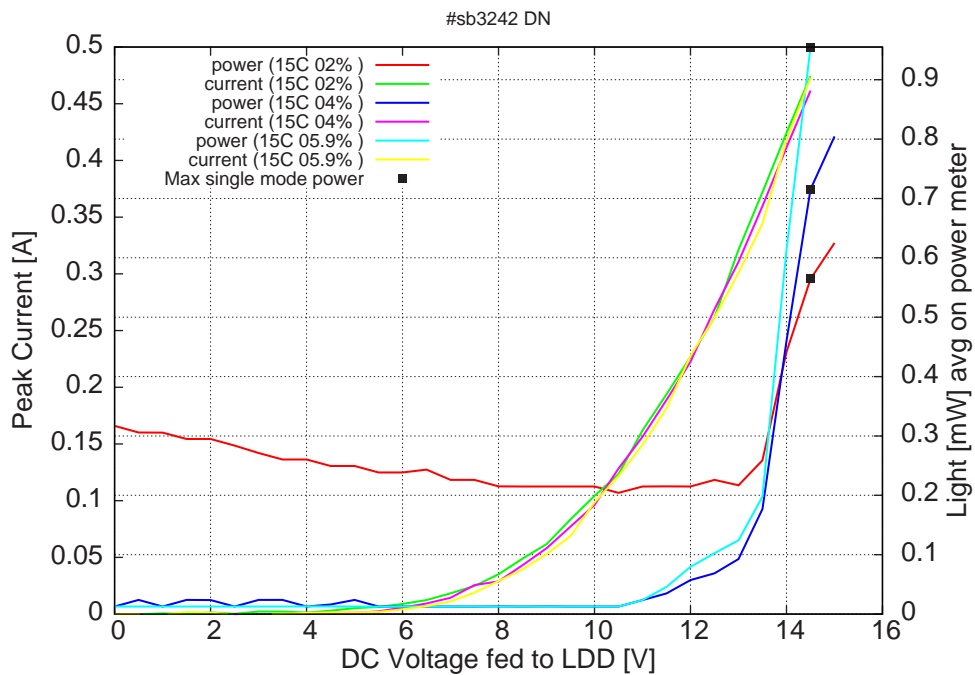


Figure 15: peak current and average power vs LDD voltage for various duty-cycle at 15C (100ns pulses on the laser) (the solid squares indicate the maximum singlemode emitted power)

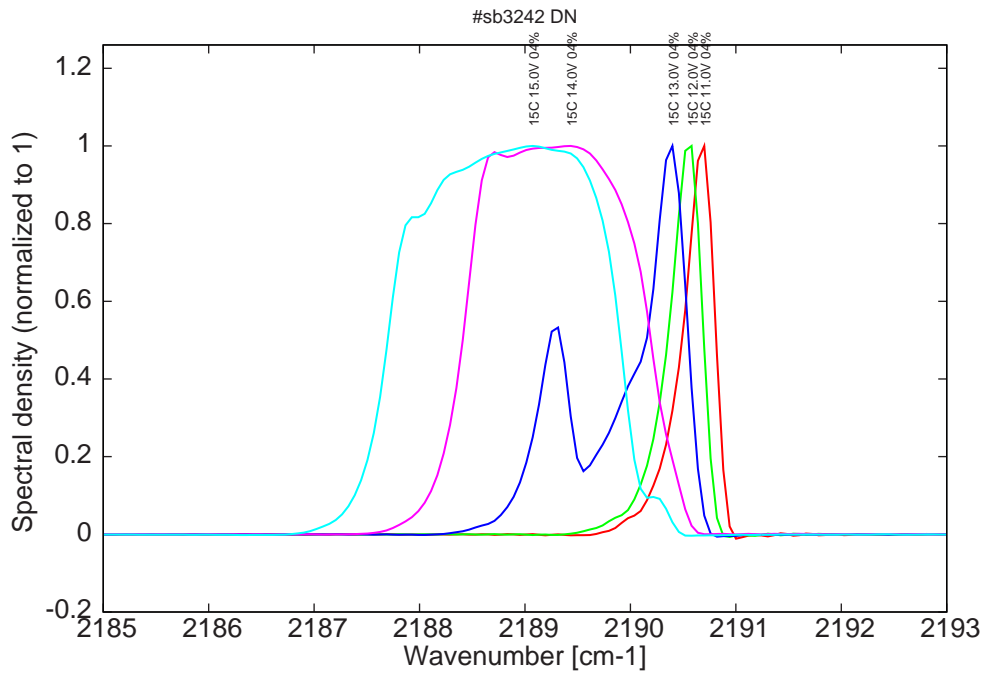


Figure 16: spectra at 15C at 4% duty-cycle (100ns pulses) for various LDD voltages (all monomode)

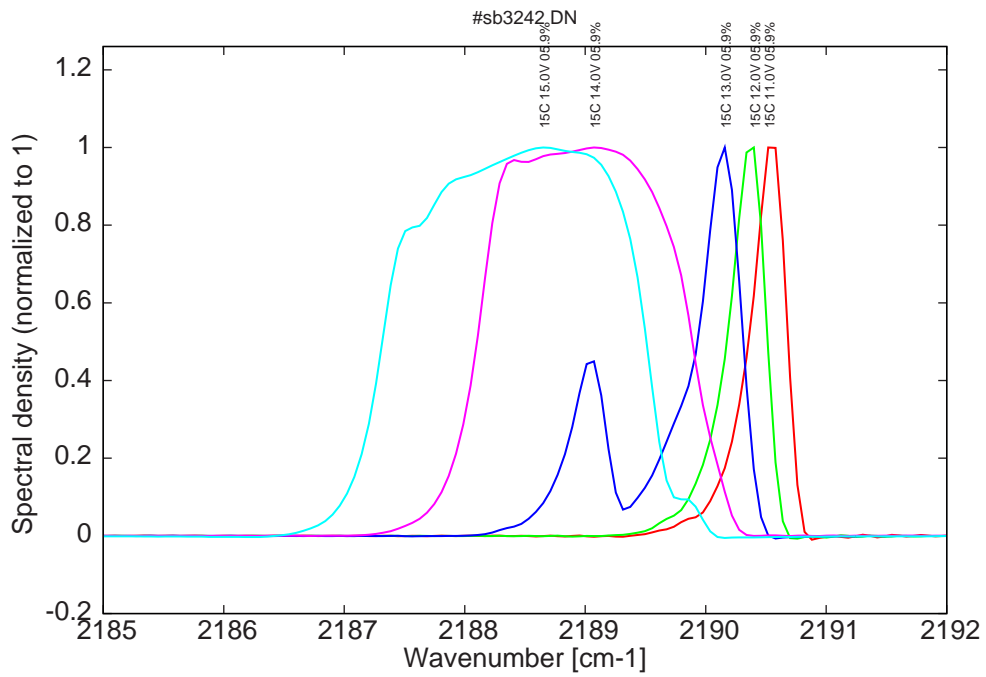


Figure 17: spectra at 15C at 6% duty-cycle (100ns pulses) for various LDD voltages (all monomode)