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Datasheet for #sb122 UP

Recommendations:

Please read the starter kit user manual (at least installation chapter 5), if available, and have a look at the FAQ at `http://www.alpeslasers.ch/alfaq.pdf`

WARNING: Operating the laser with longer pulses, shorter period, or higher voltage or current than specified in this document may cause damage and 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).

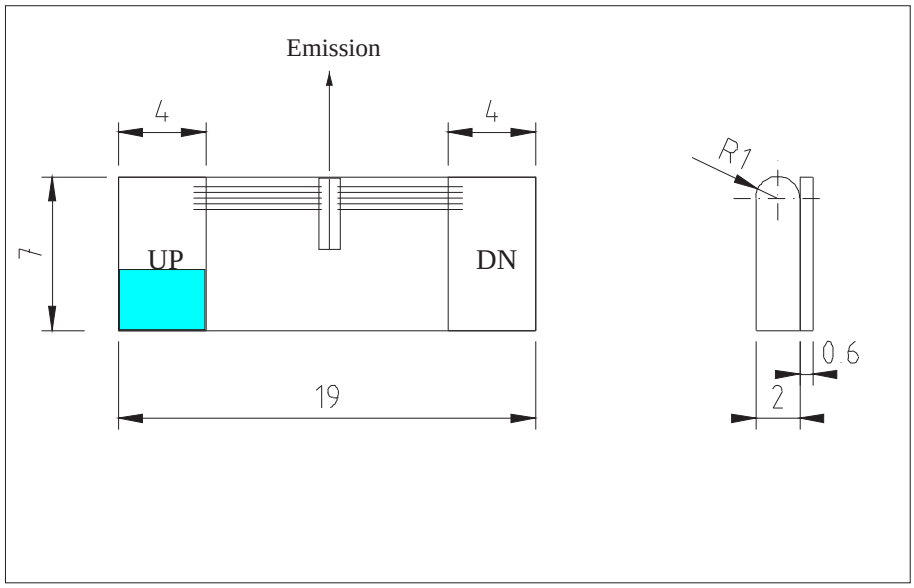

Figure 1: Support mounting for #sb122 UP (please note that the laser is connected to the UP pad drawned in blue)

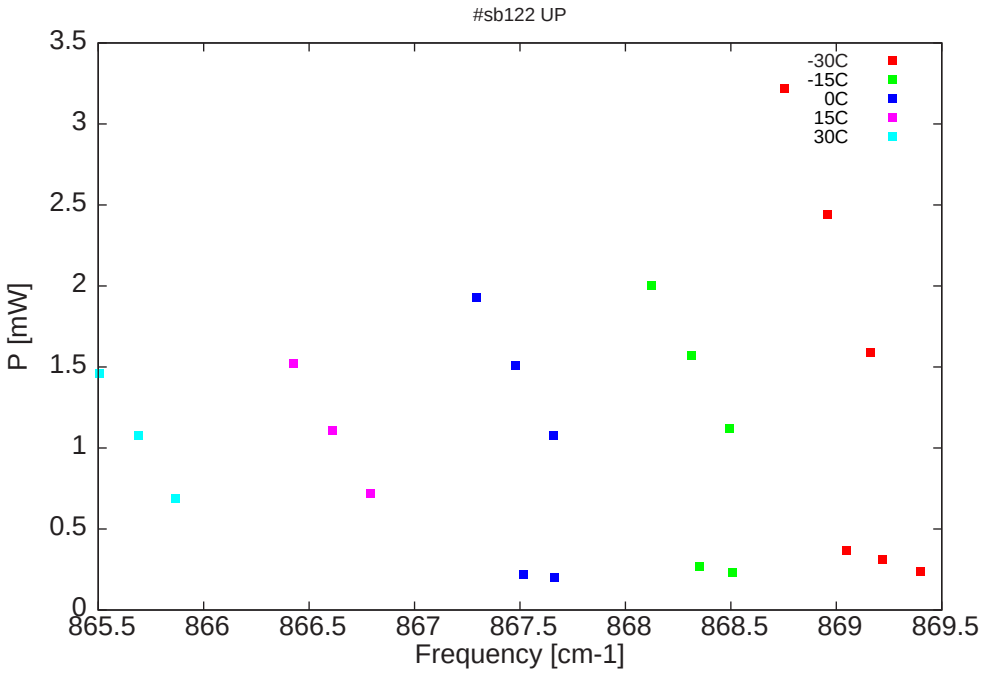

Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

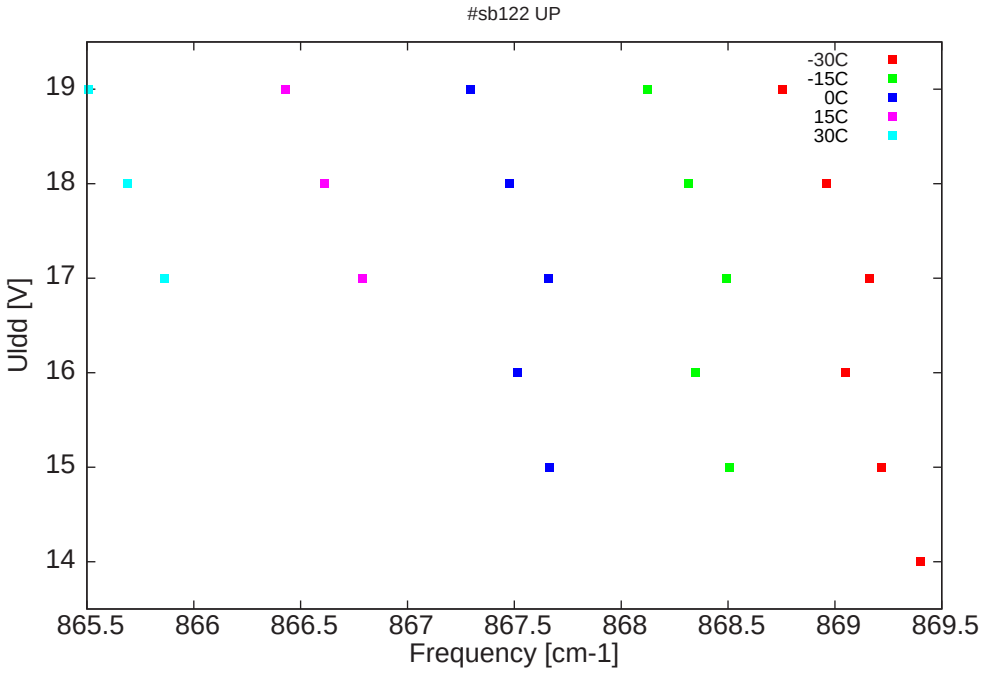

Figure 3: DC voltage fed to LDD (Uldd) as a function of the singlemode emission frequencies and temperatures

λ[nm]	ν[cm^{-1}]	P[mW]	Temp[°C]	U$_{LDD}$[V]	I$_{pulse}$[A]
11502.2	869.4	0.2	-30	14	4.51
11504.6	869.2	0.3	-30	15	4.95
11506.8	869	0.4	-30	16	5.39
11505.3	869.2	1.6	-30	17	5.84
11508	869	2.4	-30	18	6.29
11510.7	868.8	3.2	-30	19	6.73
11514	868.5	0.2	-15	15	4.96
11516.1	868.3	0.3	-15	16	5.39
11514.2	868.5	1.1	-15	17	5.83
11516.6	868.3	1.6	-15	18	6.27
11519.1	868.1	2	-15	19	6.71
11525.2	867.7	0.2	0	15	4.96
11527.2	867.5	0.2	0	16	5.39
11525.3	867.7	1.1	0	17	5.83
11527.6	867.5	1.5	0	18	6.27
11530.1	867.3	1.9	0	19	6.7
11536.8	866.8	0.7	15	17	5.81
11539.2	866.6	1.1	15	18	6.24
11541.6	866.4	1.5	15	19	6.66
11549.2	865.9	0.7	30	17	5.81
11551.5	865.7	1.1	30	18	6.24
11553.9	865.5	1.5	30	19	6.66

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

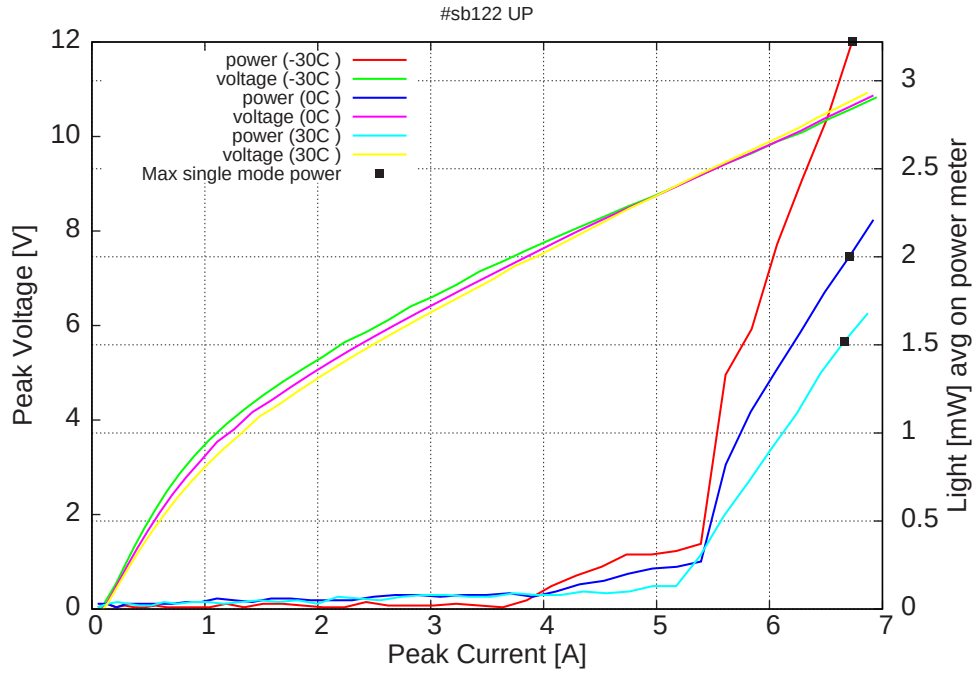

Figure 4: peak voltage and avg power vs peak current (the solid squares indicate the maximum singlemode emitted power)

Note: data taken with 50ns pulses, 2.5μs period.

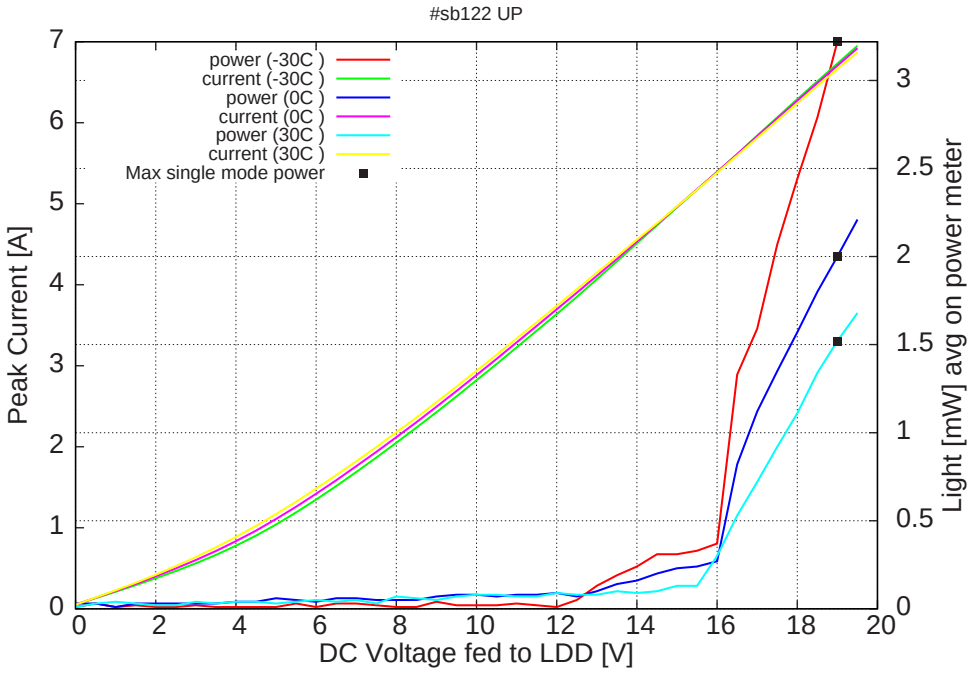

Figure 5: peak current and avg power vs LDD voltage (the solid squares indicate the maximum singlemode emitted power)

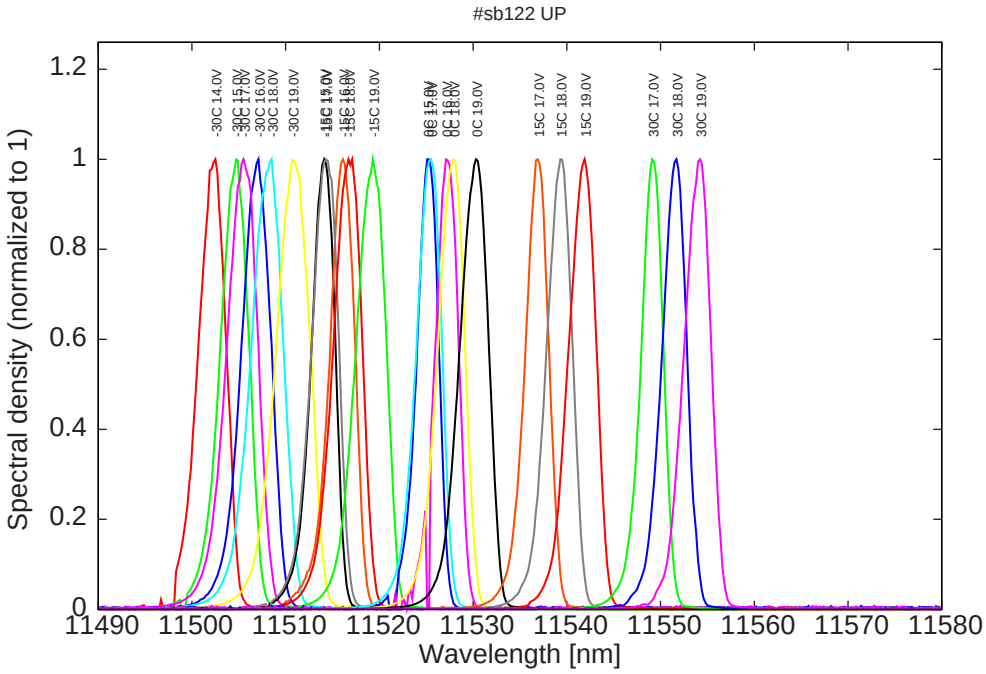

Figure 6: spectra at -30C, -15C, 0C, 15C, and 30C for various LDD voltages

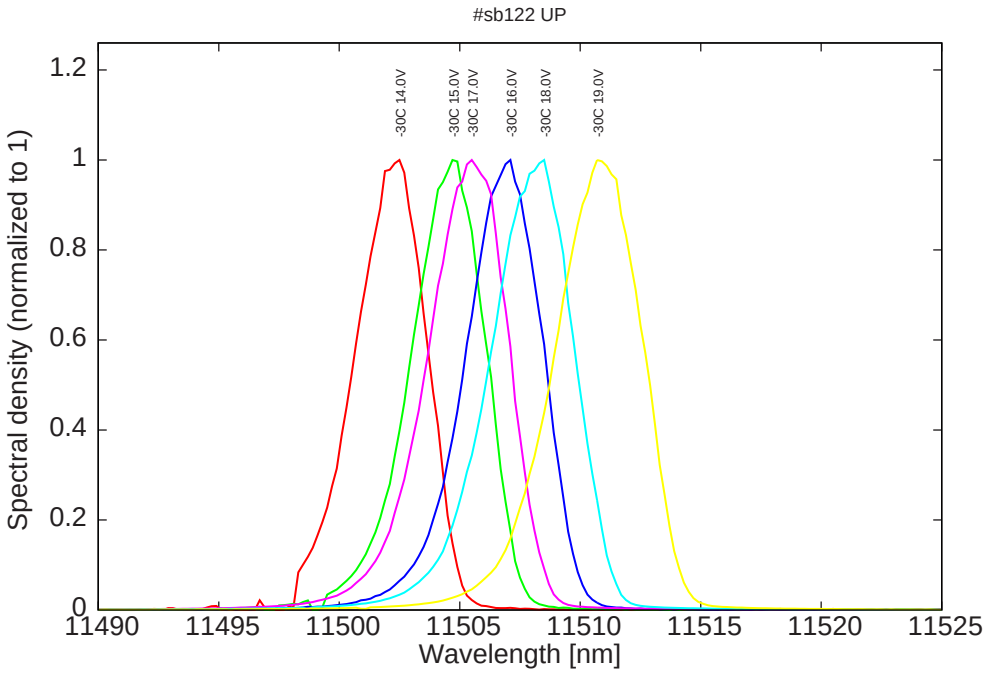

Figure 7: spectra at -30C for various LDD voltages

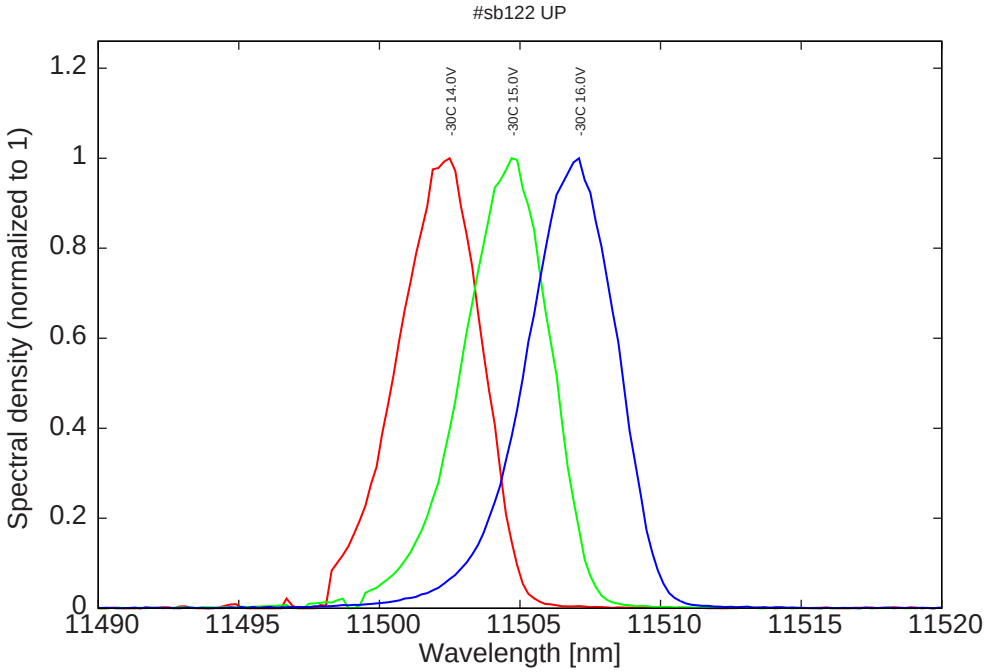

Figure 8: spectra at -30C for various LDD voltages <16V (first monomode range)

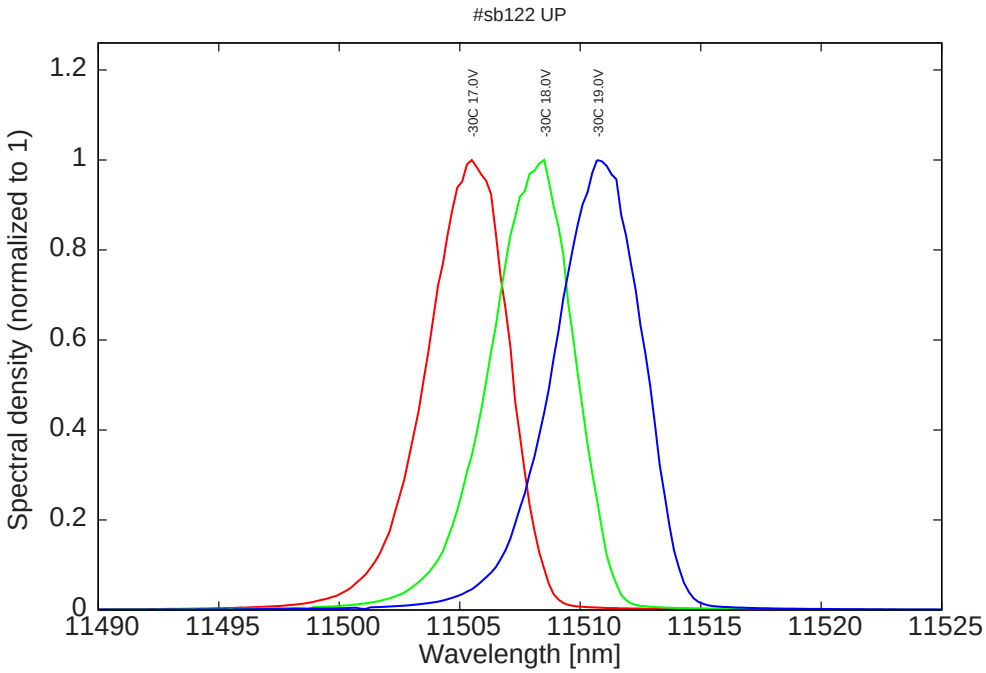

Figure 9: spectra at -30C for various LDD voltages >16V (2nd monomode range)

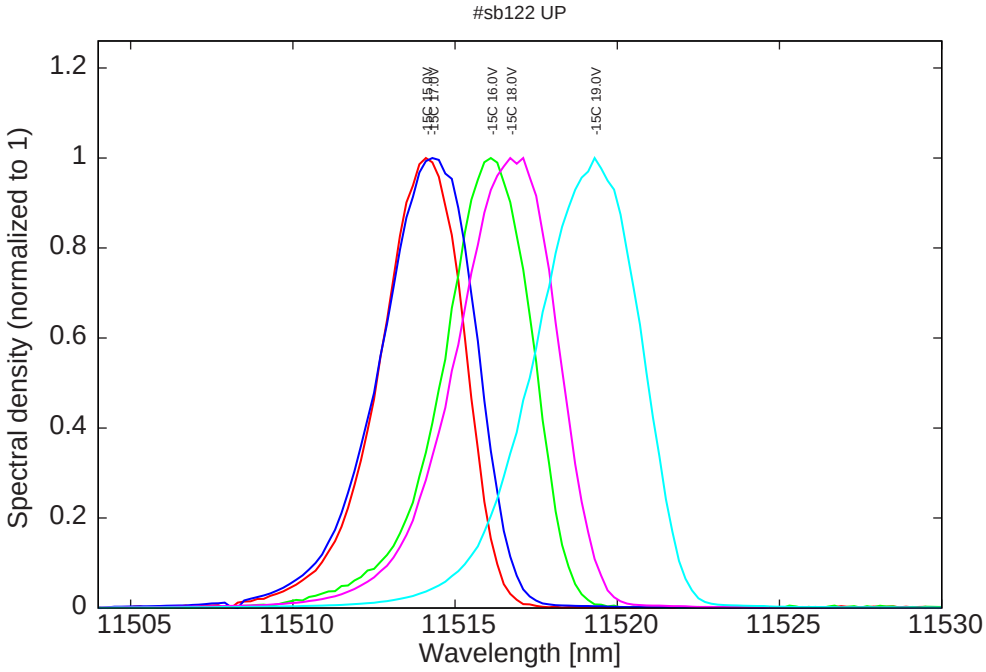

Figure 10: spectra at -15C for various LDD voltages

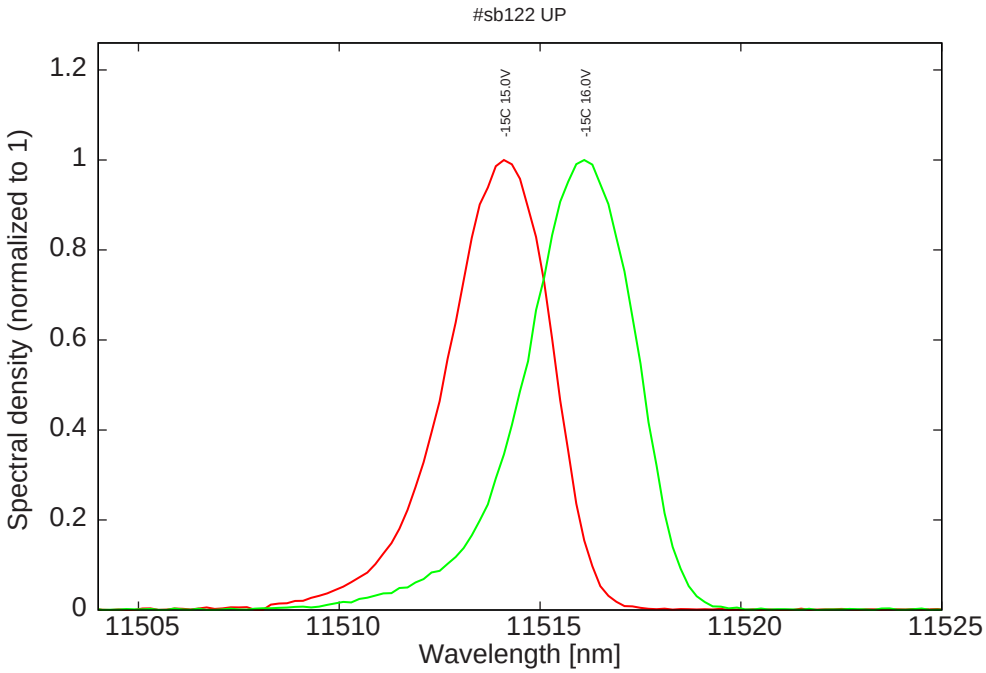

Figure 11: spectra at -15C for various LDD voltages <16V (first monomode range)

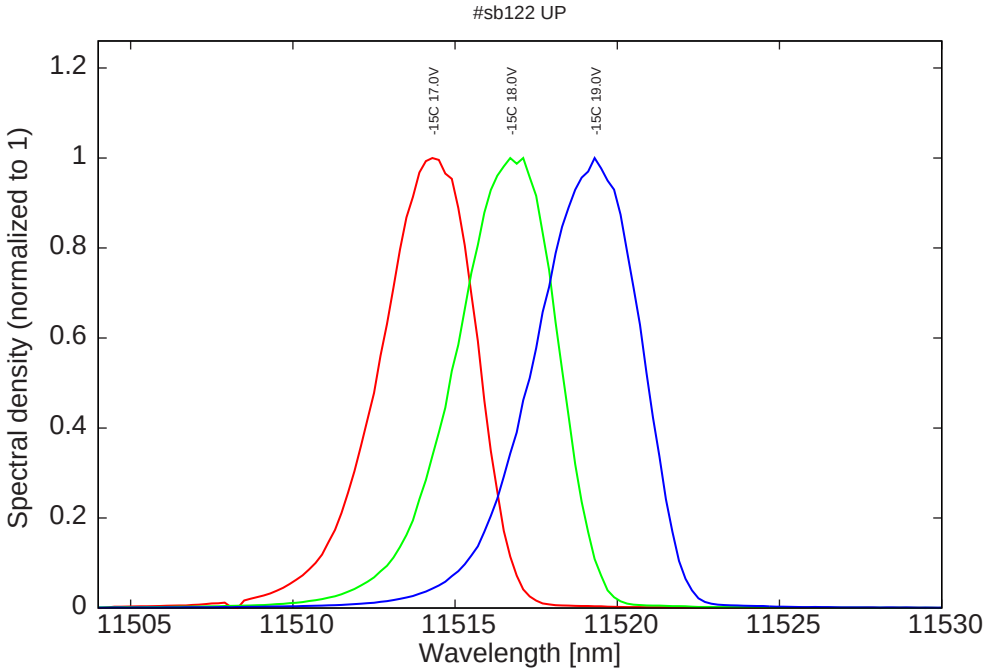

Figure 12: spectra at -15C for various LDD voltages >16V (2nd monomode range)

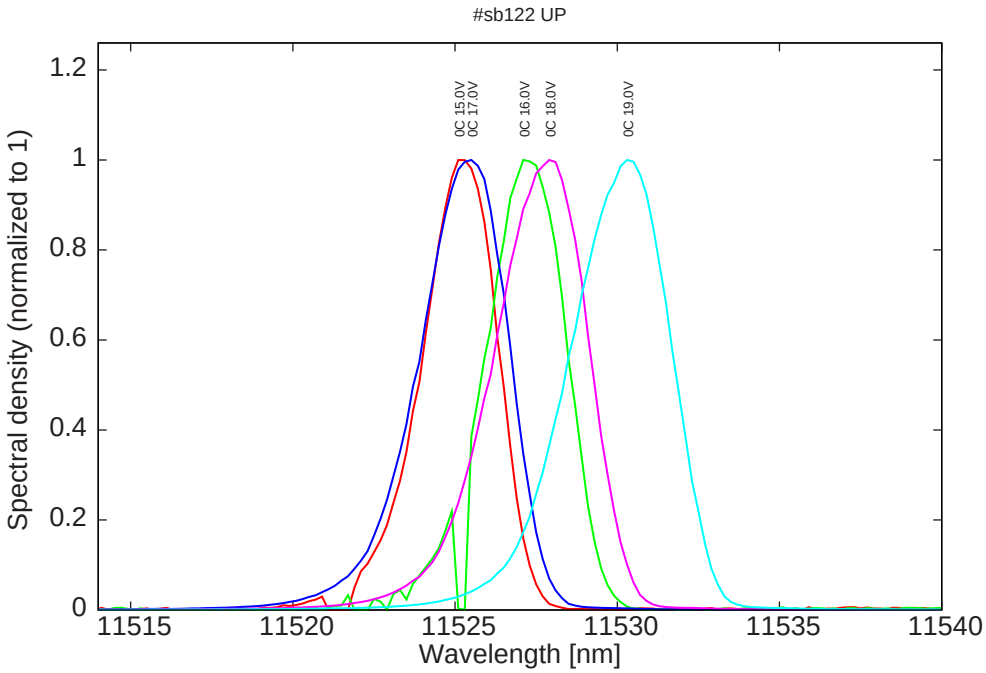

Figure 13: spectra at 0C for various LDD voltages

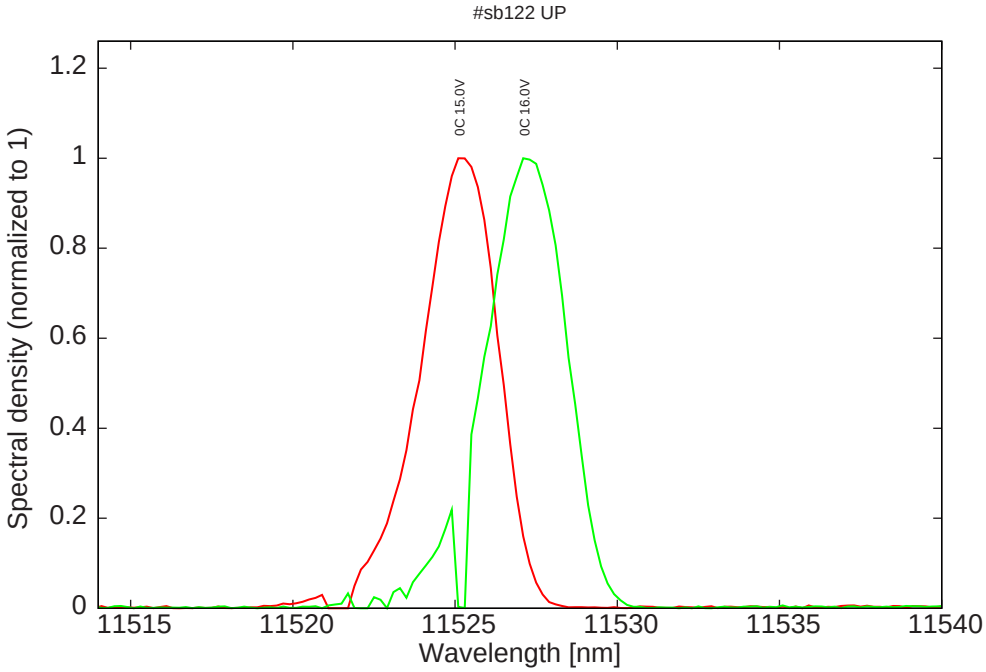

Figure 14: spectra at 0C for various LDD voltages <16V (first monomode range)

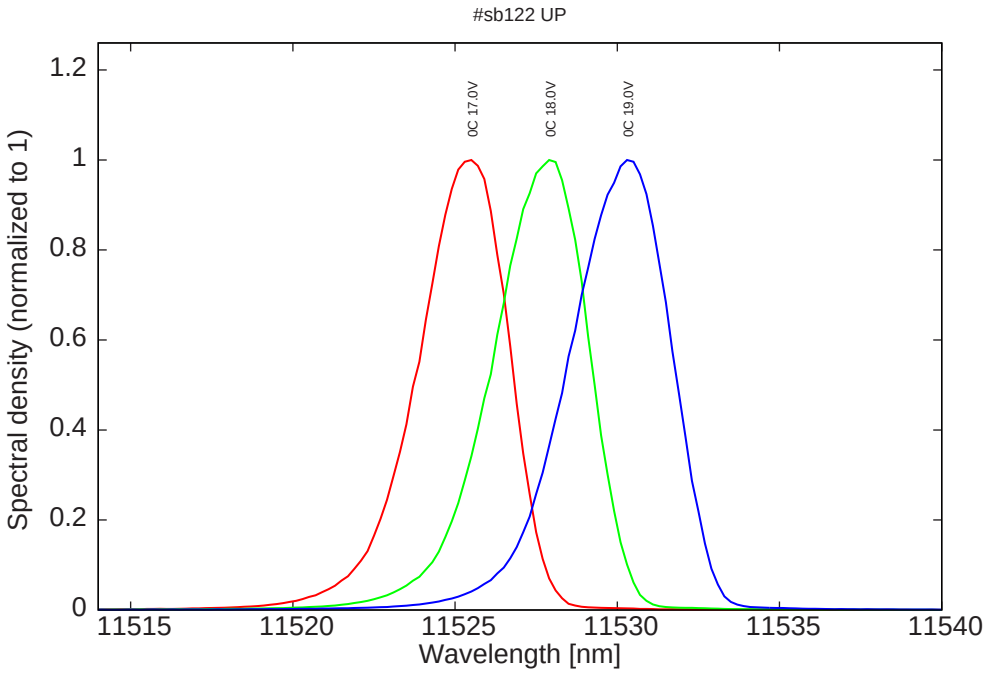

Figure 15: spectra at 0C for various LDD voltages >16V (2nd monomode range)

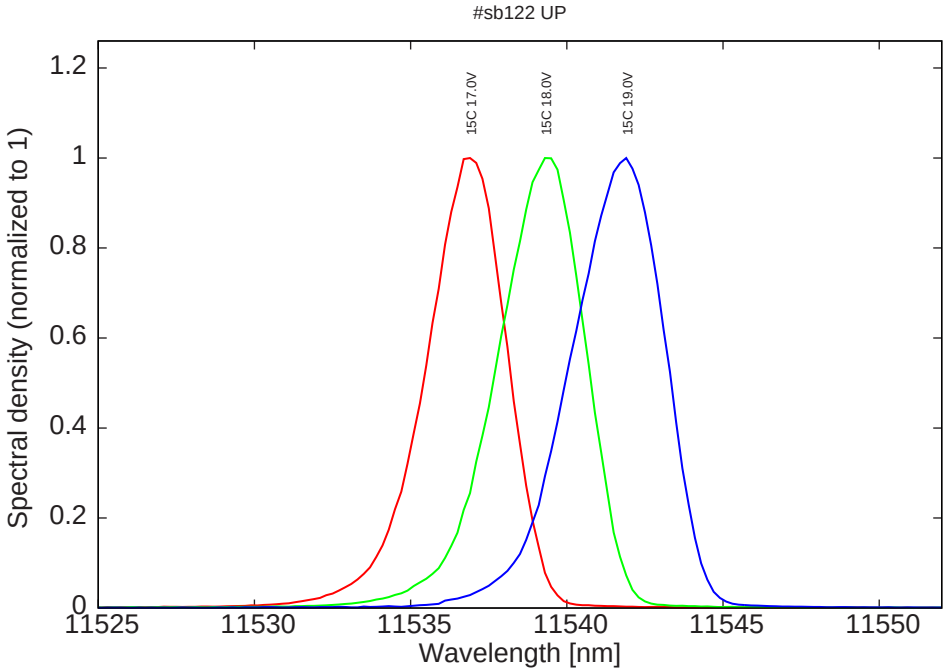

Figure 16: spectra at 15C for various LDD voltages (corresponding to the 2nd monomode range)

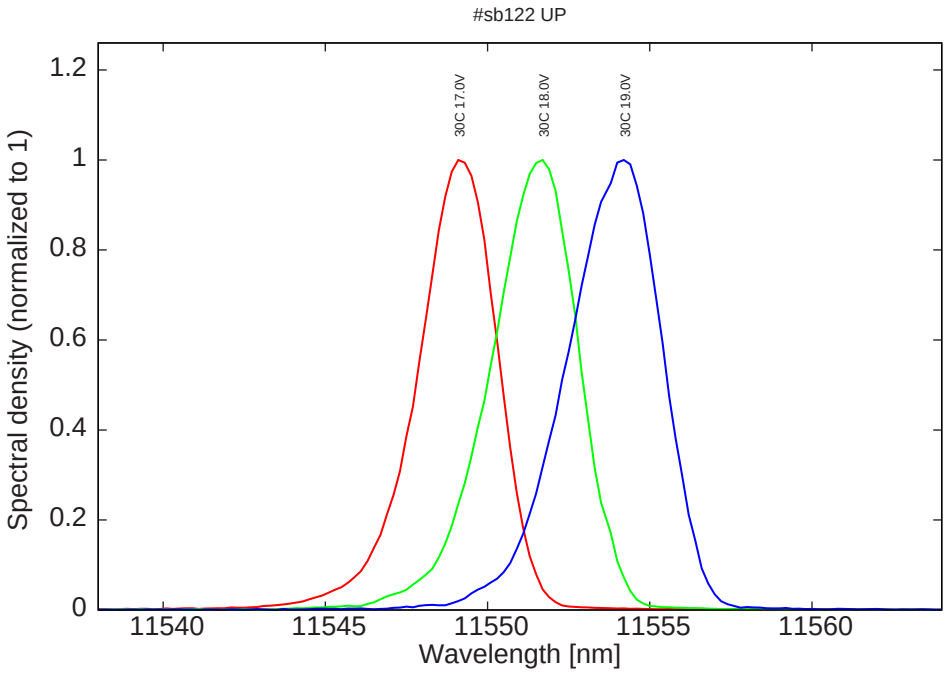

Figure 17: spectra at 30C for various LDD voltages (corresponding to the 2nd monomode range)