

## 7.4um low power consumption DFB-QCL Laser Module



### Description

7.4um low power consumption table DFB-QCL Laser is a tunable CW laser developed by LD-PD Inc. The Wavelength tuning range can up to 30nm, Collimation output power more than 10mW.

This module can solve problems in areas such as Gas Sensing. Our DFB-QCL Laser module integrated temperature control, drive. We also build in our Lock-in amplifier inside. This Software can also be used to control the working temperature and current of the laser, so that the laser can work steadily and maintain the accuracy of the measurement results. The FPGA is added inside the laser module to facilitate the processing of gas concentration measurement. 1f and 2f signal output is possible from BNC Interface and The gain value is optional for our customer.

### Features

- Low power consumption, high power
- Lock-in Amplifier included
- High SMSR
- Software control
- Small size

### Optional

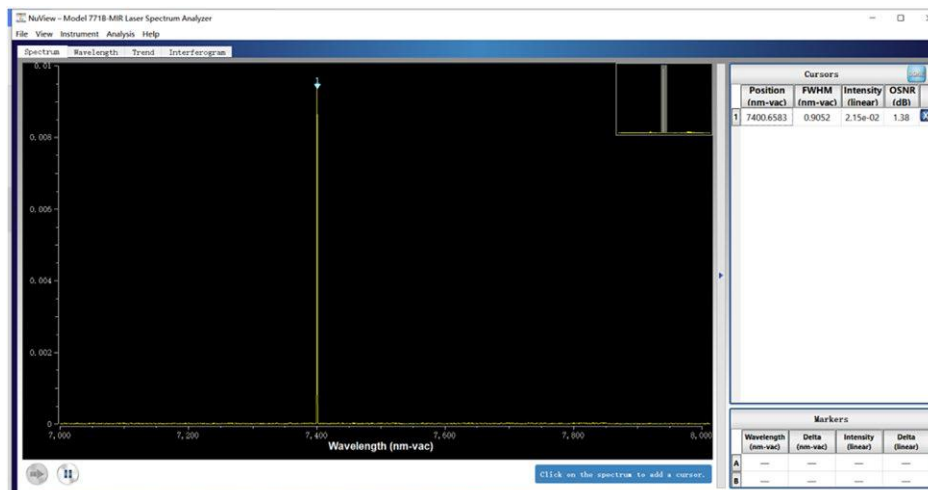
- TDLAS CH<sub>4</sub> and SO<sub>2</sub> measurement system
- Light source for mid-infrared system

## Laser Specifications

Electrical/Optical Characteristics(Tsub=25°C, CW bias unless stated otherwise)

Parameter	unit	Specs		
		Min	Type	Max
		7.4um DFB-QCL		
Output power	mW		10	
Peak operating wavelength	um		7.4	
Spectrum Width(FWHM)	MHz		<3	
SMSR	dB	20		
Output ISO	dB		30	
Wavelength temperature coefficient	nm/°C		0.6	
Wavelength current coefficient	nm/mA		0.1	
Output power stability(8 hours)	%		±1	±4
Power Tuning Range	%	0		100
TEC Working temperature	°C	0		50
power supply voltage	VAC	100	220	240
Working temperature	°C	0		90
Storag temperature	°C	-40		85
size	mm	340(L)×240(W)×100(H)		

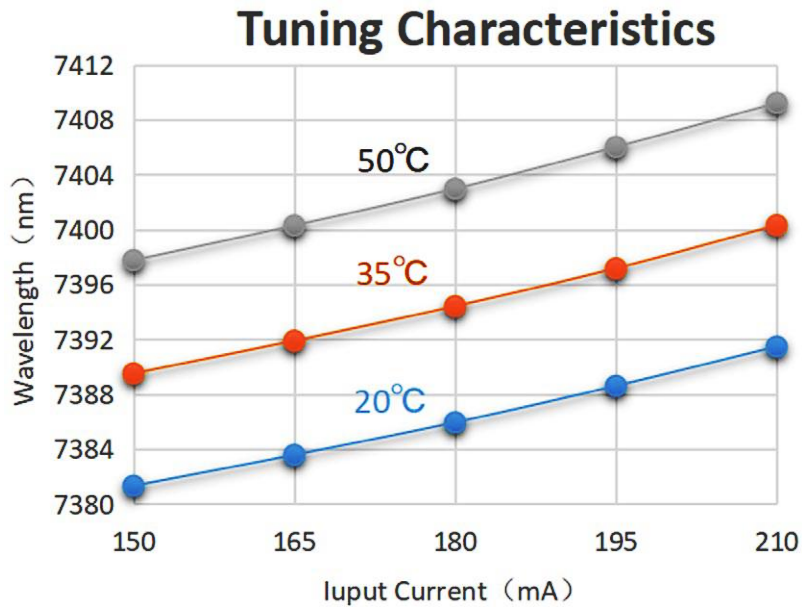
## Laser spectrum



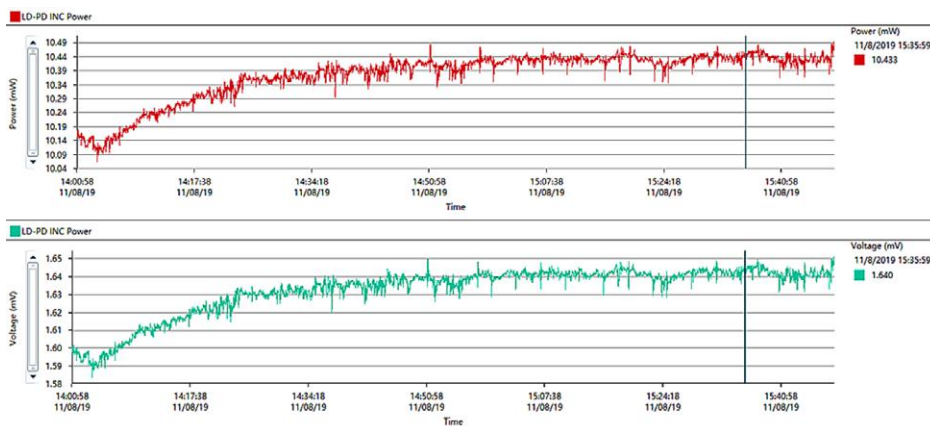
**Control GUI**



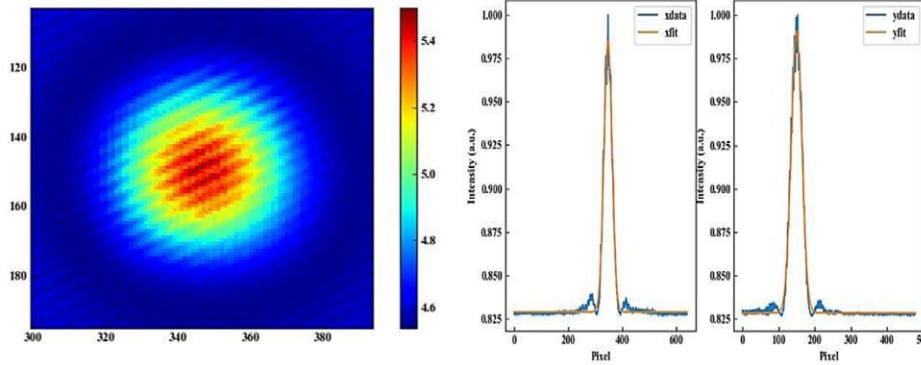
**Wavelength temperature tuning curve**



**Power stability curve**

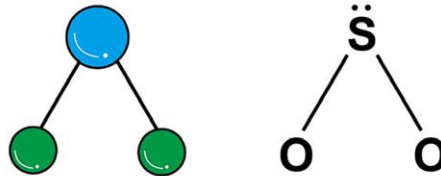
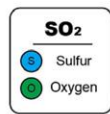


**QCL Light source Beam profile testing**

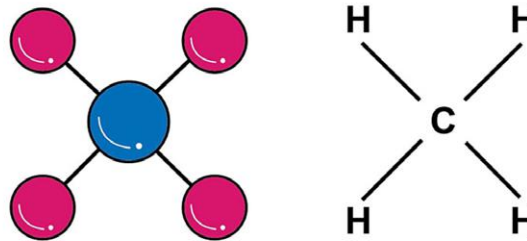
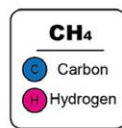
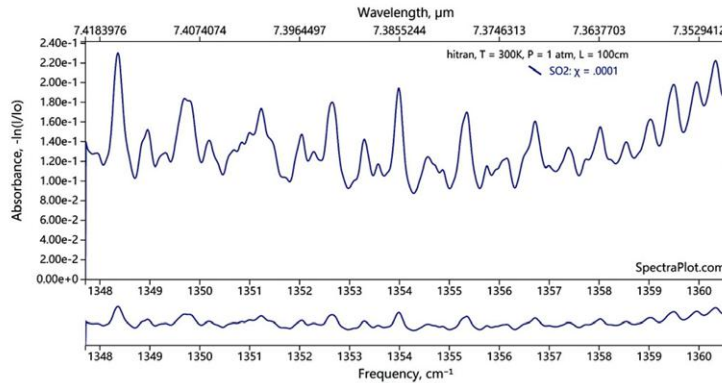


Camera Pixel size = 5  $\mu\text{m}$ , Beam Diameter@320  $\mu\text{m}$

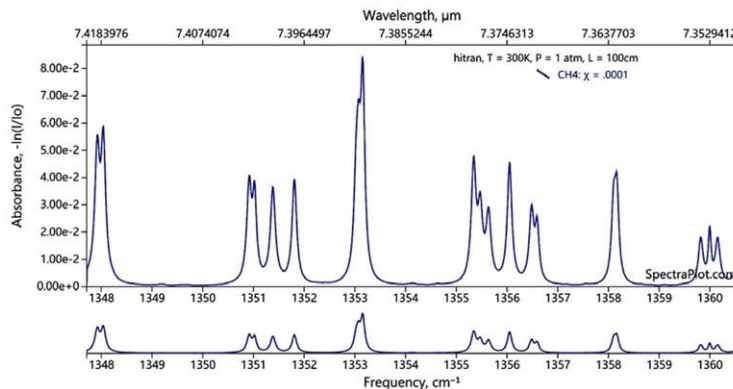
**Absorption line**



**TDLAS: 7.4 $\mu\text{m}$**



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**Ordering Info****W□□□□: Wavelength**

5260: 5260nm

7160: 7160nm

7400: 7400nm

☆: Collimating output

1: With

0: Without

△: Type of laser

FP: QCL-FP

DFB: QCL-DFB

XX: output power

010=10mw

100=100mw