

## 3.45um low power benchtop ICL-DFB tunable continuous light laser (TDLAS integrated control module) 5mW



### ● Product Description

The 3.45um ICL-DFB laser is a tunable continuous light laser developed by Idealphotonics. It has a narrow line width, high power, and low power consumption. It can meet the gas sensing test, especially for the test of hydrocarbons and other related gases. In addition, the benchtop ICL-DFB laser module integrates a driver and temperature control module. The temperature and operating current of the tuned laser can also be controlled by software, which can make the laser work stably and maintain the accuracy of the measured value. FPGA is also added inside the laser module to facilitate the processing of the concentration of the measured gas.

### ● Part Number

TDLAS-MIR-ICL-W3450-3-DFB-05

## ● Product features

Continuous wave、Single-mode spectrum、Adjustable light source、Low power consumption、High-quality beam、Narrow line width、Software intelligent control、Small structure

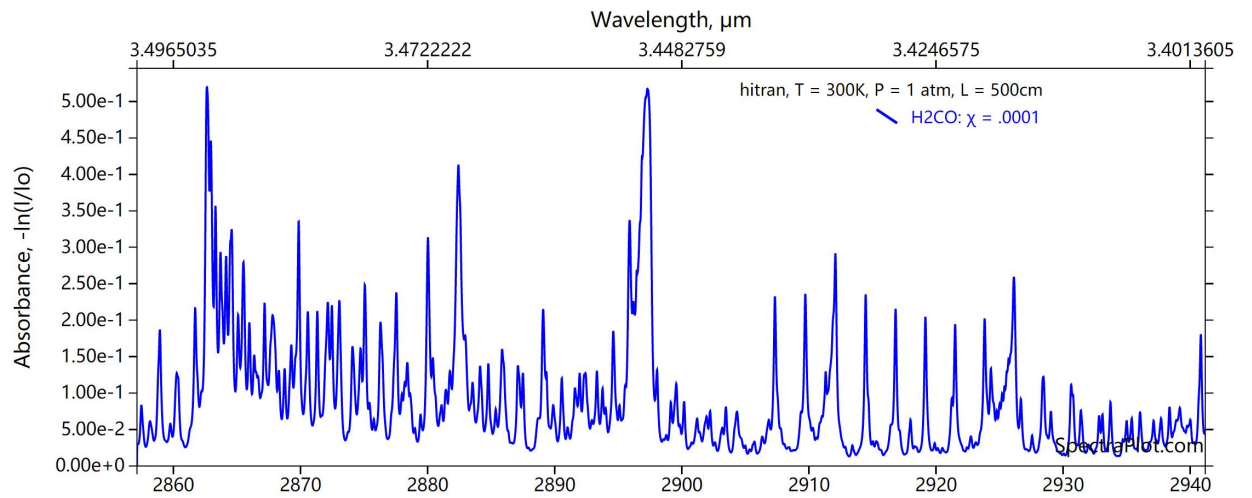
## ● Application area

TDLAS HCL and formaldehyde, methane and other gas system measurement setup、Mid-infrared system light source、Mid- device analysis

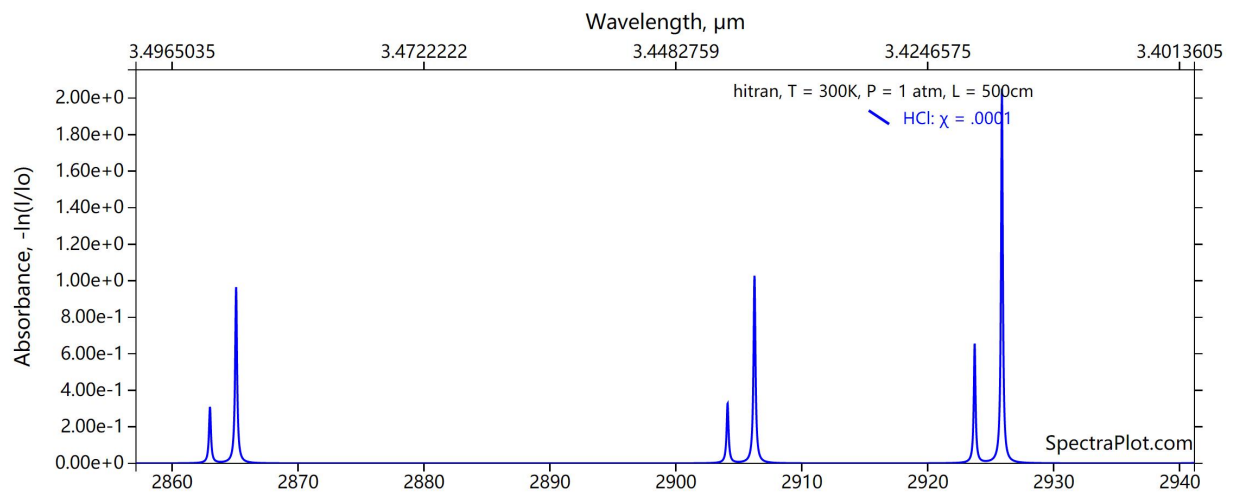
## Parameter

parameter	Unit	Technical indication		
		Min.	Typical	Max.
		3.45um ICL-DFB		
Laser output power	mW	0.5	5	8
Peak operating wavelength	um		3.45	
Spectral width(FWHM)	MHz		3	
Output side mode suppression ratio(SMSR)	dB		20	30
Wavelength tuning range	cm-1	6	10	25
Wavelength temperature coefficient	cm-1/°C	0.28	0.3	0.32
Wavelength current coefficient	cm-1/mA	60	80	100
Output power stability (8h)	%		±1	±4
Output power adjustable range	%	0		100
Operating current	mA	40	80	140
Threshold current	mA	25	40	80
Operating voltage	V	7	9	12
Chip operating temperature	°C	-20	10	40
Storage temperature	°C	15	20	65
Specifications and dimensions	mm	340(L)×240(W)×100(H)		

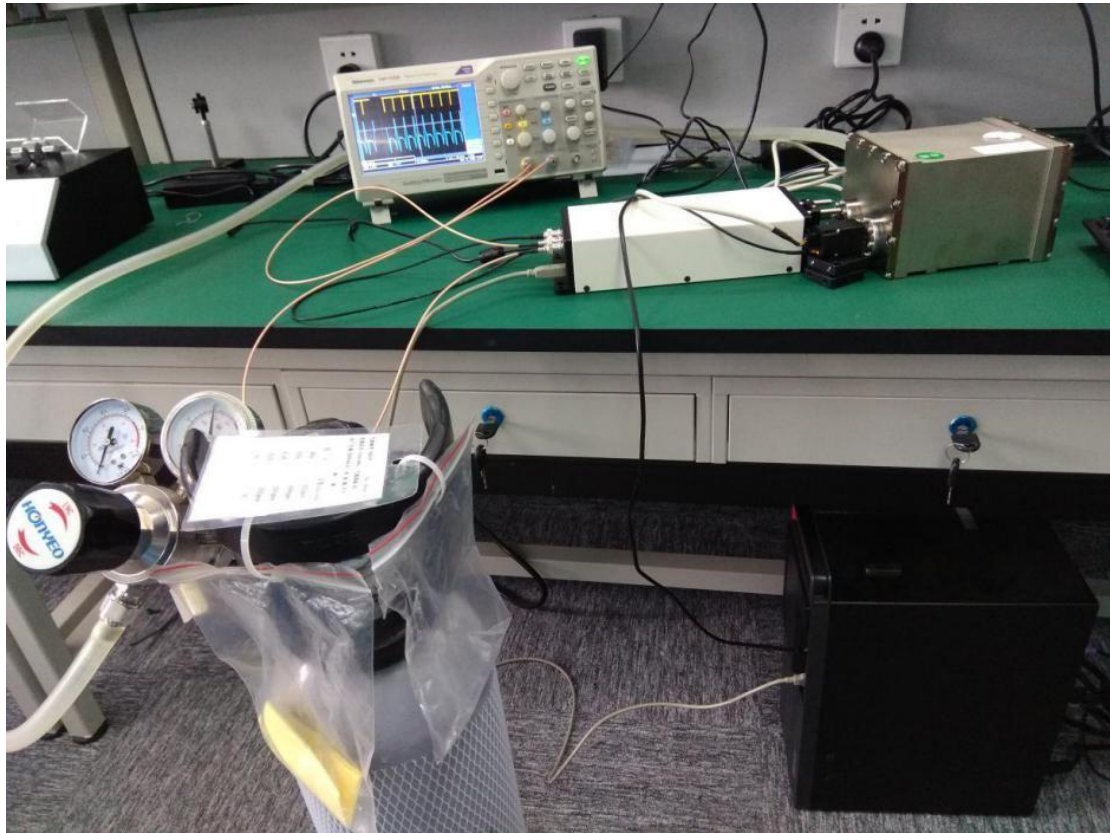
## Formaldehyde absorption spectrum



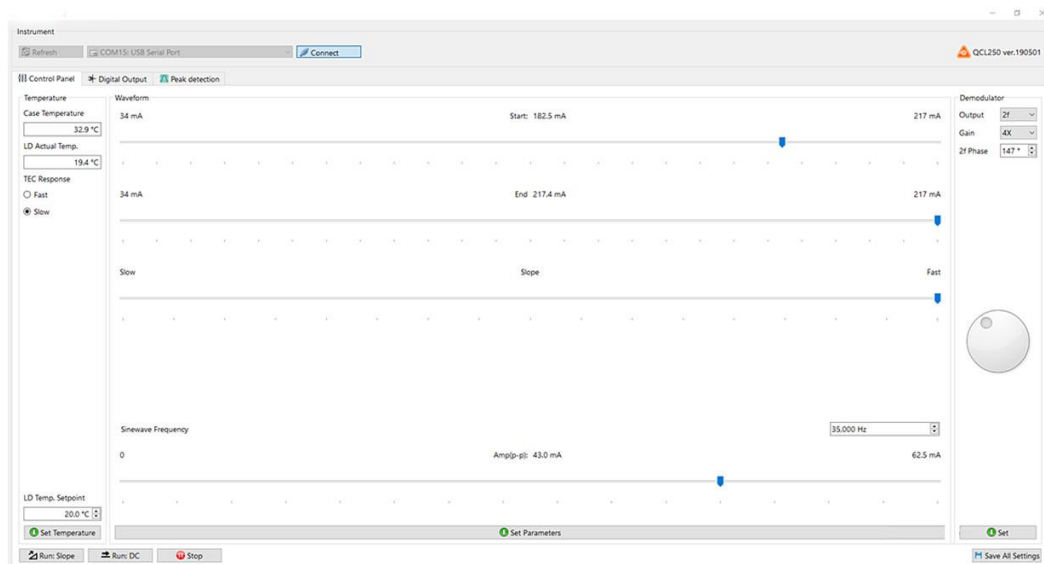
## HCL absorption spectrum



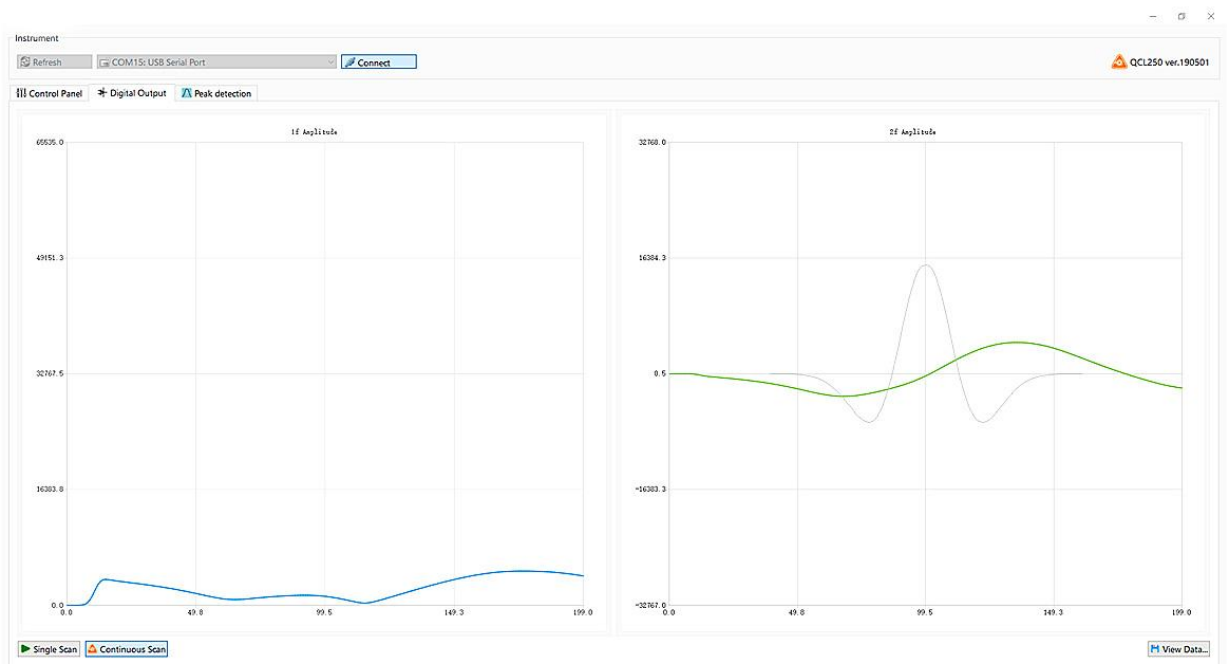
## System construction diagram



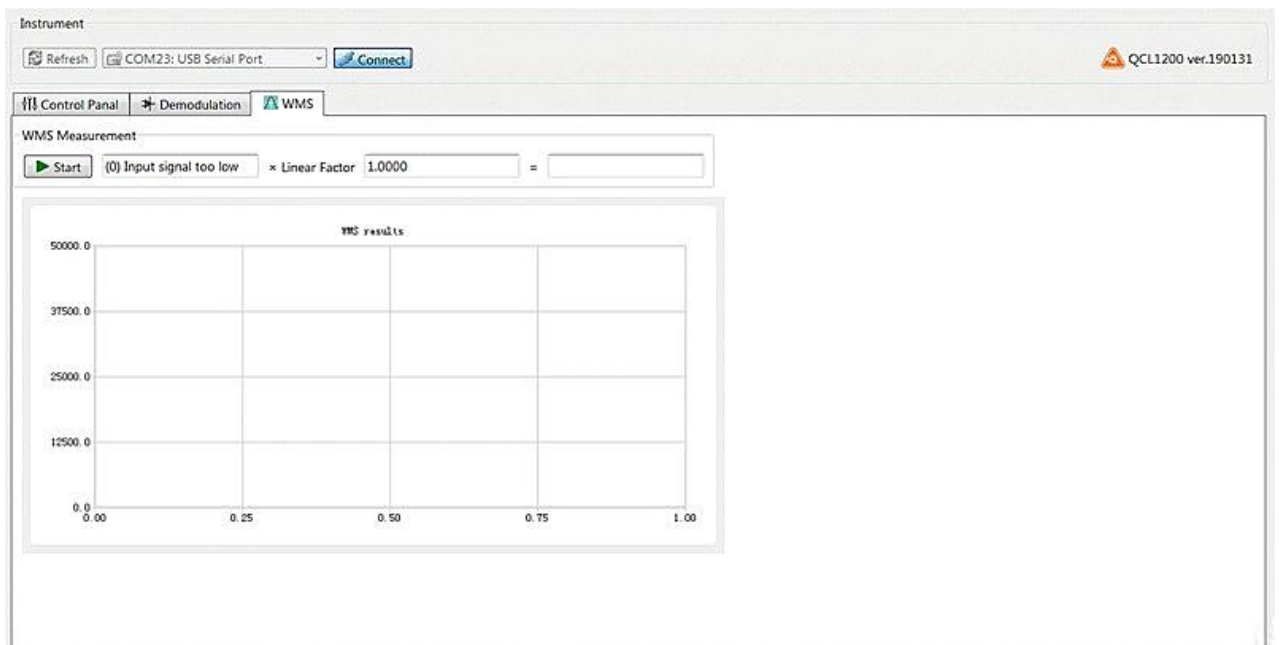
## Control Software



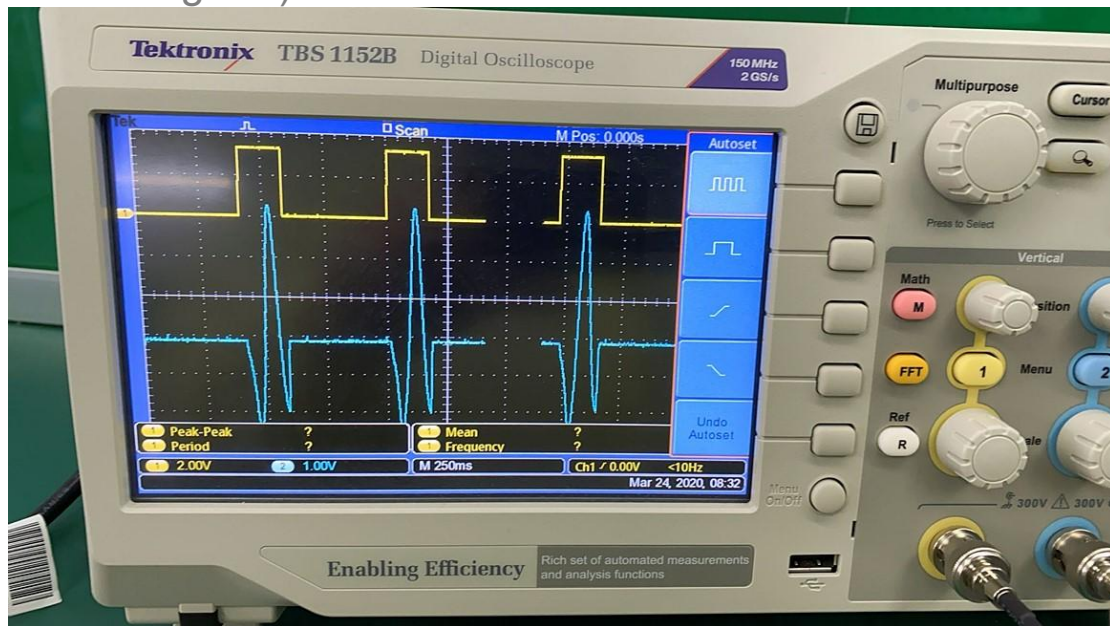
## 2F signal acquisition interface



## Algorithm calibration interface



Modulation signal linearity test (oscilloscope voltage signal effect diagram)



## Ordering Information

MIR-ICL-W3450-3-DFB-05

3450: wavelength: 3.45um

3: line width: 3MHz

05: output power: 5mW