Test Guidance

for Bxx Sensor[a]

Part 1. Attentions While Using JRT Laser Distance Sensor

Thank you for choosing JRT as your supplier. Before test, please read the user manual carefully and pay special attention to the following points. If there's something not clear for you, please contact our contact person for your project or after-sales technicians by email at: ly@jrt-measure.com.

1. Do not touch the modules by bare hands. Electrostatic protection is required. Please wear static gloves or bracelets in case of any damage to the laser diode or other electronic components.
2. Do not connect power cord reversely and make sure there's no connection between positive pin and negative pin anywhere of the module, for there's no anti-reverse protection for modules. Charge with the constant electric current and the constant voltage required in the User Manual. Please note the voltage can not be over DC3.3V and the current should be over 300mA at the same time. If the module is used to step-down power supplies, please note that JRT uses TTL 3.3V, which means the maximum allowed voltage of RX and TX signal cable is 3.3V. Suggested power supply is DC3.0V.
3. The module's TXD/RXD pins are in open drain state without built-in pull-up resistors and RX/TX requires a pull-up resistor of 10K respectively. We can customize the module with pull-up resistor, please contact us for details.
4. The module should be used under LUX200. The measured objects should have a better reflection of 70%. The performance will be degraded in hard light condition, please pay attention to protect lens.
5. Keep our laser sensors away from water and heavy dust. The performance would be affected if dust gets into lens. It is recommended making housing for dust protection if it's necessary.

[a] This manual only provides test guidance, including test software and basic steps. Bxx series sensors have various versions, and different parameters, and the picture is only for reference. **Please refer to each user manual of the sensor for user instruction in detail.**

6. In standard atmospheric pressure environment, the working humidity of the module is less than 85% and the temperature is within 0~40°C. The storage humidity is less than 60% within 0~30°C. When using under low temperature conditions, please attention to the phenomenon of water condensation. Make sure the surface is free of frost and water droplets.
7. The module should avoid stress during use. The optical part and the electronic components on the PCB cannot bear the stress. The structure cannot be repaired if pads or other optical components are damaged due to stress.
8. Do not point the laser directly to sunlight, extra-strong light or something high reflective surfaces. If you measure high-gloss materials within 10m, the hardware of module will be damaged, which will cause the module not working and can not be repaired.
9. Do not over tighten the screws when installing the module. The pressure on the optical components will affect the performance of the module. The center hole of the U series and M series is only positioning hole which cannot be used for screwing installation and fixation.
10. Do not change the module structure and components by yourself. If you have special needs, please contact us.
11. For lens protection and cleaning, please refer to the camera lens. Under normal circumstances, please gently blow off dust; if you need to wipe the lens, please use a special lens paper to wipe the surface in one direction; if you need to clean the lens, please use a cotton swab dipped in a little pure water to wipe in one direction, and then dry with a lens blower.
12. If you are ready to build housing for the module, please contact us for 3D file of the module you're using and confirm your drawing with our hardware engineer. And if possible, please send us your SOP of assembly to check if there is any risk.
13. Pay attention to the heat dissipation. Reserve a certain space for module heat dissipation when the module is integrated into the device.
14. Glue dispensing and gluing are not recommended at the joint between the optical part of U module and PCB.
15. It's recommended that the module is assembled in the same direction as it was made, that is, right side up. Generally, the side with small label is the up side, and please pay attention to the pitch adjustment during installation.
16. If the housing have a need of IP67 protection or above, anti-reflective glass is recommended before lens. The light transmittance should be over 90% and the more the better. Please notice that any glasses before the lens could lower the performance.
17. The module can be used continuously. We provide 1-year warranty.
18. If you have any problems or questions during the test, please take photos or videos and give detailed description to us, the more information sent, the faster respond can be supplied. If you receive any error code during test, please check it with the error code list in the manual. If the error code is not listed, please contact us

Part 2. Test Steps

- ✓ Connect the module through the USB/RS232/RS485/Bluetooth
- ✓ Pay attention to electrostatic protection. Before the test, please wear electrostatic gloves or an electrostatic bracelet.
- ✓ When the module is powered on, it is normal to generate a slight light.
- ✓ The power voltage supply should be DC 3.3V, 300mA for bare module itself.
- ✓ If RS232 or RS485 is welded, the power voltage is DC 6-32V recommended (to avoid critical values). If using external power supply, please pay attention to common ground.

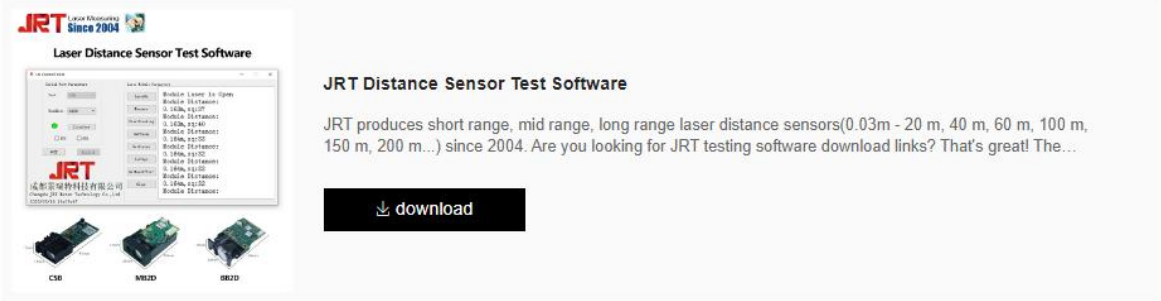
Test Software 1: JRT Distance Sensor Test Software

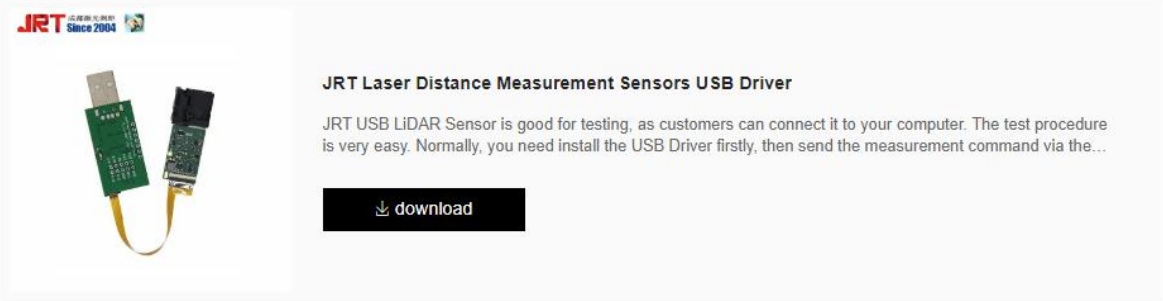
Download link: https://www.jrt-measure.com/download.html

Account: Your Email Address

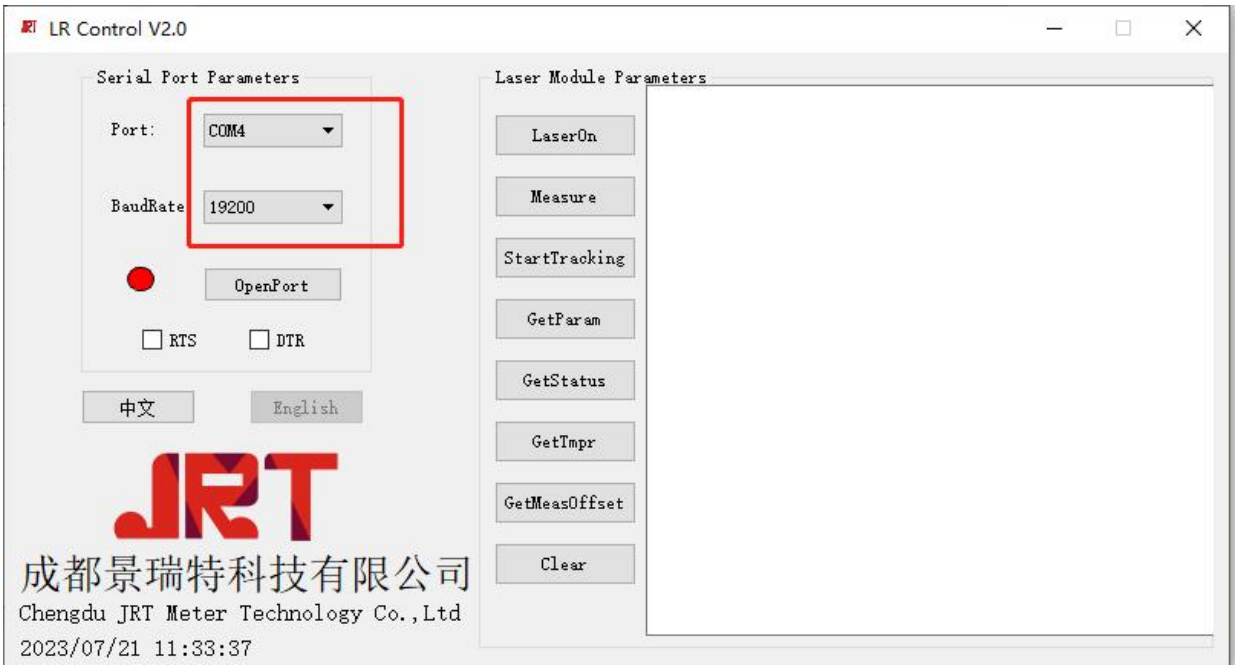
Password: jrt20042021

If you don't have USB driver on your PC, please also download the USB driver for test.

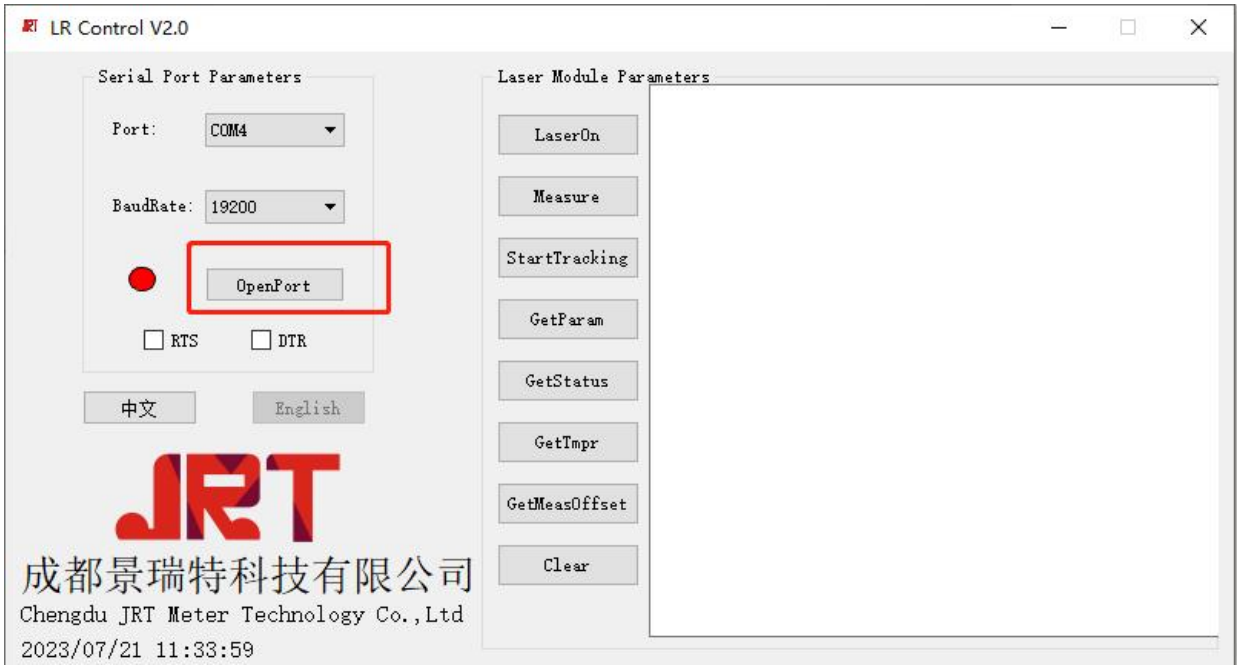




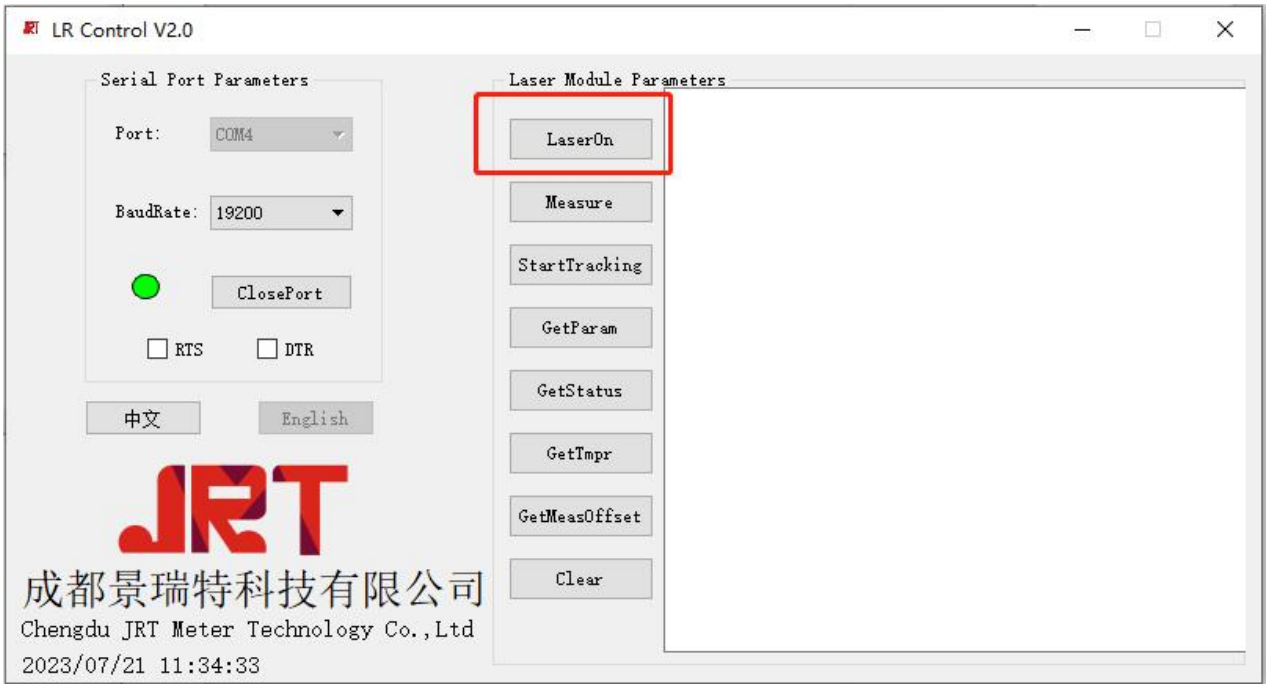
1. Select the correct serial **port number**, and **BaudRate**: 19200bps.



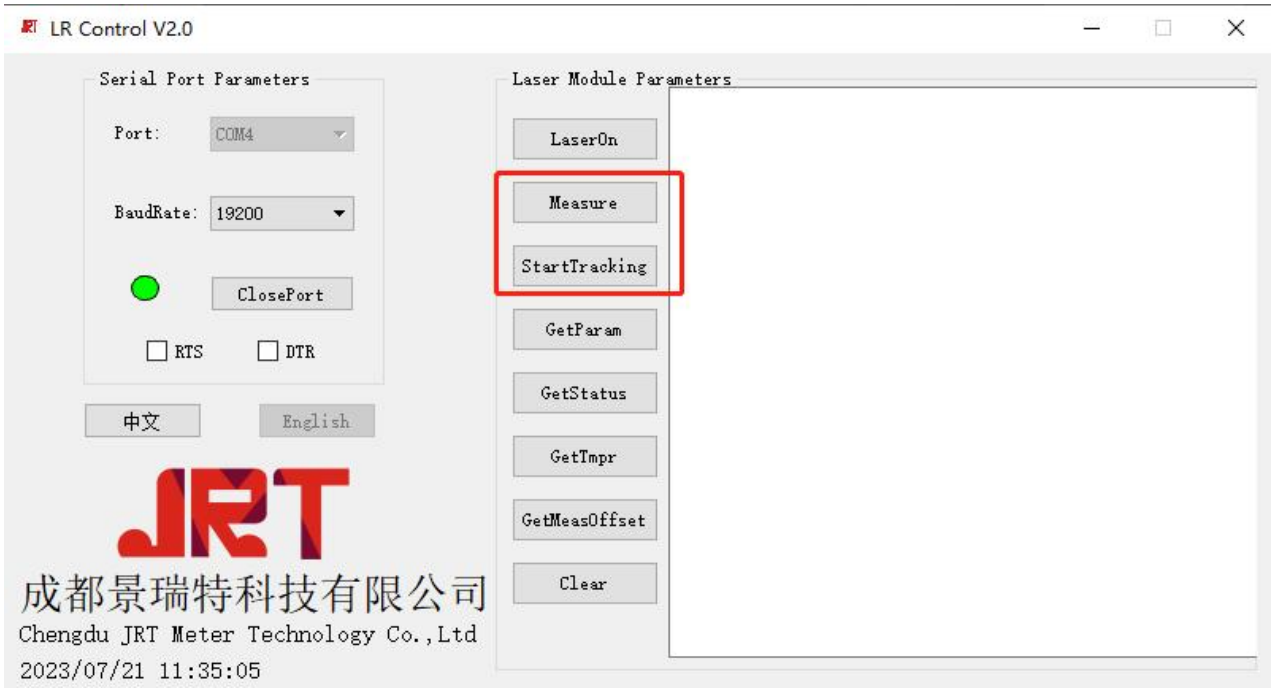
2. Click **OpenPort** to star the test software. The module will generate slight light after being powered on.



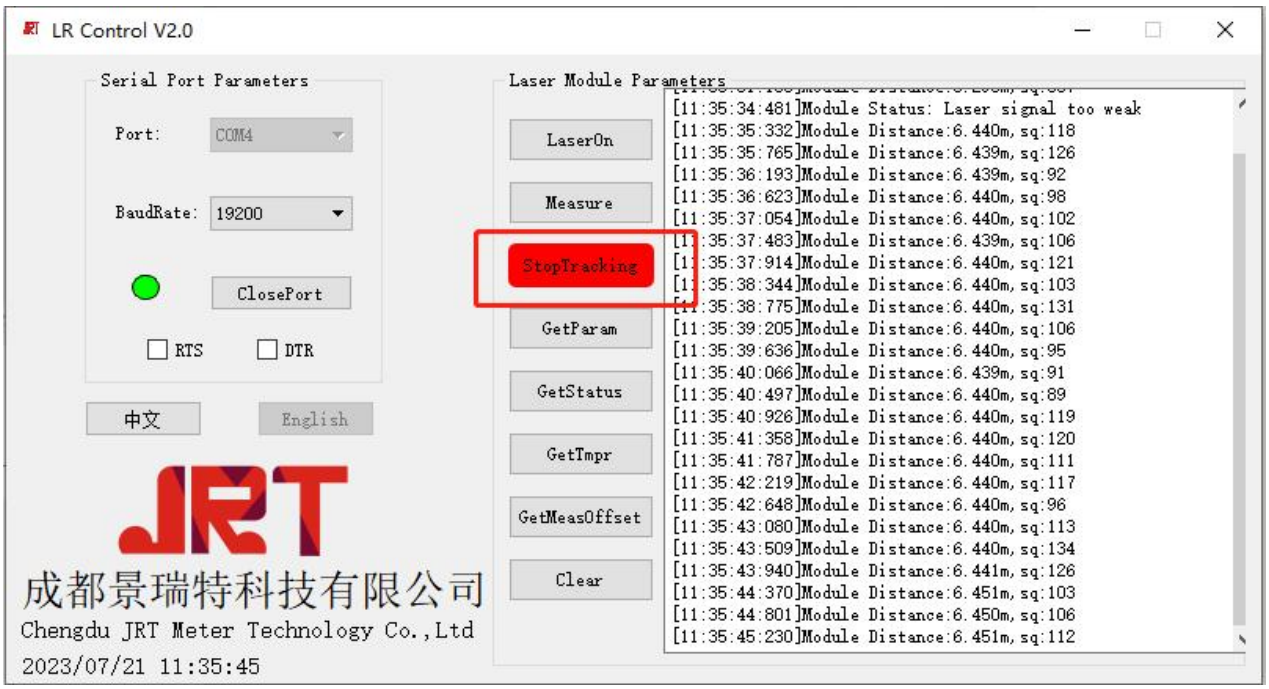
3. Click on **Laser On** to open the laser beam.



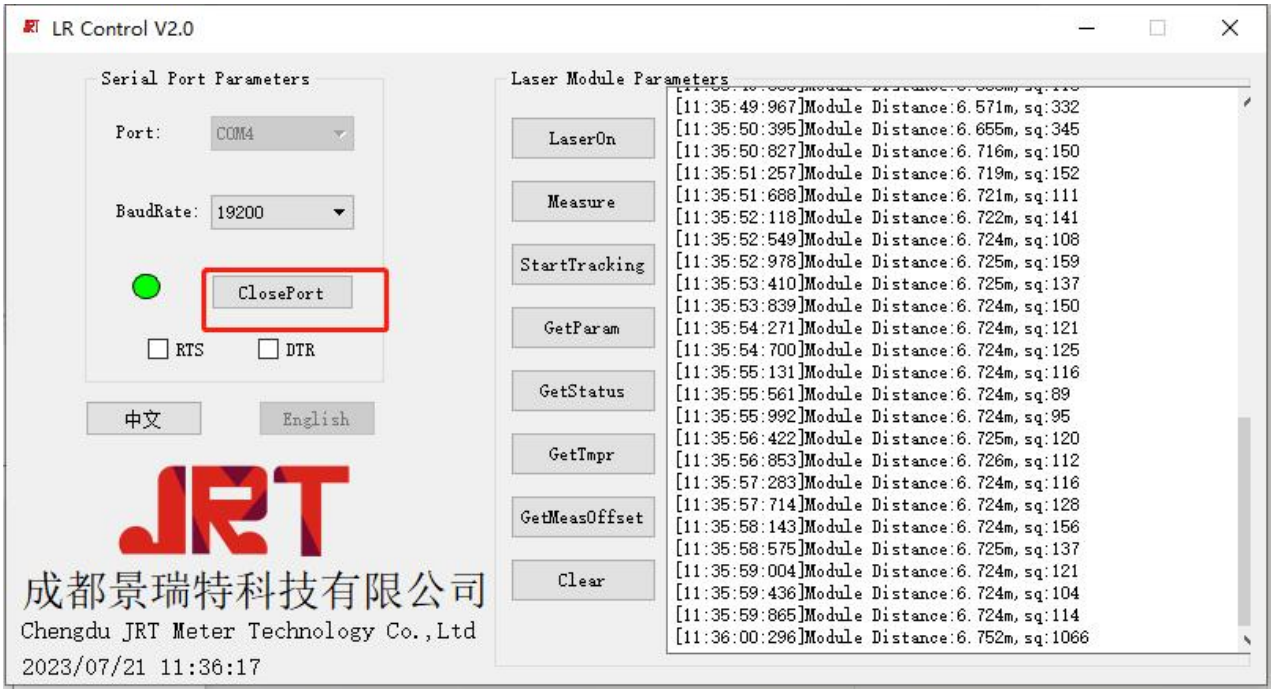
4. Click on **Measure** or **Start Tracking**.



5. Click to **Stop Tracking** to end the measurement

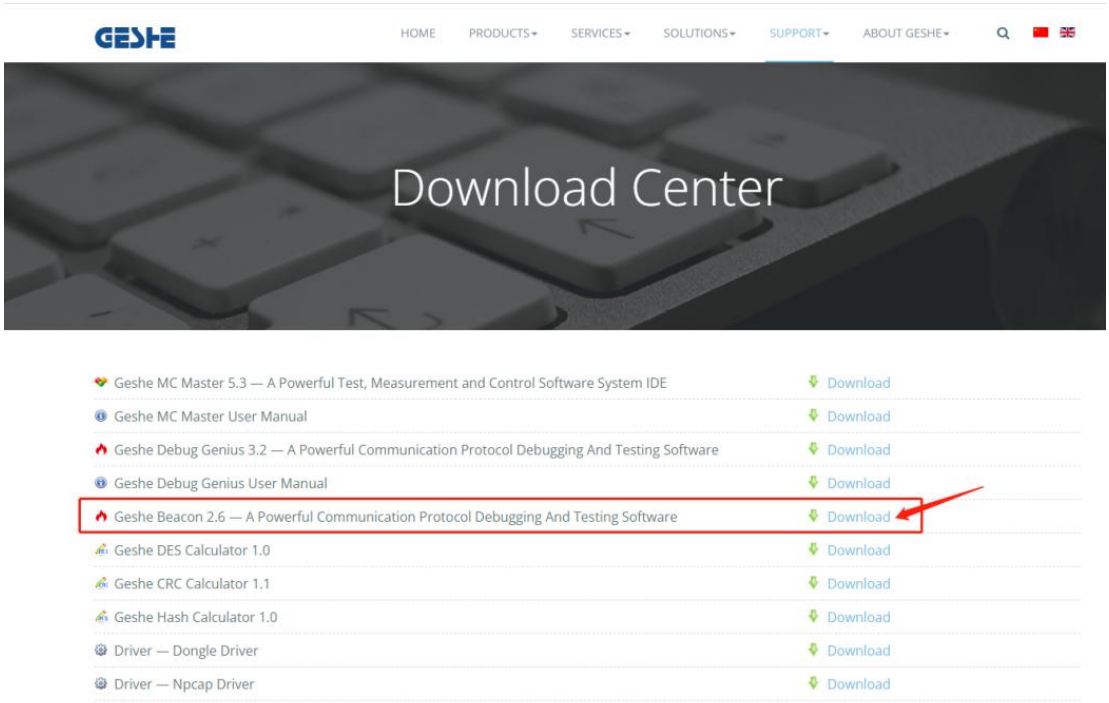


6. Click to **Close Port** after the test, and then power off the module.



Testing Software 2: Geshe Beacon

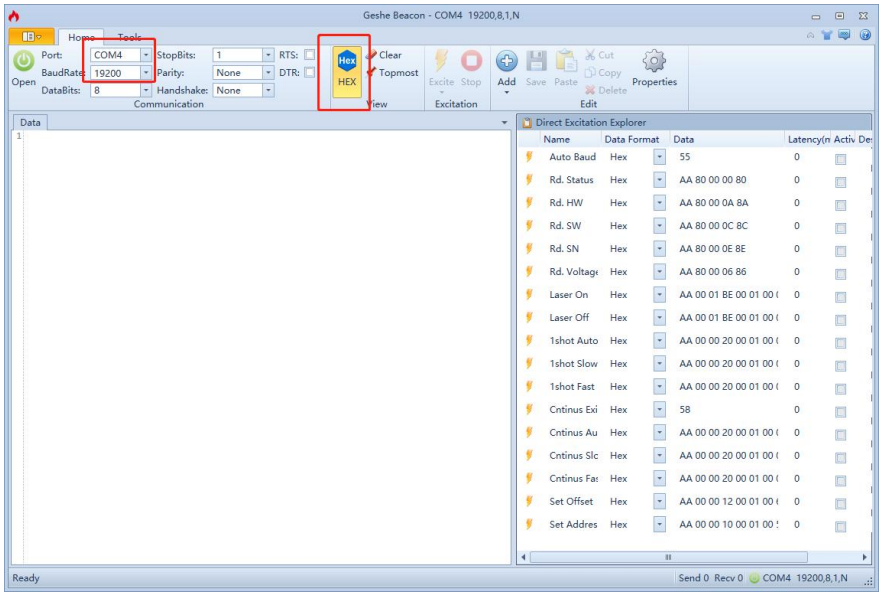
Download Link: http://www.geshe.com/en/support/download



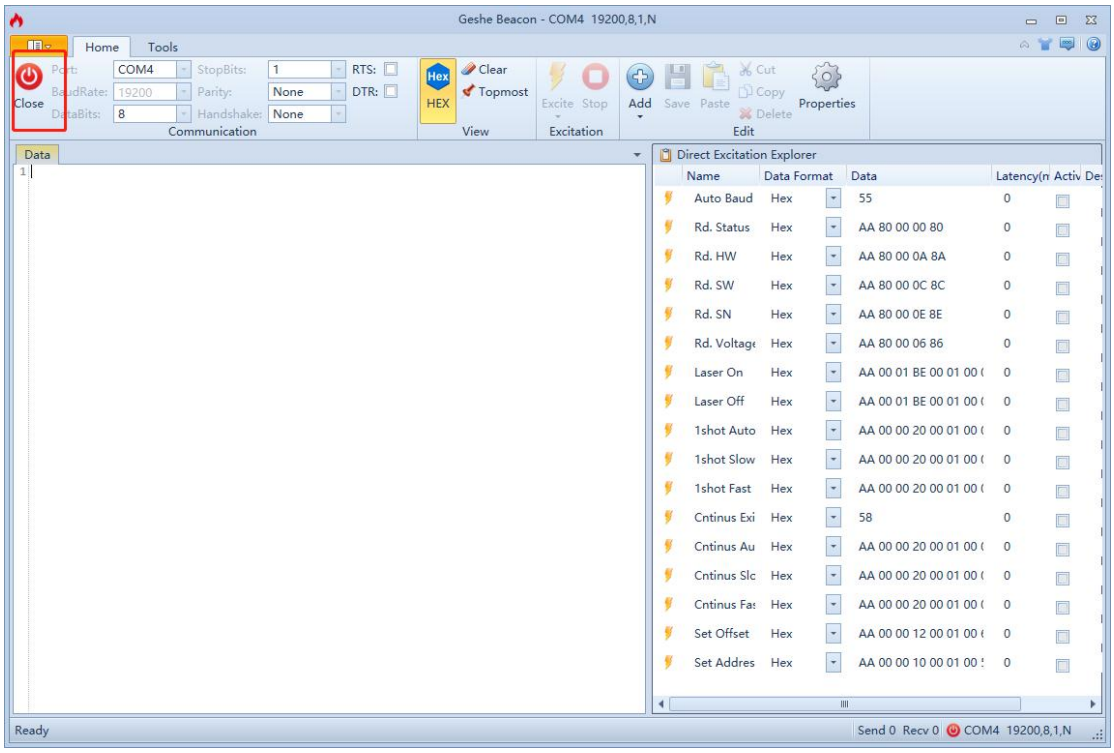
After downloading, please open the corresponding 'XXX. bsp' we provide, the commands are displayed on the right side. You can directly use it.

1. Open the Command Package, Select the corresponding **serial port** and **baud rate** (19200bps) and select HEX.

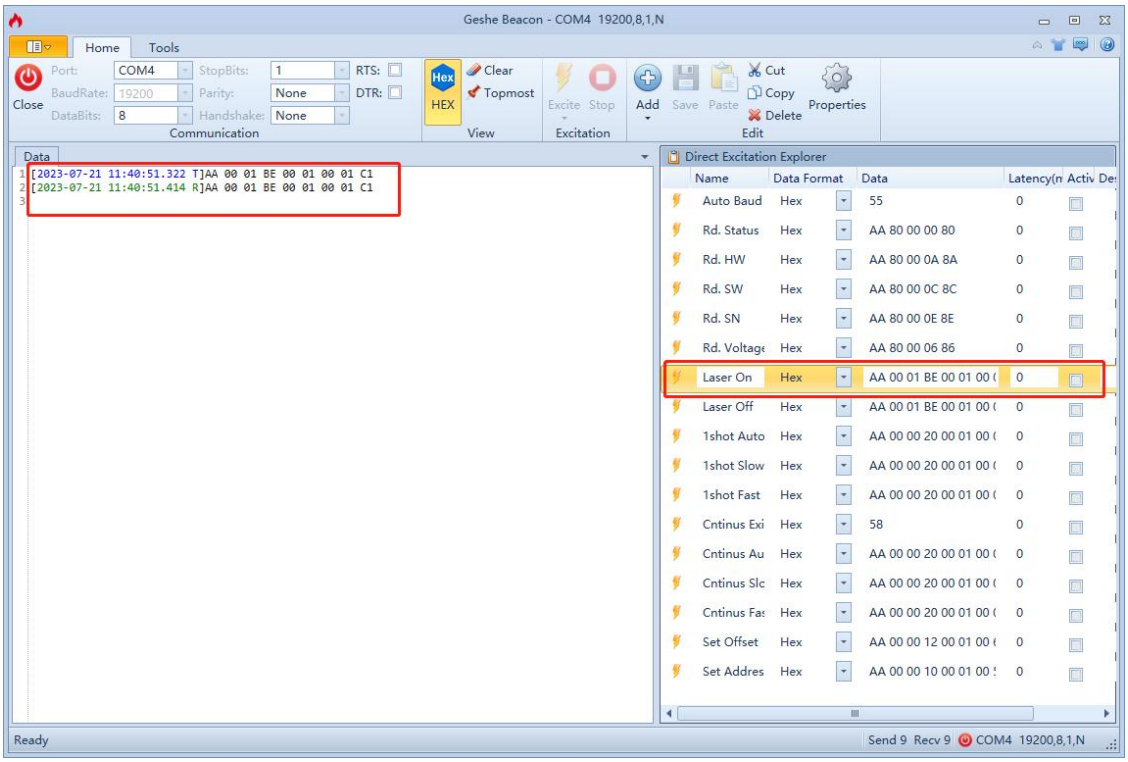
Please note: The serial port number should be changed based on the serial port you are currently connected to.



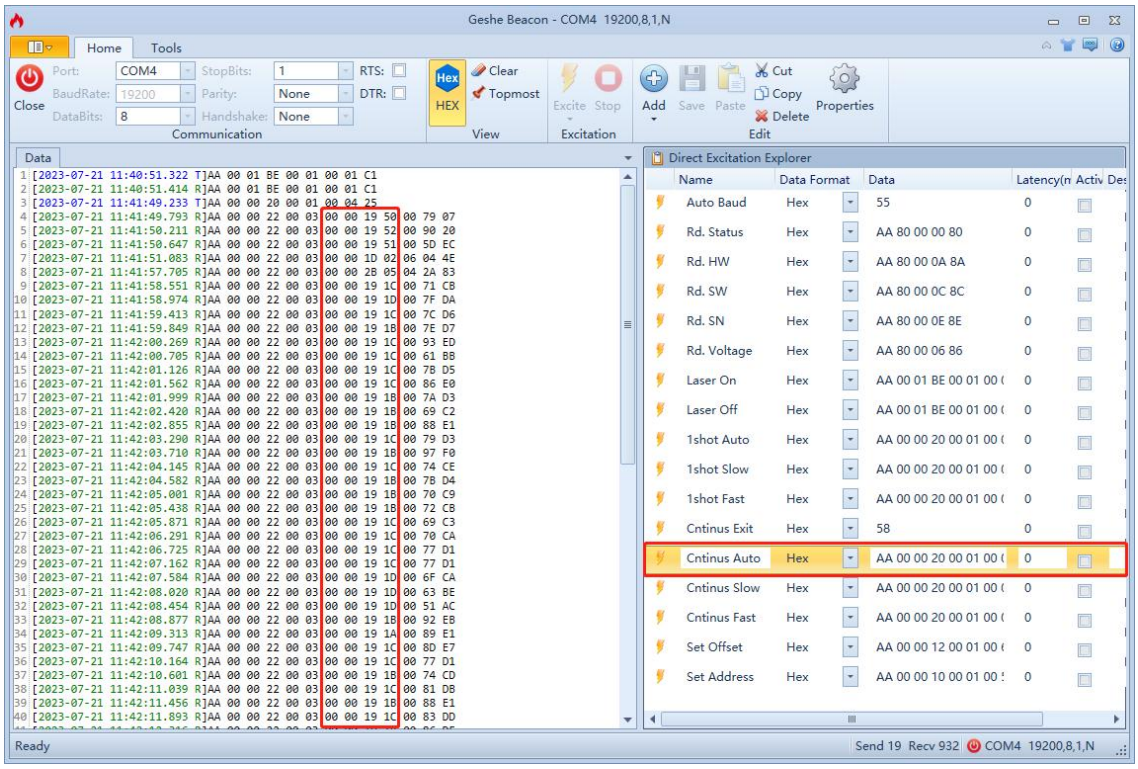
2. Click to **Open Port**, the module will generate slight light from the lens.



3. Click on **Laser On**, the sensor responds the same, and the laser turns on.

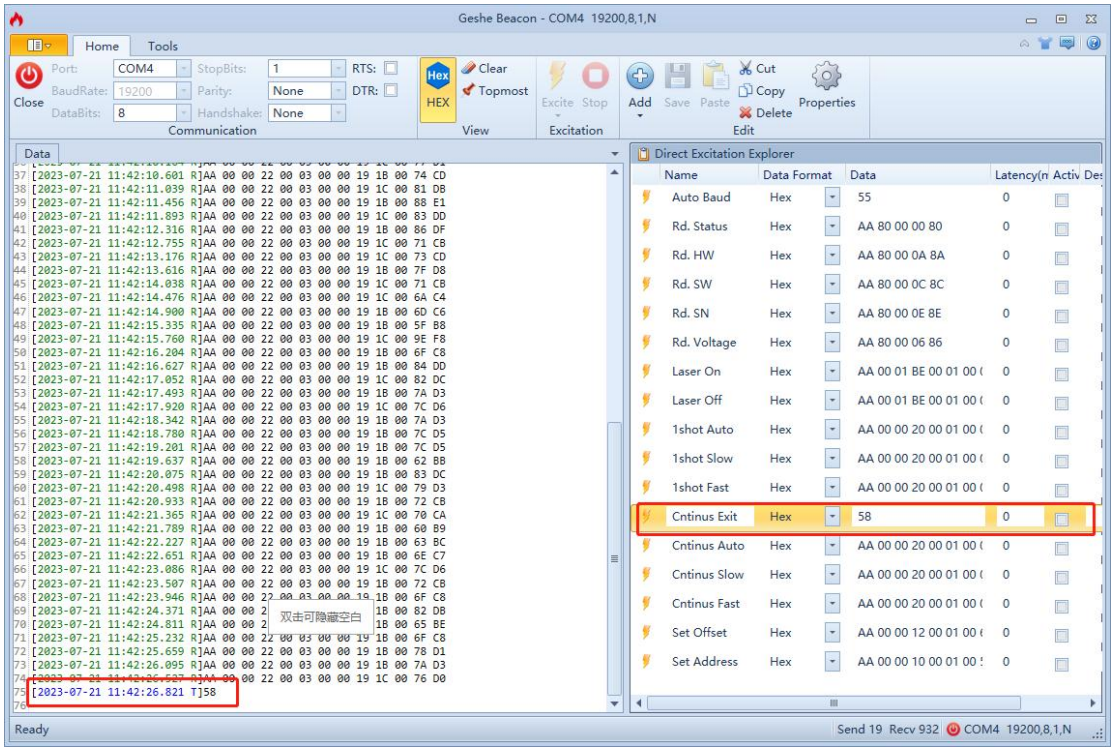


4. Click on **1shot Auto** or **Cntinus Auto**, and read the **7th, 8th, 9th, and 10th** bytes to calculate the measurement distance. If it can receive measurement distance normally, then the connection is successful.

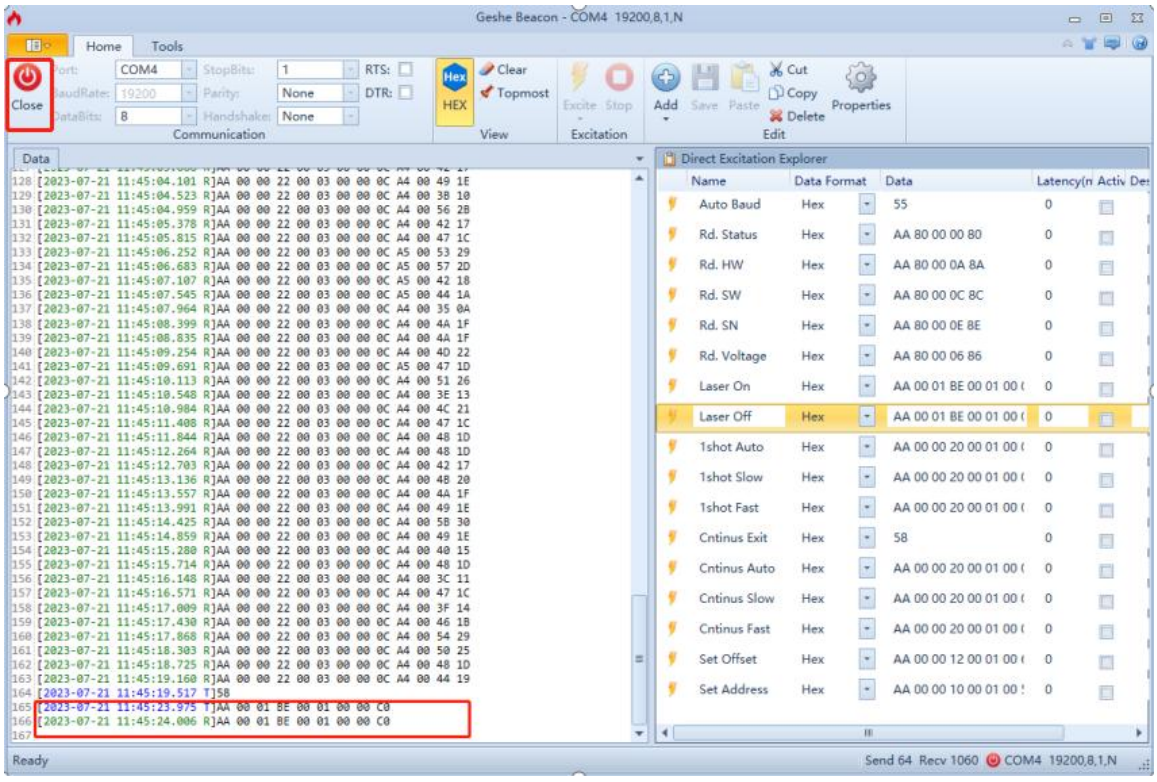


5. For example: 00, 00, 19, 50 in calculator, and read the result in DEC: 6480mm.

6. Click **Cntinus Exit** to end measurement.



7. After the test, click **Laser Off**, then click **Close**, and then power off the module.



If you have any questions, please feel free to contact us.