# Quick Configuration Guide

## Stop-and-go LPR Camera

# Table of Contents

## Revision History

- Rev. 1.0: Initial release
- Rev. 1.1: Revise content on Software configuration Step 3 to 5
- Rev. 1.2: Revise content on Software configuration Step 4
- Rev. 1.3: Revise content on Software configuration Step 3, 4, 10 Add Step 8 and 12
- Rev. 1.4: Revise content on Software configuration Step 3, 10 and 11
- Rev. 1.5: Revise content on Software configuration Step 3
- Rev. 1.6: Revise installation height and Add hardware related information

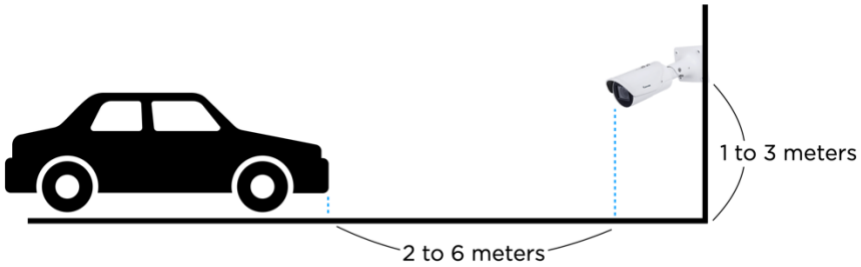
## Overview

VIVOTEK's LPR camera is a standalone LPR camera system, featuring a built-in license plate recognition system as well as white-list and black-list for license plate verification. It can read the markings of multiple countries or states simultaneously (e.g., Singapore and Malaysia; Texas, Oklahoma and neighboring states). It also offers various APIs for integration with 3rd party systems such as parking management, toll collection, and weighbridge systems. The camera is ideal for use in parking access control and stop-and-go toll systems.

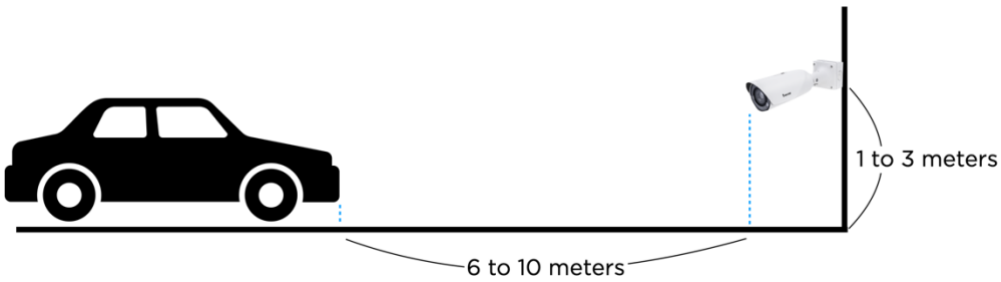
In this document, we will show you how to configurate LPR camera from hardware and software different point of views. And please refer to the full user guide for details after having read this configuration guide.

# Hardware Configuration

- For IB9387-LPR




- For IB9365-LPR




Left one is set on 1-meter height and right one is set on 0.8-meter height
(The experiment result for installation Height shows left one is better)

- Horizontal angle

Less than 35 degree

- License plate rotation angle

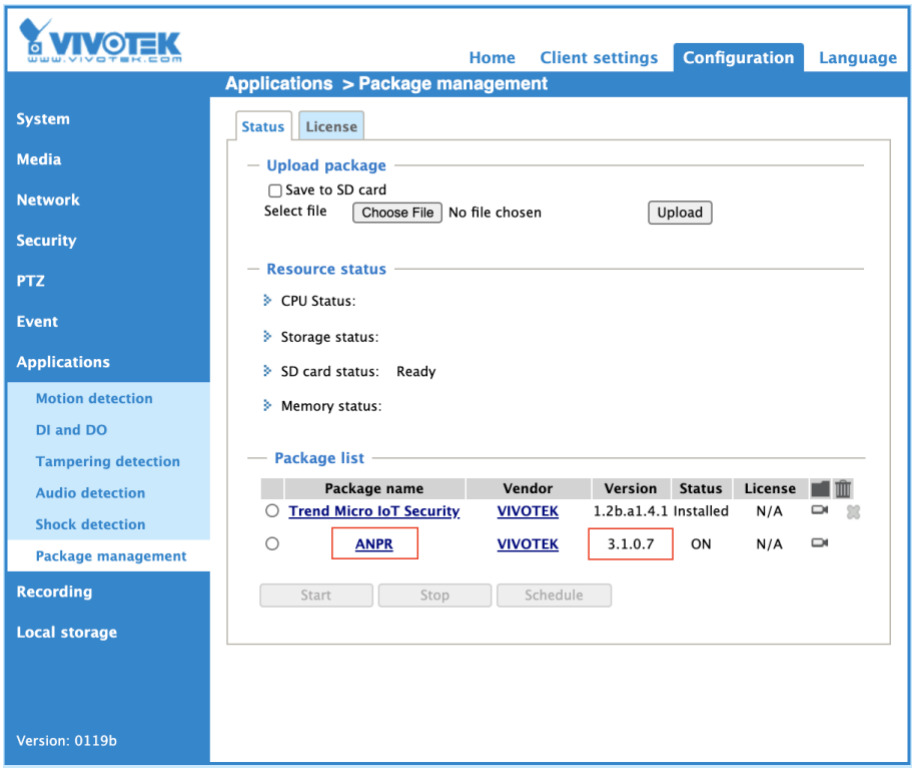

Less than 25 degree

- To avoid rain or water sticking on front glass, we can use rearview mirror water repellent product.

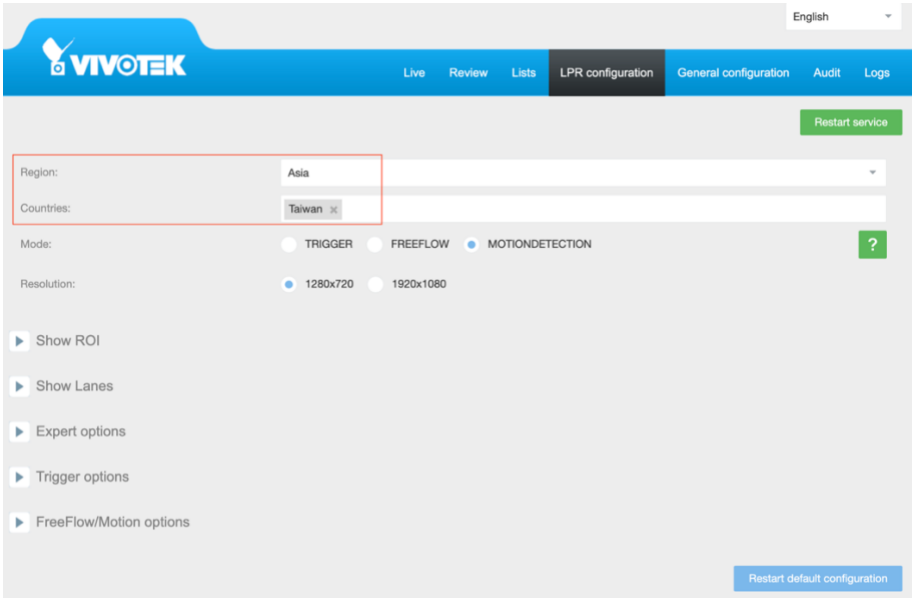
left one is used water repellent product, but right is not
(The experiment result shows left one is better)

# Software Configuration

1. Click “ANPR” link on application on camera to launch ANPR software management web console.
   Check if ANPR version is updated. (you can download the latest version from https://www.vivotek.com/downloads/anpr-package)




2. Configurate the region and country of used license plate.

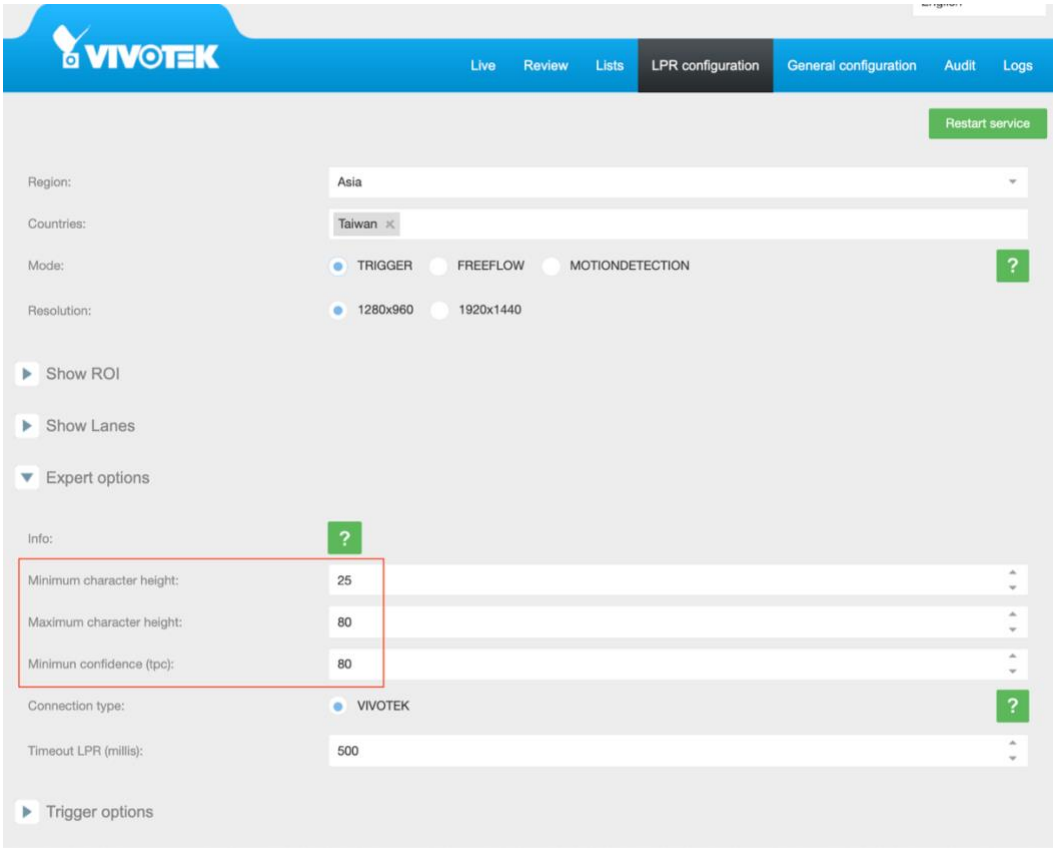


3. Configurate the height of license plate character and the accepted confidence level.

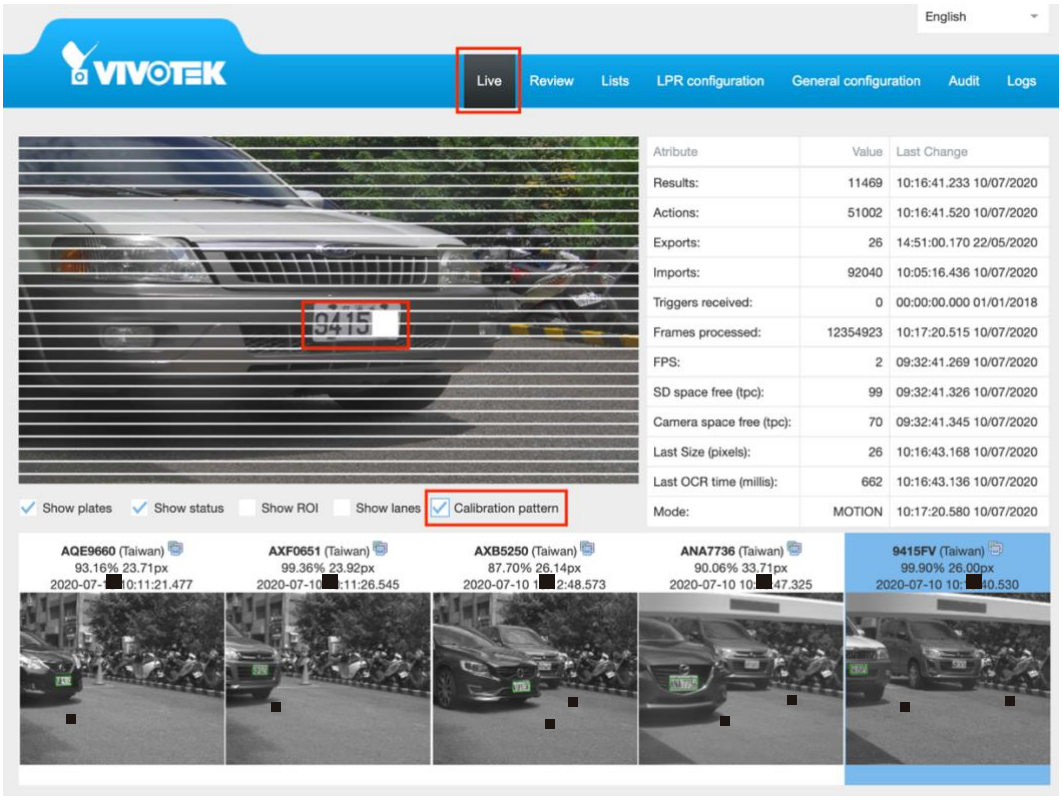
   Through setting maximum and minimum character height that can help LPR engine to limit on reading the height of license plate character that you set, and ignore unwanted information. Usually the character height of license plate around 25 to 80 pixels can be recognized.

   Minimum confidence (tpc) is minimum reliability in the reading of a license plate to consider it valid. Reliability is a parameter returned by the engine for recognizing license plates (value of 1-100, where 100 is the most reliable).

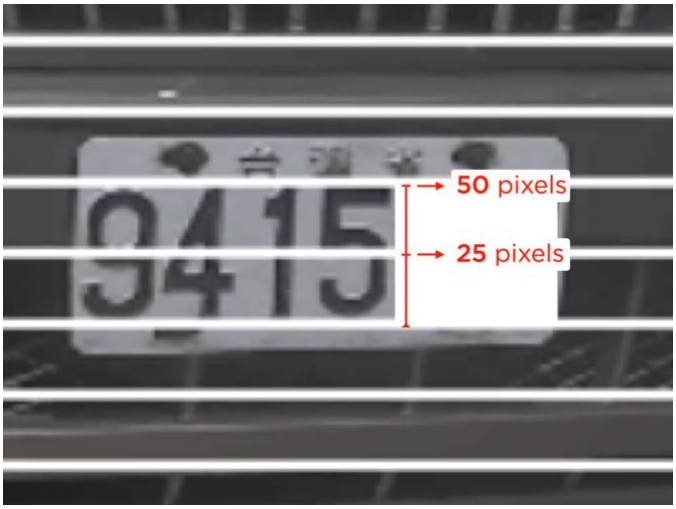
   We recommend to keep using default character height settings (25 and 80 pixels) and if needed you can try to adjust confidence level first.



4. Go to Live page and click Calibration pattern, to check the height of license plate character.

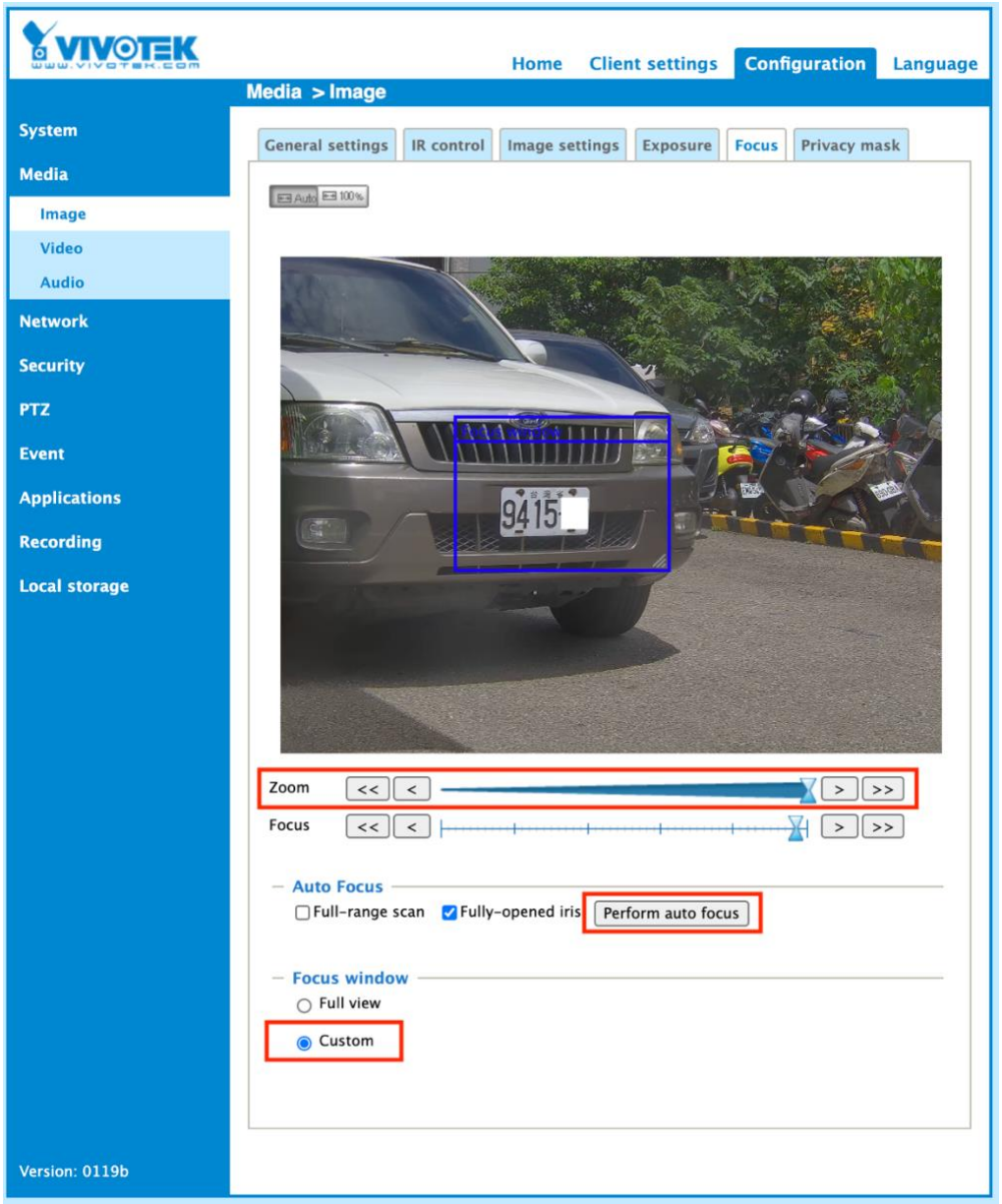



Our recommended character height is 25~50 pixels. The numbers should cover 1 to 2 segments, which each segment is indicated by the guiding gridlines. (The best coverage is around 1.5 segments; It is the best recognition height for engine)

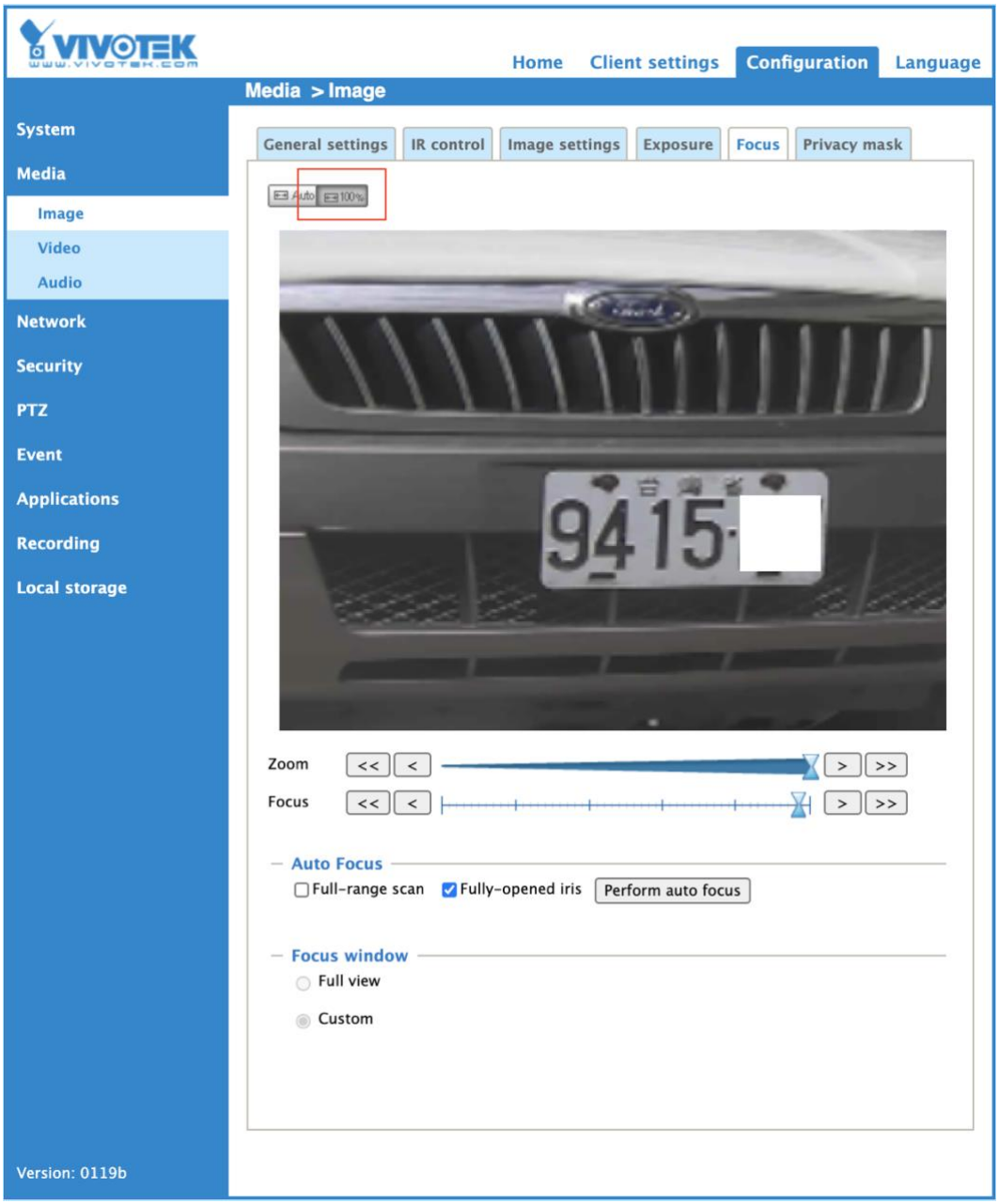



(You can go to image focus page in camera configuration to zoom in/out the camera to adjust the height of license plate character, please refer Step 5)

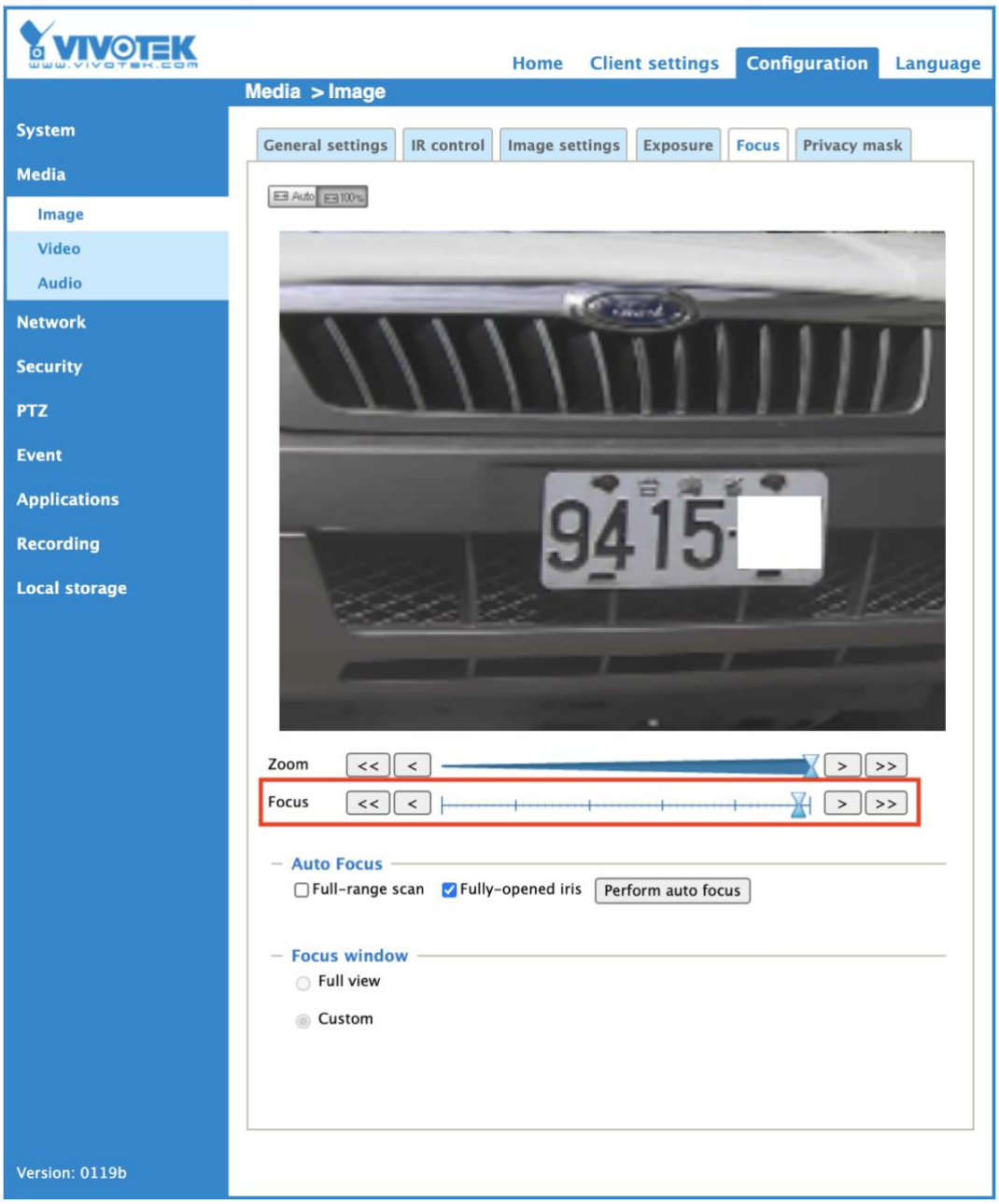
5. Go to camera configuration, and check if camera is focused, and the height of license plate character cover 1 to 2 segments.
   (Regarding our recommended character height, please refer Step 4)
   - Zoom in/out the camera to adjust the height of license plate character.
   - Select "Custom" mode in Focus window section to draw the area you would like to focus, for example the license plate display area. And click "Perform auto focus" to trigger auto focus.



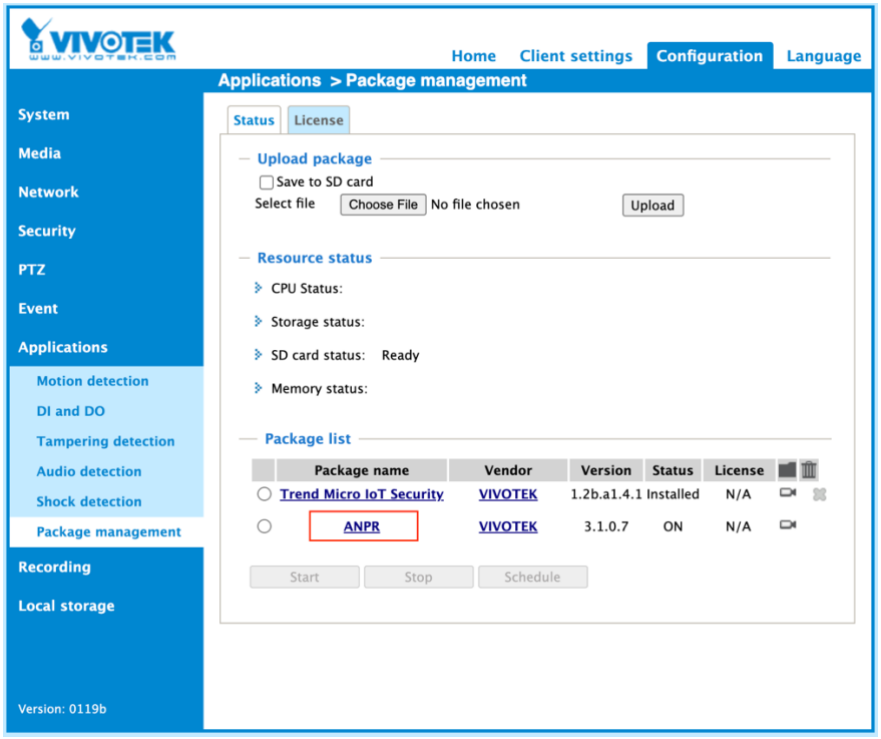
6. Switch to 100% view, to make sure the license plate is clear.



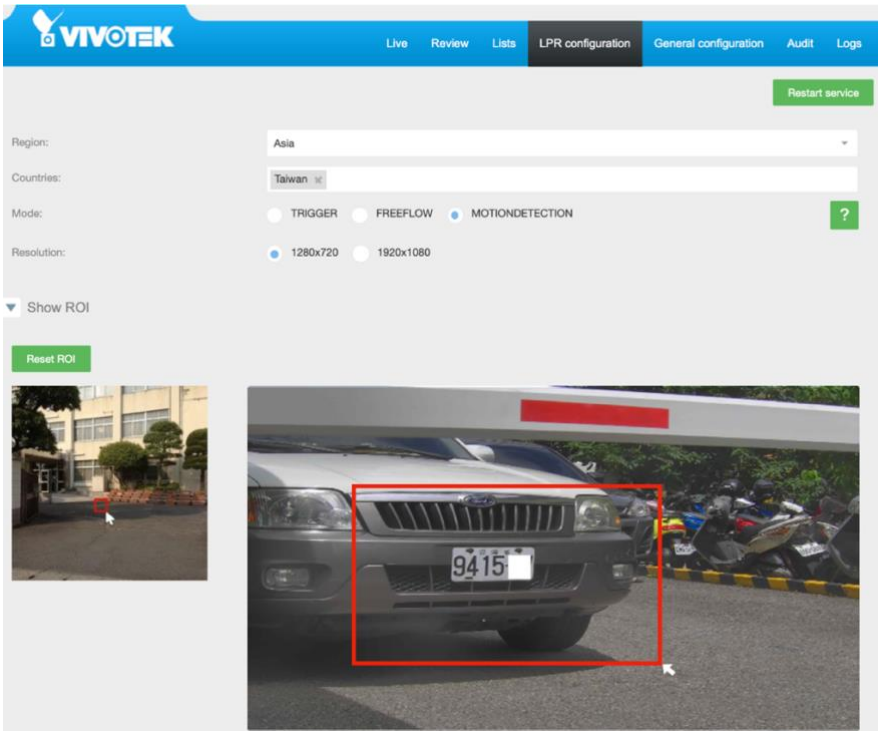
7. Check the area that shows license plate is clear and focused, you can adjust the focus manually.



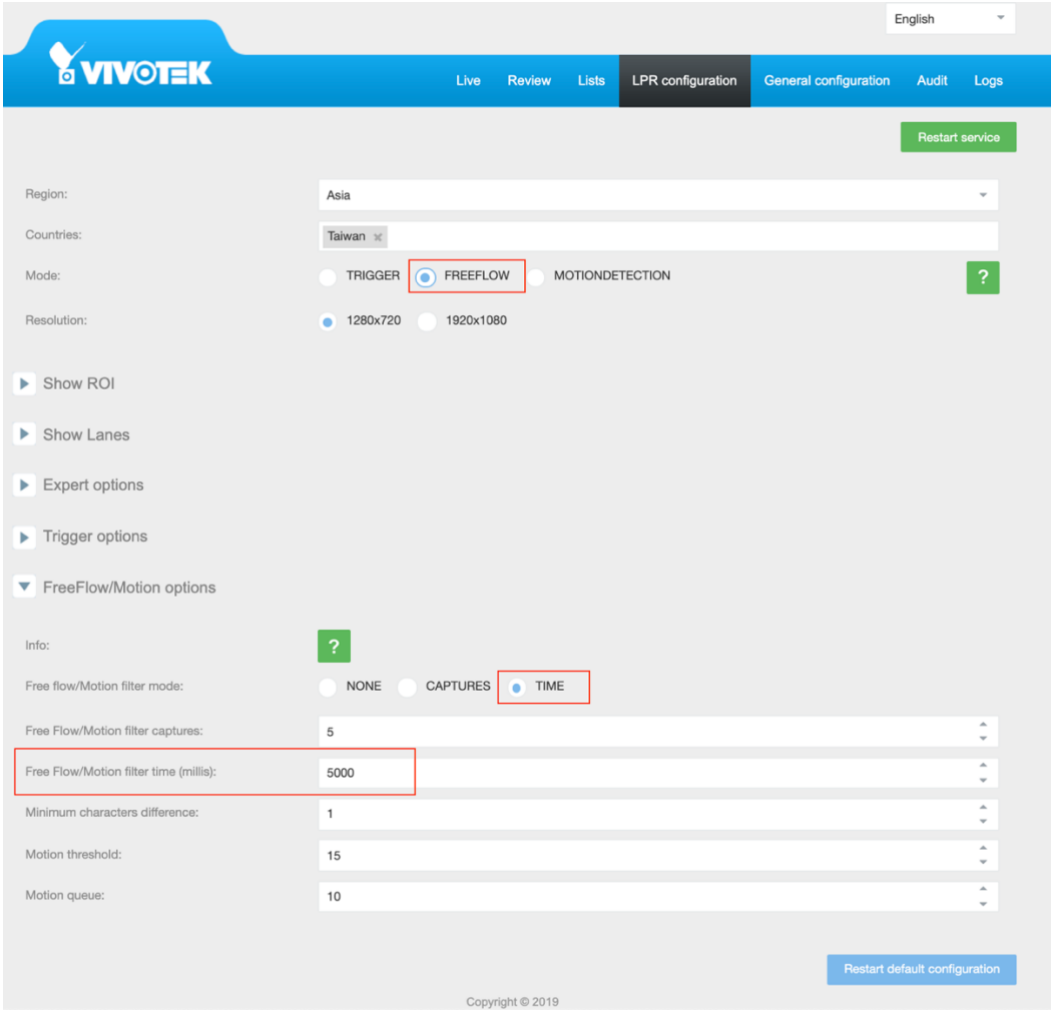
8. Back to ANPR software management web console, click configuration on top menu, and click Application -> Package management on left menu, click the ANPR link in Package list.



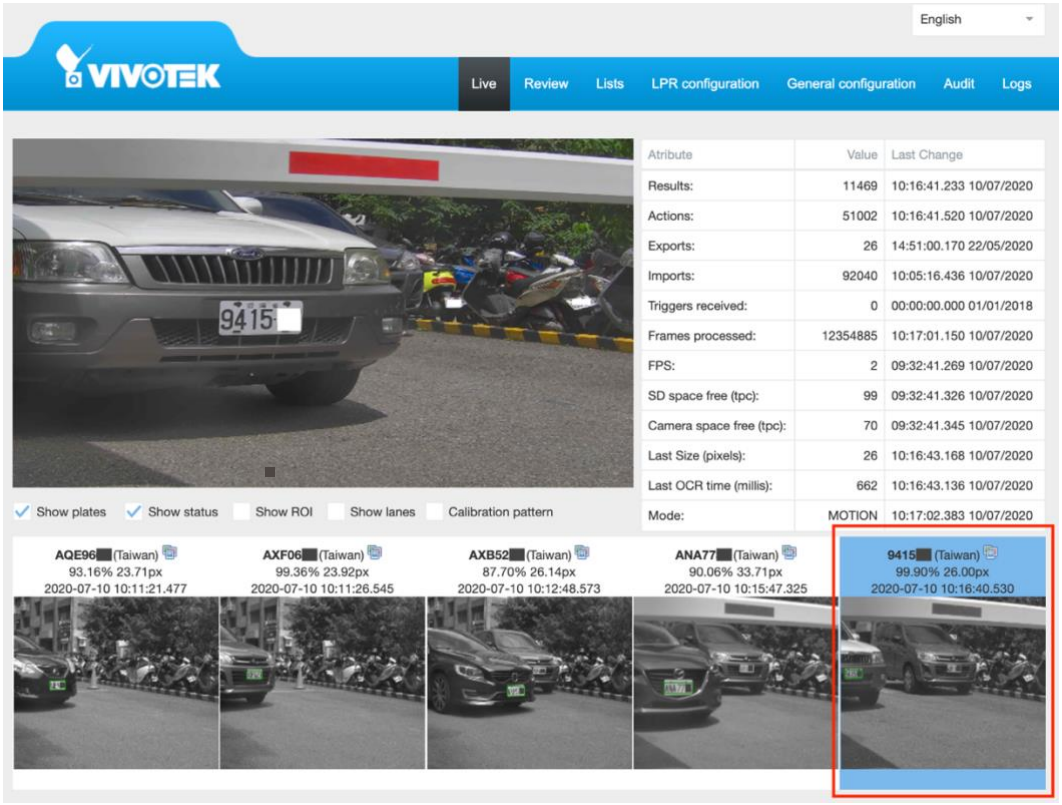

9. Last but not least, draw a ROI on ANPR software management web console, this can help the LPR engine to narrow down the recognition area to improve the accuracy.



10. Set freeflow mode to test, and select time on freeflow filter mode and set filter time to 5000 milliseconds and restart service. It would start recognizing license plate periodically.



11. Check the result in Live page, in the result you can see the height of license plate character is 26 pixels which is between 25 to 80 pixels we set in Step 3, and the confidence level is 99.9% which is also higher than 80% we set in Step 3. Moreover, you also can see the license plate information and the time it captured.




12. Switch to the default motion detection mode and set filter mode to captures or any mode you prefer to use after verifying results. And don't forget to restart service.