

League of Legends Low Frame Rate (FPS)

Troubleshooting Guide

In this document, you will be guided to confirm whether the notebook is working normally with its proper performance and there are useful instructions help you to solve LOL low FPS problem by yourself.

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I. Check Problem Symptom and the Notebook Status

Clarify the problem and to know whether it is related to the notebook itself or the system configuration should be the first thing to do whenever you're experiencing FPS problem in LOL.

A. [Check the notebook performance](#)

Make sure you're getting a normal 3DMark Fire Strike score or proper FPS when trying to run any other games, then please refer to [Troubleshooting](#) section for more information.

B. Have you tried to update LOL or other related drivers before the problem happens?

- If the problem occurs after updating LOL, please refer to [Troubleshooting >> Problem after applying LOL Patch](#).
- If the problem occurs after updating NVIDIA graphics driver, please refer to [Troubleshooting >> Problem after updating NVIDIA graphics driver](#).

C. The LOL Issue Report Form

All information filled in this report form is to help us providing a faster response with corresponding problem. Please download LOL Issue Report Form [here](#), and attach it for MSI [service center](#) or [Online Customer Service](#) (OCSS).

II. Check Notebook Performance

A. Run 3DMARK graphics benchmark and check **Graphics score**

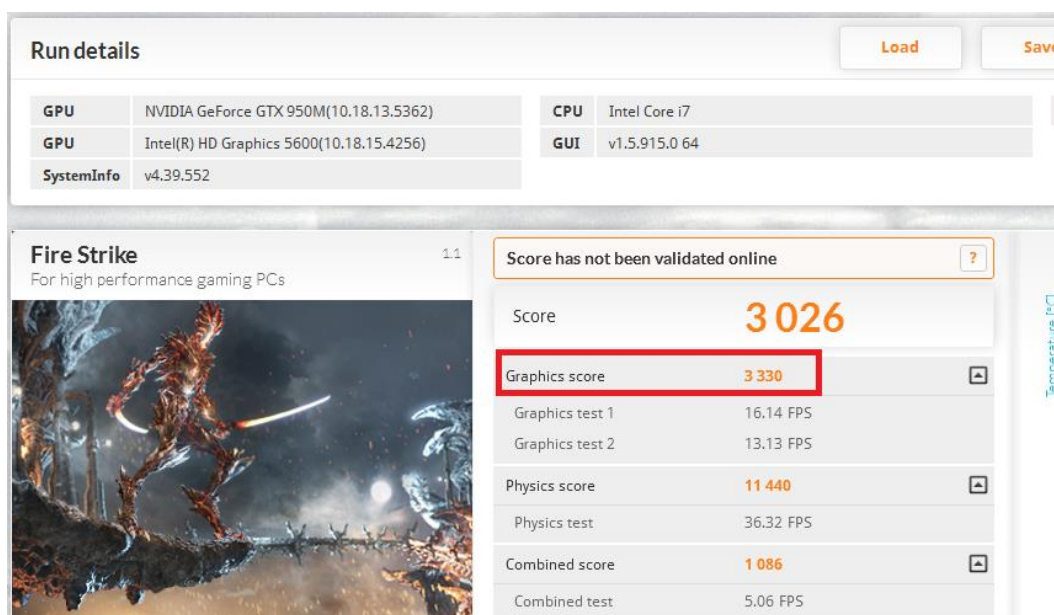
[Download 3DMARK from Futuremark website](#).

B. Select Fire Strike test.

C. Refer to the graphics scores below.

Graphics	GTX 980M	GTX 970M	GTX 965M	GTX 960M	GTX 950M
Graphics Score	96XX	73XX	60XX	41XX	33XX

(This result is based on running 3DMark Basic Edition v2.0.2067 Fire Strike test.)



- ❗ Very often we have a higher expectation on the performance of the graphics and the most common mistake is that we expect to get a high FPS in game with all graphics settings set to the highest. (As a matter of fact, the default graphics setting in LOL is only medium for GTX 960M graphics card.)

III. Troubleshooting

Common reasons to get low FPS in game:

- [LOL patch is installed incorrectly.](#)
- [Graphics settings has been changed.](#)
- [Some program, process is consuming system resource.](#)
- Game plugins or optimization tools
- Some game plugins or optimization tools may cause malfunction in game after applying the game patch and it's possible that reinstalling LOL might not be able to solve the problem since some plugins will even change the system Registry or settings which can't be restored. At this point, a system reinstallation will be necessary for troubleshooting.

- ❗ Since there are many reasons which can cause low FPS in game, and to find the root cause by trying every possibilities one by one is very time consuming. If you have tried to reinstall LOL and the graphics driver but the problem still remains, please try to do the [system and driver reinstallation](#) for solving the problem.

IV. Troubleshooting >> Problem after Applying LOL Patch

To troubleshoot the low FPS problem after applying LOL patch, try to **Restore Default settings** in LOL and **delete game.cfg** file refers to the location shown below.

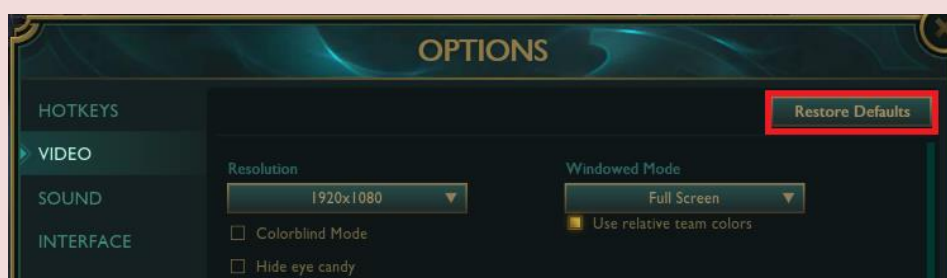
Computer Configuration > Riot Games > Config > game.cfg

After deleting game.cfg, the in-game settings will be initialized the next time when you start LOL.

If the problem remains, try to reinstall LOL to avoid the problem caused by the out dated or corrupted game files referring to the instructions provided by RIOT.

- RIOT
[Reinstalling League of Legends](#)

i Before/After trying to reinstall LOL, MSI suggest to Restore Defaults for game settings since some of them may get changed and caused low FPS problem after applying LOL patch.



V. Troubleshooting >> Problem after Updating NVIDIA Graphics Driver

- A. You might change the graphics settings in game without noticed which could affects the performance and stability in LOL. Refer to the link below and **reset the graphics settings**.

RIOT Support:

「 NVIDIA comes with the NVIDIA Control Panel. The program allows users to set up graphic profiles that can override application settings and sometimes interfere with League of Legends as a result. Resetting the software to default values usually gives control over graphics back to the applications. 」

- RIOT
[Reset your graphics card software](#)

- B. B.If reset the graphics settings cannot solve the problem, refer to the instructions in FAQ below to **reinstall graphics driver**.

1. [\(FAQ\) Use DDU \(Display Driver Uninstaller\) to remove NVIDIA graphics driver.](#)
2. Install the latest NVIDIA generic graphics driver from NVIDIA website.
3. If the problem still exists with generic driver, please reinstall the stable version released on MSI website.

- ❗ Install the graphics driver released on MSI or NVIDIA official website only. Graphics driver updated via any third party software (such as Driver Booster, Free Driver Scout, etc.) might cause interference between graphics driver files or file conflicts.
- ❗ To avoid the conflict problem, update the graphics driver downloaded from MSI and NVIDIA official website by following the FAQ instructions above.

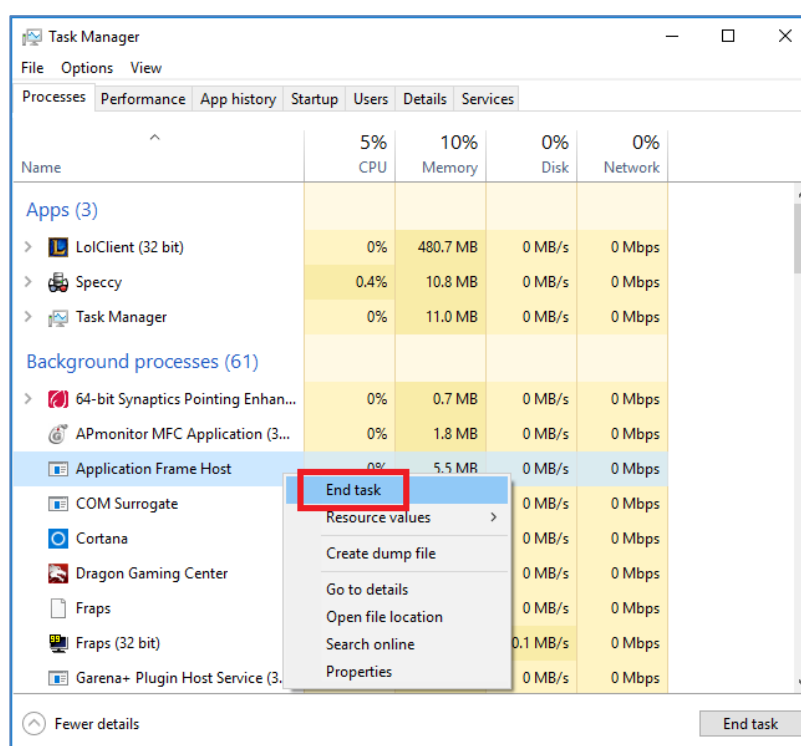
VI. Troubleshooting > > Remove/Disable Background Processes

A. Some background processes would interfere with the running game or occupied system resources which affects LOL performance. Refer to the steps below for troubleshooting.

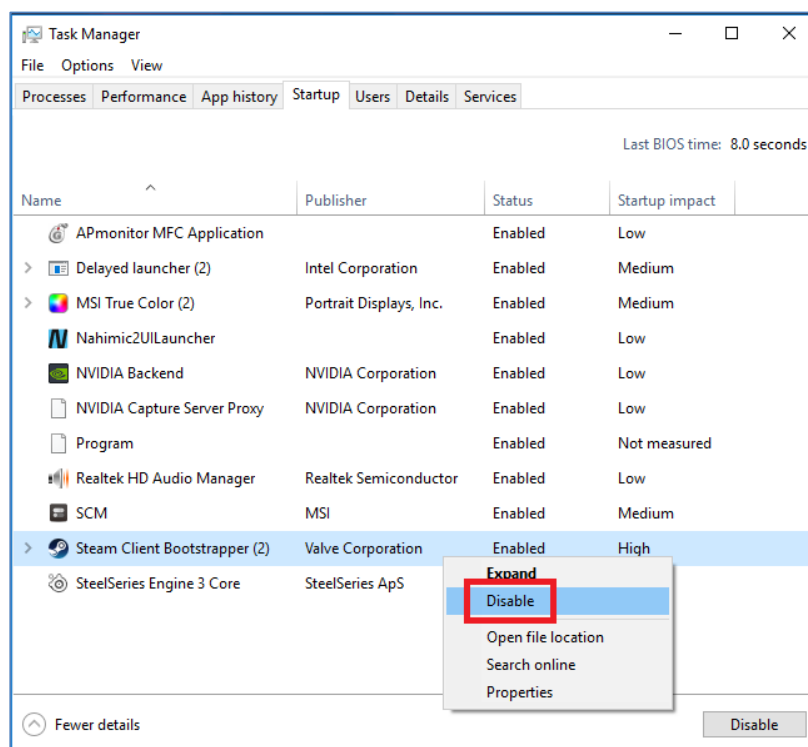
1. Open **Task Manager** and check whether some program is occupying the resources of CPU, Memory, Hard Disk or Internet.
(Press **Ctrl + Alt + Del** and select **Task Manager**)

2. If you find any abnormal programs (processes), please try:

- End Task



- Disable the program in Startup tab to avoid it to run automatically in the background when Windows starts.



- Open the program, and set automatically running when Windows starts as disable, and then close the program.
- You may also uninstall the program directly from the Control Panel.

B. If you cannot find which program is causing the problem by the method above, please refer to the method below for troubleshooting.

- RIOT
[Disable or remove potentially unwanted programs](#)
- Microsoft
<https://support.microsoft.com/en-us/kb/929135>

VII. Troubleshooting >> Install Operation System and Driver

A. Kindly follow the instructions below to reinstall the operation system and driver, and then you will have a clean system environment.

- **Notebook with Pre-installed system :**

1. Use *F3 recovery* function or *the recovery media created by BurnRecovery* to restore the system back to factory setting.
[\(FAQ\) How to use F3 Recovery on MSI Windows 10 preloaded system?](#)
[\(FAQ\) How to use MSI BurnRecovery on Windows 10 preloaded system?](#)
2. If you have Windows 10 system, run Windows Update till everything is up to date.
3. [Reinstall LOL.](#)
4. In order to verify the problem, please do not install any third-party software (such as anti-virus software, game plugins or system optimized tool) and check whether LOL performance is normal with your current system environment.

- **Notebook with Free DOS :**

1. Install the original or MSDN version of Windows operation system.
(Download MSDN version of Windows from [here](#).)
2. [\(FAQ\) How to install Windows system on my notebook with 6th Generation Intel Core CPU and PCH \(Skylake\)?](#)
3. Download and install MSI approved driver and utility from MSI website or use the driver CD came with your notebook for driver installation.
4. If you have Windows 10 system, run Windows Update till everything is up to date.
5. [Reinstall LOL.](#)
6. In order to verify the problem, please do not install any third-party software (such as anti-virus software, game plugins or system optimized tool) and check whether LOL performance is normal with your current system environment.

VIII. Advanced Troubleshooting >> Improve Frame Rate (FPS)

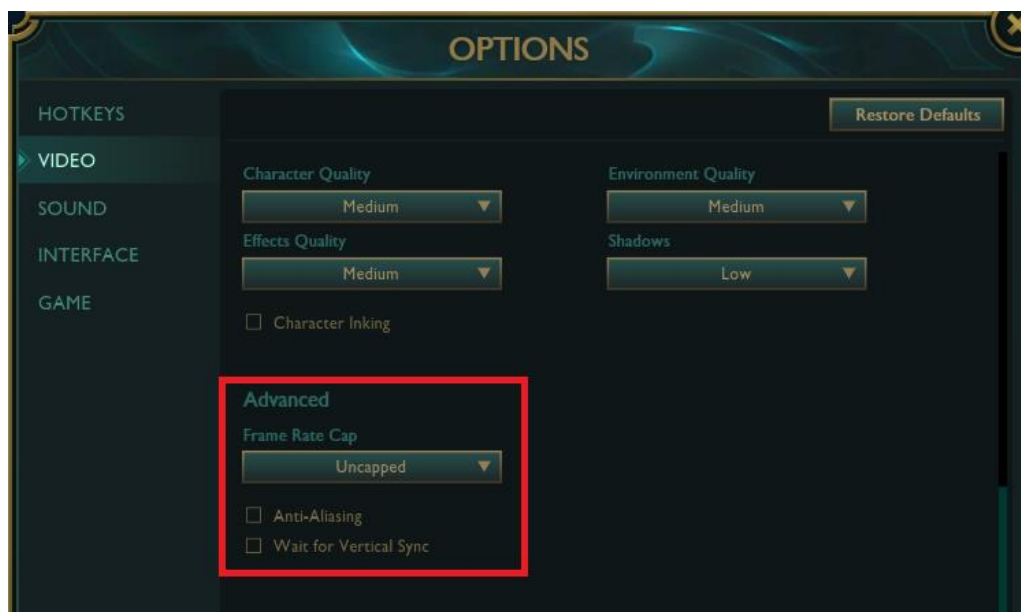
If the basic troubleshooting guide doesn't give much help with the FPS problem, please try to adjust graphics settings to improve FPS.

- RIOT
[Low Frame Rate \(FPS\) Troubleshooting](#)

Adjust the following **in-game settings** to improve FPS since some of the settings require a higher hardware support.

A. Video options

- **Frame Rate Cap** : Disable it to avoid FPS got limited.
- **Windowed Mode** : MSI suggest to use full screen mode since the background processes may be taking away the system resource and effects the game performance when using Windowed or borderless mode.
- **Vertical Sync** : V-Sync locks the maximum 60 FPS in game to match with the panel's refresh rate. By enabling V-Sync, it gives better stability for graphics displayed in game. However, the graphics display may not perform as good as when the V-Sync is off due to the maximum 60 FPS limitation; Disable V-Sync unlocks the FPS limitation, but with greater chance that you will encounter screen tearing.
(Adjust V-Sync settings based on your FPS)



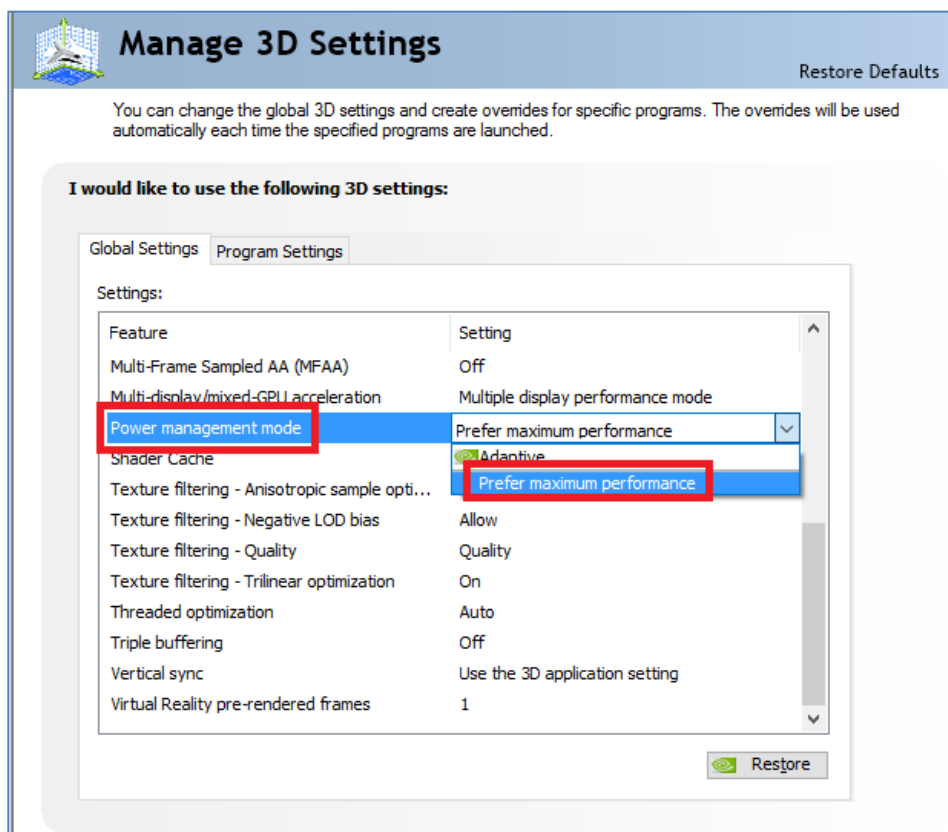
B. Interface options

- HUD animations, Attack Range, Anti-Aliasing, etc.



Try to adjust the NVIDIA control panel settings shown below to improve FPS.

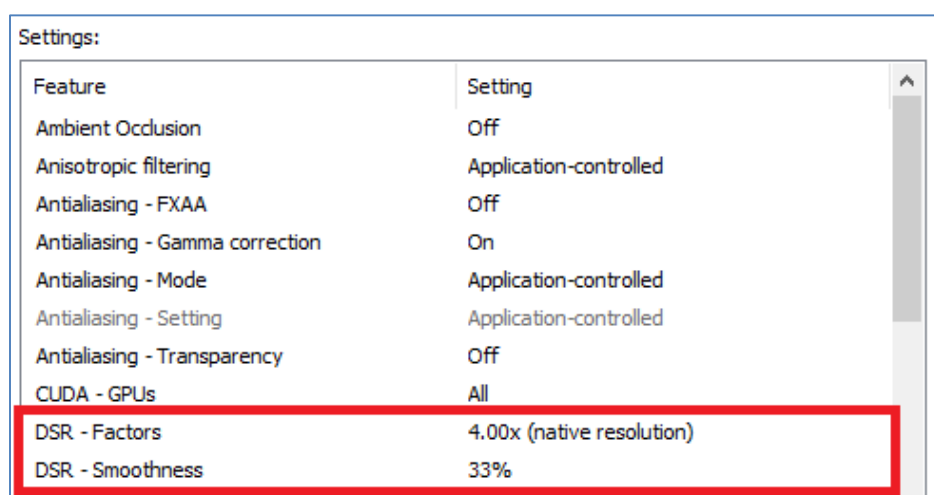
- A. 3D settings -> **Power management mode** -> **Prefer maximum performance**
Setting this item could improve the performance in some games and applications.

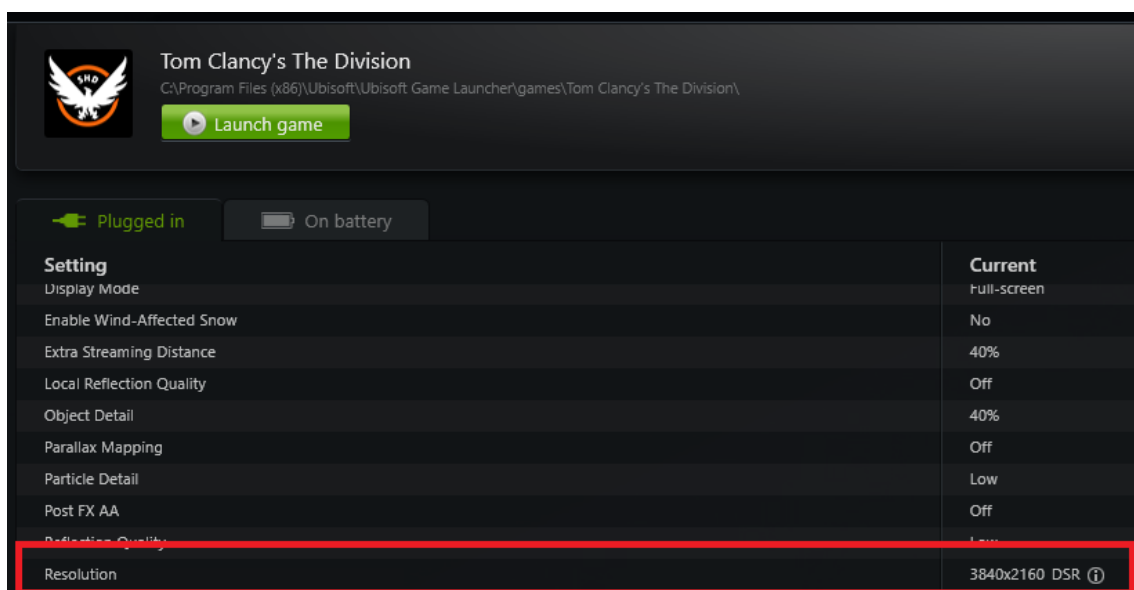


B. GeForce Experience Optimized settings

If you have applied the “**Optimize**” graphics settings in GFE, the DSR may be turned on automatically in NVIDIA control panel, and affects the game performance. MSI suggest to disable this item manually in NVIDIA control panel.

Besides, check the “**Resolution**” item in GFE, DSR may be enabled in-game and override the native resolution. MSI suggest to disable DSR and adjust the resolution back to the native resolution in GFE.

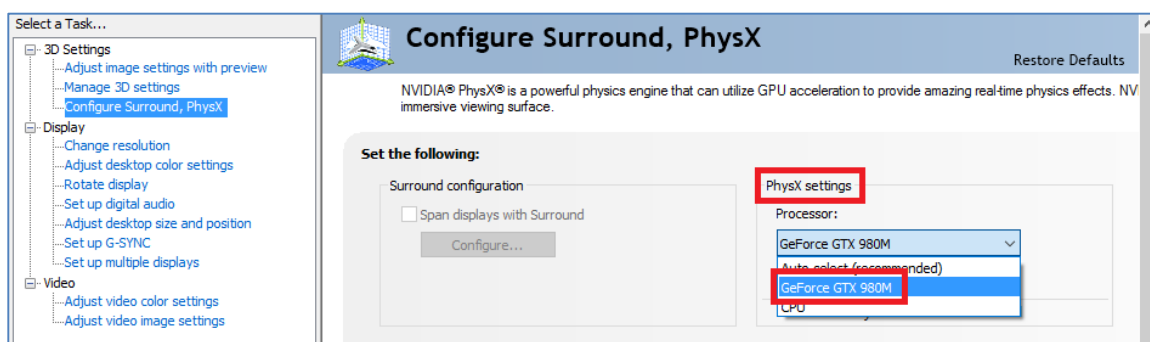




C. NVIDIA PhysX

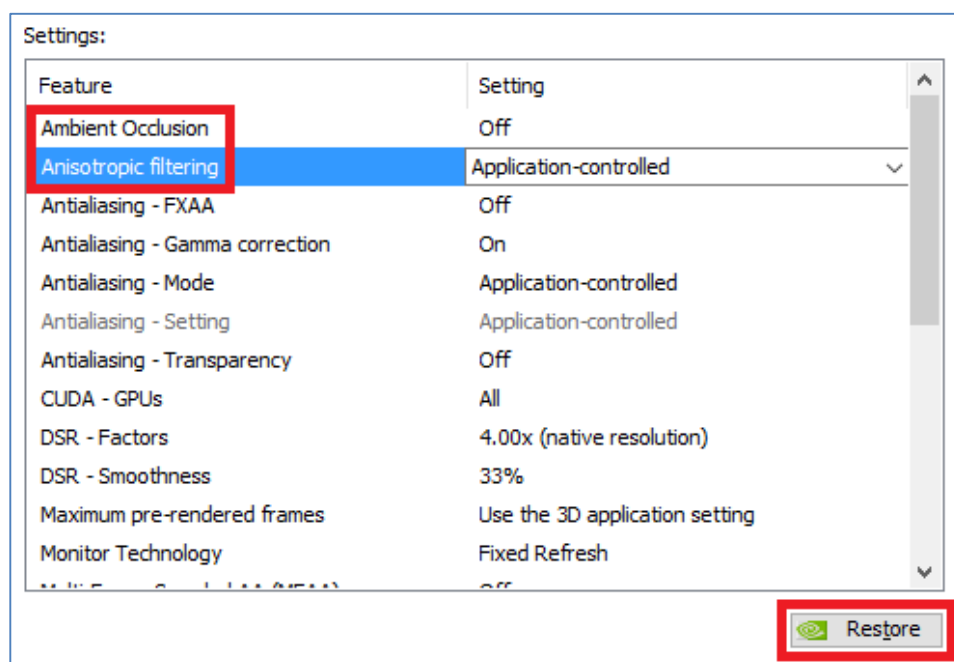
PhysX settings -> Select PhysX processor -> GeForce GTX 900M series graphics card

(This item helps to improve the performance in game when the notebook is bundled with certain processor which has lacked performance when rendering graphics with PhysX.)



D. Other display settings

Ambient Occlusion, Anisotropic Filtering, Anti-Aliasing could affects the FPS performance or display stability in LOL.



- ❗ Click “**Restore**” to roll back all default display settings, and make sure that settings are controlled by the application itself. This can avoid the unstable performance caused by the conflict settings.

Troubleshooting for Other Problems

RIOT Support:

「Below you can find a list of common symptoms that are associated with **connection issues**:

- You are experiencing consistent lag or lag spikes
- You cannot download or patch the game
- Your sound stutters in-game a lot
- You receive an Unknown error message
- You never reach champion select after queuing with your friends, even if they do
- Your main client page is pitch back after logging in」

- RIOT
[Bug Splat and Game Crashes](#)
- RIOT
[Troubleshooting Connection Issues](#)

LOL Worldwide Official Support Websites

- [Garena](#)
In Singapore, Taiwan, Philippines, Thailand, Indonesia, Vietnam, Russia, Malaysia
 - http://support.lol.garena.com/en_SG/categories/32
- [RIOT](#)
In North America, Brazil, Turkey, EU, Russia, Latin America. Russia, Oceania, Japan
 - <https://support.riotgames.com/hc/en-us/categories/200137704-Technical>
- [TENCENT](#)
In China
 - <http://kf.qq.com/menu/lol.html>
 - <http://bbs.lol.qq.com/forum.php?mod=forumdisplay&fid=327&filter=typeid&typeid=1156>
 - http://lol.qq.com/webplat/info/news_version3/152/7134/7135/m5579/list_1.shtml