

Warning

Increasing speed of the laptop CPU can overheat the laptop, so, without a good cooler below laptop it will simply shut down because of overheat... I am suggesting you buying at least:

https://www.coolermaster.com/en-global/products/notepal-i300/?tab=tech_spec



Specifications:

- Fan Dimensions (L x W x H) 160 x 160 x 15 mm / 6.3 x 6.3 x 0.6 inch
- Fan Speed 700–1400 RPM \pm 150
- Fan Airflow 35 - 70 CFM

Laptop temperatures with this cooler always connected and working are:

Open Hardware Monitor			
File View Options Help			
Sensor	Value	Max	
ORWELLIYADA			
Dell 0H2F8K			
11th Gen Intel Core i7-1...			
Clocks			
Bus Speed	99.4 MHz	99.4 MHz	
CPU Core #1	4074.9 MHz	4074.9 MHz	
CPU Core #2	1192.7 MHz	4671.2 MHz	
CPU Core #3	4671.3 MHz	4671.3 MHz	
CPU Core #4	1192.7 MHz	4671.2 MHz	
Temperatures			
CPU Core #1	67.0 °C	87.0 °C	
CPU Core #2	68.0 °C	88.0 °C	
CPU Core #3	69.0 °C	86.0 °C	
CPU Core #4	67.0 °C	94.0 °C	
CPU Package	70.0 °C	94.0 °C	
Load			
CPU Total	13.7 %	22.3 %	
CPU Core #1	24.6 %	31.7 %	
CPU Core #2	10.0 %	25.0 %	
CPU Core #3	12.3 %	15.3 %	
CPU Core #4	7.7 %	19.6 %	
Powers			
CPU Package	13.8 W	15.6 W	
CPU Cores	10.0 W	11.7 W	
CPU Graphics	0.0 W	0.2 W	
CPU DRAM	0.0 W	0.0 W	
Generic Memory			
Load			
Memory	63.2 %	63.5 %	
Data			
Used Memory	9.9 GB	10.0 GB	
Available Memory	5.8 GB	5.8 GB	
NVIDIA NVIDIA GeForc...			
Clocks			
GPU Core	1531.0 MHz	1531.0 MHz	
GPU Memory	3504.0 MHz	3504.0 MHz	
GPU Shader	3062.0 MHz	3062.0 MHz	
Temperatures			
GPU Core	0.0 °C	69.0 °C	
Load			
GPU Core	0.0 %	2.0 %	
GPU Frame Buffer	0.0 %	0.0 %	
GPU Video Engine	0.0 %	0.0 %	
GPU Bus Interface	0.0 %	1.0 %	
GPU Memory	3.9 %	3.9 %	

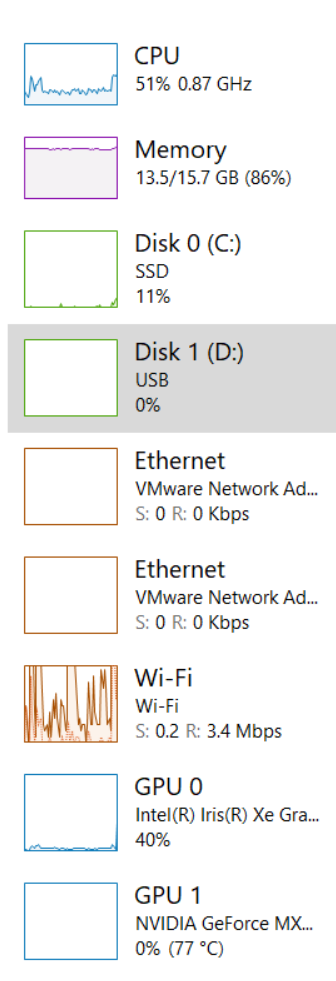
How to speed up your processor using Registry Keys

In my example I have a laptop “Dell Vostro 5502” with processor “11th Gen Intel® Core™ i7-1165G7 @ 2.80GHz” working on up to 4.7 GHz where it is for some reason set to work on up to 1.69 GHz with a possible boost up to 2.7 GHz and later on 4.1 GHz (because for some reason Windows doesn’t allow the full usage of the CPU)...

In Task Manager you will find this description about the processor:

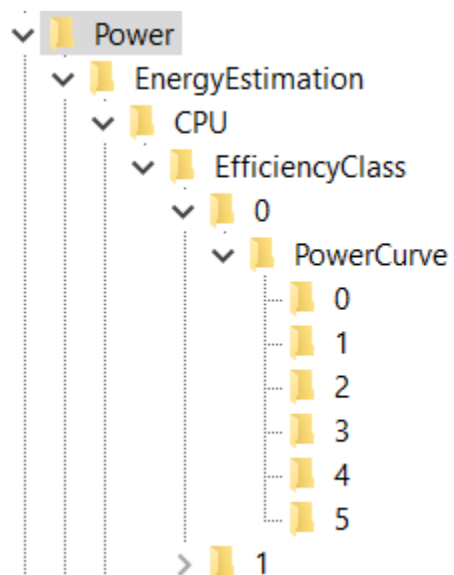
Base speed:	1.69 GHz
Sockets:	1
Cores:	4
Logical processors:	8
Virtualization:	Enabled
L1 cache:	320 KB
L2 cache:	5.0 MB
L3 cache:	12.0 MB

First thing that I was asking is the 2 given options in the Registry Keys for “EfficiencyClass” when I can have 3 if processor is locked on 1.69... The other thing to consider here is enabled energy saver locking that processor on 1.69 GHz, and not on 2.7 GHz... That energy saver with Windows given options shall make this Intel CPU to work on 0.87 GHz and even slower on about 0.4 GHz when the greater CPU consumption and usage comes in place...
















First of all to avoid that we need to fix some Registry values and settings:

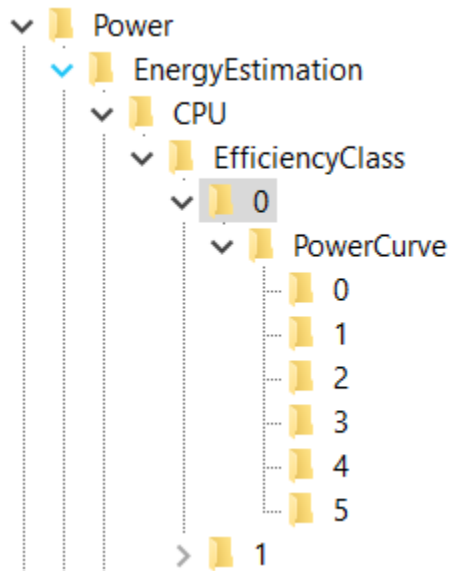
- Computer\HKEY_LOCAL_MACHINE\SYSTEM\ControlSet001\Control\Power



Here I would pay attention what does EnergyEstimationEnabled option... Leave it turned on, because, by some thinking – under the folder EnergyEstimation , but that is my choice...

Name	Type	Data
 (Default)	RE...	(value not set)
 Class1InitialUnparkCount	RE...	0x00000040 (64)
 CustomizeDuringSetup	RE...	0x00000001 (1)
 EnableInputSuppression	RE...	0x00000001 (1)
 EnergyEstimationEnabled	RE...	0x00000000 (0)
 EventProcessorEnabled	RE...	0x00000001 (1)
 HiberFileSizePercent	RE...	0x00000000 (0)
 HibernateEnabledDefault	RE...	0x00000001 (1)
 IgnoreCsComplianceCheck	RE...	0x00000001 (1)
 MfBufferingThreshold	RE...	0x00000000 (0)
 PerfCalculateActualUtilization	RE...	0x00000001 (1)
 SourceSettingsVersion	RE...	0x00000003 (3)
 TimerRebaseThresholdOnDripsExit	RE...	0x0000003c (60)

- Computer\HKEY_LOCAL_MACHINE\SYSTEM\ControlSet001\Control\Power\EnergyEstimation\CPU\EfficiencyClass\0

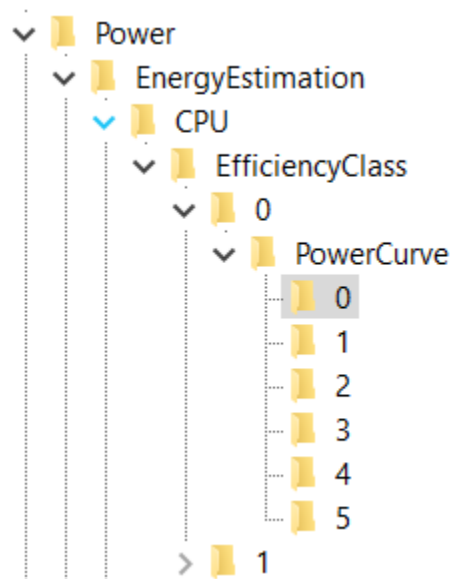


Name	Type	Data
 (Default)	RE...	(value not set)
 PowerEnvelope	RE...	0x0000125c (4700)

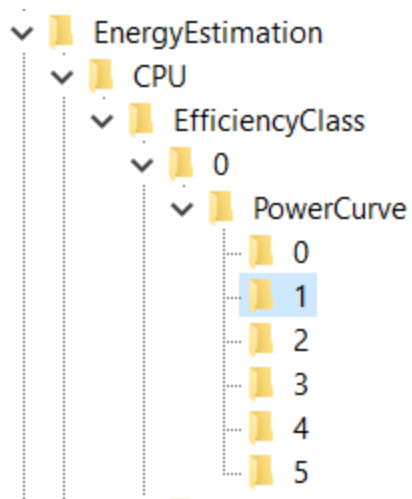
- Computer\HKEY_LOCAL_MACHINE\SYSTEM\ControlSet001\Control\Power\EnergyEstimation\CPU\EfficiencyClass\0\PowerCurve\0

Explanation for the values: FrequencyPercent is represented in decimals as a percentage, and PowerEnvelope is represented in HexaDecimal values but through the Decimal values – so for example if you type in the Decimal value “1000” you should see it as is written in HexaDecimal values, which translated gives us 4.096 GHz... You should notice one interesting thing that you can’t type in all of the Frequencies for the processor because in hexadecimal values you can write and letters A – F, so for example “A99” would be 2.713 GHz, and here you can write only numbers which means either you would need to agree to processor speed of (in Hexadecimal values) “999” or “1000”, which is translated: 2.457 GHz (for “999”) or 4.096 GHz (for “1000”)...

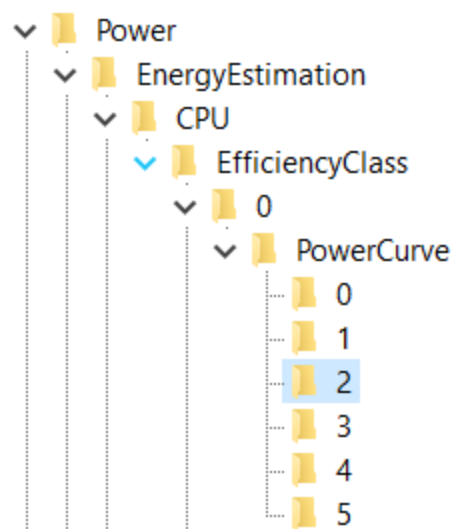
So my setting is:



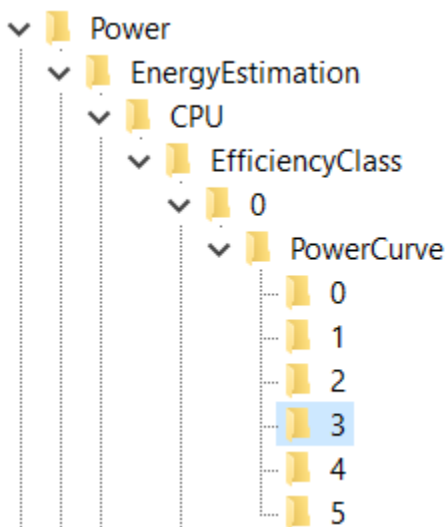
Name	Type	Data
 (Default)	REG_SZ	(value not set)
 FrequencyPercent	REG_DWORD	0x00000064 (100)
 PowerEnvelope	REG_DWORD	0x000003e7 (999)



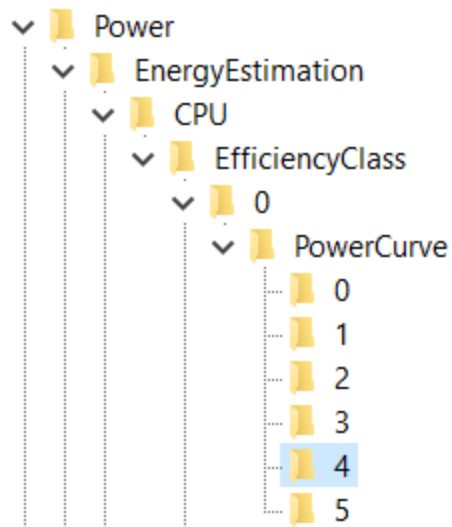
Name	Type	Data
 (Default)	REG_SZ	(value not set)
 FrequencyPercent	REG_DWORD	0x00000050 (80)
 PowerEnvelope	REG_DWORD	0x000003e8 (1000)



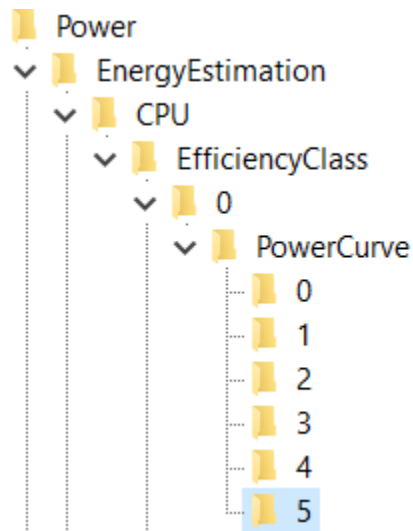
Name	Type	Data
(Default)	REG_SZ	(value not set)
FrequencyPercent	REG_DWORD	0x00000046 (70)
PowerEnvelope	REG_DWORD	0x0000044c (1100)



Name	Type	Data
(Default)	REG_SZ	(value not set)
FrequencyPercent	REG_DWORD	0x00000050 (80)
PowerEnvelope	REG_DWORD	0x0000044c (1100)

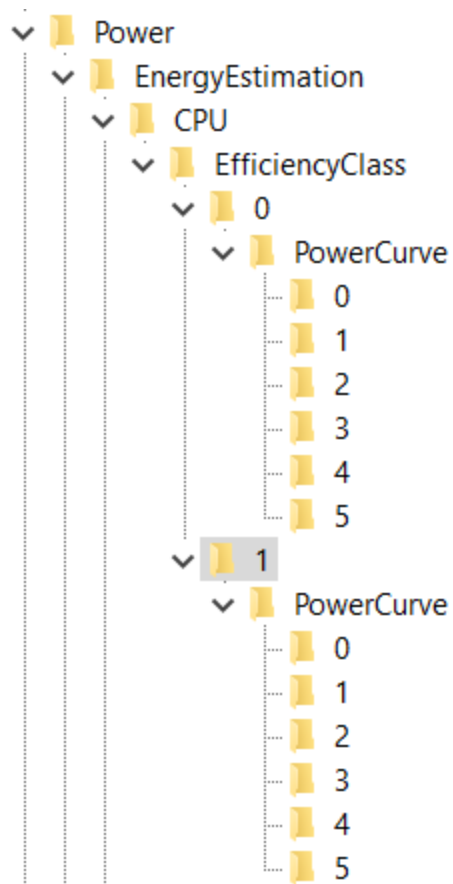




Name	Type	Data
(Default)	REG_SZ	(value not set)
FrequencyPercent	REG_DWORD	0x00000050 (80)
PowerEnvelope	REG_DWORD	0x000004b0 (1200)

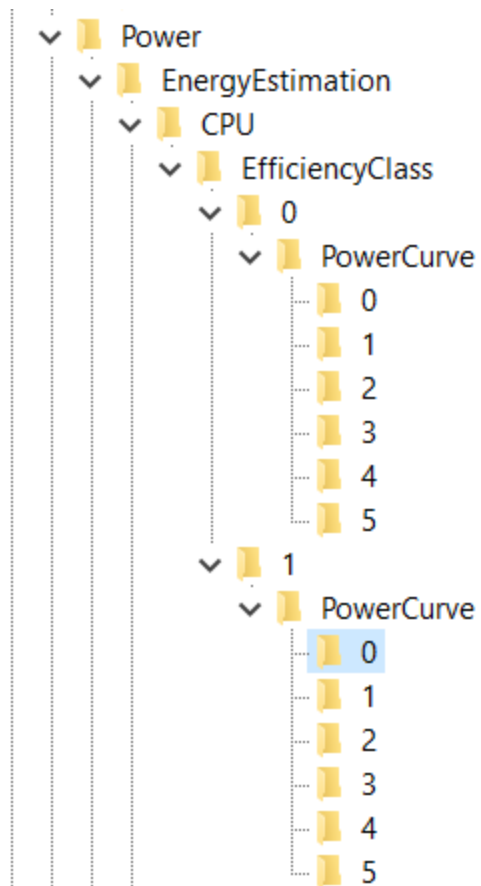


Name	Type	Data
(Default)	REG_SZ	(value not set)
FrequencyPercent	REG_DWORD	0x00000064 (100)
PowerEnvelope	REG_DWORD	0x000004eb (1259)

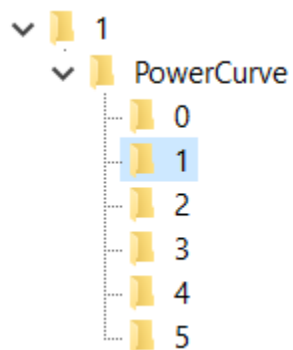
- Computer\HKEY_LOCAL_MACHINE\SYSTEM\ControlSet001\Control\Power\EnergyEstimation\CPU\EfficiencyClass\1



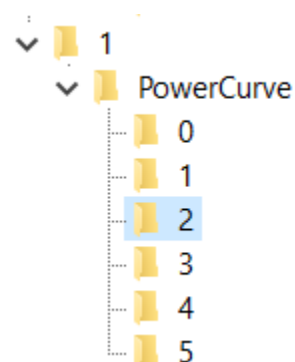
Name	Type	Data
 (Default)	REG_SZ	(value not set)
 PowerEnvelope	REG_DWORD	0x00000999 (2457)



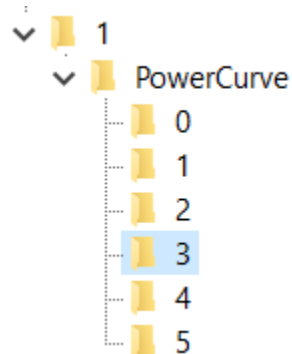
Name	Type	Data
 (Default)	REG_SZ	(value not set)
 FrequencyPercent	REG_DWORD	0x0000004b (75)
 PowerEnvelope	REG_DWORD	0x000003e7 (999)



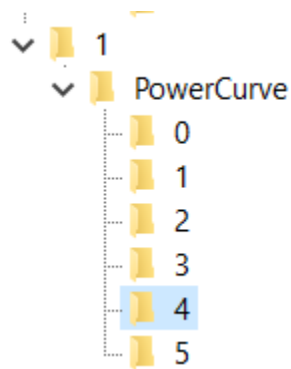
Name	Type	Data
 (Default)	REG_SZ	(value not set)
 FrequencyPercent	REG_DWORD	0x00000050 (80)
 PowerEnvelope	REG_DWORD	0x000003e7 (999)



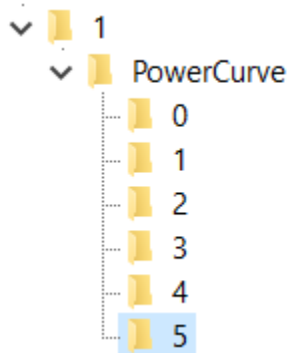
Name	Type	Data
 (Default)	REG_SZ	(value not set)
 FrequencyPercent	REG_DWORD	0x00000055 (85)
 PowerEnvelope	REG_DWORD	0x000003e7 (999)



Name	Type	Data
 (Default)	REG_SZ	(value not set)
 FrequencyPercent	REG_DWORD	0x0000005a (90)
 PowerEnvelope	REG_DWORD	0x000003e7 (999)

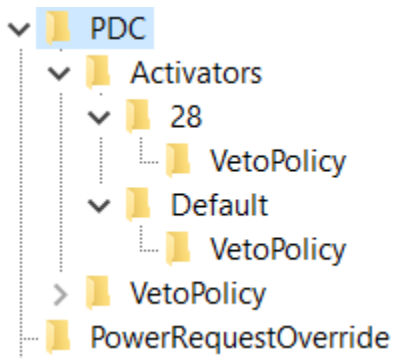


Name	Type	Data
(Default)	REG_SZ	(value not set)
FrequencyPercent	REG_DWORD	0x0000005f (95)
PowerEnvelope	REG_DWORD	0x000003e7 (999)



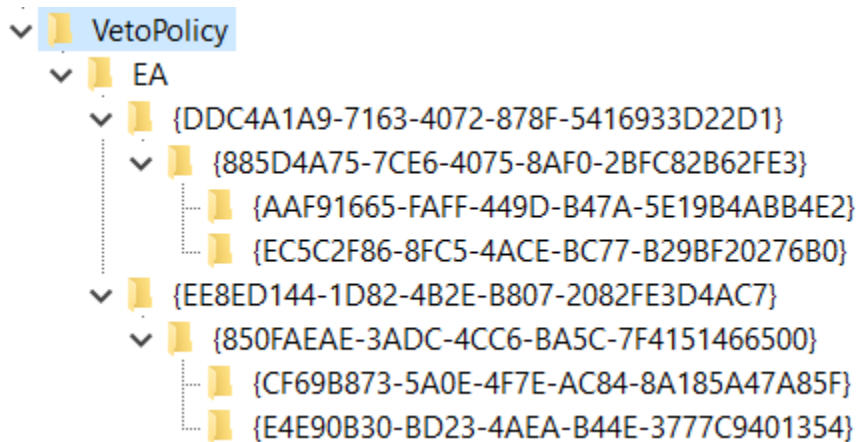
Name	Type	Data
(Default)	REG_SZ	(value not set)
FrequencyPercent	REG_DWORD	0x00000064 (100)
PowerEnvelope	REG_DWORD	0x000003e7 (999)

- Computer\HKEY_LOCAL_MACHINE\SYSTEM\ControlSet001\Control\Power\PDC



Laptop works faster if VetoPolicy options are turned off...

- Computer\HKEY_LOCAL_MACHINE\SYSTEM\ControlSet001\Control\Power\PDC\Activators\28\VetoPolicy
 - EA:PowerStateDischarging: 0
- Computer\HKEY_LOCAL_MACHINE\SYSTEM\ControlSet001\Control\Power\PDC\Activators\Default\VetoPolicy
 - EA:EnergySaverEngaged: 0



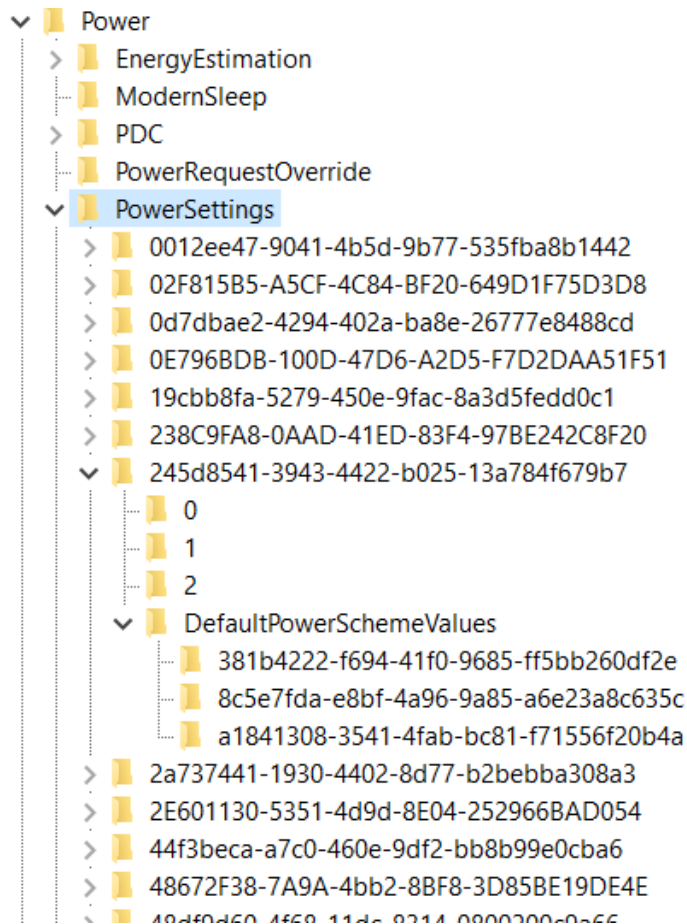
I am not sure if this values represent the maximum speed of the processor but I have placed them all on maximum for my processor:

- Computer\HKEY_LOCAL_MACHINE\SYSTEM\ControlSet001\Control\Power\PDC\VetoPolicy\EA\{DDC4A1A9-7163-4072-878F-5416933D22D1}\{885D4A75-7CE6-4075-8AF0-2BFC82B62FE3}\{AAAF91665-FAFF-449D-B47A-5E19B4ABB4E2}
 - Type 4121 -> 4700

- Computer\HKEY_LOCAL_MACHINE\SYSTEM\ControlSet001\Control\Power\PDC\VetoPolicy\EA\{DDC4A1A9-7163-4072-878F-5416933D22D1}\{885D4A75-7CE6-4075-8AF0-2BFC82B62FE3}\{EC5C2F86-8FC5-4ACE-BC77-B29BF20276B0}
 - Type 4106 -> 4700
- Computer\HKEY_LOCAL_MACHINE\SYSTEM\ControlSet001\Control\Power\PDC\VetoPolicy\EA\{EE8ED144-1D82-4B2E-B807-2082FE3D4AC7}\{850FAEAE-3ADC-4CC6-BA5C-7F4151466500}\{CF69B873-5A0E-4F7E-AC84-8A185A47A85F}
 - Type 4106 -> 4700
- Computer\HKEY_LOCAL_MACHINE\SYSTEM\ControlSet001\Control\Power\PDC\VetoPolicy\EA\{EE8ED144-1D82-4B2E-B807-2082FE3D4AC7}\{850FAEAE-3ADC-4CC6-BA5C-7F4151466500}\{E4E90B30-BD23-4AEA-B44E-3777C9401354}
 - Type 4145 -> 4700

You will notice that those folders – “keys” there is a value that has a DWORD named “Value” and that it is turned off, I have placed it to 1...

- Computer\HKEY_LOCAL_MACHINE\SYSTEM\ControlSet001\Control\Power\PowerSettings



Talking about PowerSettings you need to turn High Performance on, set graphics to work in High performance mode, to set CPU to work by High Performance if you wish on all 3 levels (3 different keys under “DefaultPowerSchemeValues” folder) – because it is unknown in Registry Editor which level is for “Best Battery Life” setting, which is “Balanced” setting, and which is for “Best (High) performance” setting... What I can conclude, for my processor and type of Windows that I have – key: “8c5e7fda-e8bf-4a96-9a85-a6e23a8c635c” represents the “High performance” mode and mostly from that key I have been copying to other two keys it’s own already set values... Some keys I have changed completely, adjusting values how I liked...

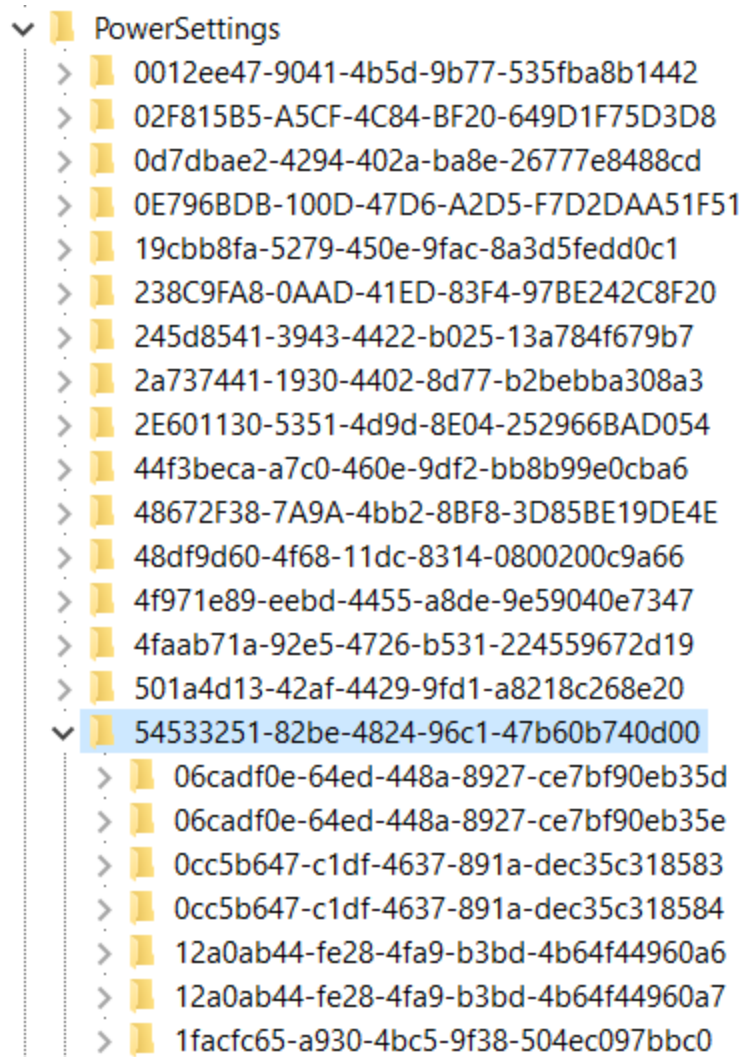
How this part of the registry works? First you will have a “key” (folder) where you will find options that you can implement under “keys” (folders) 0, 1, 2 and you will have a folder where you can implement those options named: “DefaultPowerSchemeValues”... In those folders you can find the description and a “friendly name” (also a type of a description) of the current part of the Registry Keys... Each of the main folders named for example: “0”, “1” or “2” will have some type of a value that you can use later on... That value you will find under a DWORD (data) name “SettingValue”... The best setting whether it’s under folder “0”, “1” or “2” you

can copy into the “AcSettingIndex” or “DcSettingIndex”, or “ProvAcSettingIndex” or “ProvDcSettingIndex”...

In cases where you don't have options under keys (folders) “0”, “1”, “2”, you will have some type of a scale that you can implement... Maximum value of the scale you can find under the main folder and it's DWORD named “ValueMax” and it's possible minimum under a DWORD named “ValueMin”... Always take a look at: DWORD named ValueUnits that will have a description for example: “@%SystemRoot%\system32\powrprof.dll,-81,percent” – there the last word we can find is the word “percent” meaning you should implement in decimal numbers value from 0 to 100 representing some kind of a percentage of a usage for some of the situations...

Some of the settings that I have implemented are:

- Computer\HKEY_LOCAL_MACHINE\SYSTEM\ControlSet001\Control\Power\PowerSettings\54533251-82be-4824-96c1-47b60b740d00



Under power settings you will find the key: “54533251-82be-4824-96c1-47b60b740d00” with “Processor power settings” and you need to see each of the keys (folders) it has and to adjust them except time settings which I haven’t changed...

- Computer\HKEY_LOCAL_MACHINE\SYSTEM\ControlSet001\Control\Power\PowerSettings\54533251-82be-4824-96c1-47b60b740d00\3b04d4fd-1cc7-4f23-ab1c-d1337819c4bb
 - FriendlyName: Allow Throttle States
 - Setting implemented: Off
- Computer\HKEY_LOCAL_MACHINE\SYSTEM\ControlSet001\Control\Power\PowerSettings\54533251-82be-4824-96c1-47b60b740d00\40fbefc7-2e9d-4d25-a185-0cfd8574bac6
 - FriendlyName: Processor performance decrease policy
 - Setting implemented: Single
- Computer\HKEY_LOCAL_MACHINE\SYSTEM\ControlSet001\Control\Power\PowerSettings\54533251-82be-4824-96c1-47b60b740d00\40fbefc7-2e9d-4d25-a185-0cfd8574bac7

- FriendlyName: Processor performance decrease policy for Processor Power Efficiency Class 1
 - Setting implemented: Single
- Computer\HKEY_LOCAL_MACHINE\SYSTEM\ControlSet001\Control\Power\PowerSettings\54533251-82be-4824-96c1-47b60b740d00\447235c7-6a8d-4cc0-8e24-9eaf70b96e2b
 - Processor performance core parking parked performance state
 - Best option for the speed of processor: Lightest Performance State
 - My setting implemented: No preference
 - Some theory on that topic: Unused CPUs enter parked state and not to spend energy they can enter Deepest Performance state to save power and reduce the heat... Otherwise faster option is "Lightest Performance state"...
- Computer\HKEY_LOCAL_MACHINE\SYSTEM\ControlSet001\Control\Power\PowerSettings\54533251-82be-4824-96c1-47b60b740d00\45bcc044-d885-43e2-8605-ee0ec6e96b59
 - FriendlyName: Processor performance boost policy
 - All Settings implemented: 0x64 (or Decimal: 100 (%))
- Computer\HKEY_LOCAL_MACHINE\SYSTEM\ControlSet001\Control\Power\PowerSettings\54533251-82be-4824-96c1-47b60b740d00\465e1f50-b610-473a-ab58-00d1077dc418
 - FriendlyName: Processor performance increase policy
 - Setting implemented: Rocket
- Computer\HKEY_LOCAL_MACHINE\SYSTEM\ControlSet001\Control\Power\PowerSettings\54533251-82be-4824-96c1-47b60b740d00\4e4450b3-6179-4e91-b8f1-5bb9938f81a1
 - FriendlyName: Processor duty cycling
 - Setting implemented: Allow processor duty cycling.
- Computer\HKEY_LOCAL_MACHINE\SYSTEM\ControlSet001\Control\Power\PowerSettings\54533251-82be-4824-96c1-47b60b740d00\5d76a2ca-e8c0-402f-a133-2158492d58ad
 - Description: Specify if idle states should be disabled.
 - Setting implemented: Enable idle
- Computer\HKEY_LOCAL_MACHINE\SYSTEM\ControlSet001\Control\Power\PowerSettings\54533251-82be-4824-96c1-47b60b740d00\6c2993b0-8f48-481f-bcc6-00dd2742aa06
 - FriendlyName: Processor idle threshold scaling
 - Setting implemented: Disable scaling

- Computer\HKEY_LOCAL_MACHINE\SYSTEM\ControlSet001\Control\Power\PowerSettings\54533251-82be-4824-96c1-47b60b740d00\71021b41-c749-4d21-be74-a00f335d582b
 - Description: Specify the number of cores/packages to park when fewer cores are required.
 - Setting implemented: Ideal number of cores
- Computer\HKEY_LOCAL_MACHINE\SYSTEM\ControlSet001\Control\Power\PowerSettings\54533251-82be-4824-96c1-47b60b740d00\75b0ae3f-bce0-45a7-8c89-c9611c25e100
 - FriendlyName: Maximum processor frequency
 - Setting implemented: Decimal value: 4700
- Computer\HKEY_LOCAL_MACHINE\SYSTEM\ControlSet001\Control\Power\PowerSettings\54533251-82be-4824-96c1-47b60b740d00\75b0ae3f-bce0-45a7-8c89-c9611c25e101
 - FriendlyName: Maximum processor frequency for Processor Power Efficiency Class 1
 - Setting implemented: Decimal value: 2457
- Computer\HKEY_LOCAL_MACHINE\SYSTEM\ControlSet001\Control\Power\PowerSettings\54533251-82be-4824-96c1-47b60b740d00\7f2f5cfa-f10c-4823-b5e1-e93ae85f46b5
 - FriendlyName: Heterogeneous policy in effect.
 - Setting implemented: Use heterogeneous policy 0

Don't forget to check options for Graphic card:

- Computer\HKEY_LOCAL_MACHINE\SYSTEM\ControlSet001\Control\Power\PowerSettings\5FB4938D-1EE8-4b0f-9A3C-5036B0AB995C
 - FriendlyName: GPU preference policy
 - Setting implemented: No preference (because other setting I had was: Low Power)

Check Energy Saving settings:

- Computer\HKEY_LOCAL_MACHINE\SYSTEM\ControlSet001\Control\Power\PowerSettings\DE830923-A562-41AF-A086-E3A2C6BAD2DA
- Computer\HKEY_LOCAL_MACHINE\SYSTEM\ControlSet001\Control\Power\PowerSettings\DE830923-A562-41AF-A086-E3A2C6BAD2DA\5C5BB349-AD29-4ee2-9D0B-2B25270F7A81
 - FriendlyName: Energy Saver Policy
 - Setting implemented: User

Also, you can go back to processor settings and find the "Processor performance increase threshold" and "Processor performance decrease threshold" options, as I know I have changed

some of the percentages, for example from 35 to 20 if is faster and from 45 to 50, but maybe I have pushed it above the edge or below the edge (I am not even sure)... Maybe those settings are fine by themselves...

My options there are in decimal values:

- Computer\HKEY_LOCAL_MACHINE\SYSTEM\ControlSet001\Control\Power\PowerSettings\54533251-82be-4824-96c1-47b60b740d00\7b224883-b3cc-4d79-819f-8374152cbe7c
 - FriendlyName: Processor idle promote threshold
 - Setting implemented: 14 (20)
- Computer\HKEY_LOCAL_MACHINE\SYSTEM\ControlSet001\Control\Power\PowerSettings\54533251-82be-4824-96c1-47b60b740d00\943c8cb6-6f93-4227-ad87-e9a3feec08d1
 - FriendlyName: Processor performance core parking over utilization threshold
 - Setting implemented: 1e (30)
- Computer\HKEY_LOCAL_MACHINE\SYSTEM\ControlSet001\Control\Power\PowerSettings\54533251-82be-4824-96c1-47b60b740d00\06cadf0e-64ed-448a-8927-ce7bf90eb35d
 - FriendlyName: Processor performance increase threshold
 - Setting implemented: 50 (80)
- Computer\HKEY_LOCAL_MACHINE\SYSTEM\ControlSet001\Control\Power\PowerSettings\54533251-82be-4824-96c1-47b60b740d00\06cadf0e-64ed-448a-8927-ce7bf90eb35e
 - FriendlyName: Processor performance increase threshold for Processor Power Efficiency Class 1
 - Setting implemented: 50 (80)
- Computer\HKEY_LOCAL_MACHINE\SYSTEM\ControlSet001\Control\Power\PowerSettings\54533251-82be-4824-96c1-47b60b740d00\12a0ab44-fe28-4fa9-b3bd-4b64f44960a6
 - FriendlyName: Processor performance decrease threshold
 - Description: Specify the lower busy threshold that must be met before decreasing the processor's performance state (in percentage).
 - Setting implemented: 14 (20)
- Computer\HKEY_LOCAL_MACHINE\SYSTEM\ControlSet001\Control\Power\PowerSettings\54533251-82be-4824-96c1-47b60b740d00\12a0ab44-fe28-4fa9-b3bd-4b64f44960a7
 - FriendlyName: Processor performance decrease threshold
 - Description: Specify the lower busy threshold that must be met before decreasing the processor's performance state (in percentage).
 - Setting implemented: 14 (20)

There is also a setting for “Processor performance boost mode”:

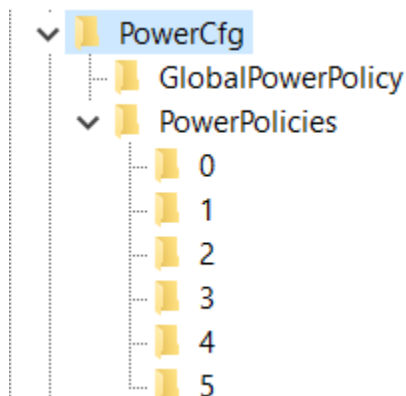
- Computer\HKEY_LOCAL_MACHINE\SYSTEM\ControlSet001\Control\Power\PowerSettings\54533251-82be-4824-96c1-47b60b740d00\be337238-0d82-4146-a960-4f3749d470c7
 - Setting implemented: 5

Set System cooling policy:





- Computer\HKEY_LOCAL_MACHINE\SYSTEM\ControlSet001\Control\Power\PowerSettings\54533251-82be-4824-96c1-47b60b740d00\94D3A615-A899-4AC5-AE2B-E4D8F634367F\1
 - Setting implemented: Increase fan speed before slowing the processor

Edit the option for Minimal Power Management:

- Computer\HKEY_CURRENT_USER\Control Panel\PowerCfg



Here, on my Windows, under a number 4 is:

Name	Type	Data
 (Default)	REG...	(value not set)
 Description	REG...	This scheme keeps the computer on and optimizes it for high performance.
 Name	REG...	Minimal Power Management
 Policies	REG...	01 00 00 00 02 00 00 00 01 00 00 00 00 00 00 02 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00

So just set in the PowerCfg string CurrentPowerPolicy: 4

Graphic cards

This Laptop “Dell Vostro 5502” has also dual graphics cards - integrated “Intel® Iris® Xe Graphics” and “NVIDIA GeForce MX330”... It has 16GB of RAM memory, and 500 GB SSD hard drive...

There is a topic of a small and reducing processor speed thanks to the small “Bus” (an implemented cable for transferring the data in between the graphic card and the other chips), and that because of it (maybe set on 1.3 GHz) and the processor reduces it’s speed...

HardwareAcceleration

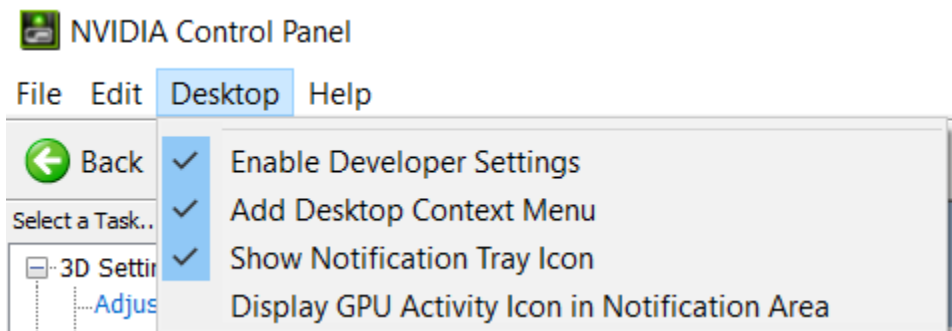
In Registry Editor add the key for removing hardware support for graphics into:

- Computer\HKEY_CURRENT_USER\SOFTWARE\Microsoft\Avalon.Graphics

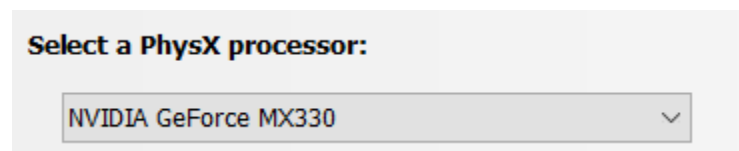
Create DWORD named DisableHWAcceleration and set it to the value: 1

NVIDIA Control Panel:

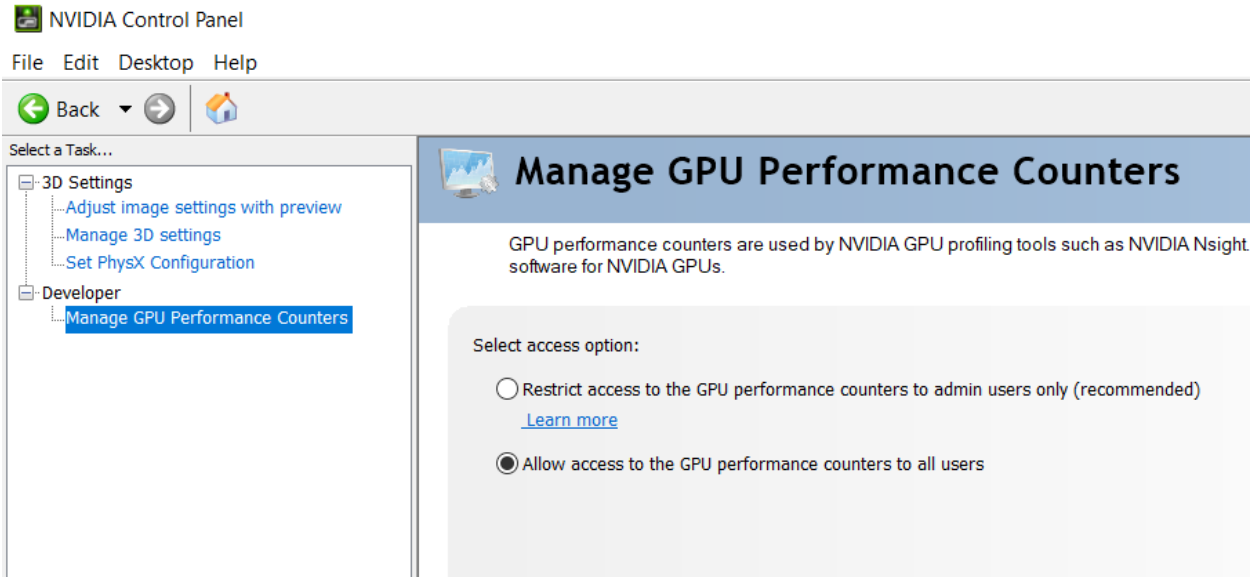
- Turn on Developer settings:



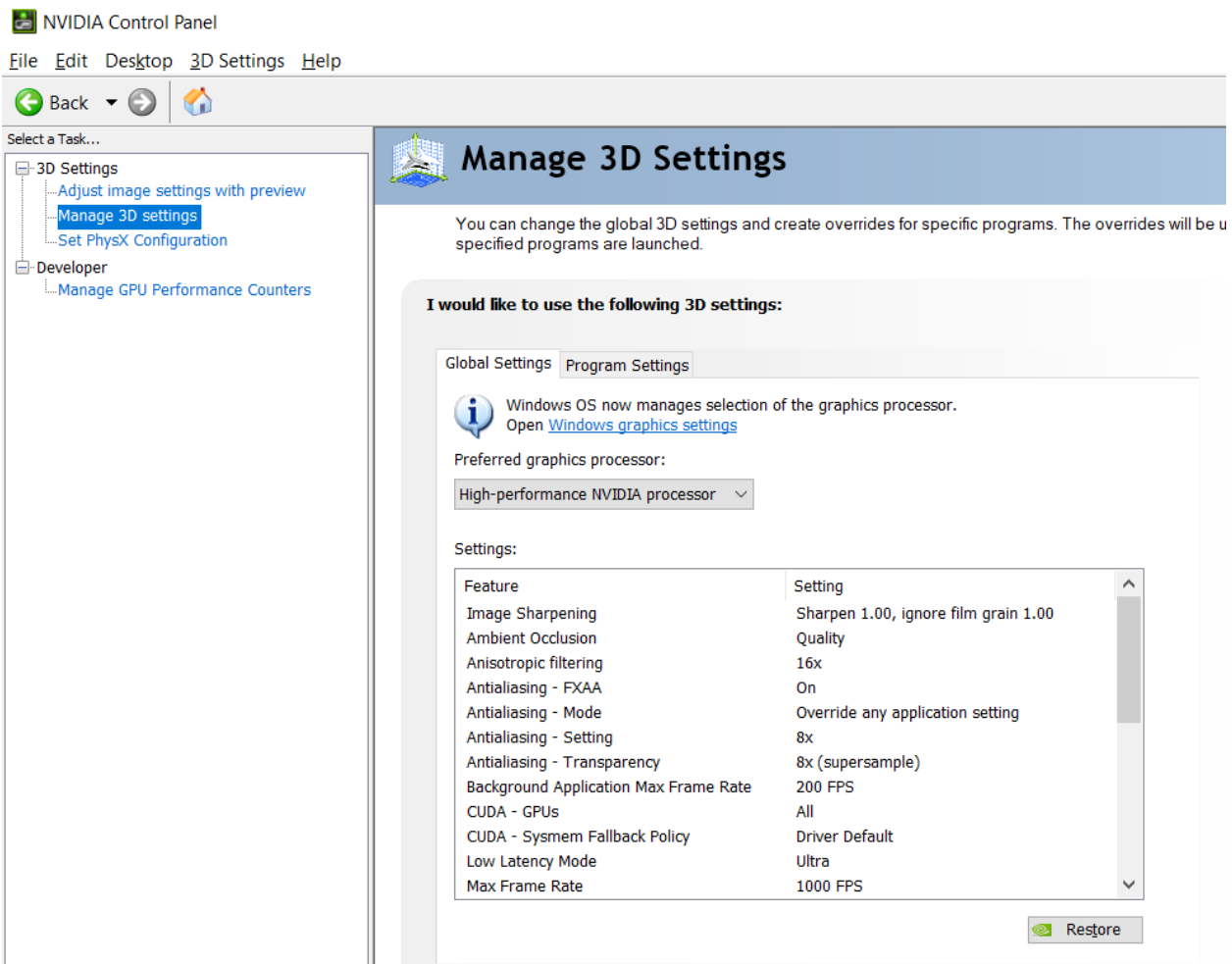
Set PhysX processor to NVIDIA:



Allow this:



And make sure you implement best options for NVIDIA graphic card:



Settings:

Feature	Setting
Multi-Frame Sampled AA (MFAA)	On
OpenGL GDI compatibility	Auto
OpenGL rendering GPU	NVIDIA GeForce MX330
Power management mode	Prefer maximum performance
Shader Cache Size	100 GB
Texture filtering - Anisotropic sample opti...	Off
Texture filtering - Negative LOD bias	Allow
Texture filtering - Quality	High quality
Texture filtering - Trilinear optimization	On
Threaded optimization	On
Triple buffering	On
Vertical sync	Fast

Settings:

Feature	Setting
OpenGL rendering GPU	NVIDIA GeForce MX330
Power management mode	Prefer maximum performance
Shader Cache Size	100 GB
Texture filtering - Anisotropic sample opti...	Off
Texture filtering - Negative LOD bias	Allow
Texture filtering - Quality	High quality
Texture filtering - Trilinear optimization	On
Threaded optimization	On
Triple buffering	On
Vertical sync	Fast
Virtual Reality pre-rendered frames	4
Vulkan/OpenGL present method	Auto

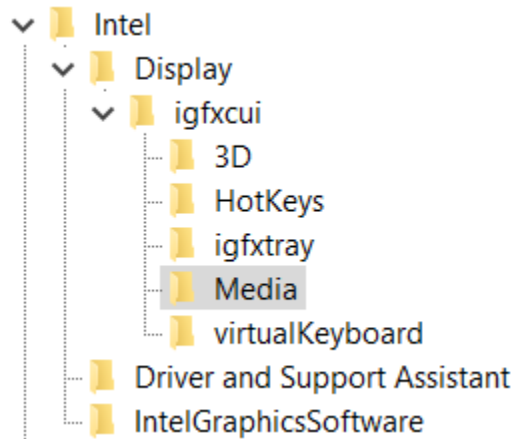
Intel graphics settings:

Let's talk about the Intel graphic card settings... Besides regular settings for brightness, contrast, saturation and hue, there are some more options under Registry Keys that you might find interesting for a better display view...





































I believe that here a setting: "Enable..." or "...Enabled" (for example "EnableACE" or SuperResolutionEnabled") doesn't need to have only options 0 or 1, but it can have any possible options, and the point is that you actually play with the display settings and figure out when you

have the best view... I will give you a hint – if you set everything else right – setting the “SkinTone” to a value “3” gives you somehow “a Saint computer user”... So, the conclusion is that you can create anything that you like from these values without needing to restart the computer to see the results...





































- Computer\HKEY_CURRENT_USER\SOFTWARE\Intel\Display\igfxcui\Media











































































My current settings are shown on this image:





































Name	Type	Data
 (Default)	REG_SZ	(value not set)
 AceLevel	REG_DWORD	0xfcfcfcfc (4244438268)
 EnableACE	REG_DWORD	0xfcfcfcfc (4244438268)
 EnableFMD	REG_DWORD	0xfcfcfcfc (4244438268)
 EnableIS	REG_DWORD	0xfcfcfcfc (4244438268)
 EnableNLAS	REG_DWORD	0xfcfcfcfc (4244438268)
 EnableSTE	REG_DWORD	0xfcfcfcfc (4244438268)
 EnableSuperResolution	REG_DWORD	0xdfcabcd9 (3756702937)
 EnableTCC	REG_DWORD	0xfcfcfcfc (4244438268)
 GCompMode	REG_DWORD	0xc0000000 (3435973836)
 GExpMode	REG_DWORD	0xffffffff (4294967295)
 InputYUVRange	REG_DWORD	0xffffffff (4294967295)
 NLASLinearRegion	REG_DWORD	0xffffffff (4294967295)
 NLASNonLinearCrop	REG_DWORD	0x00000000 (0)
 NLASVerticalCrop	REG_DWORD	0x00000000 (0)
 NoiseReductionAutoDetectEnabl...	REG_DWORD	0xffffffff (4294967295)
 NoiseReductionEnableChroma	REG_DWORD	0xffffffff (4294967295)
 NoiseReductionEnabledAlways	REG_DWORD	0xffffffff (4294967295)
 NoiseReductionFactor	REG_DWORD	0xffffffff (4294967295)
 ProcAmpApplyAlways	REG_DWORD	0xfafbdcf (4210810110)
 ProcAmpBrightness	REG_DWORD	0xfeeeeeeef (4277071599)
 ProcAmpContrast	REG_DWORD	0xfeeeeeeef (4277071599)
 ProcAmpHue	REG_DWORD	0xfeeeeeeef (4277071599)
 ProcAmpSaturation	REG_DWORD	0xfeeeeeeef (4277071599)
 SatFactorBlue	REG_DWORD	0x000000a0 (160)
 SatFactorCyan	REG_DWORD	0x000000a0 (160)
 SatFactorGreen	REG_DWORD	0x000000a0 (160)
 SatFactorMagenta	REG_DWORD	0x000000a0 (160)
 SatFactorRed	REG_DWORD	0x000000a0 (160)
 SatFactorYellow	REG_DWORD	0x000000a0 (160)
 SharpnessEnabledAlways	REG_DWORD	0x77777777 (2004318071)
 SharpnessFactor	REG_DWORD	0x123da230 (306029104)
 SkinTone	REG_DWORD	0xfedc3210 (4275843600)
 SuperResolutionEnabled	REG_DWORD	0xf2da4fed (4074393581)
 SuperResolutionMode	REG_DWORD	0xfead0321 (4272751393)
 UISharpnessOptimalEnabledAlwa...	REG_DWORD	0xfedafdaf (4275764655)

My previous settings were not that good:

Name	Type	Data
 (Default)	REG_SZ	(value not set)
 AceLevel	REG_DWORD	0xacacacac (2896997548)
 EnableACE	REG_DWORD	0xacacacac (2896997548)
 EnableFMD	REG_DWORD	0xacacacac (2896997548)
 EnableIS	REG_DWORD	0xacacacac (2896997548)
 EnableNLAS	REG_DWORD	0xacacacac (2896997548)
 EnableSTE	REG_DWORD	0xacacacac (2896997548)
 EnableSuperResolution	REG_DWORD	0xdfcabcd9 (3756702937)
 EnableTCC	REG_DWORD	0xacacacac (2896997548)
 GCompMode	REG_DWORD	0xcacacacac (3435973836)
 GExpMode	REG_DWORD	0xaaaaaaaa (2863311530)
 InputYUVRange	REG_DWORD	0xffffffff (4294967295)
 NLASLinearRegion	REG_DWORD	0xffffffff (4294967295)
 NLASNonLinearCrop	REG_DWORD	0x00000000 (0)
 NLASVerticalCrop	REG_DWORD	0x00000000 (0)
 NoiseReductionAutoDetectEnabl...	REG_DWORD	0xffffffff (4294967295)
 NoiseReductionEnableChroma	REG_DWORD	0xffffffff (4294967295)
 NoiseReductionEnabledAlways	REG_DWORD	0xffffffff (4294967295)
 NoiseReductionFactor	REG_DWORD	0xffffffff (4294967295)
 ProcAmpApplyAlways	REG_DWORD	0xfafbdcf (4210810110)
 ProcAmpBrightness	REG_DWORD	0xfefefef (4277071599)
 ProcAmpContrast	REG_DWORD	0xfefefef (4277071599)
 ProcAmpHue	REG_DWORD	0xfefefef (4277071599)
 ProcAmpSaturation	REG_DWORD	0xfefefef (4277071599)
 SatFactorBlue	REG_DWORD	0x000000a0 (160)
 SatFactorCyan	REG_DWORD	0x000000a0 (160)
 SatFactorGreen	REG_DWORD	0x000000a0 (160)
 SatFactorMagenta	REG_DWORD	0x000000a0 (160)
 SatFactorRed	REG_DWORD	0x000000a0 (160)
 SatFactorYellow	REG_DWORD	0x000000a0 (160)
 SharpnessEnabledAlways	REG_DWORD	0x77777777 (2004318071)
 SharpnessFactor	REG_DWORD	0x123da230 (306029104)
 SkinTone	REG_DWORD	0xfedc3210 (4275843600)
 SuperResolutionEnabled	REG_DWORD	0xf2da4fed (4074393581)
 SuperResolutionMode	REG_DWORD	0xfead0321 (4272751393)
 UISharpnessOptimalEnabledAlwa...	REG_DWORD	0xfedafdaf (4275764655)

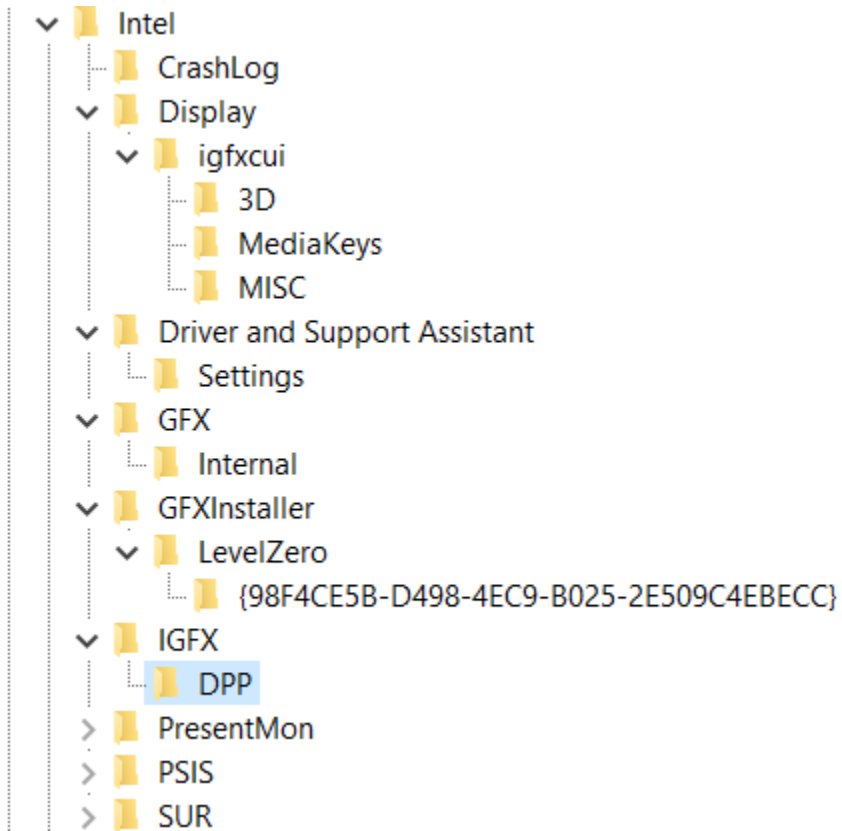
Name	Type	Data
 (Default)	REG_SZ	(value not set)
 AceLevel	REG_DWORD	0xe0000000 (4008636142)
 EnableACE	REG_DWORD	0xfefefefe (4278124286)
 EnableFMD	REG_DWORD	0xfefefefe (4278124286)
 EnableIS	REG_DWORD	0xfefefefe (4278124286)
 EnableNLAS	REG_DWORD	0xfefefefe (4278124286)
 EnableSTE	REG_DWORD	0xfefefefe (4278124286)
 EnableSuperResolu...	REG_DWORD	0x12345678 (305419896)
 EnableTCC	REG_DWORD	0xfefefefe (4278124286)
 GCompMode	REG_DWORD	0xfefefefe (4278124286)
 GExpMode	REG_DWORD	0xfefefefe (4278124286)
 InputYUVRange	REG_DWORD	0xffffffff (4294967295)
 NLASLinearRegion	REG_DWORD	0xffffffff (4294967295)
 NLASNonLinearCrop	REG_DWORD	0x00000000 (0)
 NLASVerticalCrop	REG_DWORD	0x00000000 (0)
 NoiseReductionAut...	REG_DWORD	0xffffffff (4294967295)
 NoiseReductionEna...	REG_DWORD	0xffffffff (4294967295)
 NoiseReductionEna...	REG_DWORD	0xffffffff (4294967295)
 NoiseReductionFac...	REG_DWORD	0xffffffff (4294967295)
 ProcAmpApplyAlw...	REG_DWORD	0xfafbdce (4210810110)
 ProcAmpBrightness	REG_DWORD	0x22222222 (572662306)
 ProcAmpContrast	REG_DWORD	0xffffffff (4294967295)
 ProcAmpHue	REG_DWORD	0x33333333 (858993459)
 ProcAmpSaturation	REG_DWORD	0xe0000000 (4008636142)
 SatFactorBlue	REG_DWORD	0x000000a0 (160)
 SatFactorCyan	REG_DWORD	0x000000a0 (160)
 SatFactorGreen	REG_DWORD	0x000000a0 (160)
 SatFactorMagenta	REG_DWORD	0x000000a0 (160)
 SatFactorRed	REG_DWORD	0x000000a0 (160)
 SatFactorYellow	REG_DWORD	0x000000a0 (160)
 SharpnessEnabled...	REG_DWORD	0x77777777 (2004318071)
 SharpnessFactor	REG_DWORD	0x123da230 (306029104)
 SkinTone	REG_DWORD	0xfedc3210 (4275843600)
 SuperResolutionEn...	REG_DWORD	0xdfceabfd (3754863613)
 SuperResolutionM...	REG_DWORD	0xfead0321 (4272751393)
 UISharpnessOptim...	REG_DWORD	0xfedafdaf (4275764655)




Name	Type	Data
 (Default)	RE...	(value not set)
 AceLevel	RE...	0xeeeeeeee (4008636142)
 EnableACE	RE...	0xfefefefe (4278124286)
 EnableFMD	RE...	0xfefefefe (4278124286)
 EnableIS	RE...	0xfefefefe (4278124286)
 EnableNLAS	RE...	0xfefefefe (4278124286)
 EnableSTE	RE...	0xfefefefe (4278124286)
 EnableSuperResolution	RE...	0x12345678 (305419896)
 EnableTCC	RE...	0xfefefefe (4278124286)
 GCompMode	RE...	0xfefefefe (4278124286)
 GExpMode	RE...	0xfefefefe (4278124286)
 InputYUVRange	RE...	0xffffffff (4294967295)
 NLASLinearRegion	RE...	0xffffffff (4294967295)
 NLASNonLinearCrop	RE...	0x00000000 (0)
 NLASVerticalCrop	RE...	0x00000000 (0)
 NoiseReductionAutoDetectEnabledAlways	RE...	0xffffffff (4294967295)
 NoiseReductionEnableChroma	RE...	0xffffffff (4294967295)
 NoiseReductionEnabledAlways	RE...	0xffffffff (4294967295)
 NoiseReductionFactor	RE...	0xffffffff (4294967295)
 ProcAmpApplyAlways	RE...	0xfafdbdfe (4210810110)
 ProcAmpBrightness	RE...	0x22222222 (572662306)
 ProcAmpContrast	RE...	0xffffffff (4294967295)
 ProcAmpHue	RE...	0x33333333 (858993459)
 ProcAmpSaturation	RE...	0xeeeeeeee (4008636142)
 SatFactorBlue	RE...	0x000000a0 (160)
 SatFactorCyan	RE...	0x000000a0 (160)
 SatFactorGreen	RE...	0x000000a0 (160)
 SatFactorMagenta	RE...	0x000000a0 (160)
 SatFactorRed	RE...	0x000000a0 (160)
 SatFactorYellow	RE...	0x000000a0 (160)
 SharpnessEnabledAlways	RE...	0x77777777 (2004318071)
 SharpnessFactor	RE...	0x123da230 (306029104)
 SkinTone	RE...	0xfedc3210 (4275843600)
 SuperResolutionEnabled	RE...	0xf6f5f4f3 (4143314163)
 SuperResolutionMode	RE...	0xfefefefe (4278124286)
 UISharpnessOptimalEnabledAlways	RE...	0xfedafdaf (4275764655)

Name	Type	Data
 (Default)	RE...	(value not set)
 AceLevel	RE...	0xfefefefe (4278124286)
 EnableACE	RE...	0xfefefefe (4278124286)
 EnableFMD	RE...	0xfefefefe (4278124286)
 EnableIS	RE...	0xfefefefe (4278124286)
 EnableNLAS	RE...	0xfefefefe (4278124286)
 EnableSTE	RE...	0xfefefefe (4278124286)
 EnableSuperResolution	RE...	0xfefefefe (4278124286)
 EnableTCC	RE...	0xfefefefe (4278124286)
 GCompMode	RE...	0xfefefefe (4278124286)
 GExpMode	RE...	0xfefefefe (4278124286)
 InputYUVRange	RE...	0xffffffff (4294967295)
 NLASLinearRegion	RE...	0xffffffff (4294967295)
 NLASNonLinearCrop	RE...	0x00000000 (0)
 NLASVerticalCrop	RE...	0x00000000 (0)
 NoiseReductionAutoDetectEnabledAlways	RE...	0x00000001 (1)
 NoiseReductionEnableChroma	RE...	0x00000001 (1)
 NoiseReductionEnabledAlways	RE...	0x00000001 (1)
 NoiseReductionFactor	RE...	0xffffffff (4294967295)
 ProcAmpApplyAlways	RE...	0x00000000 (0)
 ProcAmpBrightness	RE...	0x00000000 (0)
 ProcAmpContrast	RE...	0x3f800000 (1065353216)
 ProcAmpHue	RE...	0x00000000 (0)
 ProcAmpSaturation	RE...	0x3f800000 (1065353216)
 SatFactorBlue	RE...	0x000000a0 (160)
 SatFactorCyan	RE...	0x000000a0 (160)
 SatFactorGreen	RE...	0x000000a0 (160)
 SatFactorMagenta	RE...	0x000000a0 (160)
 SatFactorRed	RE...	0x000000a0 (160)
 SatFactorYellow	RE...	0x000000a0 (160)
 SharpnessEnabledAlways	RE...	0x00000001 (1)
 SharpnessFactor	RE...	0x123da230 (306029104)
 SkinTone	RE...	0xfedc3210 (4275843600)
 SuperResolutionEnabled	RE...	0xf2da4fed (4074393581)
 SuperResolutionMode	RE...	0x324defdf (843968479)
 UISharpnessOptimalEnabledAlways	RE...	0x00000001 (1)

There is one more thing to add:

- Computer\HKEY_LOCAL_MACHINE\SOFTWARE\Intel\IGFX\DPP



Name	Type	Data
 (Default)	REG_SZ	(value not set)
 DisableDPPTemporarily	REG_BINARY	00 00 00 00
 EnableHardware3DLUT	REG_DWORD	0x12312123 (305209635)

Edit DWORD: "EnableHardware3DLUT", set value: "12312123"