

Get NVMe support on unsupported bios with BIOS modding

Topic

1. BIOS MODIFY

My testing system

- Motherboard AsRock H77 Pro4/MVP
- CPU Intel i5-3570

My motherboard is not support NVMe in PCI slot by factory so I had to modify the BIOS by myself

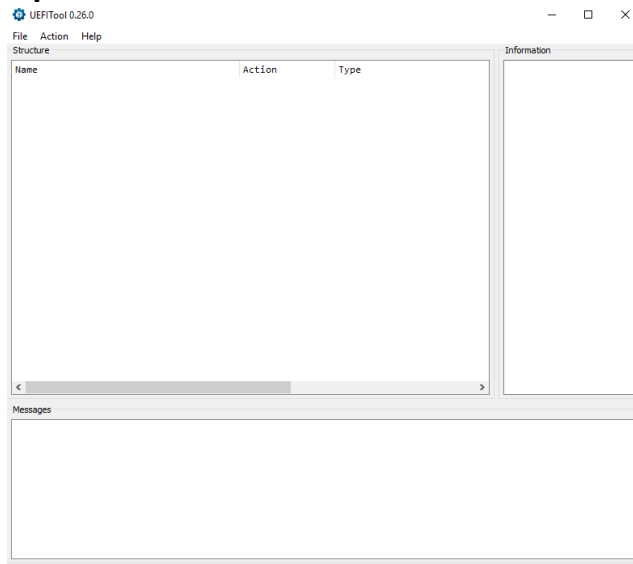
1.BIOS MODIFY

What you need

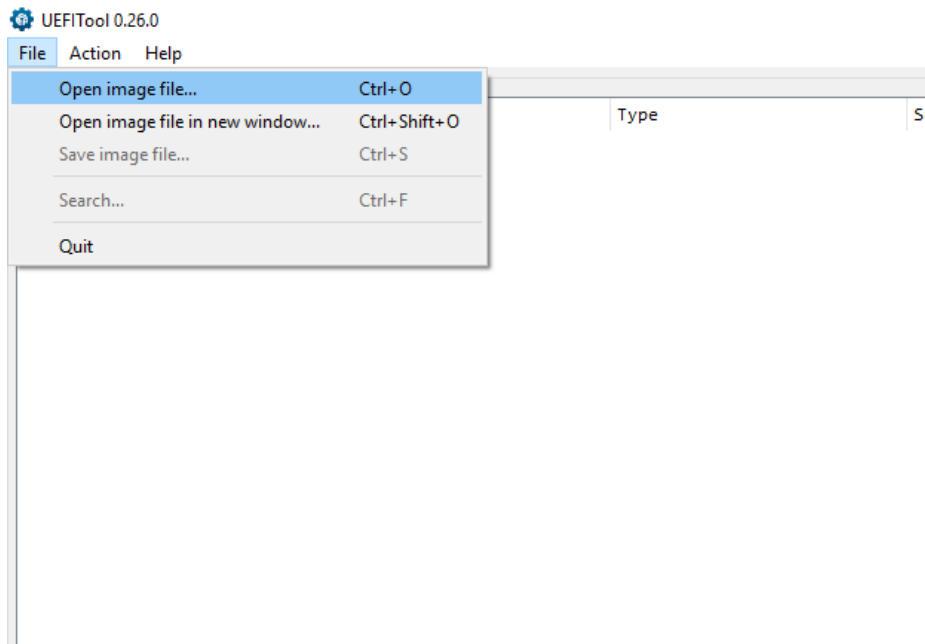
- Your BIOS file (get from your mainboard's website)
- UEFITool.exe
- NvmExpressDxe_4.ffs

Step

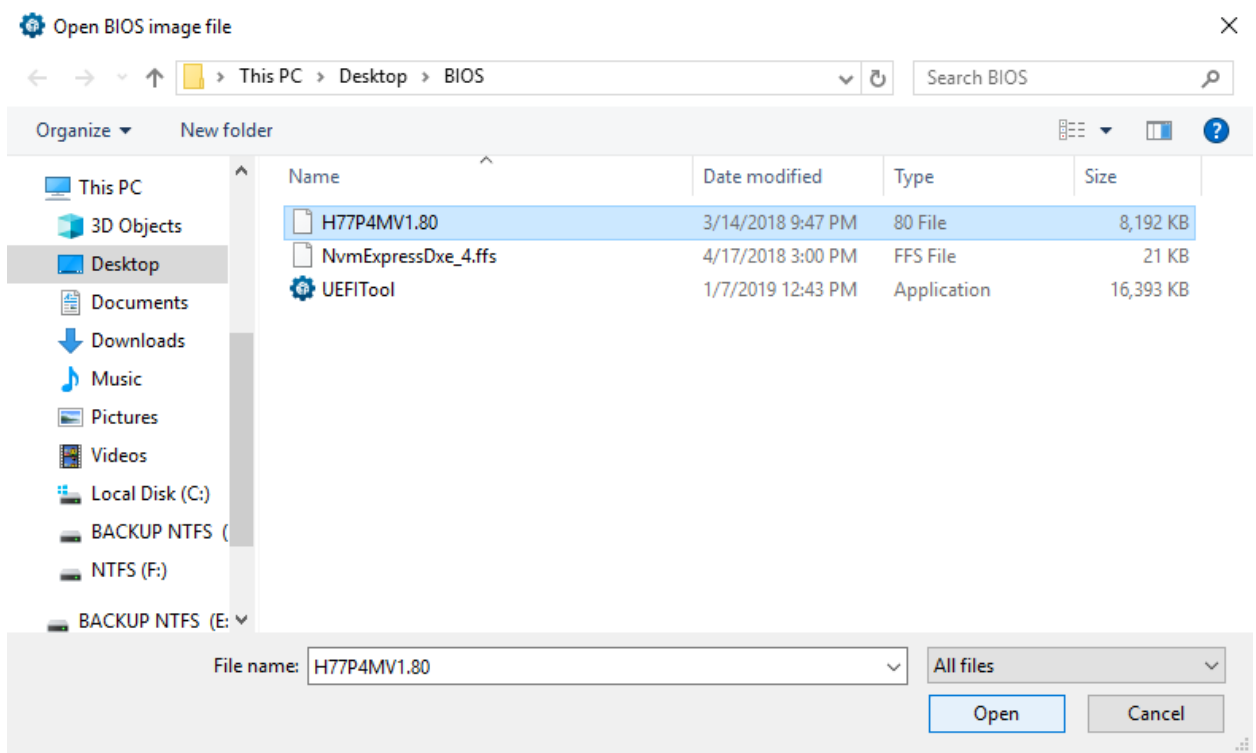
1. Open UEFITool.exe



2. Click File > Open image file...



3. Select your BIOS file



4. Click on Intel > BIOS region

UEFITool 0.26.0 - H77P4MV1.80

File Action Help

Structure

Name	Action	Type	Subtype
Intel image		Image	Intel
Descriptor region		Region	Descriptor
ME region		Region	ME
BIOS region		Region	BIOS
> 8C8CE578-8A3D-4F1C-993...		Volume	FFSv2
Padding		Padding	Empty (0xFF)
> 8C8CE578-8A3D-4F1C-993...		Volume	FFSv2
> 8C8CE578-8A3D-4F1C-993...		Volume	FFSv2
> 8C8CE578-8A3D-4F1C-993...		Volume	FFSv2

5. Click File > Search

UEFITool 0.26.0 - H77P4MV1.80

File Action Help

Open image file...	Ctrl+O
Open image file in new window...	Ctrl+Shift+O
Save image file...	Ctrl+S
Search...	Ctrl+F
Quit	

Name	Type	Subtype
Intel image	Image	Intel
Descriptor region	Region	Descriptor
ME region	Region	ME
BIOS region	Region	BIOS
> 8C8CE578-8A3D-4F1C-993...	Volume	FFSv2
Padding	Padding	Empty (0xFF)
> 8C8CE578-8A3D-4F1C-993...	Volume	FFSv2
> 8C8CE578-8A3D-4F1C-993...	Volume	FFSv2

6. Click on **Text** tab > Search for “DXE”

Search ? X

Hex pattern GUID Text

Text:

Text search options

☒ Unicode

☐ Case sensitive

OK Cancel

7. Double click on the last one

Volume	tree space	tree space
> 8C8CE578-8A3D-4F1C-993...	Volume	Volume
> 8C8CE578-8A3D-4F1C-993...	Volume	Volume

Messages
Unicode text "DXE" found in User interface section at offset 8h
Unicode text "DXE" found in User interface section at offset Eh
Unicode text "DXE" found in User interface section at offset 14h
Unicode text "DXE" found in User interface section at offset 1Ch
Unicode text "DXE" found in User interface section at offset 16h
Unicode text "DXE" found in User interface section at offset 8h
Unicode text "DXE" found in User interface section at offset 18h
Unicode text "DXE" found in User interface section at offset 10h
Unicode text "DXE" found in User interface section at offset Ah
Unicode text "DXE" found in User interface section at offset 6h
Unicode text "DXE" found in User interface section at offset 6h
Unicode text "DXE" found in User interface section at offset Ch
Unicode text "DXE" found in User interface section at offset 10h

8. Scroll to the first on sub-folder

UEFITool 0.26.0 - H77P4MV1.80

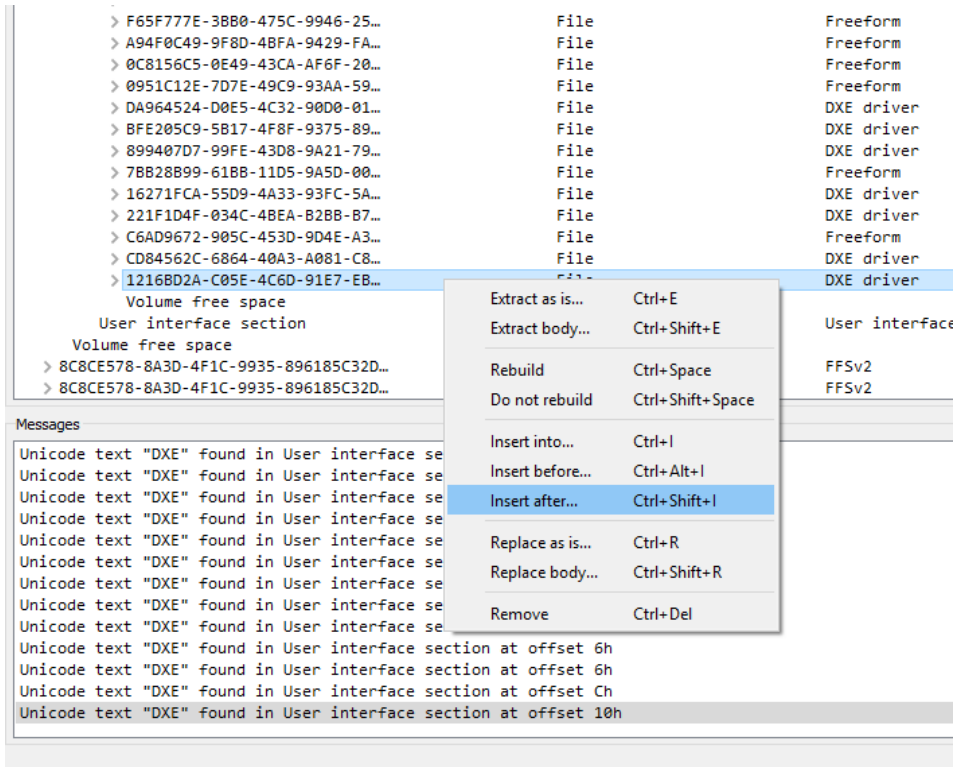
File Action Help

Structure

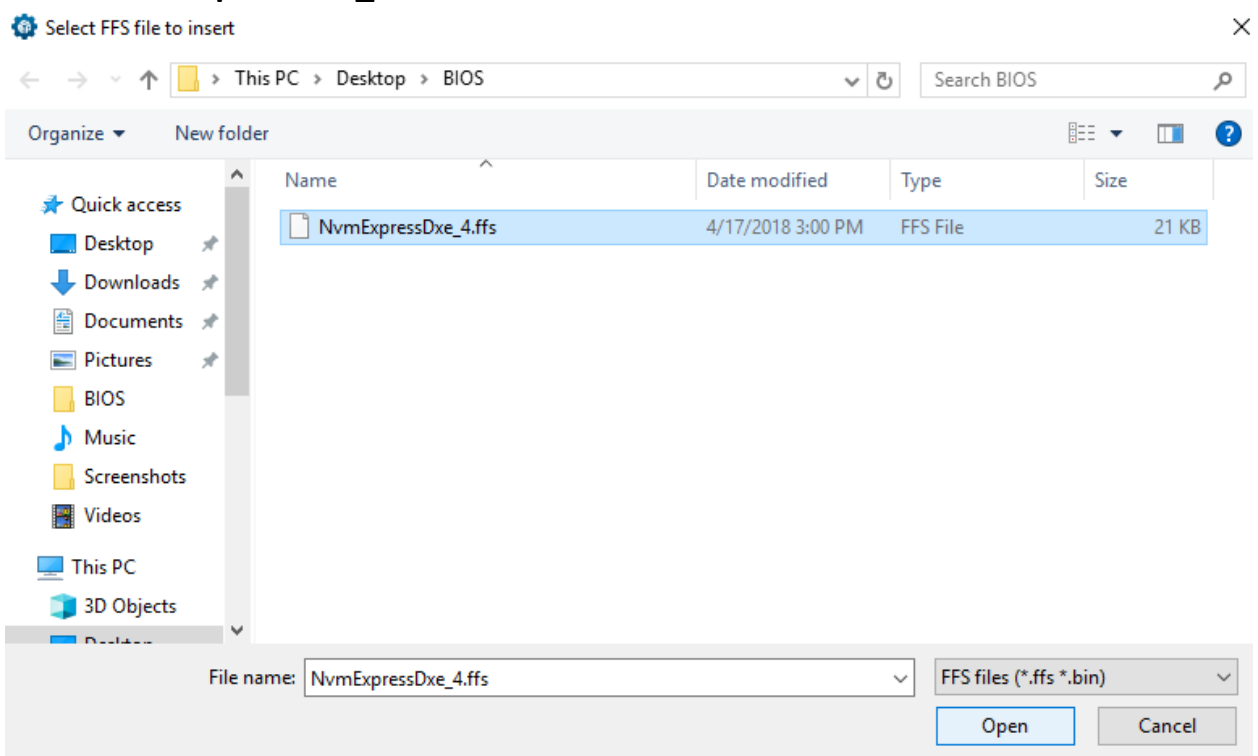
Name	Action	Type	Subtype	Text
Intel image		Image	Intel	
Descriptor region		Region	Descriptor	
ME region		Region	ME	
BIOS region		Region	BIOS	
> 8C8CE578-8A3D-4F1C-993...		Volume	FFSv2	
Padding		Padding	Empty (0xFF)	
> 8C8CE578-8A3D-4F1C-993...		Volume	FFSv2	
17088572-377F-44EF-8...		File	Raw	
> EFD652CC-0E99-40F0-9...		File	PEI module	S3Restore
> AE717C2F-1A42-4F2B-8...		File	Volume image	FV_MAIN_NESTED
Compressed section		Section	Compressed	
Volume image secti...		Section	Volume image	
> 8C8CE578-8A3D-4F...		Volume	FFSv2	
> 5C266089-E103-4...		File	DXE driver	IntelSaGopDriver
> 5BBA83E6-F027-4...		File	DXE driver	IntelIvbGopDriver
> 8D59EBC8-B85E-4...		File	DXE driver	IntelSnbGopDriver
Pad-file		File	Pad	
17088572-377F-4...		File	Raw	
> 2C29929E-27CF-4...		File	DXE driver	DRYDXE
> 9A55DA14-D845-4...		File	DXE driver	HDAudioDxe
> 4AC94F68-E651-4...		File	DXE driver	HDAudioSmi
> 8F5C2D02-AF2B-4...		File	DXE driver	FlashMeDxe
> B324F29B-5E97-4...		File	DXE driver	RTLANSMI
> 8B0E1353-358C-4...		File	DXE driver	RTLANDXE
> 3D9FC54D-19E5-4...		File	DXE driver	ASRLOGOODXE
> E03ABADF-E536-4...		File	DXE driver	CpuDxe
> 93022F8C-1F09-4...		File	DXE driver	FileSystem
> DAC2B117-B5FB-4...		File	Freeform	
> 9221315B-30BB-4...		File	Freeform	
> 5AE3F37E-4EAE-4...		File	DXE core	CORE_DXE
> CBC59C4A-383A-4...		File	DXE driver	Runtime

9. Scroll to the last one before free space

10. Click Insert after...



11. Select NvmExpressDxe_4.ffs

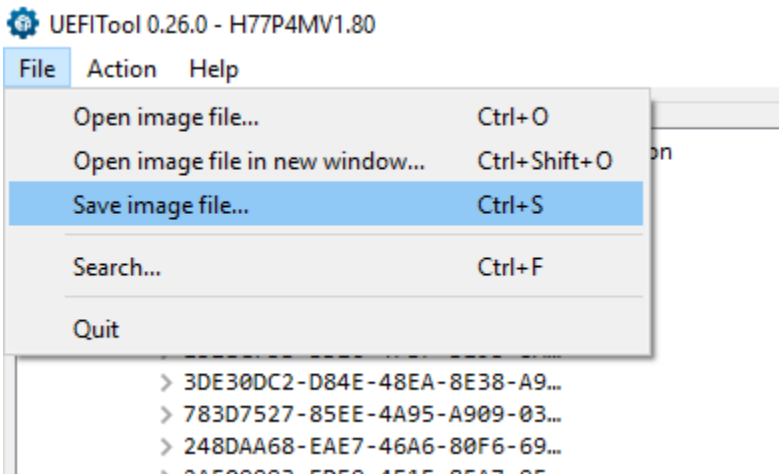


12. It should look like this

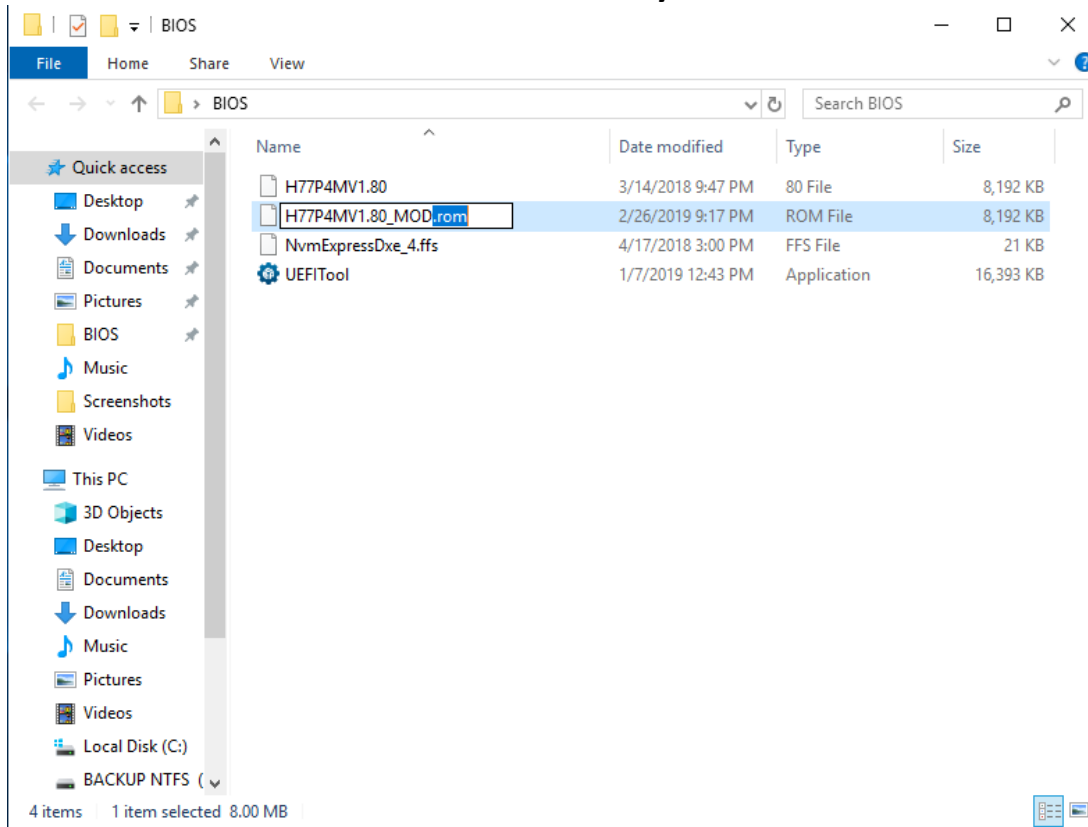
> A94F0C49-9F8D-4BFA-9429-FA...	File	Freeform	
> 0C8156C5-0E49-43CA-AF6F-20...	File	Freeform	
> 0951C12E-7D7E-49C9-93AA-59...	File	Freeform	
> DA964524-D0E5-4C32-90D0-01...	File	DXE driver	PMBUSDXE
> BFE205C9-5B17-4F8F-9375-89...	File	DXE driver	OEMDXE
> 899407D7-99FE-43D8-9A21-79...	File	DXE driver	Setup
> 7BB28B99-61BB-11D5-9A5D-00...	File	Freeform	
> 16271FCA-55D9-4A33-93FC-5A...	File	DXE driver	CRBDXE
> 221F1D4F-034C-48EA-B2BB-B7...	File	DXE driver	CRBSMI
> C6AD9672-905C-453D-9D4E-A3...	File	Freeform	
> CD84562C-6864-40A3-A081-C8...	File	DXE driver	CsplibDxe
> 1216BD2A-C05E-4C6D-91E7-EB...	File	DXE driver	aDefaultDXE
> 5BE3BDF4-53CF-46A3-A6A9-73... Insert	File	DXE driver	NvmExpressDxe_4
Volume free space	Free space		
User interface section	Section	User interface	
Volume free space	Free space		
> 8C8CE578-8A3D-4F1C-9935-896185C32D...	Volume	FFSv2	

Messages
Unicode text "DXE" found in User interface section at offset 8h
Unicode text "DXE" found in User interface section at offset Eh
Unicode text "DXE" found in User interface section at offset 14h
Unicode text "DXE" found in User interface section at offset 1Ch
Unicode text "DXE" found in User interface section at offset 1Ch

13. Click at File > Save image file...



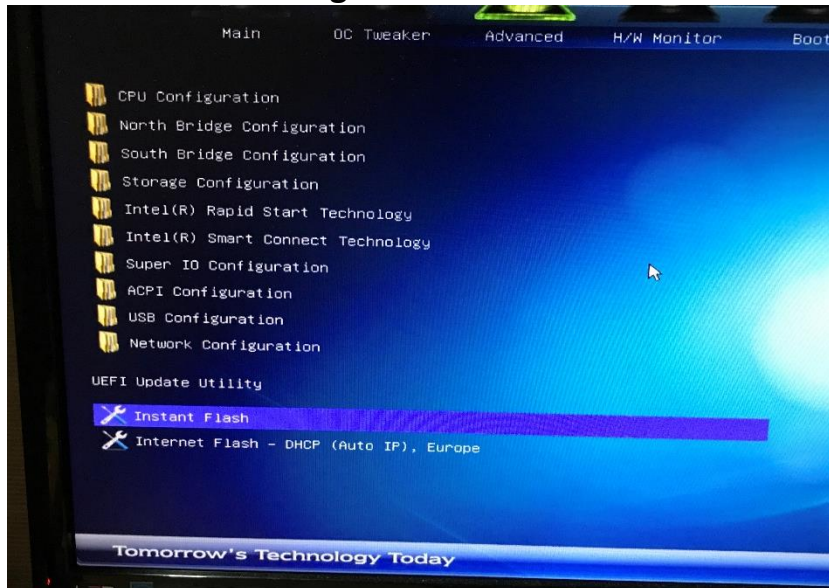
14. I had to remove .mod file extensions as my unmodified BIOS does't have



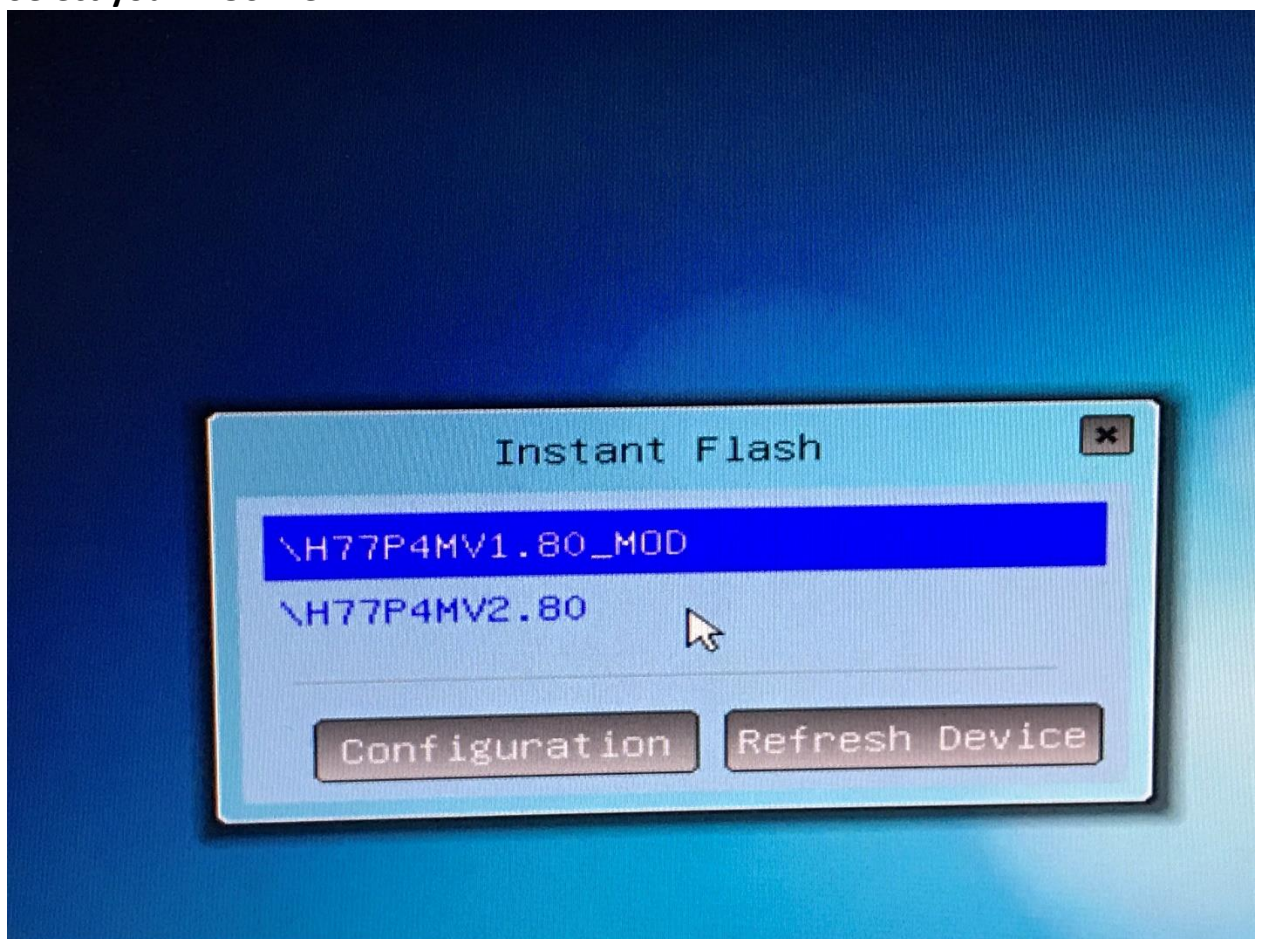
15. DONE FOR MODIFY BIOS STEP

2.BIOS FLASHING

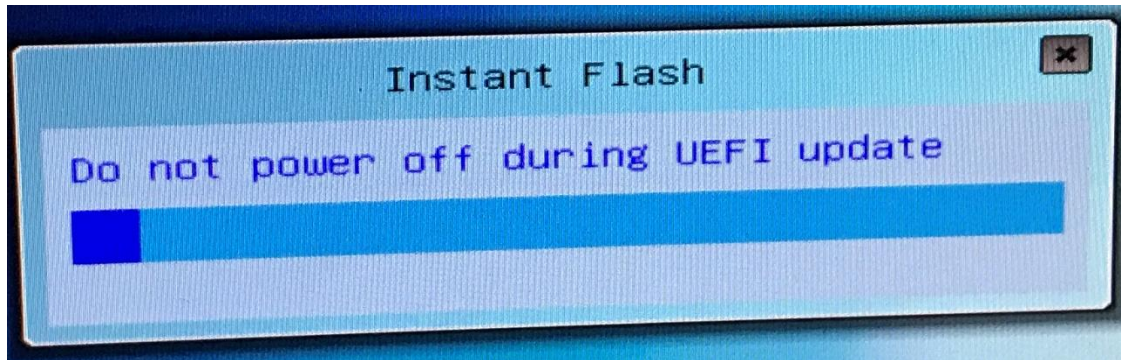
1. Boot into BIOS setting > Instant Flash



2. Select your BIOS file



3. Wait for it



4. Reboot

