



HighPoint NVMe UEFI ROM Update Guide (PC)

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Overview

This guide explains updating NVMe products' UEFI ROM using a PC platform.

The following is a list of supported NVMe AICs.

Supported AIC	SSD7105
	SSD7202
	SSD7502
	SSD7505
	SSD7540
	SSD7580A
	SSD7580B
	SSD7580C
	SSD7749M
	SSD7749E
	SSD6780A
	RocketAIC 7105HW Series
	RocketAIC 7502HW Series
	RocketAIC 7505HW Series
	RocketAIC 7540HW Series
	RocketAIC 7749EW Series
	RocketAIC 7749MW Series

Prerequisites

This section describes the base hardware and software requirements for NVMe products.

Update UEFI ROM

This section describes how to update the UEFI ROM using a PC.

Troubleshooting

Please consult this section if you encounter difficulties flashing NVMe products UEFI ROM. It includes descriptions and solutions for commonly reported technical issues.

Appendix

This section describes how to collect troubleshooting information for support cases you have submitted via our Online Support Portal.

Prerequisites

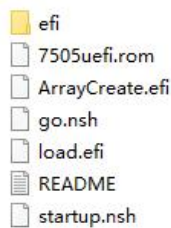
1. **NVMe Drives must be removed.** Please remove all NVMe drives from the NVMe products to avoid data loss.
2. **SSD6780A NVMe Enclosure requires power on.** The SSD6780A requires an integral connection to the PCIe slot and the Enclosure. First switch on the Enclosure power switch to power up the Enclosure, then power up the motherboard.
3. **A PCIe 3.0/4.0/5.0 slot with x8 or x16 lane.** The NVMe products must be installed into a PCIe 3.0/4.0/5.0 slot with x8 or x16 lanes.
4. **The motherboard needs to be booted into UEFI mode.** Confirm that the motherboard boots in UEFI mode.
5. **USB flash drive: FAT32 format.** Ensure the USB flash drive file system is in FAT32 format.

Update UEFI ROM

Step 1 Prepare UEFI ROM Package

1. Unzip the NVMe products UEFI package to the root dir (/) of a USB flash drive (e.g., FAT32), and insert the USB flash drive into the motherboard; Please download the UEFI software from the official website.

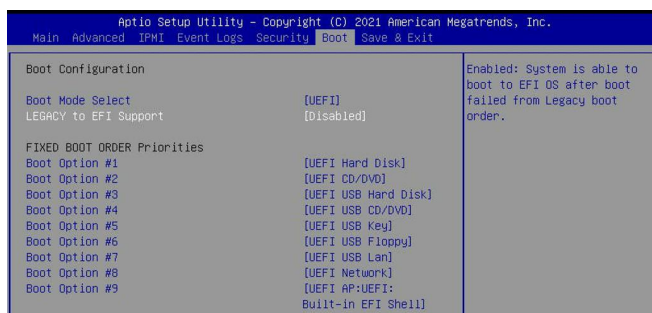
Example screenshot



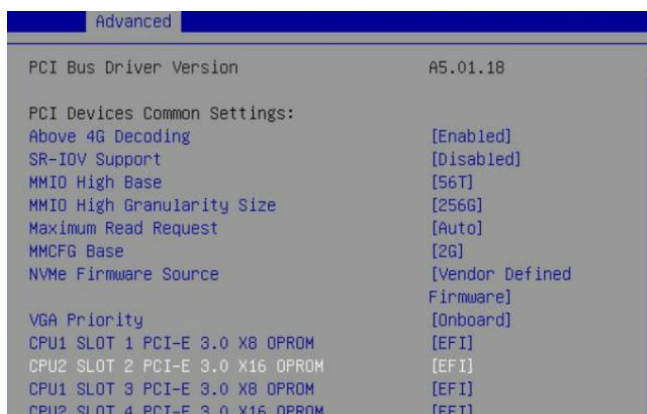
Note: the picture is only for reference

Step 2 Check System EFI Settings

1. Insert the NVMe products into the motherboard, power on the system, and enter the BIOS.
2. Change the UEFI settings (Example: SuperMicro X11DPi-NT motherboard):
 - a. Set 'Boot mode select' to 'UEFI'.



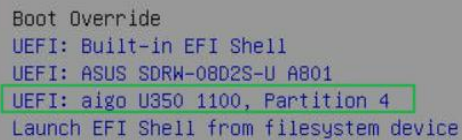
- b. Set the slot where the NVMe product is located in 'EFI'.



3. Save changes and reboot.

Step 3 Flash the UEFI ROM

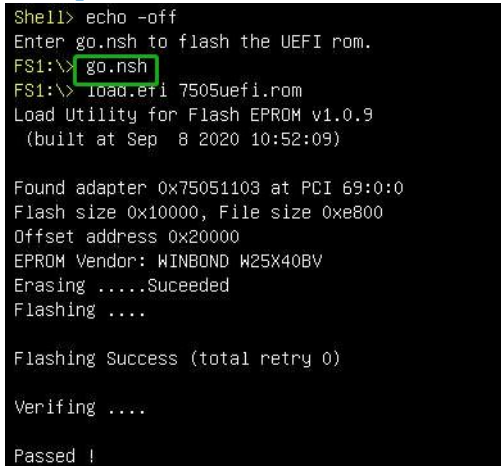
1. Boot from the UEFI USB flash drive and enter the UEFI interface;



A screenshot of a UEFI boot menu. The text is as follows:
Boot Override
UEFI: Built-in EFI Shell
UEFI: ASUS SDRW-08D2S-U A801
UEFI: aigo U350 1100, Partition 4
Launch EFI Shell from filesystem device

2. Enter the following command to flash the NVMe products: **go.nsh**
When the message ‘Passed’ appears, the flash is successful.

Example screenshot



A screenshot of a UEFI shell command execution. The text is as follows:
Shell> echo -off
Enter go.nsh to flash the UEFI rom.
FS1:\> go.nsh
FS1:\> load.efi 7505uefi.rom
Load Utility for Flash EPROM v1.0.9
(built at Sep 8 2020 10:52:09)

Found adapter 0x75051103 at PCI 69:0:0
Flash size 0x10000, File size 0xe800
Offset address 0x20000
EPROM Vendor: WINBOND W25X40BV
ErasingSucceeded
Flashing

Flashing Success (total retry 0)

Verifying

Passed !

Note: the picture is only for reference; please make the object the standard.

3. Reboot to complete the update process.

Troubleshooting

No supporting host adapter is found

When using the 'go.nsh' command, the procedure does not start and the message 'No supporting host adapter is found' is displayed.

Example screenshot

```
Shell> echo -off
Enter go.nsh to flash the UEFI rom.
FS1:\> go.nsh
FS1:\> load.efi 7103uefi.rom
Load Utility for Flash EPROM v1.0.9
(built at Sep 8 2020 10:52:09)
No supporting host adapter is found.
FS1:\> _
```

Solution:

Shut down the system, move the controller to another PCIe slot, and repeat the flash procedure. If the problem still occurs, please contact our Support Department. Refer to the Appendix for more information about which files and information should be included with your support case.

The UEFI Utility Reports No Supported Controller Detected

1. Boot from a UEFI device. The drive loads the UEFI BIOS after the old boot. Enter **ArrayCreate.efi** to create RIAD. The UEFI Utility Reports **No Supported Controller Detected**.

Example screenshot

```
Shell> echo -off
Enter go.nsh to flash the UEFI rom.
FS0:\> load.efi 7505uefi.rom
Load Utility for Flash EPROM v1.1.0
(built at Jan 5 2021 13:30:42)

Found adapter 0x75051103 at PCI 139:0:0
Flash size 0x10000, File size 0xee00
Offset address 0x20000
EPROM Vendor: WINBOND W25X40BV
Erasing ....Succeeded
Flashing ....

Flashing Success (total retry 0)

Verifying ....

Passed !
FS0:\> ArrayCreate.efi
Highpoint RAID utility for UEFI (version: 20200306)
No supported controller detected.
```

Note: If it cannot be loaded successfully, our UEFI rom is incompatible with the current UEFI environment.

2. Then enter **loadpcirom xxx.rom** in the UEFI Shell. Based on the output of this command, we can determine whether our UEFI driver is incompatible with your motherboard. If it can be loaded manually, the BIOS settings do not allow third-party ROM files to be loaded.

Example screenshot

```
No supported controller detected.
FS0:\ loadpcirom 7505uefi.rom
Image load result: Success
HighPoint NVMe RAID driver version v1.1.13
[81 00 ] SSD7505 found(0).
[ 00] device found (PCI address 85:00:00).
[ 01] device found (PCI address 86:00:00).
[ 02] device found (PCI address 87:00:00).
[ 03] device found (PCI address 88:00:00).
Adding HPT V00-0 SCSI Disk Device (RAID0) Capacity 8001GB BlockSize 512 Bytes
FS0:\> ArrayCreate.efi
Highpoint RAID utility for UEFI (version: 20200306)
==== Controller information:
    Vendor: HighPoint Technologies, Inc.
    Product: SSD7505 (7505)

==== Physical device list(count 4):
1/1 Samsung SSD 980 PRO 2TB-S69ENGONC00191X, 2000313MB(MaxFree 0MB), Normal
1/2 Samsung SSD 980 PRO 2TB-S69ENGONC00197M, 2000313MB(MaxFree 0MB), Normal
1/3 Samsung SSD 980 PRO 2TB-S69ENGONC00194K, 2000313MB(MaxFree 0MB), Normal
1/4 Samsung SSD 980 PRO 2TB-S69ENGONC00149T, 2000313MB(MaxFree 0MB), Normal

==== Logical device list(count 1):
1 [V00] RAID_0_1 (RAID0), 8001255MB (Stripe 512KB), Normal
    1/1 Samsung SSD 980 PRO 2TB
    1/2 Samsung SSD 980 PRO 2TB
    1/3 Samsung SSD 980 PRO 2TB
    1/4 Samsung SSD 980 PRO 2TB
-----
>>> Please specify command to execute:
<<< -
```


Appendix

Collecting NVMe products UEFI information

1. Unzip the NVMe products UEFI package to the root dir (/) of a USB flash drive, and insert the USB flash drive into the PC.
2. Ensure the NVMe product is installed into a PCIe 3.0/4.0/5.0 slot with x8 or x16 lanes.
3. Boot from the UEFI USB flash drive and enter the UEFI interface;
4. At the command prompt, type the following command and press Enter:

drivers

```
FS0:\> drivers
```

The following information will be displayed:

```
141 0000000A 0 N N 1 0 FAT File System Driver Fv(SD60F367-A505-419A-859E-2A4FF6C86F
E5)/FvFile(961578FE-B6B7-44C3-AF35-6B0705C02B1F)
142 0000000A 0 N N 2 0 SCSI Driver Fv(SD60F367-A505-419A-859E-2A4FF6C86F
E5)/FvFile(86CDDF93-4872-4597-9AF9-A35AE4D3725F)
143 0000000A 0 N N 2 0 SCSI Driver Fv(SD60F367-A505-419A-859E-2A4FF6C86F
E5)/FvFile(01670004-00F7-4FC1-8EF-3E6A9700CE8B)
144 0000000A 0 N N 0 0 Scsi Disk Driver Fv(SD60F367-A505-419A-859E-2A4FF6C86F
E5)/FvFile(0A66E322-3740-4CDE-AD62-BD12CDDA35)
144 0000000B 0 N N 0 0 Intel(R) VROC with VMD Technology 6 Fv(SD60F367-A505-419A-859E-2A4FF6C86F
E5)/FvFile(117828F1-D87D-4BC1-8B58-9A954FED5121)
148 00000001 0 N Y 0 0 Volume Management Device Driver Fv(SD60F367-A505-419A-859E-2A4FF6C86F
E5)/FvFile(217828C1-D875-5BC1-7B58-91354FED0101)
140 0001007F 0 N Y 0 0 Intel(R) DCPMM 1.0.0.3455 Driver Fv(SD60F367-A505-419A-859E-2A4FF6C86F
E5)/FvFile(5038F34E-0774-47A0-A5EF-4B94F1A43DA)
140 0001007F 0 N Y 0 0 Intel(R) DCPMM 1.0.0.3455 HII Drive Fv(SD60F367-A505-419A-859E-2A4FF6C86F
E5)/FvFile(5038E34E-0774-47A0-A5EF-4B94F1A43DA)
1B4 00000010 0 N N 0 0 AMI CSN Block I/O Driver Fv(SD60F367-A505-419A-859E-2A4FF6C86F
E5)/FvFile(258DF158-0061-4E44-9A48-56981E9AC6C7)
1B5 00000024 0 N N 0 0 BIOS [INT10] Video Driver Fv(SD60F367-A505-419A-859E-2A4FF6C86F
E5)/FvFile(29CF55F8-B675-4F50-8F2F-B87A8EDFD063)
1B6 00000010 0 N N 0 0 null string
1FA 00009803 0 N N 1 1 ASPEED Graphics Driver PciRoot(0x0)/Pci(0x1C,0x5)/Pci(0x0,0x
0)/Pci(0x0,0x0)/MemoryMapped(0x3,0x64272018,0x6427CA98)
354 02040500 0 N Y 1 1 Intel(R) 40GBE 2.4.05 PciRoot(0x1)/Pci(0x0,0x0)/Pci(0x0,0x0
)/Pci(0x3,0x0)/Pci(0x0,0x0)/Offset(0x11038,0x341FF)
355 02040500 0 N Y 1 1 Intel(R) 40GBE 2.4.05 PciRoot(0x1)/Pci(0x0,0x0)/Pci(0x0,0x0
)/Pci(0x3,0x0)/Pci(0x0,0x1)/Offset(0x11038,0x341FF)
356 0000FFFF 0 N N 0 0 HighPoint SSD7xx NVMe driver PciRoot(0x3)/Pci(0x0,0x0)/Pci(0x0,0x0
)/Pci(0x11,0x0)/Pci(0x0,0x0)/Pci(0x3,0x0)/Pci(0x0,0x0)/Offset(0x98,0xFDFD)
FS0:\>
```

5. Save the driver information that is displayed on the screen using the following command:

drivers > drivers.txt

```
FS0:\> drivers > drivers.txt
```

It will save drivers' log to the USB drive, as the file "**drivers.txt**".

6. At the command prompt, type the following command and press Enter:

pci

```
FS0:\> pci
```

The following information will be displayed:

```

00 07 05 02 ==> Base System Peripherals - Other system peripheral
Vendor 8086 Device 2035 Prog Interface 0
00 07 05 04 ==> Base System Peripherals - PIC
Vendor 8086 Device 2036 Prog Interface 20
00 07 0E 00 ==> Data Acquisition & Signal Processing Controllers - Performance Counters
Vendor 8086 Device 2058 Prog Interface 0
00 07 0E 01 ==> Base System Peripherals - Other system peripheral
Vendor 8086 Device 2059 Prog Interface 0
00 07 0F 00 ==> Data Acquisition & Signal Processing Controllers - Performance Counters
Vendor 8086 Device 2058 Prog Interface 0
00 07 0F 01 ==> Base System Peripherals - Other system peripheral
Vendor 8086 Device 2059 Prog Interface 0
00 07 12 00 ==> Data Acquisition & Signal Processing Controllers - Performance Counters
Vendor 8086 Device 204C Prog Interface 0
00 07 12 01 ==> Data Acquisition & Signal Processing Controllers - Performance Counters
Vendor 8086 Device 2040 Prog Interface 0
00 07 12 02 ==> Base System Peripherals - Other system peripheral
Vendor 8086 Device 204E Prog Interface 0
00 07 12 03 ==> Base System Peripherals - Other system peripheral
Vendor 8086 Device 2010 Prog Interface 0
00 07 15 01 ==> Data Acquisition & Signal Processing Controllers - Performance Counters
Vendor 8086 Device 2088 Prog Interface 0
00 07 15 02 ==> Base System Peripherals - Other system peripheral
Vendor 8086 Device 2010 Prog Interface 0
00 07 15 03 ==> Data Acquisition & Signal Processing Controllers - Performance Counters
Vendor 8086 Device 2088 Prog Interface 0
00 07 16 01 ==> Data Acquisition & Signal Processing Controllers - Performance Counters
Vendor 8086 Device 2088 Prog Interface 0
00 07 16 02 ==> Base System Peripherals - Other system peripheral
Vendor 8086 Device 2010 Prog Interface 0
00 07 16 03 ==> Data Acquisition & Signal Processing Controllers - Performance Counters
Vendor 8086 Device 2088 Prog Interface 0
    
```

7. Save the on-screen pci information using the following command:

pci > pci.txt

```

FS0:\> pci > pci.txt
    
```

This will save the pci's log to the USB boot drive, as the file "pci.txt".

8. You can now check the contents of the drivers.txt and pci.txt that were saved to the USB flash drive. The items highlighted in green below file indicate that the NVMe product was recognized and the driver loaded normally:

Example screenshot

drivers.txt:

```

110 00000000 ? N N 0 0 DNS Network Service Driver
111 0000000A ? N N 0 0 DHCP Protocol Driver
112 0000000A ? N N 0 0 IP4 Network Service Driver
113 0000000A ? N N 0 0 HTTP4 Network Service
114 0000000A ? N N 0 0 UDP Network Service Driver
115 0000000A ? N N 0 0 IP6 Network Service Driver
116 0000000A ? N N 0 0 UDP6 Network Service Driver
117 0000000A ? N N 0 0 DHCP6 Protocol Driver
118 0000000A ? N N 0 0 HTTP6 Network Service Driver
118 0000000A D N N 2 0 FAT File System Driver
11C 0000000A ? N N 0 0 ISCSI Driver
11D 0000000A ? N N 0 0 ISCSI Driver
11F 0000000A ? N N 0 0 SCSI Bus Driver
120 0000000A ? N N 0 0 Scsi Disk Driver
124 00010092 ? N Y 0 0 Intel(R) DCPMM 1.0.0.3474 Driver
125 00010092 ? N Y 0 0 Intel(R) DCPMM 1.0.0.3474 HII Drive
182 00000010 ? N N 0 0 AMI CSM Block I/O Driver
183 00000024 B N N 1 1 BIOS[INT10] Video Driver
184 00000010 ? N N 0 0 <null string>
2EF 00000011 B N N 1 2 HighPoint NVMe RAID driver v1.1.11
/Pci(0x0,0x0)/Offset(0x98,0xE7FF)
    
```

pci.txt:

```

Vendor 1000 Device C010 Prog Interface 0
00 44 14 00 ==> Bridge Device - PCI/PCI bridge
Vendor 1000 Device C010 Prog Interface 0
00 44 15 00 ==> Bridge Device - PCI/PCI bridge
Vendor 1000 Device C010 Prog Interface 0
00 45 00 00 ==> Mass Storage Controller - RAID controller
Vendor 1103 Device 7505 Prog Interface 0
00 47 00 00 ==> Mass Storage Controller - Other mass storage controller
Vendor 1000 Device C010 Prog Interface 0
00 5D 02 00 ==> Bridge Device - PCI/PCI bridge
Vendor 8086 Device 2032 Prog Interface 0
00 5D 05 00 ==> Base System Peripherals - Other system peripheral
Vendor 8086 Device 2034 Prog Interface 0
00 5D 05 02 ==> Base System Peripherals - Other system peripheral
Vendor 8086 Device 2035 Prog Interface 0
00 5D 05 04 ==> Base System Peripherals - PIC
Vendor 8086 Device 2036 Prog Interface 20
    
```

If you fail to update NVMe product UEFI ROM, please submit a support ticket using our [Online Support Portal](#), including a description of the problem in as much detail as possible, and upload the **driver.txt** & **pci.txt** information.