

BMC Update Guide

# Keysight M9037A BMC Update Utility



## Description

The Baseboard Management Controller (BMC) provides the “intelligence” in the Intelligent Platform Management Interface (IPMI) on a PC. Specifically, it manages the interface between the system management software and the platform hardware. Different types of sensors in the PC report various parameters to the BMC such as temperature, power status, OS status, etc. The BMC monitors these sensors and can send alerts to the system administrator if these parameters do not stay within bounds.

This update utility and documentation is for use with BMC updates versions **BMC1v8a** and later.

There are three primary steps to updating the M9037A PCIe Embedded Controller BMC:

1. Create a bootable USB flash drive
2. Use the USB flash drive to update your M9037A
3. Verify the update

### CAUTION

Step 2 contains a 20 second window of vulnerability while the update is in progress. If you remove power or pull the USB flash drive during this 20 second window, your M9037A will most likely lock-up and will not boot. To get your M9037A working again you must send it to Keysight for repair.

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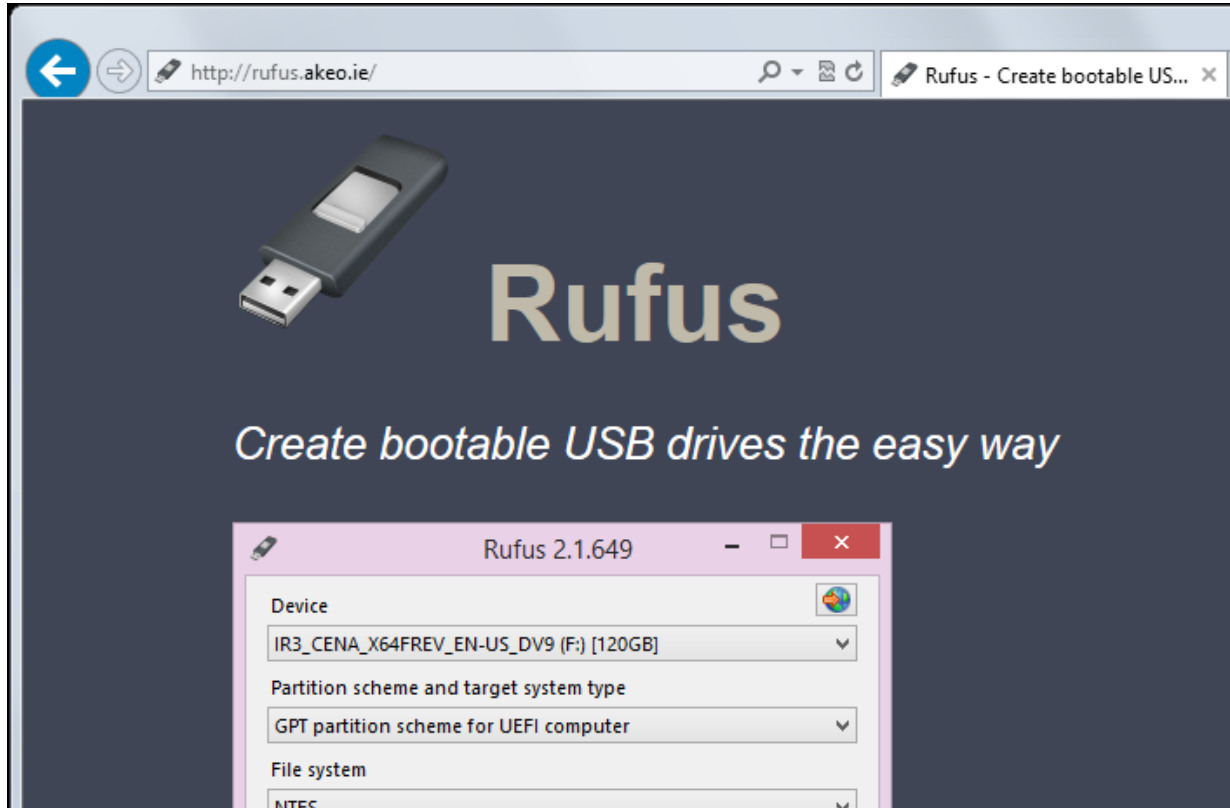
The following instructions use the Microsoft Windows Internet Explorer (IE) browser on a Keysight M9037A Embedded Controller. If you use a different browser or PC, the screens may look different from the pictures below.

## Step 1: Create a bootable USB flash drive

The following instructions are one possible method for creating a bootable USB flash drive. If you already have a bootable USB flash drive, you can skip this step. However, not all bootable USB flash drives provide the correct application environment for the Keysight BMC update utility. For example, booting to a Windows 7 System Recovery Disk and going to the command prompt won't work.

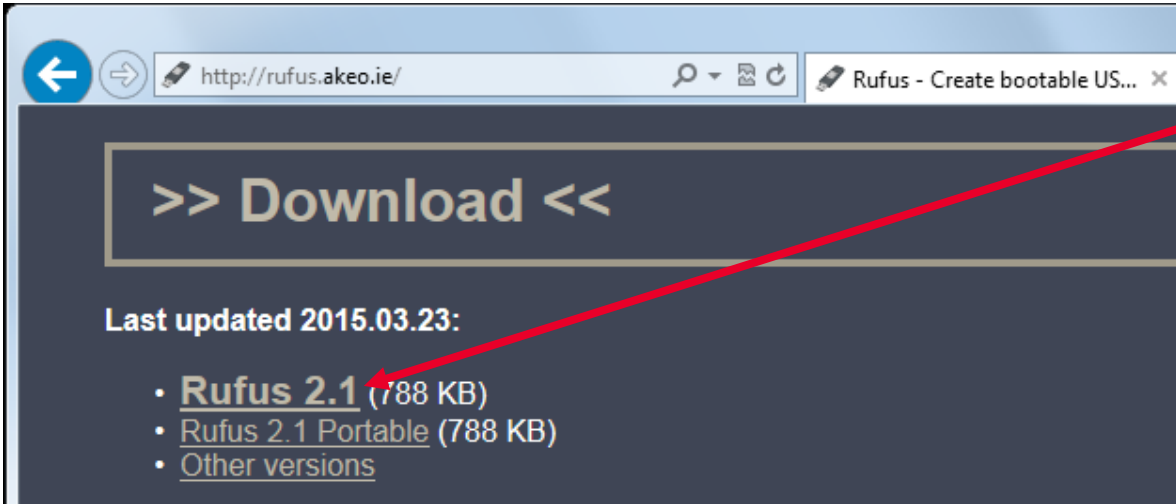
The following instructions use a 3<sup>rd</sup> party tool called Rufus. The open source license allows you to use it freely. The Rufus 2.1 default settings create a USB flash drive that boots into a DOS-compatible operating system called FreeDOS<sup>1</sup>. This works well with our BMC update utility.

1. Insert an empty USB flash drive into a USB port on the M9037A. A 128MB flash drive or larger should be used.
2. Run IE browser and go to this website: <https://rufus.akeo.ie/>. This opens the following window:

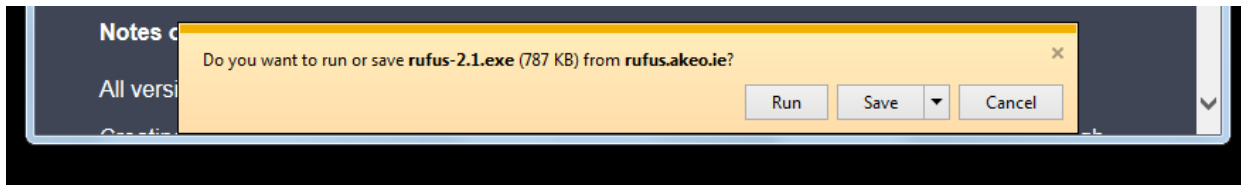


<sup>1</sup> For more information about FreeDOS, see: <http://www.freedos.org>

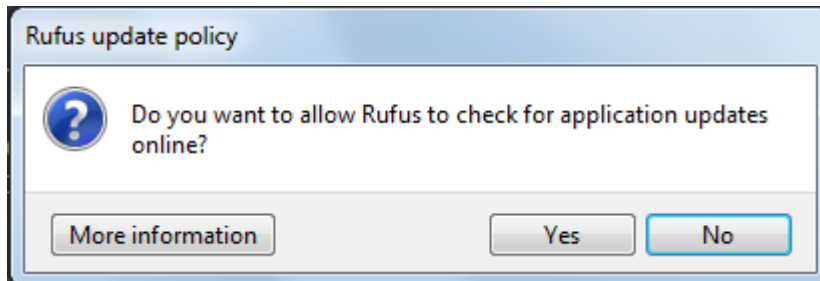
3. Scroll down to the “Download” section and click on the “Rufus” link.



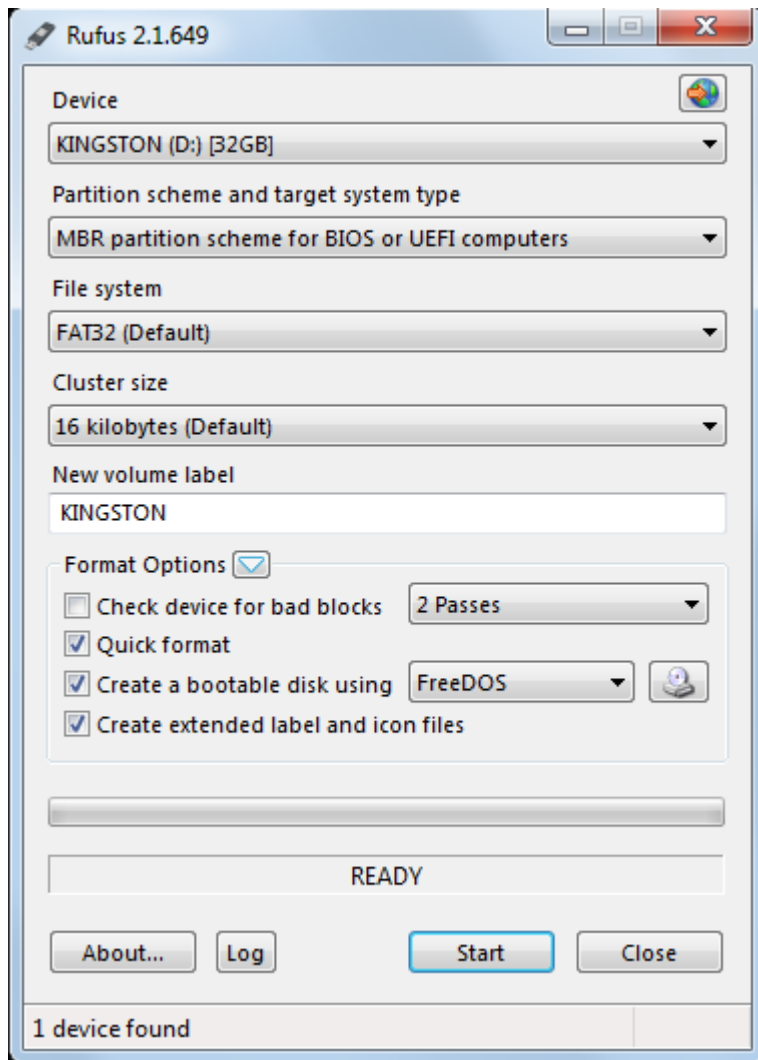
4. IE browser opens the following prompt. Click **Run**.



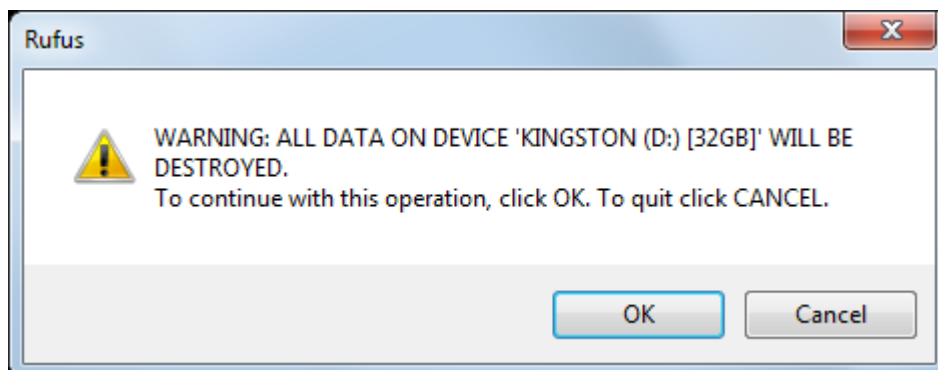
5. The Rufus utility downloads and runs. Click **No** when prompted about the **Rufus update policy**.



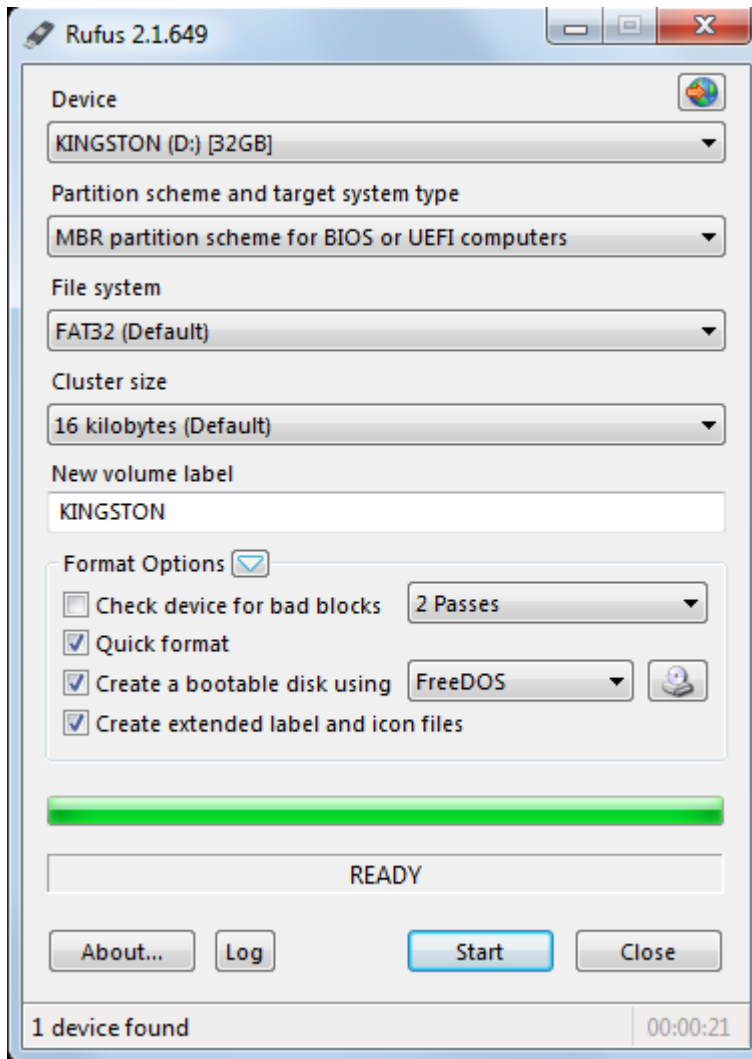
- Verify that the **Device** and drive shown are correct. In this example there is a 32GB Kingston flash drive.



- Click on **Start**.
- When prompted with the following warning, click **OK** to continue.



9. In less than 20 seconds the screen should look like this. Click **Close**.

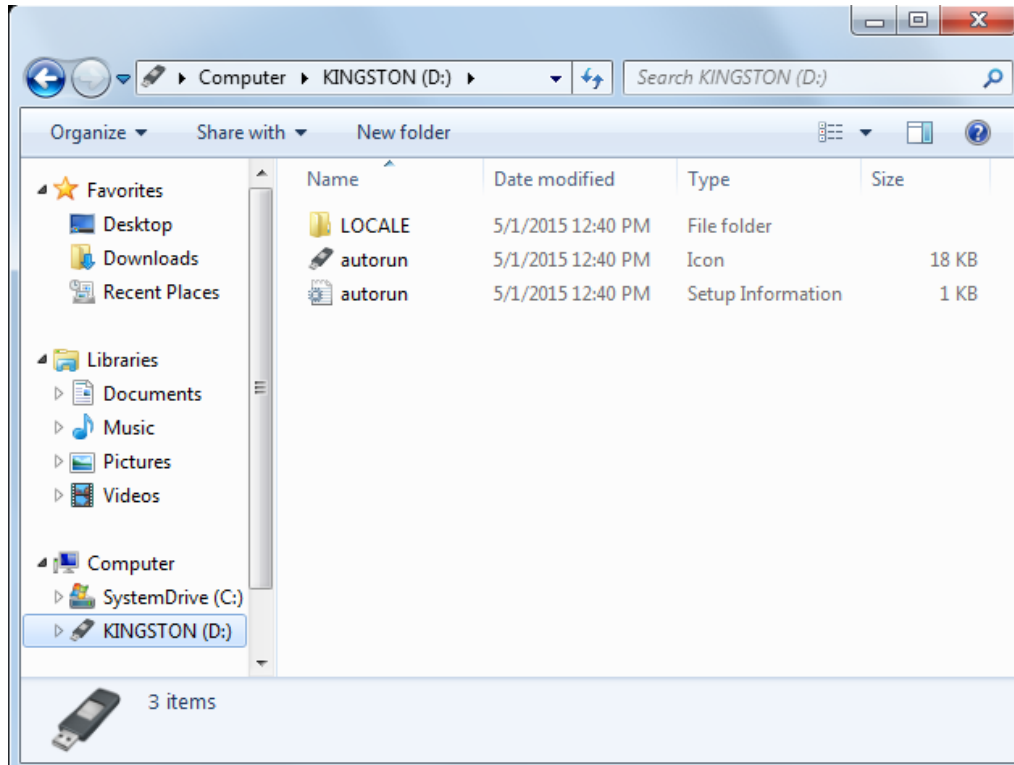


10. You have created a bootable USB flash drive that boots into a DOS-compatible operating system called FreeDOS. You are ready for Step 2.

## Step 2: Use the USB flash drive to update your M9037A

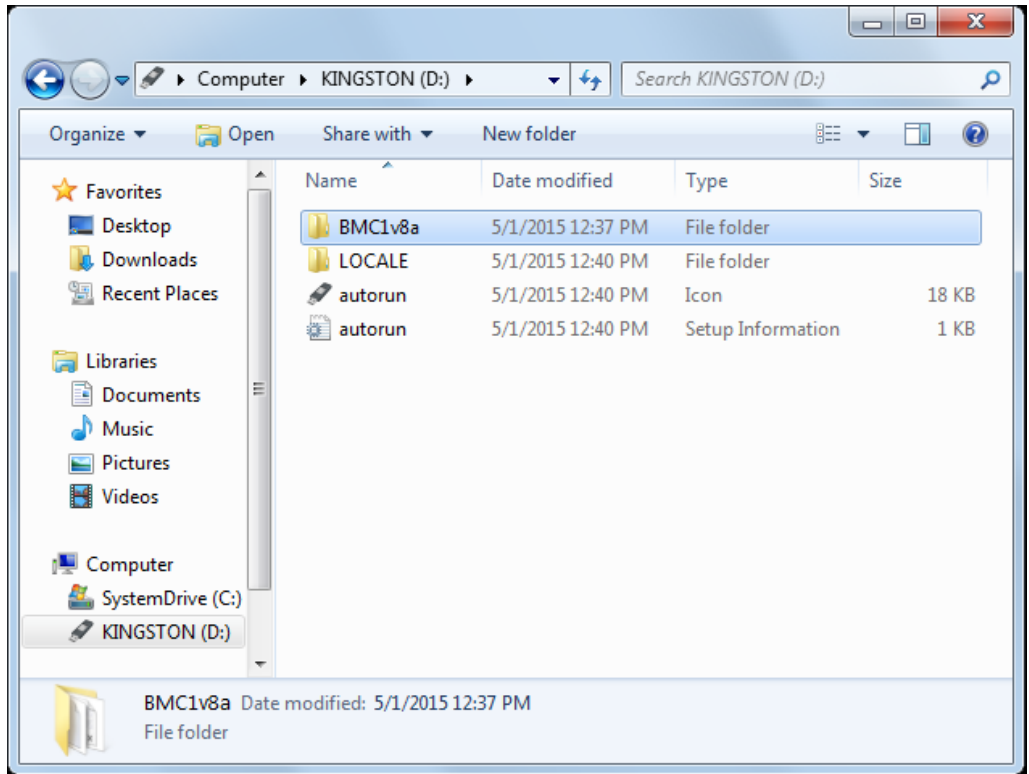
In this step you will update your M9037A to the new version of BMC.

1. Using the zip file you have received for this update, unzip it to your desktop.
2. Open Windows File Explorer and navigate to your USB flash drive. The screen should look something like this:

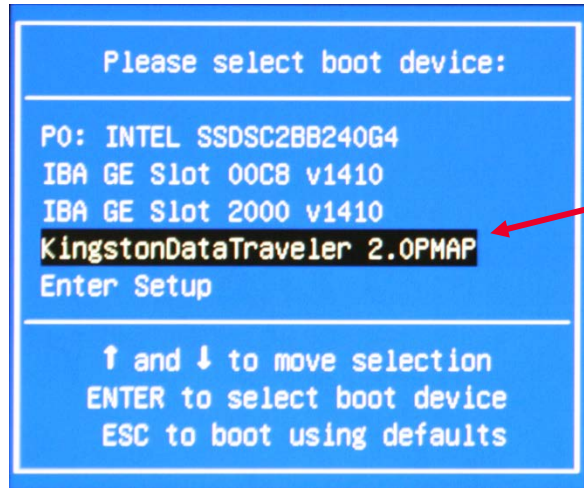




3. Drag and drop the folder you just placed on your desktop to the USB flash drive. The screen should now look like this.



4. With the USB flash drive plugged into the M9037A, reboot and press F7 during the boot up screen. Scroll down to your flash drive and press Enter.



Note: Your flash drive may appear different.

5. Within three seconds you will be booted to FreeDOS and have a command prompt.

```
FreeDOS kernel 2041 (build 2041 OEM:0x1d) [compiled Feb 7 2012]
Kernel compatibility 7.10 - MATCONC - 80386 CPU required - FAT32 support

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WARRANTY; you can redistribute it and/or modify it under the terms of the
GNU General Public License as published by the Free Software Foundation;
either version 2, or (at your option) any later version.
C: HD1, Pri[ 1], CHS= 0-32-33, start= 1 MB, size= 29773 MB

FreeCom version 0.84-pre2 XMS_Swap [Aug 28 2006 00:29:00]
Using US-English keyboard with US-English codepage [437]
C:\>_
```

6. Change to the folder that contains the BMC bits. In this example type “cd bmc1v8a” and press **Enter**.

**CAUTION**

The next step starts the 20 second window of vulnerability. If you remove power or pull the USB flash drive during this 20 second window, your M9037A will most likely lock-up and will not boot. To get your M9037A working again you must send it to Keysight for repair.

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7. Type “upbmc” and press **Enter** to start the update progress.

```
C:\BMC1V8A>
C:\BMC1V8A>upbmc
extend BIOS WDT to 12s
Got SMBus-Base = 0xf040
Done! (0x01)
force set power on node to remain off
Got SMBus-Base = 0xf040
Done! (0x02)
SMB-Version Read V1.7 for Intel SM-Bus Controller
78F0763 with 1024 Bytes User Space detected.
-----
Bootloader : bl_ExpHL 3v0 Sep 17 2013
Application: BMC Express-HL 1v8a Apr 9 2015
FFS-Header : OK

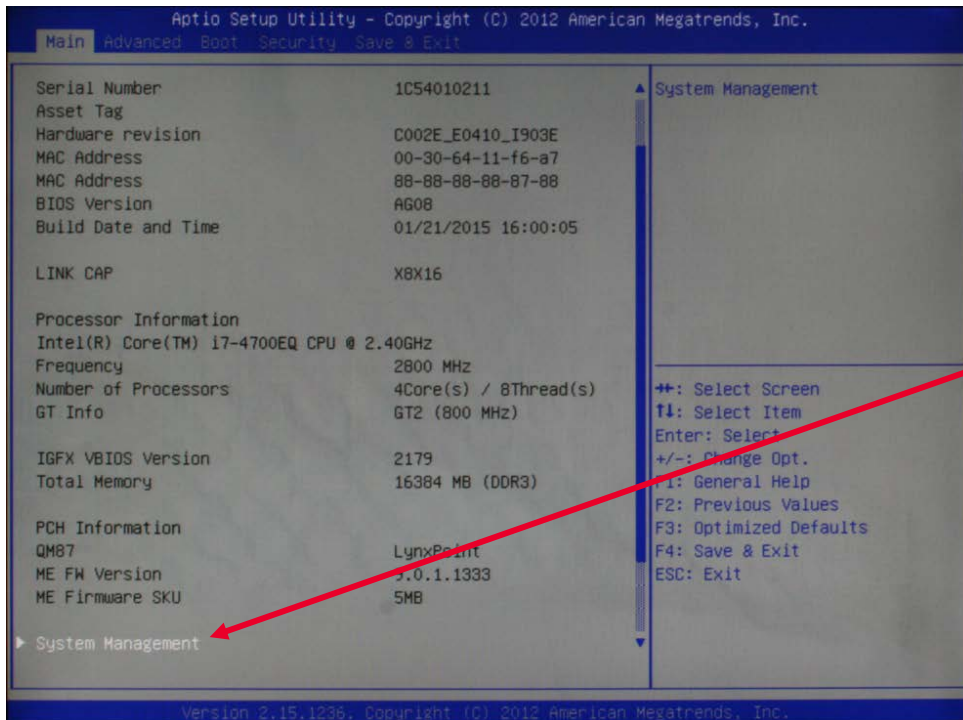
choice Update Express-HL BMC Firmware to Version 1.8a
Programming <Exp11v8a.hex> with 49232 Bytes
Got SMBus-Base = 0xf040
BOOTSYNC received
100% written
Done! (0x42)
C:\BMC1V8A>_
```

8. The update takes approximately 20 seconds. When the update is complete, the M9037A automatically powers-down. You are done with Step 2 and ready for Step 3.

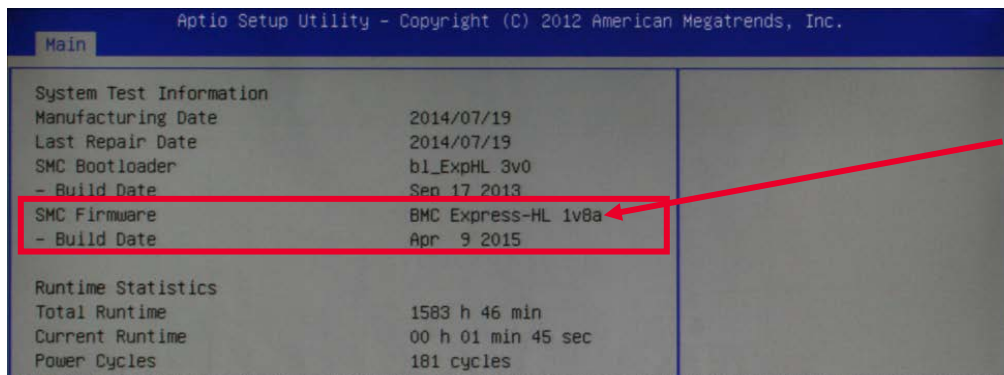
### Step 3: Verify the Update

In this step you will verify that the installed version of BMC is what you intended.

1. Remove the USB flash drive from the M9037A and power up the chassis.
2. On the boot-up screen press the **DEL** key to display the BIOS screen.
3. On the Main BIOS screen, cursor down to highlight **System Management**.



4. Press **Enter**. The System Management screen displays the version of BMC.



The line starting with “SMC Firmware” shows that the current version on the far right. In this example the BMC version is **1v8a**.

5. You have completed updating the BMC on your M9037A.

This information is subject to change without notice.

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<http://www.keysight.com>