



TQMxE39M uEFI BIOS Update Instruction

TQMxE39M BIOS Update 0100
2017-03-15

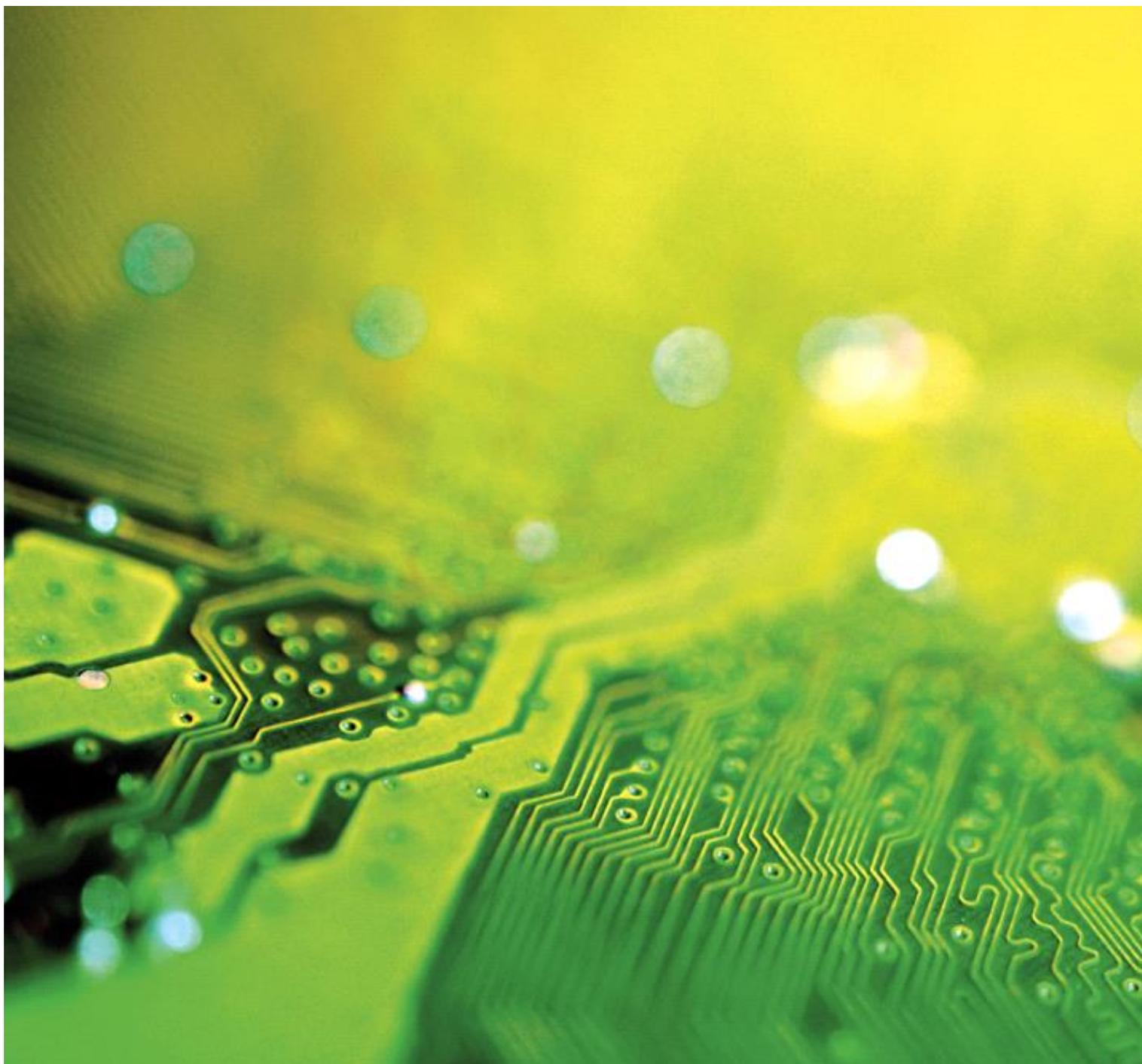


Table of contents

1.	ABOUT THIS MANUAL.....	2
1.1	Copyright.....	2
1.2	Registered trademarks.....	2
1.3	Disclaimer.....	2
1.4	Imprint	2
1.5	Service and support.....	2
2.	UEFI BIOS UPDATE INSTRUCTION.....	3
2.1	Step 2: Preparing USB Stick	3
2.2	Step 3a: Update uEFI BIOS on the TQMxE39M Module via uEFI Shell.....	3
2.3	Step 3b: Update uEFI BIOS on the TQMxE39M Module via Windows Operating System.....	5
2.4	Step 4: BIOS update check on the TQMxE39M Module.....	6

Update index:

Rev.	Date	Pos.	Name	Modification
0100	30.11.2016	All	Schwarz Ulrich	- Created document



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TQ-Systems GmbH

Gut Delling, Mühlstraße 2

82229 Seefeld

Tel: +49 (0) 8153 9308-0

Fax: +49 (0) 8153 9308-134

Email: info@tq-group.com

Web: <http://www.tq-group.com/>

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2. UEFI BIOS UPDATE INSTRUCTION

The uEFI BIOS update instruction serves to guarantee a proper way to update the uEFI BIOS on the TQMxE39M module. Please read the entire instructions before beginning the BIOS update. By disregarding the statements you can destroy the uEFI BIOS on the TQMxE39M module.

This document will guide the customer to update the uEFI BIOS on the uEFI BIOS Update Instruction module by using the Insyde Flash Firmware Tools.

Please contact support@tq-group.com for more information to the latest uEFI BIOS version for the TQMxE39M module.

Note: Installation procedures and screen shots



Installation procedures and screen shots in this section are for your reference and may not be exactly the same as shown on your screen.

2.1 Step 2: Preparing USB Stick

A USB stick with FAT32 format can be used. Copy the following files to the USB stick:

- H2OFFT-Sx64.efi (Flash Firmware Tool from Insyde for update via UEFI Shell)
- InsydeH2OFF_x86_WIN folder (Flash Firmware Tool from Insyde for update via Windows 32-bit system)
- InsydeH2OFF_x86_WINx64 folder (Flash Firmware Tool from Insyde for update via Windows 64-bit system)
- BIOS.bin file e.g TQMx39M_xx.bin

2.2 Step 3a: Update uEFI BIOS on the TQMxE39M Module via uEFI Shell

Plug the USB stick into the board you want to update the uEFI BIOS, and turn on the board. The board will boot and go to the internal EFI shell.

Usually, the device named "fs0" should be visible, which is the USB stick. If another hard disk is connected, the USB stick could be named as "fs1".

Move operating directory to USB drive with "fs0:"

If necessary, enter into the BIOS folder (e.g. "cd tqmxe39m") to execute the Insyde BIOS update tool:

```
H2OFFT-Sx64.efi <BIOS file TQMx39M_xx.bin> -all
```



```
EFI Shell version 2.50 [22035.20497]
Current running mode 1.1.2
Device mapping table
fs0      :HardDisk - Alias hd29b0a2 blk0
          :PciRoot(0x0)/Pci(0x12,0x0)/Sata(0x1,0x0,0x0)/HD(2,GPT,2E53D172-1B44-404F-A4DC-9E3318CAE31E,0xE1800,0x32000)
fs1      :Removable HardDisk - Alias hd36a0b blk1
          :PciRoot(0x0)/Pci(0x15,0x0)/USB(0x0,0x0)/HD(1,MBR,0x438CA2E6,0x3F,0x7787C0)
blk0     :HardDisk - Alias hd29b0a2 fs0
          :PciRoot(0x0)/Pci(0x12,0x0)/Sata(0x1,0x0,0x0)/HD(2,GPT,2E53D172-1B44-404F-A4DC-9E3318CAE31E,0xE1800,0x32000)
blk1     :Removable HardDisk - Alias hd36a0b fs1
          :PciRoot(0x0)/Pci(0x15,0x0)/USB(0x0,0x0)/HD(1,MBR,0x438CA2E6,0x3F,0x7787C0)
blk2     :HardDisk - Alias (null)
          :PciRoot(0x0)/Pci(0x12,0x0)/Sata(0x1,0x0,0x0)/HD(1,GPT,7CEC609F-6A09-4BA1-B598-3714BE77C360,0x800,0xE1000)
blk3     :HardDisk - Alias (null)
          :PciRoot(0x0)/Pci(0x12,0x0)/Sata(0x1,0x0,0x0)/HD(3,GPT,103B8817-B3E6-48B8-AF37-F0C381F97D77,0x113800,0x8000)
blk4     :HardDisk - Alias (null)
          :PciRoot(0x0)/Pci(0x12,0x0)/Sata(0x1,0x0,0x0)/HD(4,GPT,CACBA1F4-20AE-4C87-9CBC-9DA1F9C131BB,0x11B800,0xDE79000)
blk5     :BlockDevice - Alias (null)
          :PciRoot(0x0)/Pci(0x12,0x0)/Sata(0x1,0x0,0x0)
blk6     :BlockDevice - Alias (null)
          :PciRoot(0x0)/Pci(0x1C,0x0)/Ctrl(0x0)/Unit(0x0)
blk7     :Removable BlockDevice - Alias (null)
          :PciRoot(0x0)/Pci(0x15,0x0)/USB(0x0,0x0)

Press ESC in 2 seconds to skip startup.nsh, any other key to continue.
Shell> fs1:

fs1:\> H2OFFT-Sx64.efi TQMxE39M_2016-11-25.bin /all
```

Illustration 1: EFI Shell uEFI BIOS Update

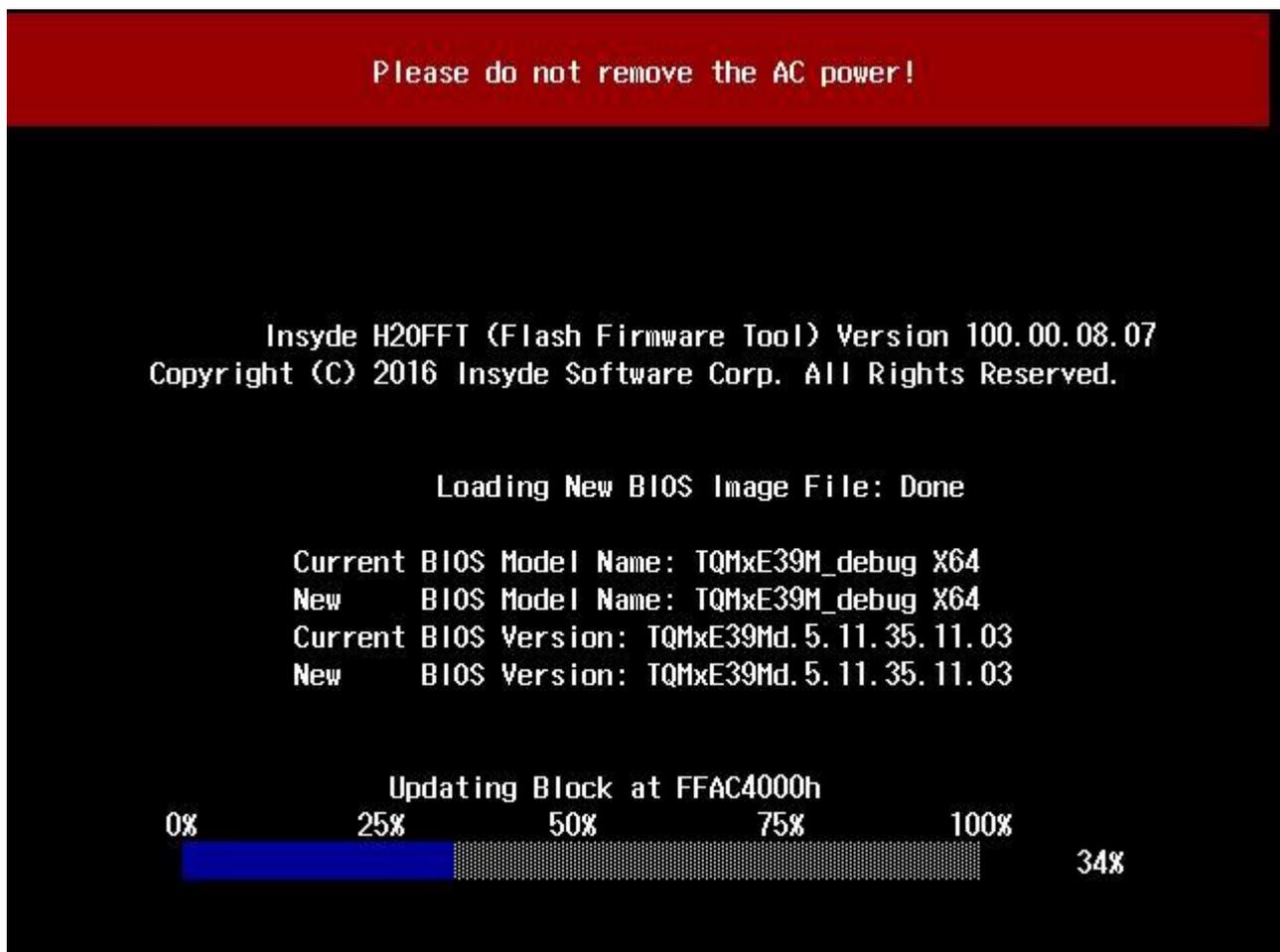


Illustration 2: uEFI BIOS Update window

2.3 Step 3b: Update uEFI BIOS on the TQMxE39M Module via Windows Operating System

Boot the Windows operating system (32-bit or 64-bit) and plug the USB stick into the board you want to update the uEFI BIOS.

By click on the windows button with the right mouse click start the Command prompt (CMD). Important the Command Prompt must be started in the administrator mode.

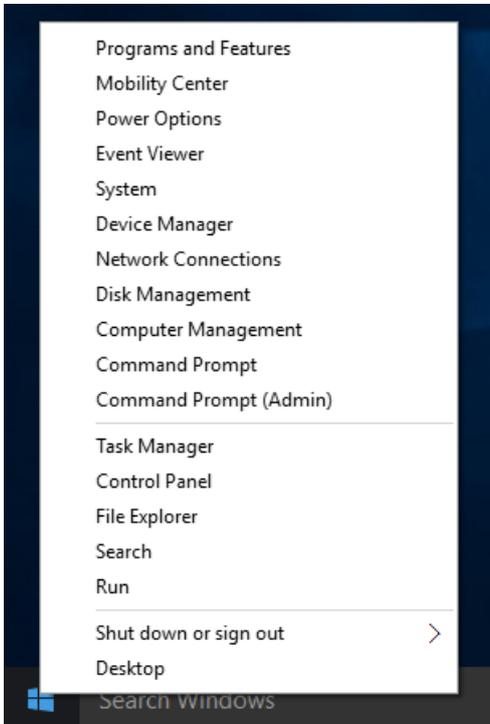


Illustration 3: Windows 10 Command Prompt (Admin)

Select the BIOS update folder with the Insyde Windows 32-bit or 64-bit update tool and execute the Insyde BIOS update tool.

```
H2OFFT-W.exe <BIOS file TQMx39M_xx.bin > -bios -all
```

```
H2OFFT-Wx64.exe <BIOS file TQMx39M_xx.bin > -bios -all
```

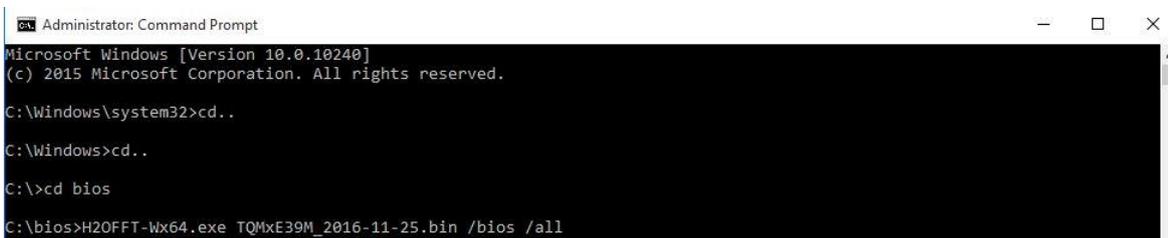


Illustration 4: start Windows 10 64-bit BIOS update

```
Administrator: Command Prompt - H2OFFT-Wx64.exe TQMxE39M_2016-11-25.bin /bios /all /n
C:\Windows\system32>cd..
C:\Windows>cd..
C:\>cd bios
C:\bios>H2OFFT-Wx64.exe TQMxE39M_2016-11-25.bin /bios /all

Please do not remove the AC power

Insyde H2OFFT (Flash Firmware Tool) Version (SEG) 100.00.07.21
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Initializing
File loading 100 %

Current BIOS Model name: TQMxE39M_debug X64
New BIOS Model name: TQMxE39M_debug X64

Current BIOS version: TQMxE39Md.5.11.35.11.03
New BIOS version: TQMxE39Md.5.11.35.11.03

[===== ] Updating Block at FFB97000h (44%)
```

Illustration 5: Windows 10 64-bit BIOS update

2.4 Step 4: BIOS update check on the TQMxE39M Module

After the uEFI BIOS update the new uEFI BIOS configures the complete TQMxE39M hardware and this results in some reboots and the first boot time takes longer (up to 1-2 minutes).

The TQMxE39M module includes a dual colour Debug LED providing boot and uEFI BIOS information. If green LED is blinking the uEFI BIOS is booting if the green LED is on uEFI BIOS boot is finished.

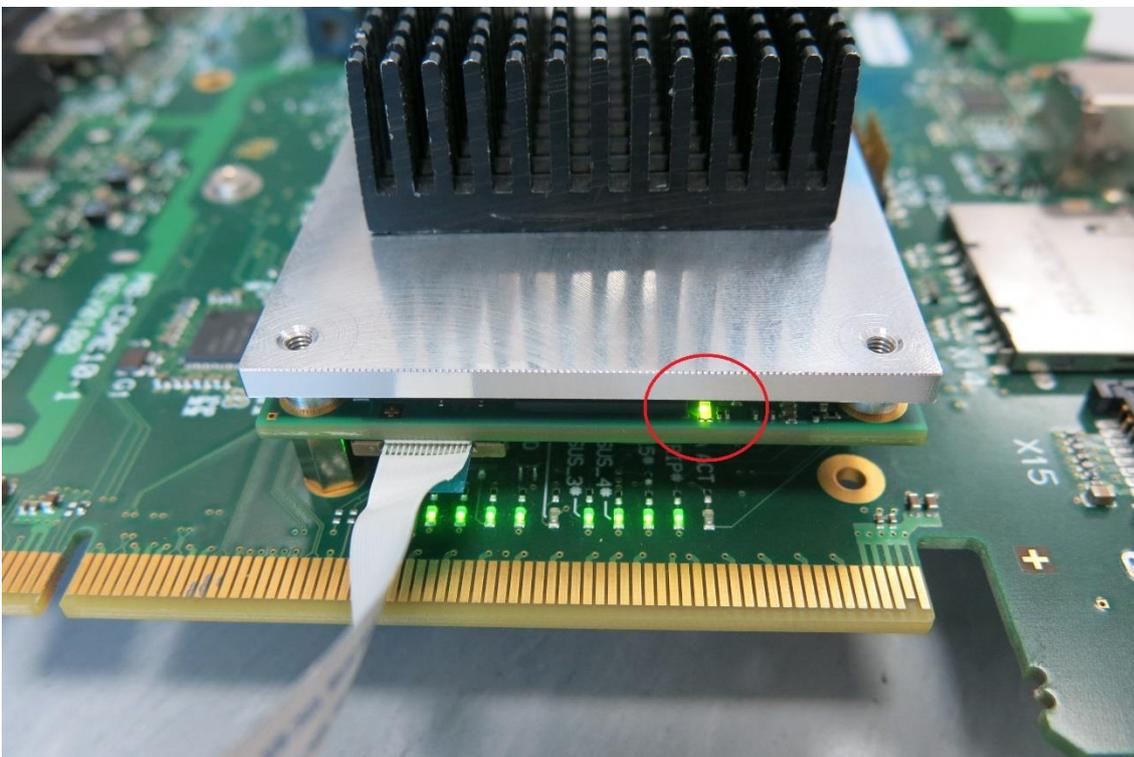


Illustration 6: TQMxE39M green Debug LED

After the uEFI BIOS has been flashed completely, please power off the board, and power on to check whether the uEFI BIOS has been flashed successfully. The BIOS Main menu includes the board and hardware information and it shows the installed BIOS version.



InsydeH20 Setup Utility		Rev. 5.0
Main Advanced Security Power Boot Exit		
InsydeH20 Version	TQMxE39Md.5.11.35.11.03	Select the current default language used by the InsydeH20.
UEFI Version	2.50	
Product Name	TQMxE39M_debug X64	
Build Date	11/25/2016 11:15:10	
Processor Type	Intel(R) Atom(TM) Processor E3950 @ 1.60GHz	
System Bus Speed	100 MHz	
System Memory Speed	1866 MHz	
Cache RAM	1024 KB	

Illustration 7: EFI BIOS Main Menu

