

UM0993 User manual

How to upgrade the firmware of the STEVAL-MKI062V2 iNEMO[™] inertial module V2 demonstration board

Introduction

This user manual describes the procedure required to upgrade the device firmware of the STEVAL-MKI062V2 iNEMO[™] inertial module V2 demonstration board based on MEMS and the STM32.

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1 Using DFU with the STEVAL-MKI062V2 iNEMO V2 platform

- 1. Install the DfuSe.exe, which can be downloaded from: http://www.st.com/stonline/products/families/evaluation_boards/steval-mki062v2.htm
- 2. Enter DFU mode. This can be done either through hardware or software.
 - Hardware: unplug the USB cable, press the SW2 button and, keeping the button pressed, connect the USB cable to the PC.
 - Software: connect the USB cable, open the iNEMO application and press the Connect button. Then go to Tools -> Communication -> Enter DFU Mode (see *Figure 1*). Click "Yes" (see *Figure 2*).

Figure 1. How to enter DFU mode through the iNEMO GUI







Figure 2. Confirm entry in DFU mode through the iNEMO GUI

 Open DfuSe Demonstration from "Start -> Programs -> STMicroelectronics -> DfuSe -> DfuSe Demonstration". If the device is in DFU mode, it appears in the box circled in red in *Figure 3*.



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4. Load the .dfu file (example: from the iNEMO V2 application installation folder, select \Firmware\DFU_Images\ iNEMOV2 Firmware_Package_V1.0.dfu), as shown in *Figure 4*.

DfuSe Demo (v Available DFU and STM Device in DF Supports Uplov Supports Down Can Detach Enter DFU mode/	3.0.1) compatible HID Device: U Mode ad Manifest nload Accelera HID detach Leave	s Application Mode: Vendor ID: Procuct ID: Procuct ID: Version:	Vendor ID: 0483 Procuct ID: DF11 Version: 0200	
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Figure 4. How to load the .dfu file from the DfuSe GUI





5. Verify that the vendor ID and product ID are 0483 and 7007, respectively (see *Figure 5*).

Supports Upload Manifestation tolerant Vendor ID: Vendor ID: Vendor ID: U483 Supports Download Accelerated Upload (ST) Procuct ID: Procuct ID: Procuct ID: DF11 Can Detach Leave DFU mode Version: 0200 Version: 0200 Actions Select Target(s): Target Id Name Available Sectors (Double Click for more) 00 Upload Action File: NEMOV2_Firmware_PackageV1.0.dfu Version: 000 ST File: Upload Targets in file: Version: 000 ST Transferred data size 0 KB(0 Bytes) of 0 KB(0 Bytes) Version: 0001 ST Operation duration 00:00:00 Choose Upgrade duration (Remove some FFs)	STM Device in DF	'U Mode	Application Mode:	DFU Mode:
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	Choose	. Upload Procuct ID:	0483 Targets in fi 7007 00 ST	le:

Figure 5. Verify the vendor ID and product ID

6. Check the "Verify after download" and "Optimize Upgrade duration (Remove some FFs)" check boxes, then press "Upgrade". When message box appears, click "Yes" to continue (*Figure 6*).

Figure 6. Upgrade the firm	ware
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7. Check that the "Verify Successful!" message is displayed, as in *Figure 7*.

Figure 7.	Verify the upgrade
	🧼 DfuSe Demo (v3.0.0)
	Available DFU and compatible HID Devices STM Device in DFU Mode S Supports Upload Manifestation tolerant Supports Download Accelerated Upload (ST) Can Detach Enter DFU mode/HID detach Leave DFU mode Actions
	Select Larget(s): Target Id Name Available Sectors (Double Click for more) 00 Internal Flash 256 sectors
	Upload Action File: Upgrade or Verify Action File: iNEMOV2_Firmware_PackageV1.0.dfu Choose Upload Transfered data size 00 26 KB(27316 Bytes) of 26 KB(27316 Bytes)
	Time duration OU:00:08 Upgrade duration [Hemove some FFs] 00:00:08 Choose Upgrade Verify Target 00: Verify successful ! Abort Quit

8. Press the "Leave DFU mode" button to exit DFU mode. You can also exit from DFU mode through a hardware reset (*Figure 8* and *9*).

Available DFU and STM Device in DF Supports Uplo Supports Dow Can Detach Enter DFU mode/ Actions	3.0.0) compatible HID Devices U Mode Id Manifestation Iload Accelerated I HID detach	Applicati tolerant Upload (ST) U mode	ion Mode: DFL D: DFL D: Proc n: Ve	J Mode: dor ID: 0483 cuet ID: DF11 ersion: 0200
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Figure 8. How to leave DFU mode

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Figure 9. Verify DFU mode exit



2 Revision history

Table 1.Document revision history

Date	Revision	Changes
10-Sep-2010	1	Initial release.

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