Manuals+ — User Manuals Simplified.

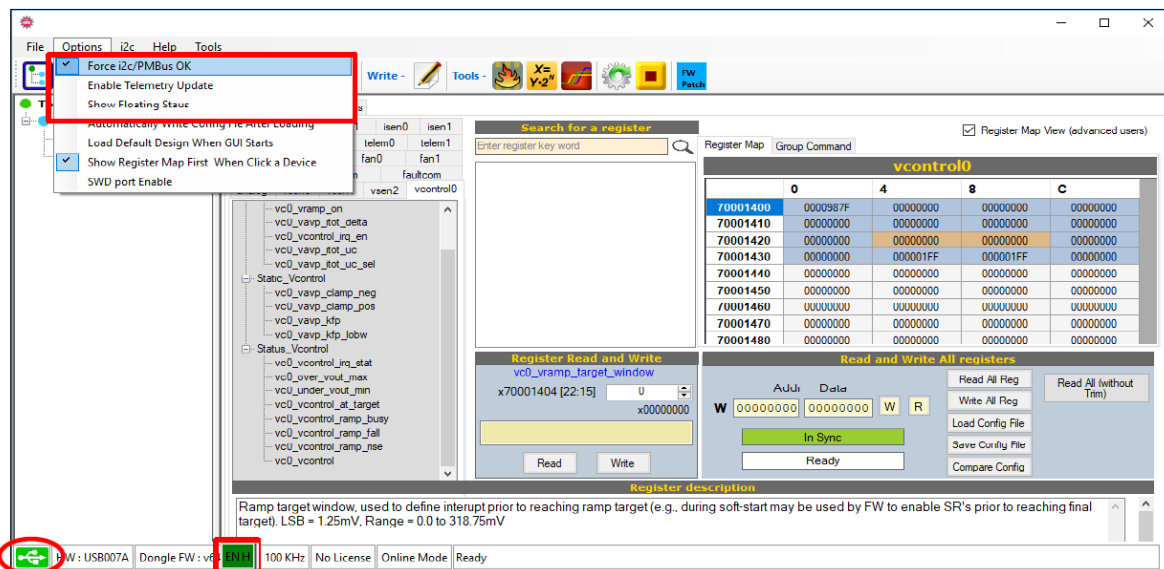# infineon XDPP1100 Programming User Guide

**Contents**

infineon XDPP1100 Programming

Product Information

The XDPP1100 is a programmable device that can be configured and calibrated using various instructions. This document provides programming instructions for the XDPP1100, including flashing the FW patch file, auto-populating the device, and applying FW patches.
It also includes configuration and IOUT trim instructions.

Force I2C connection, Enable Telemetry

First, make sure USB dongle is connected to a computer and communicating, the USB sign in the lower corner will turn green.
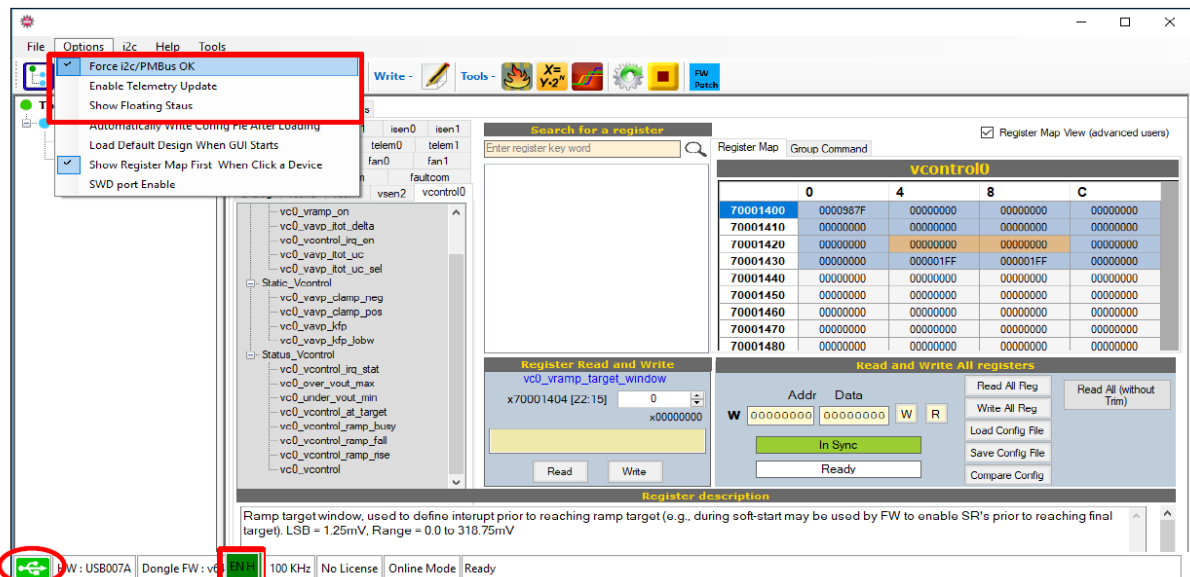

The I2C communication can also be enabled by checking "Force i2c/PMBus OK" undre option. The I2C status button on the register map page indicates "In Sync" in green. Select "Force I2C/PMBus Ok" to force the the communication on defult address from the option menu. "Enable Telemetry update" and "Show Floating Status" must to be enabled aswell. The Enable signal from I2C needs to EN H as well.

Auto-Populate Device

The XDPP1100 can be added in the GUI by auto-populate.

- Use the auto-populate function to detect the device that is active (with 3.3 V bias).
- Click the "Auto Populate" icon shown in the red block , and a device will be automatically added into the device

window.
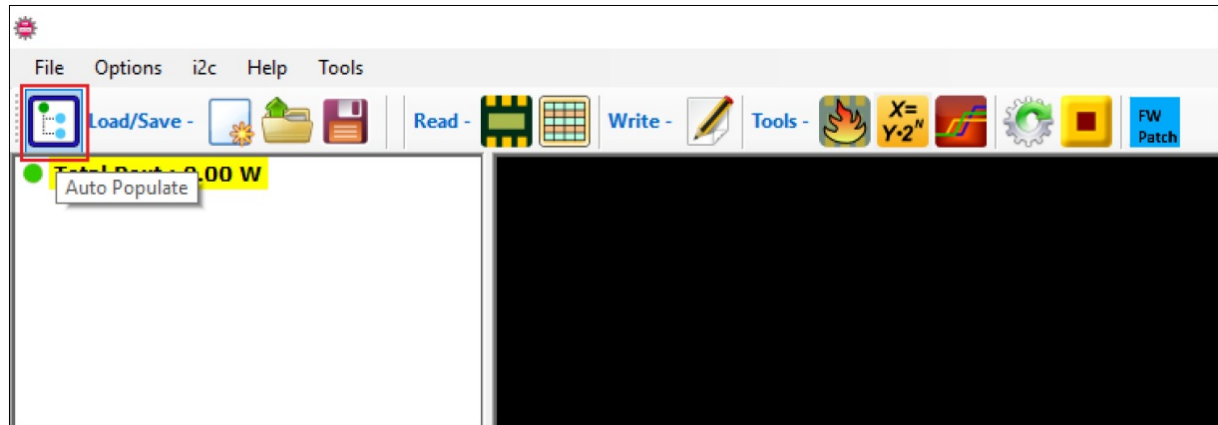
- If the device is added the dot in front of the device turn blue or red, it indicates the device is ready for I2C communication.
- If the dot is gray that means the IC is not communicating through I2C; the address may be wrong.
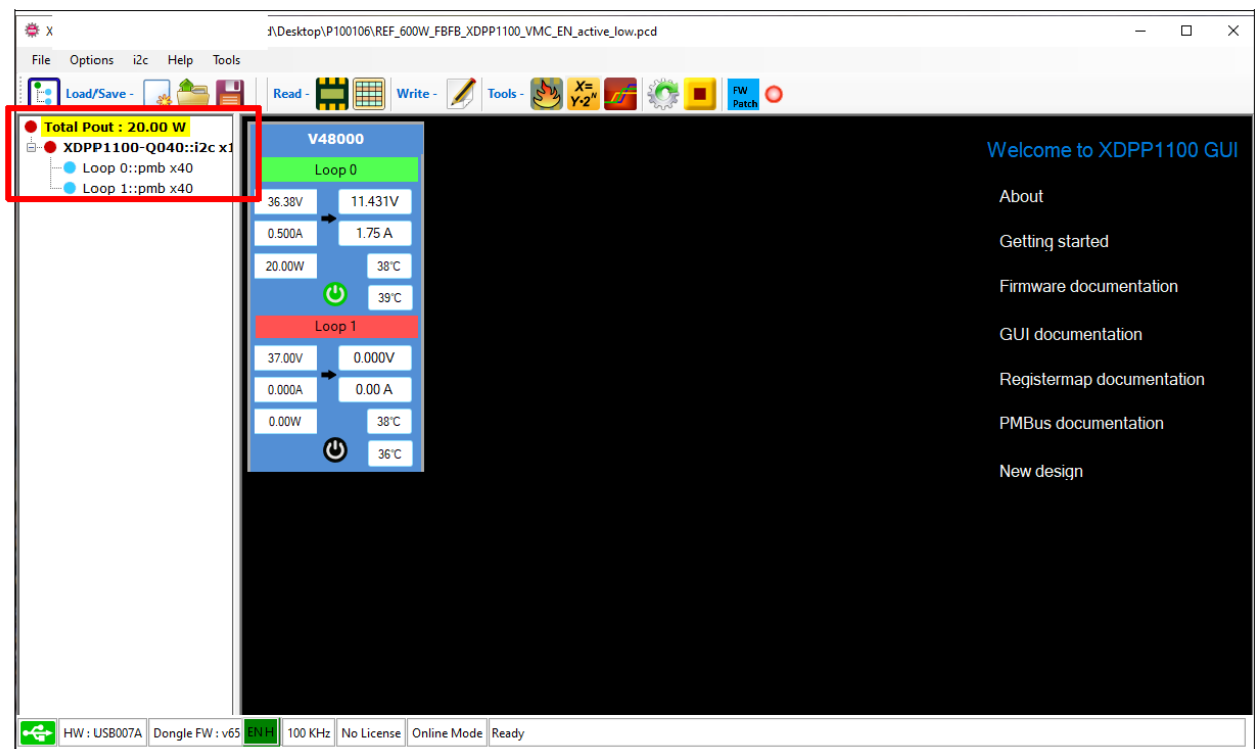

- Please note there could be more than one loop available depending on the unit.

Apply FW Patch

- The patch file can be permanently loaded to the device using Fw patch tool.
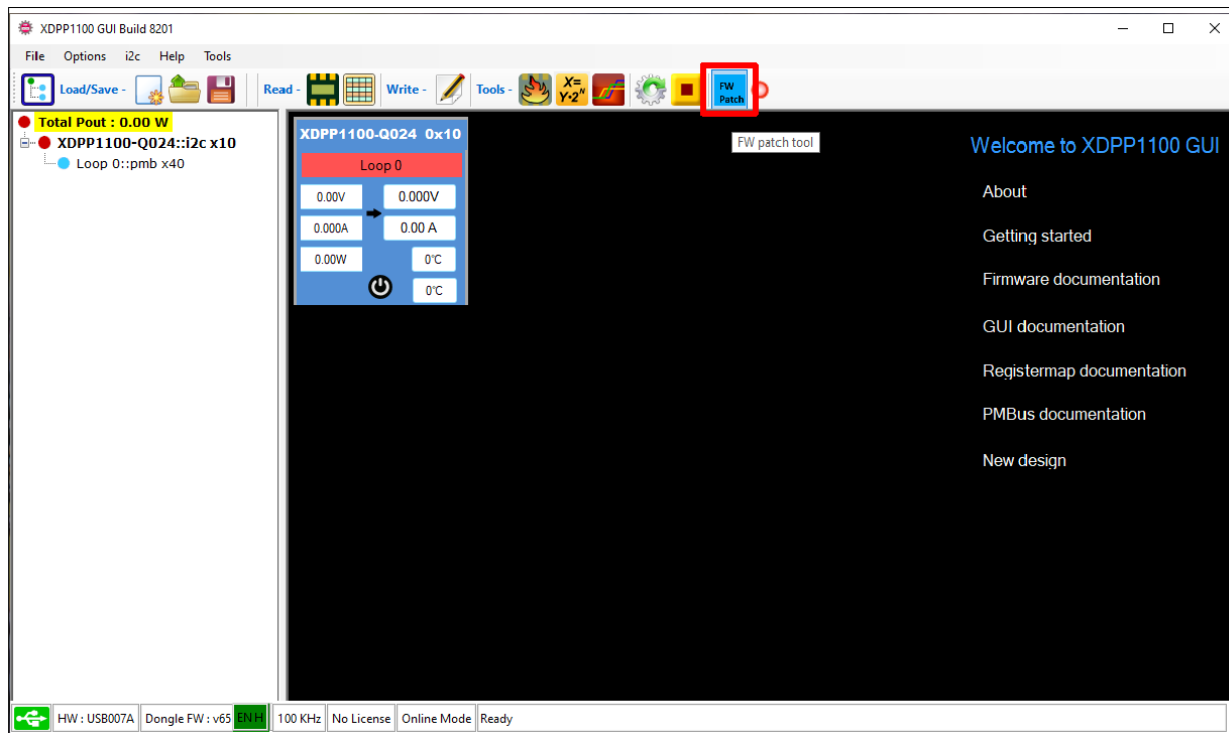
- The design file should be loaded into RAM before storing in OTP.
- Under FW patch tab, first use "Load OTP patch file" button to locate the patch file.
- Use "Store OTP Patch" button to permanently write the OTP into ROM.
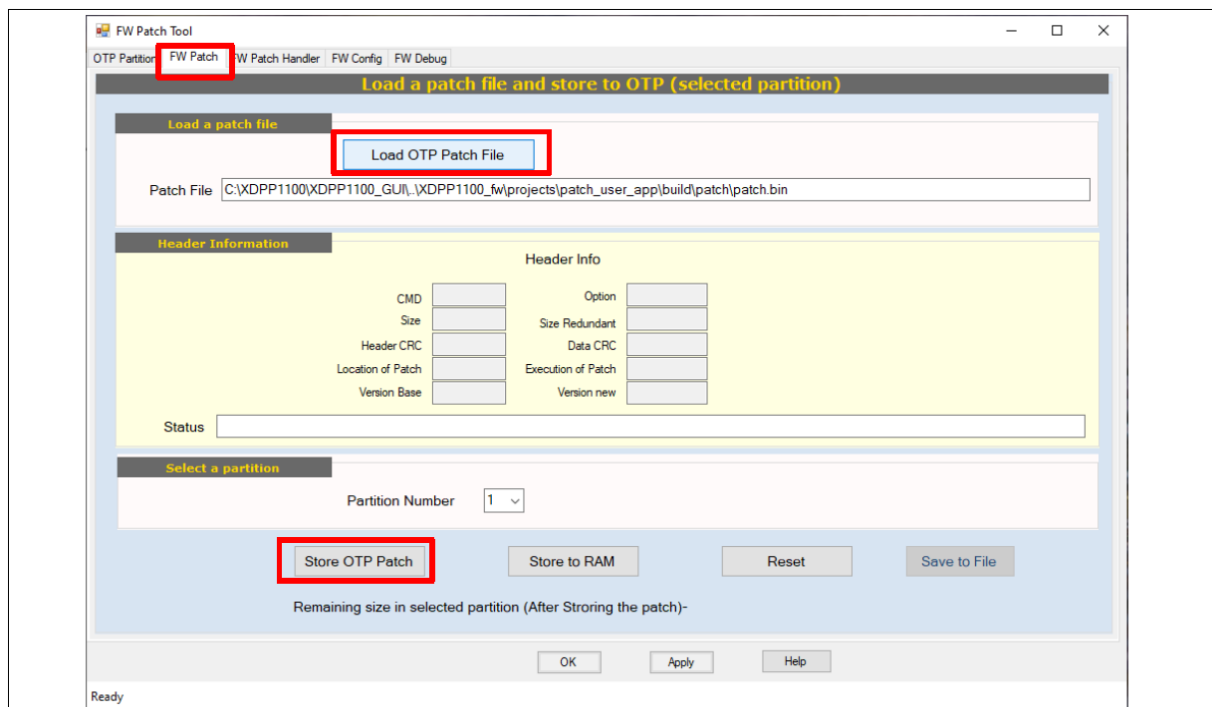
Configuration and IOUT trim instruction

After the FW is loaded, The Iout must be calibrated. There are two parameters that needs to be adjusted.
Turn off the input power Turn the unit back on with no load attached to make sure that OTP is programmed. Click on "Fw patch tool" icon from the main GUI window.
Under FW patch handler tab. Click on "find active patch" to make sure the OTP is programmed. Active patch address and sized would be shown in command window if OTP is programmed. Closed the window once it is confirmed that the device is programmed.
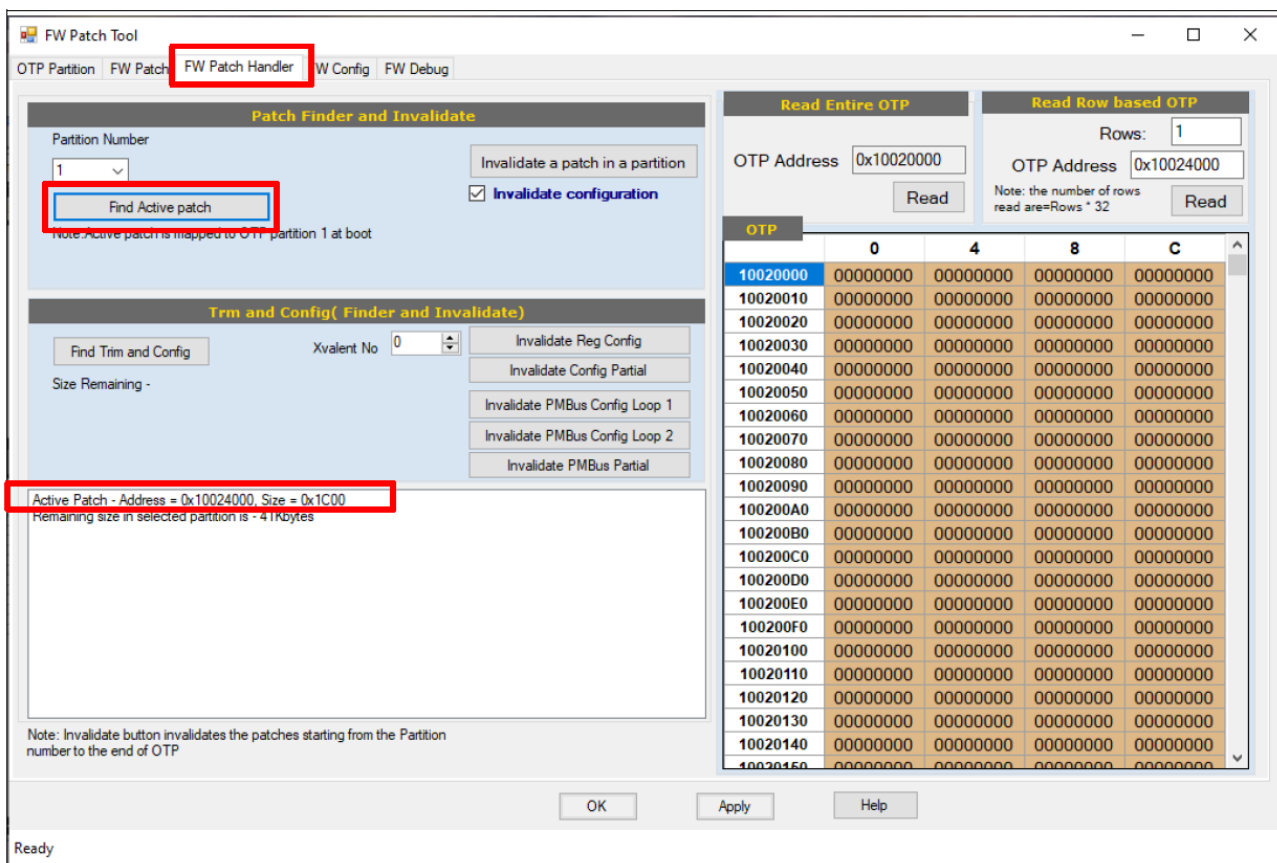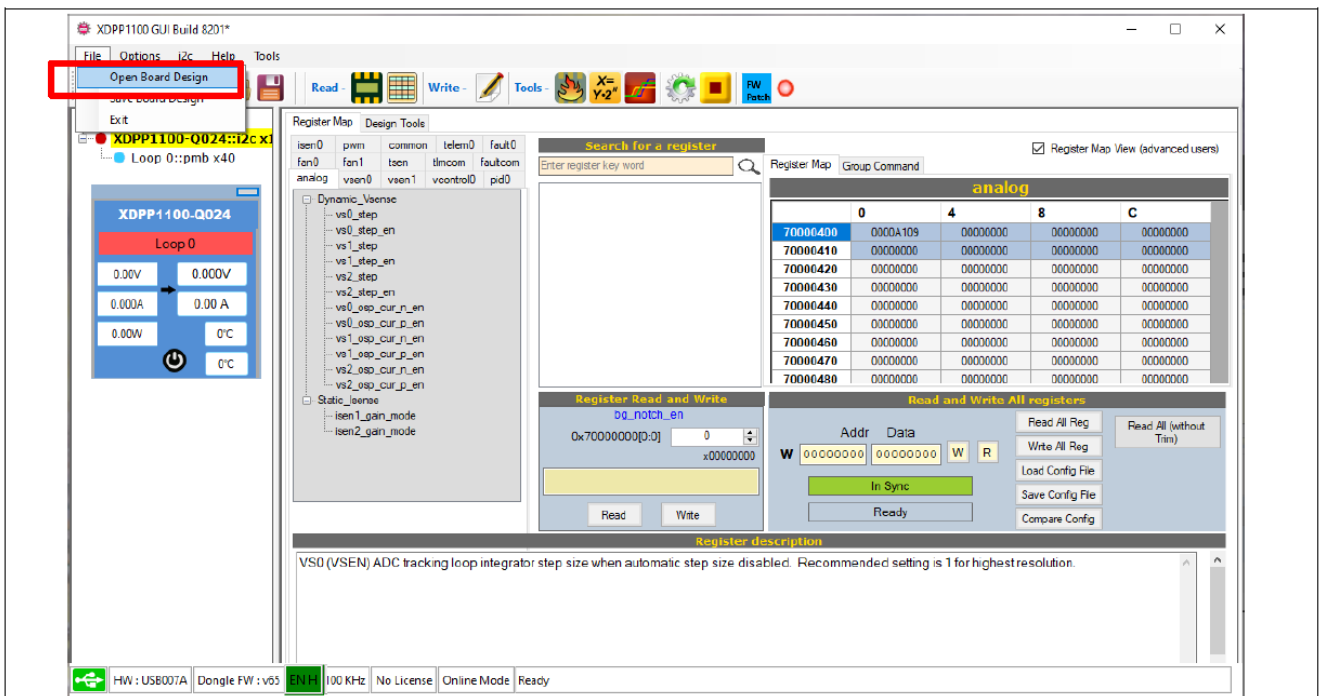
Loading configuration to OTP

- Click on "loop 0::PMb 0x40" on the left window and then click on "MFR commands". Click on Load PMBus spreadsheet and point to the spreadsheet file.
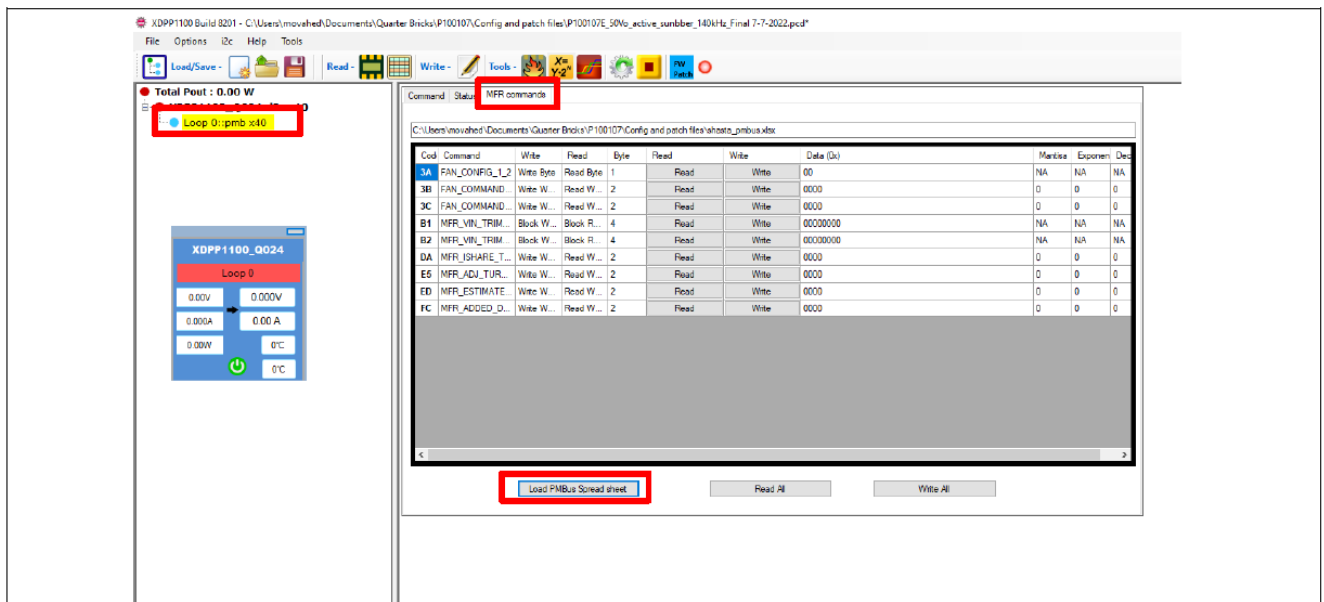

- Open configuration file by click on File and "Open Board Design". Point to the location where the Configuration file is stored.

- Load configuration into the current board by selecting "write to Device 0x01"
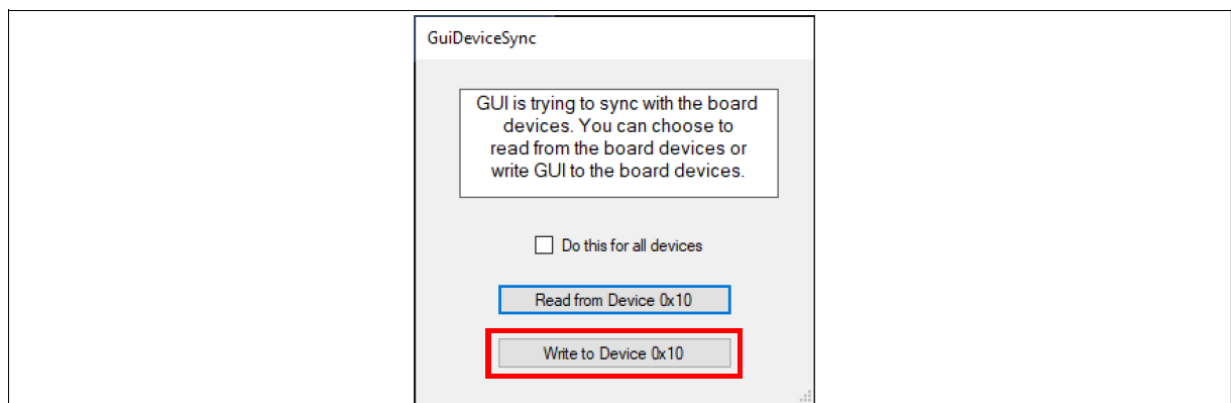
- Click on "loop0::PMb x40" click on "Status" tab from loop 0 and click "Clear Faults" under main window click on "Read status" to make sure no new errors apear. Make sure that the dot next to Total Pout and XDPP1100 Turns green. Incase of 2 loops system, repeat this on second loop by click on "Loop 1::PMb x40" and status tab. Make sure faults are cleared on loop 1 as well by clicking on "Clear Faults" and "Read status" to make sure no new errors apear.
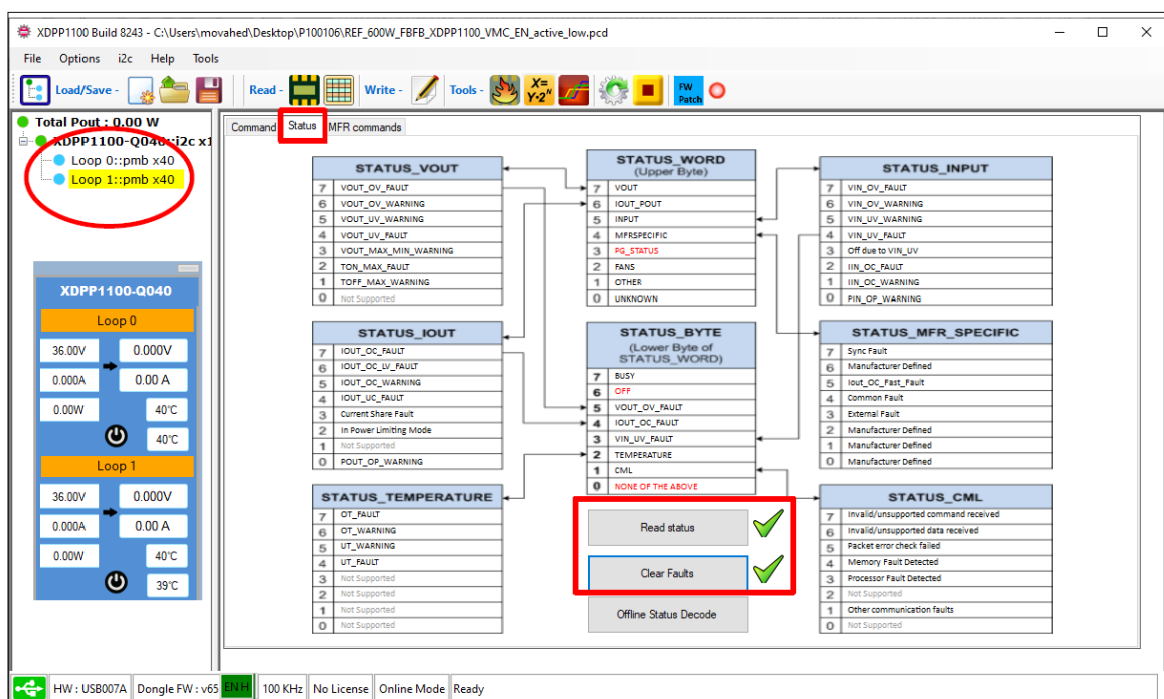
- On the test board make suyre the SW1 into ON position. the Enable signal from I2C needs to the on EN H as well. make sure that is the case.
- Click on the Command Tab, and turn the device "ON" by changing "01 OPERATION" command from immediate Off to "ON" and click on "Write". The device should turn on now. Make sure that the telemetry shows the correct input voltage and output voltage.
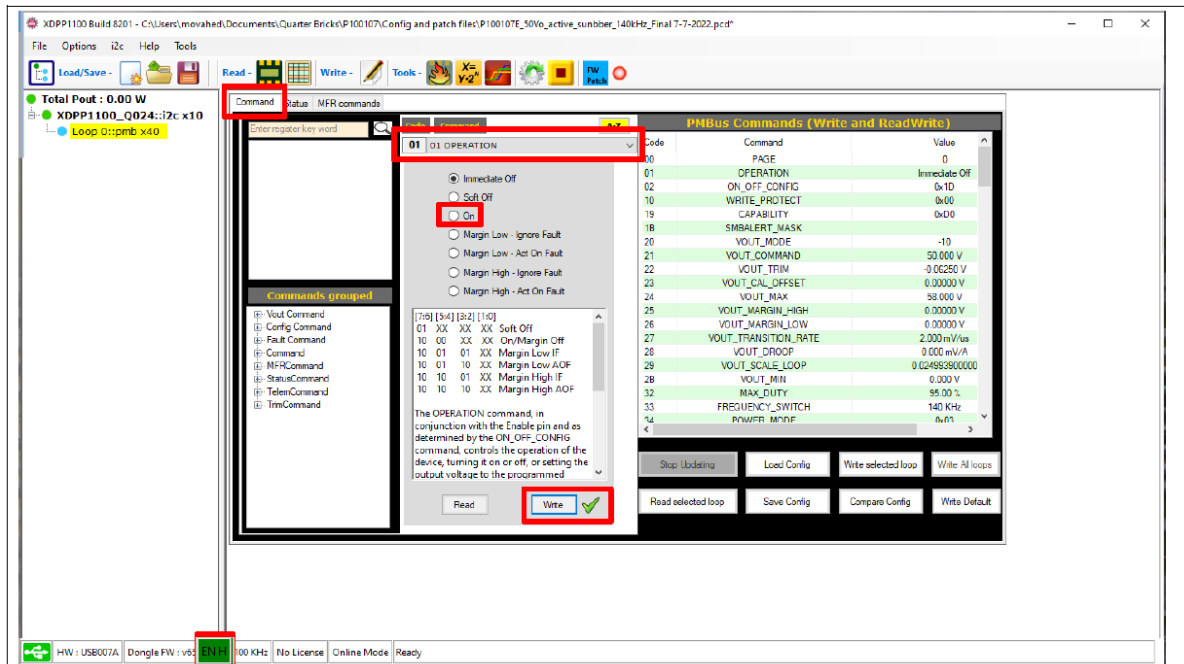
- Click on "Loop 0::pmb x40", click on "Status" tab, and Adjust "39 IOUT_CALIBRATION_OFFSET" under "PMBus Commands (Write and ReadWrite)" to achieve less than 0.25 A at no load on the Telemetry. Make sure to click on write after each adjustment to see the effect in telemetry.
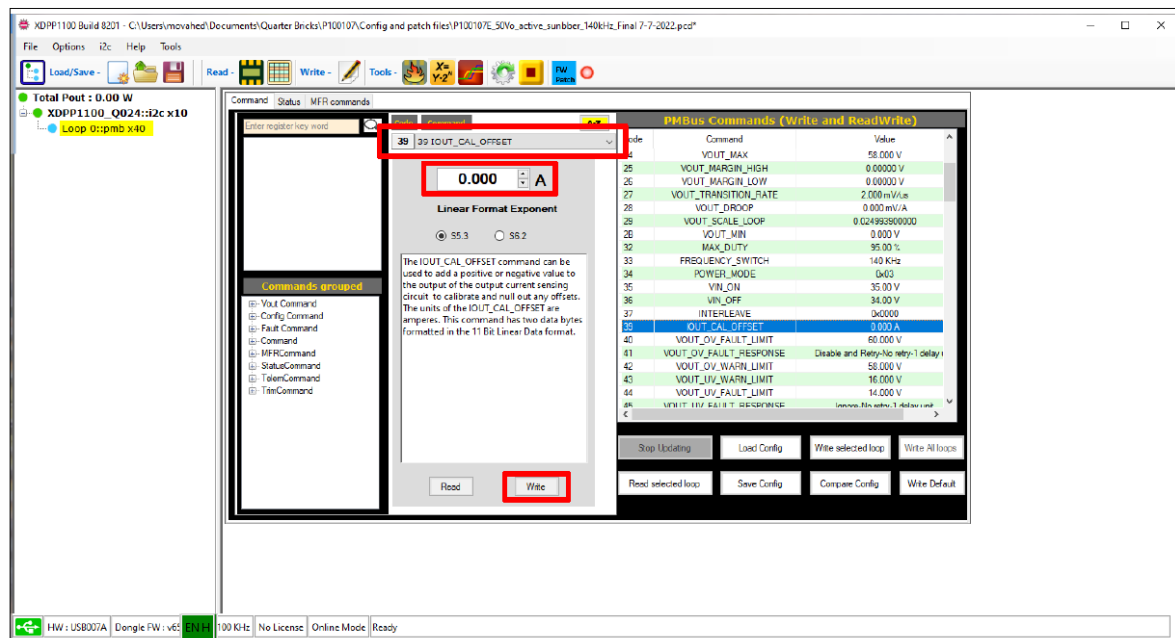
- Change the DC input power supply voltage to 48V and change the Current limit to 16 A.
- Adjust the electronic load 40A and monitor telemetry to see if its matches with telemetry data. If they do not match adjust "EA MFR_IOUT_APC" under "Loop 0::pmb x40" and click on "Write" until the telemetry matches with real load within 0.25A. Turn OFF the operation by turning SW1 to Off position.
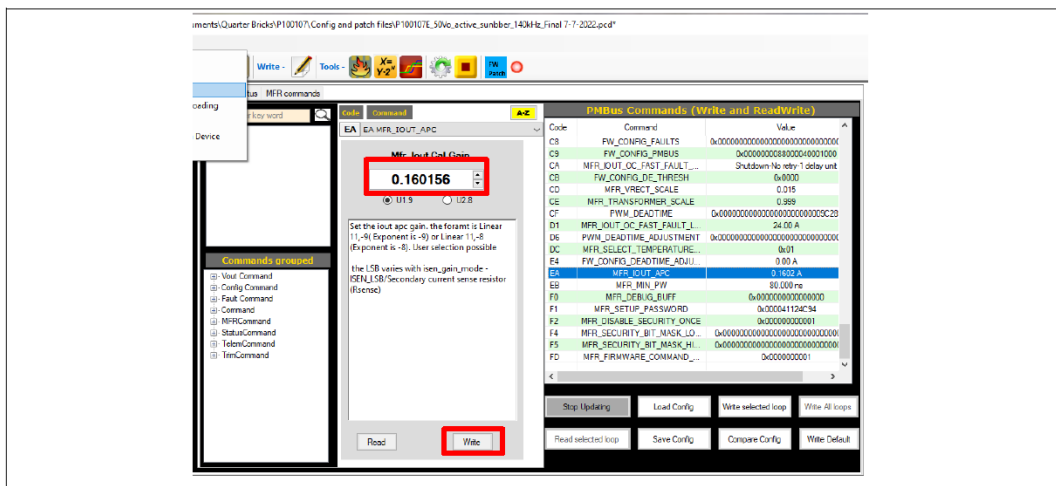
- After the IOUT is trimmed to match the load, the configuration file is ready to be burn into the IC. Open the "Multi Device Programmer". For a single configuration, use the default "Xvalent=0". Click the "Program Configuration to OTP" button to store both I2C and PMBus configurations to OTP.
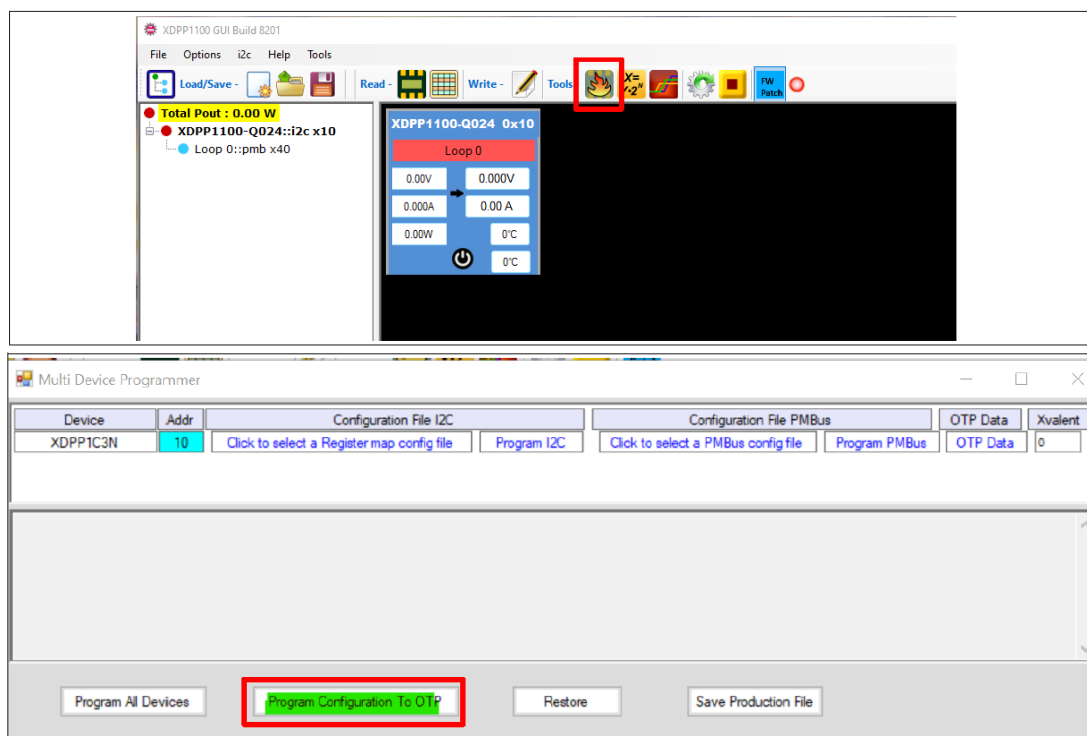
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Documents / Resources

	infineon XDPP1100 Programming [pdf] User Guide XDPP1100 Programming, XDPP1100, Programming

References

- **Semiconductor & System Solutions - Infineon Technologies**
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