Outlook

RE: NAATOS boards PD EEPROM settings

From Ian O'Neil <ian@Odic.com>
Date Thu 2/6/2025 9:30 AM
To Simon Ghionea <simon.ghionea@ghlabs.org>; Rob Filipkowski <Rob@odic.com>; Liam Sullivan <liam@Odic.com>
Cc Chin Hei Ng <chin.ng@ghlabs.org>

1 attachment (820 KB)
NAATOS PD Program Documents 2-6-25.zip;

Hi Simon,

I have attached a zip file with the following information:

NAATOS_PD_Controller_Program_V1.3.docx
Programming instructions I wrote to document Odic's method to flash the EEPROM. The first half of the document details the setup of the dev board that we use to do the flashing, which may not be relevant to you

eeprom_flasher.py
The python script Odic uses to control the dev board that flashes the NAATOS boards

NAATOS_PD.bin
Binary file that is flashed to the EEPROM

NAATOS TPS25750 Config.json
Configuration file that captures the settings used to generate the above binary. Should be importable back into TI's GUI. In case the import does not work, my answers to the questionnaire are below:

1. Configuration
   - Power Sink only with BQ. Integrated switch
2. N/A
3. What Sink Power is Required?
   - 60W
4. N/A
5. What is the supported USB Highest Speed?
   - USB 2
6. Do you have a preferred data role?
   - Device
7. Do you have a vendor ID supplied by the USB-IF?
   - No
8. Do you have a desired product ID?
   - No
9. Select the battery charger component to integrate
   - BQ25792
10. Battery charging voltage
    - 8.4V
11. Battery charging current
    - 3.3A
12. Charge termination current
    - 0.12A
13. Pre-charge current
    - 0.32A

I noticed that the GUI you found is a little different than the one I used. I use the GUI at this link:
https://dev.ti.com/gallery/view/USBPD/TPS25750_Application_Customization_Tool/ver/7.0.4/

This webpage is frustrating because it will incessantly prompt you with "TI Cloud Agent Installation" regardless of whether you click "DOWNLOAD" or "FINISH." If you press "ESC" on your keyboard it will dismiss the prompt and should not come back

To generate the binary, select "Generate Full Flash Binary"

In case you were curious, the TPS25750 has GPIOs (not used on NAATOS, but were used on AVE/LOA). These can be configured under "Advanced Configuration." Reference the TPS25750 Host Interface Technical Reference Manual for more information

Let me know if I can help with anything else,

Ian

Ian
O'Neil
Engineer

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From: Simon Ghionea <simon.ghionea@ghlabs.org>
Sent: Thursday, February 6, 2025 11:35 AM
To: Rob Filipkowski <Rob@odic.com>; Ian O'Neil <ian@Odic.com>; Liam Sullivan <liam@Odic.com>
Cc: Chin Hei Ng <chin.ng@ghlabs.org>
Subject: NAATOS boards PD EEPROM settings

Hi Ian/Liam/Rob,
I realized that I never got a "download" from you all on what you "download" into the EEPROM for the PD controller on the NAATOS boards.
😄 Could you send me these things when convenient:

- Picture or description of the hardware setup you connect to the PD EEPROM tagconnect header in order to operate on it
- Settings file for the TI application customization tool (looks like it can be imported into their tool, see screenshot, from your settings you would have saved)
- Any binary file you generated from the tool in order to program the EEPROM

Thank you!
-Simon

dev.ti.com/gallery/view/USBPD/USBCPD_Application_Customization_Tool/ver/1.0.2/

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USBCPD Application Customization Tool

File Options Help

Questionnaire

Device Name:TPS25750

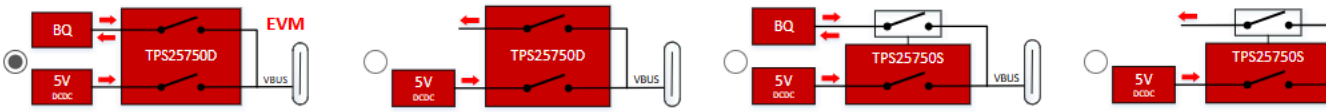
Change Base Bin File :

Choose File No file chosen

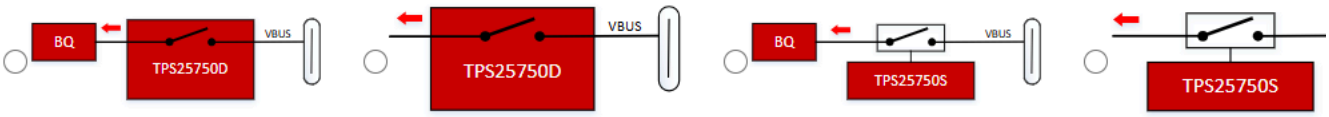
Active Base Firmware : Default Bin

1) Select your TPS25750 configuration:

Are you a power source (provider) and a power sink (consumer)?



Are you a power sink (consumer) only?



Are you a 5V @ 3A power source (provider) only?

Error: Failed to connect: Opening COM5: Access denied