



OpenIPMC Updates: fw upgrade, assembly@LAB, Pulsar2b setup

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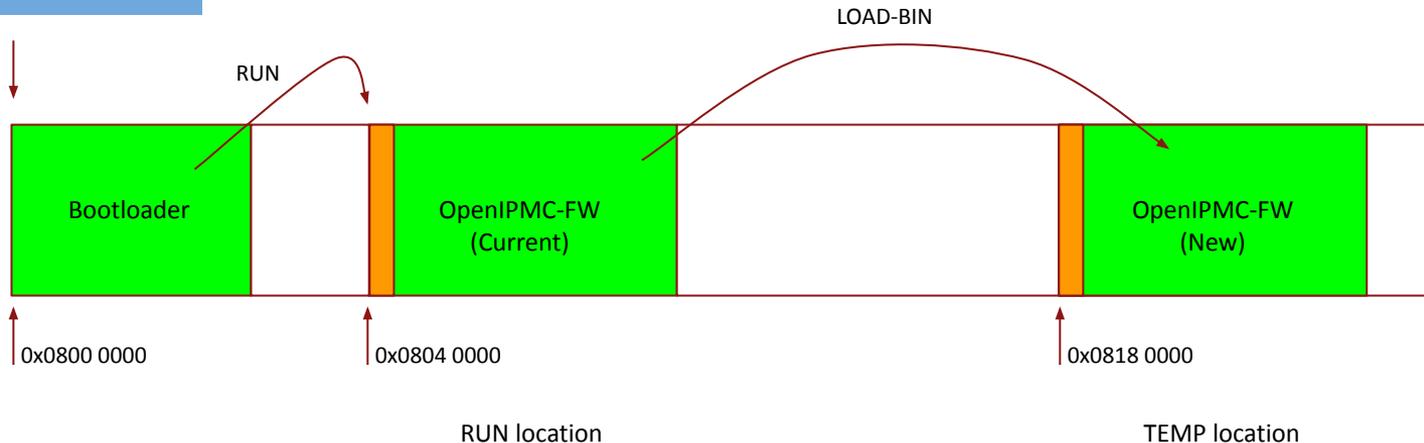
Regular bootloader

- Much simpler than the Full-bootloader
- Purpose
 - Copies the new firmware from TEMP location to the RUN location
- Data structure
 - The firmware binary preceded by a header
 - Magic long word confirms the presence of binary
 - Binary size
 - Binary CRC32
- Resources in this bootloader
 - No Network
 - No CLI
 - CRC32 in Hardware
 - Write on STM32 internal Flash

Bootloader: upload process

1. Current firmware boots normally
2. Operator manually loads the new firmware into the TEMP area using the OpenIPMC CLI
3. Current firmware issues SystemReset

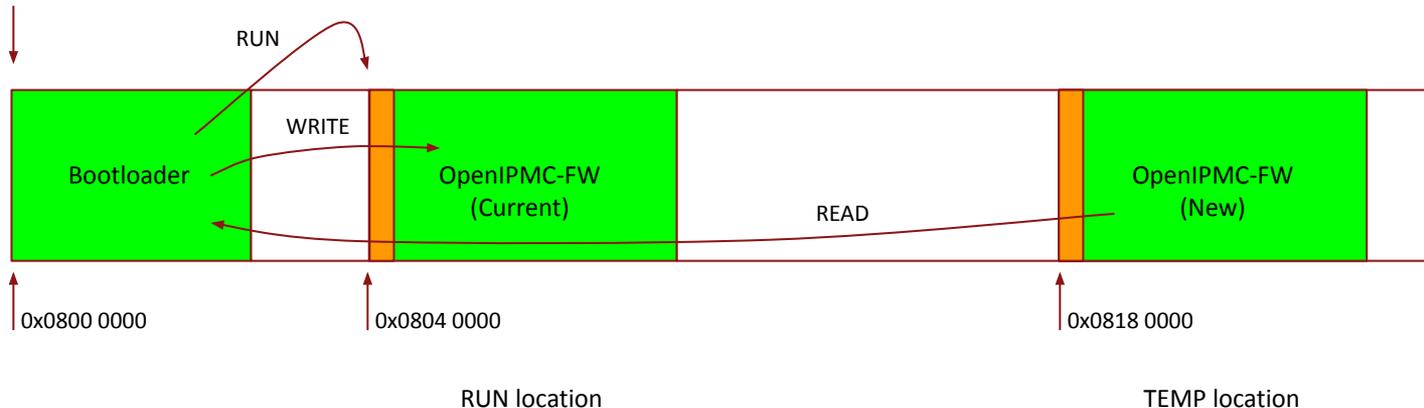
STM32 Config bits:
CM7_BOOT_ADDR = 0x0800 000



Bootloader: update process

1. Bootloader checks the presence of a valid binary in TEMP location
2. Bootloader copies new firmware into RUN area
3. Jumps to RUN area

STM32 Config bits:
CM7_BOOT_ADDR = 0x0800 000

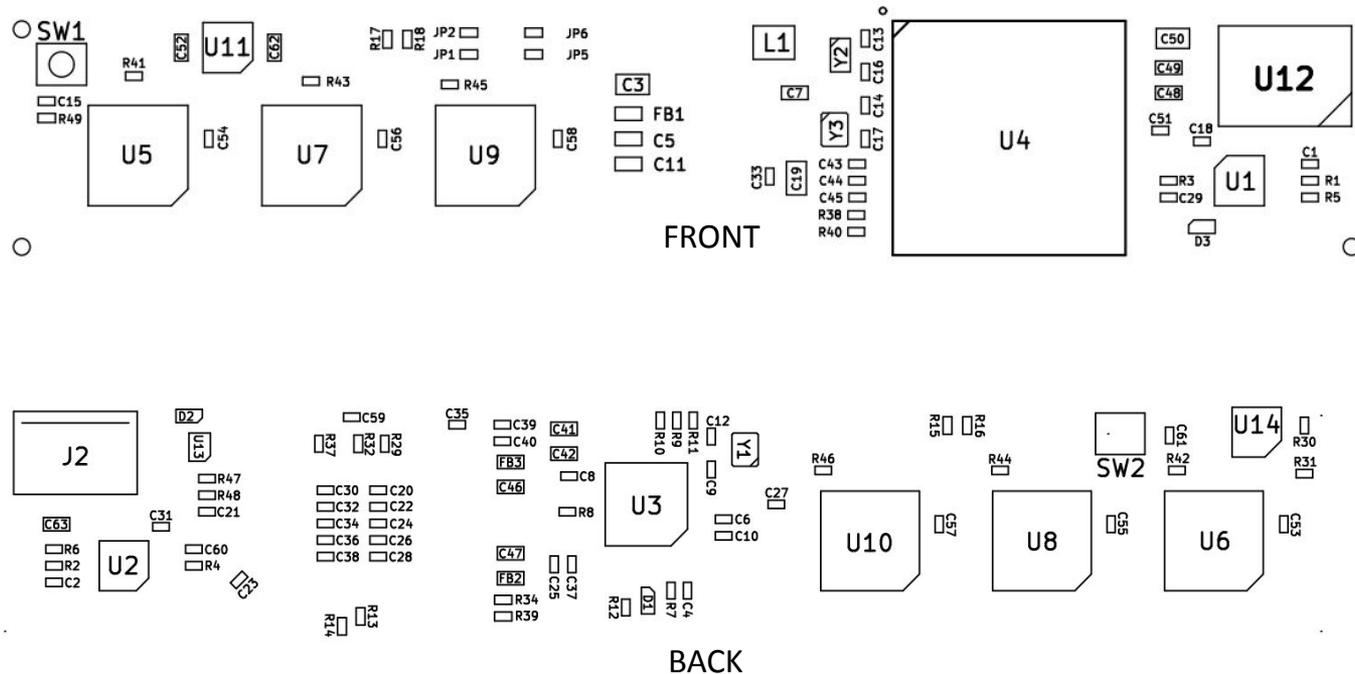


Bootloader: tests and developments

- All read, write and jump processes were tested and worked well
- Manual operations via CLI commands need to be improved
- Second TEMP area is needed for holding the previous firmware
 - TEMP areas will be moved to the External Flash

Status of OpenIPMC-HW production in SP

- STDAmerica asked for the “Fab layers”



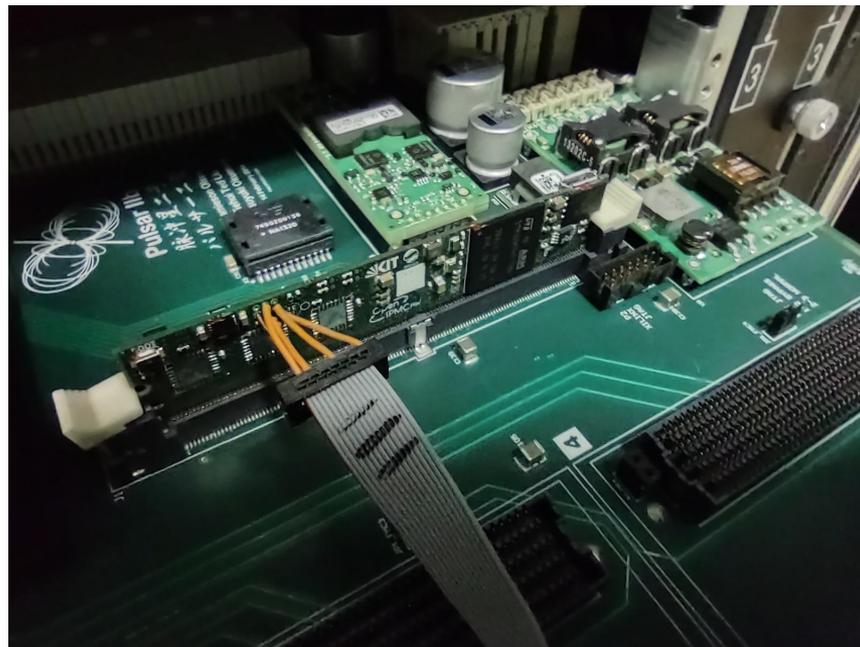
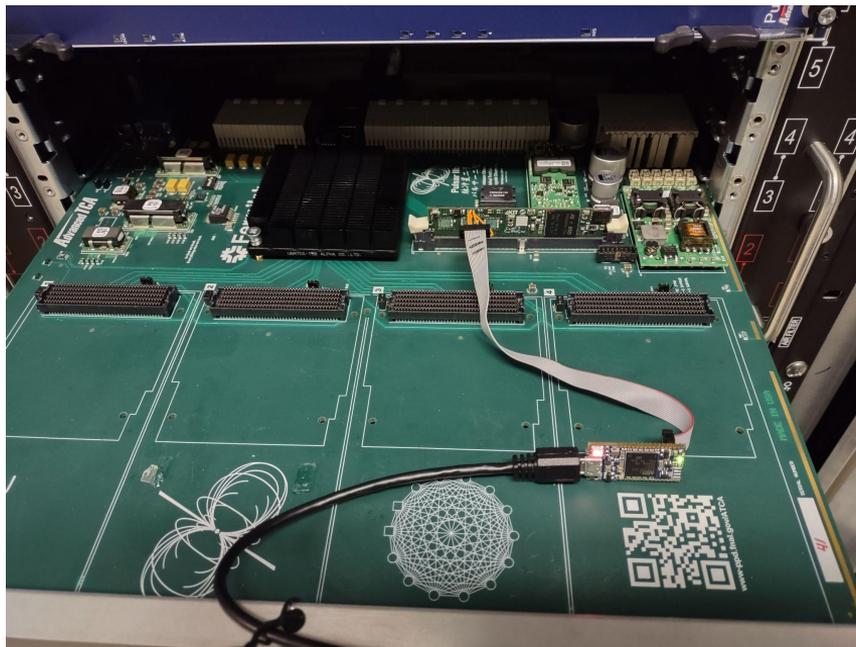
Soldering tests

- After removing the Expanders from the first prototypes, we re-used them to test the soldering again in a new PCB
- Much better result if compared to the PCB assembly last month, no short happened



Development setup at SPRACE

- Removing the Breakout board from Pulsar2b
- OpenIPMC v1.1 now is installed directly on Pulsar2b and debug cable goes directly to the DIMM.



Bureaucracy: review document

- Monday 07/08/2021 we got informed that the review is not ready
- The Committee is still preparing the document
 - Good opportunity for us to add more stuff and leak it in via meetings
 - Example: the bootloader/update feature shown by André today