C6472 Lite EVM FAQ

C6472 EVM FAQ

Questions specifically for TMDSEVM6472

Questions specifically forTMDSEVM6472LE

C6472 EVM FAQ

1. **What is the difference between Warm and Cold Reset?**

   Cold reset is equivalent to Power-on Reset; when asserted it resets most major ICs (including DSP) on the board. Warm reset when asserted resets only DSP; emulation logic and PLL3 are not reset.

2. **From where the latest Software Development Kit for the EVM can be downloaded?**

   Latest Software Development Kit is available at
   http://focus.ti.com/docs/toolsw/folders/print/bioslinuxmcsdk.html

3. **What is the form-factor of the EVM? Is it compatible with uTCA architecture?**

   The EVM is compatible with uTCA architecture with the dimensions of 73.5mm x 180.6mm.

4. **How can the Revision ID of EVM Board be obtained?**

   Board PCB (Printed Circuit Board) and PCA (Printed Circuit Assembly) revision IDs are located below RJ-45 Jack in bottom silk, as shown in the figure below.
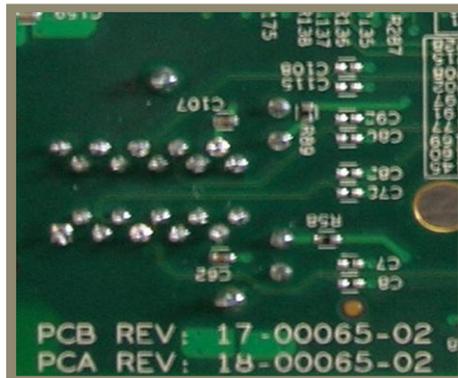
   Interpretation of PCA/PCB IDs is as under:

PCA REV	PCB REV	Description
18-00065-01	17-00065-01	Proto boards (Initial engineering samples)
18-00065-02	17-00065-02	Production build – Released in October-2009 Modifications: • Modified TSIP connections to AMC edge connector • Addition of Reset control from AMC carrier
18-00065-03	17-00065-03	Internal - Proto boards with Ethernet PHY changed to 88E1145 for SGMII feature addition

18-00065-04	17-00065-04	Production build – Released in March-2010 • Differential AMC Telecom clock input supported
18-00065-05	17-00065-05	Production build – Released in July-2010 • Support for XDS560v2 Emulator • MMC for PICMG® uTCA IPMI
18-00065-06	17-00065-06	Production build – Released in December-2010 • NAND access through GPIO only, removed NFC from FPGA.

Note: Last two digits represent major PCB / PCA revision number.

5. Can the EVM be powered solely by the AMC connector?

Yes, the EVM can be solely powered by the AMC connector. Alternately, it can also be powered by using the DC power supply adaptor provided with the EVM kit.

6. Can the EVM be hot-plugged into the AMC carrier?

Yes, the EVM can be hot-plugged in the AMC carrier.

7. Can CCSv3.3 be used with this EVM?

CCSv3.3 can be used only with TMDSEVM6472 while using an external emulator. Please select TCI6486 configuration in the CCSv3.3 setup.

However, CCSv3.3 cannot be used with on-board emulator or with TMDSEVM6472LE since the CCSv3.3 does not support drivers for XDS100 or XDS560v2 Mezzanine. This is further explained at the below link:

http://wiki.davincidsp.com/index.php/XDS100#Installation_for_Code_Composer_Studio_v3.3_.28XDS100v1_Hardware_Only.29

8. How to perform network (EMAC) booting on this EVM?

For boards with **PCA REV: 18-00065-01 & PCA REV: 18-00065-02**, follow below steps to perform EMAC boot and receive BOOTP packet:

 a. Please ensure that ECO has been implemented for PCA REV: 18-00065-01 & PCA REV: 18-00065-02. ECO is provided at http://einfochips.com/TI/evm6472-support-V02.php.

 b. Set bootmode as 0x9: set SW2.1=ON, SW2.2=OFF, SW2.3=OFF, SW2.4=ON

 c. Set configuration to 0x10. SW1.1=OFF, SW1.2=OFF, SW1.3=OFF, SW1.4=OFF,

SW1.5=ON. This is required for RGMII EMAC boot as, CPU speed should be x20, greater than 375MHz. Refer Section 2.1.2 of SPRZ300 (Silicon Errata of tms320c6472).

d. Other switch settings: Set SW1.6=ON, SW1.7=ON, SW1.8=ON, SW2.5=ON, SW3.1=OFF, SW3.2=OFF.

e. Connect the EVM with PC using a 10/100/1000 Mbps capable ethernet switch

f. Power on the board

g. Start packet capture on PC using a packet capture utility like Ethereal

h. Hit warm reset (SW4)

i. Stop packet capture after approx 5 sec

j. Apply capture filter for BOOTP

k. You should now see a BOOTP packet

For all versions of board, you can perform EMAC boot using following software work-around:

- The POST flashed into the version 04 boards allows the user to perform EMAC boot on port 0 once POST is completed.

- For version 02 boards, the user can flash the I2C EEPROM (address 0x50) with the latest POST available in SDK Version 3.0 or later to perform EMAC boot on port 0 once POST is completed.

- Optionally you can download the POST image with EMAC boot implemented from here. Flash this EEPROM image to I2C EEPROM address 0x50 using the I2C EEPROM writer.

9. **What is the significance of SW Rev sticker on the EVM board?**

Software Revision sticker on the board is used to determine the features of POST, NAND secondary boot loader and OOB Demo flashed in the NV memories of board when shipped from the factory. Details of different software version are as under:

PCB Rev.	SW Rev.	New features Implemented
17-00065-01	SW Rev 1.0	Internal – Prototype software for initial engineering samples
17-00065-02	SW Rev 2.0	Released in SDK 1.1 • NAND flashed with COFF file of Out-Of-Box Demo • NAND boot loader with COFF loader implementation • POST

17-00065-03	SW Rev 2.1	Internal – Prototype software for internal use only
17-00065-04	SW Rev 3.0	Released in SDK 3.0 • POST updated for EMAC boot implementation
17-00065-05	SW Rev 4.0	Released in SDK 4.0 • POST updated for EMAC boot in both stand-alone mode and when inserted in uTCA chassis for both LE and BE configuration. • FPGA supports NAND pass through mode
18-00065-06	SW Rev 4.0	Released in MCSK v1.0 Updated the POST to give board info on console.

10. **I am not able to capture a Bootp packet when connecting the EVM directly to PC's Ethernet port and following above steps. What should I do to capture the Bootp packet?**

You will be required to use a Gigabit (10/100/1000) Ethernet switch to connect your PC and EVM to perform EMAC boot. The BOOTROM code assumes Gigabit mode when using RGMII.

11. **I get the fatal error: could not open source file "csl.h" error while building examples based on NDK while using SDK 3.0. What should I do to solve these errors?**

In order to solve this error, please download and install the latest SDK from here.

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12. **If On-board and external emulators are connected simultaneously which one will have higher priority?**

External emulator will have higher priority.

13. **Does CCSv4 supplied with the EVM kit support external emulation?**

CCSv4 supplied with EVM kit supports on-board emulation only. For external emulation, one needs to purchase a license from TI.

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Questions specifically forTMDSEVM6472LE

14. **Of the two USB ports which one is to be used for emulation?**

    Mini-USB cable should be connected to the USB connector on Mezzanine (J1) for Emulation as shown in figure below.
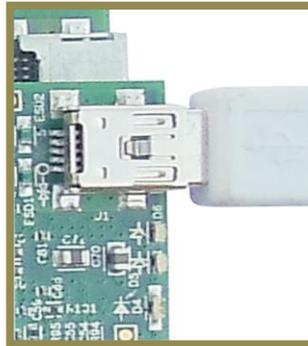
15. **Emulator initialization fails, and Red (D1), Yellow (D2) and Green (D3) LEDs on XDS560v2 Mezzanine board are blinking simultaneously. What is the problem?**

    XDS560v2 Mezzanine Emulator is mounted on a non-compatible EVM board. At present only, TMDSEVM6472, TMDSEVM6457L¸ TMDSEVM6474L, TMDXEVM6678L and TMDXEVM6670L support XDS560v2 Mezzanine Emulator. Use the EVM board supplied with XDS560v2 Mezzanine Emulator.

16. **Emulator initialization fails, Yellow (D5) and Orange (D6) LEDs on XDS560v2 Mezzanine board are blinking simultaneously. What is the problem?**

    The XDS560v2 Mezzanine board is being booted in the SAFE MODE. Follow the steps below to remove SAFE MODE.

a) Open BlackHawk XDS560v2 Configuration Utility by clicking on the icon (shown below) present on Desktop. This will start searching for a target.

b) A device list as shown below will appear. Select "USB:0".
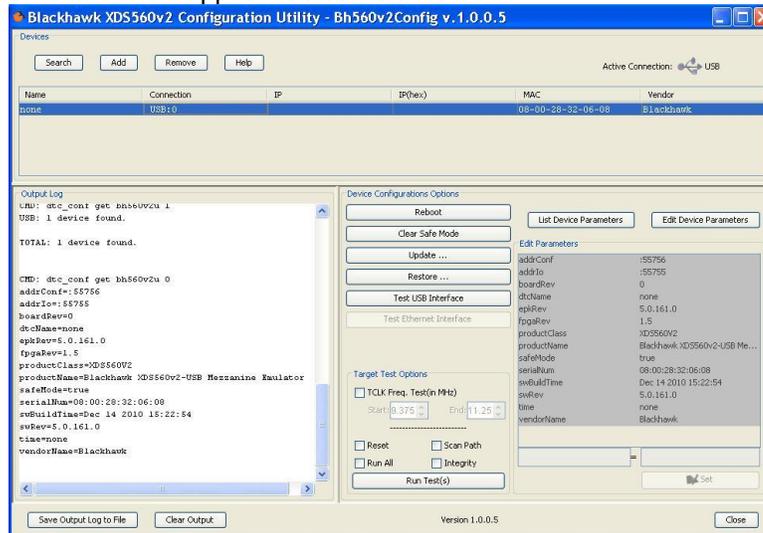
c) Click on "Clear Safe Mode" option in device configuration.
d) A pop window will appear as shown below. Click on "Yes".

e) The board will now reboot and Red (D1) and Yellow (D2) LEDs will turn ON.

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