



Date: February 25, 2009

PCN Number: 0902

PCN Level: Minor

Subject: Minor Fix to Axcelerator® and RTAX-S Programming (*.afm) File Generation to Address Programming Failure for Specific Conditions Only

Dear Customer,

This notification provides information regarding a minor fix to Axcelerator and RTAX-S programming (*.afm) file generation to address programming yield loss that may occur if and only if the "GBSETFUS" option is selected in the Designer flow. There are no reliability issues with devices that have successfully passed programming.

Symptoms

The yield loss manifests itself as a programming failure. This typically occurs towards the end of programming cycle (before security antifuses are programmed).

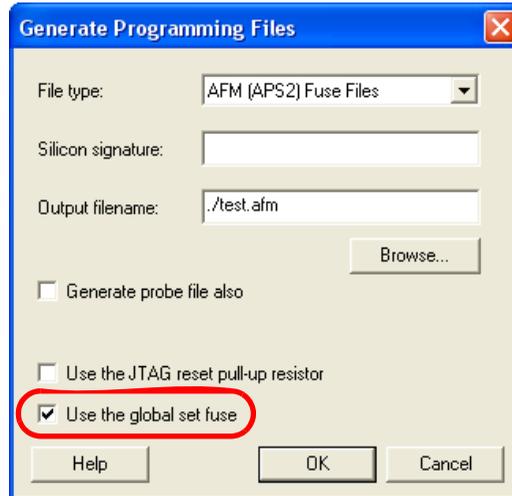
Two possible messages can be reported by the programming software:

1. "Initial Programming Failed. pc=0 xxxx xxxx". (This error message indicates that the antifuse failed to program and is open).
2. "Failed Program. CK6-1 failed pc=0 xxxx xxxx". (This error message indicates that the antifuse did not program appropriately).

Note: xxxx xxxx indicates antifuse number and condition

Description of Problem

Actel has successfully completed the investigation and determined the root cause of programming yield loss. Analysis performed on the programming failures revealed that the special antifuse referred to as "GBSETFUS" fails programming. This antifuse is included in the AFM file for programming if and only if the **Use the global set fuse** option is selected in the Generate Programming File window in the Designer suite, as shown below. This specific antifuse (GBSETFUS) can be invoked during generation of programming file (*.afm) to set the internal registers (R-cells) to a value of "1" after power up. An error in the Designer software resulted in an incorrect condition being set for this antifuse in the AFM file when it was addressed by the Silicon Sculptor programming software, thereby resulting in this programming yield loss.



Corrective Action

A Libero[®] Integrated Design Environment (IDE) software fix (release number 8.5SP1) has been implemented to ensure correct addressing of this particular antifuse, thereby eliminating these programming failures. This software fix requires regeneration of the programming file (*.afm). The modified software can be found from: <http://www.actel.com/download/software/libero/libero85rlsp1.aspx>

Recommendation

Actel recommends the following:

1. If the **Use the global set fuse** is not selected (unchecked in Designer), there is no issue and no action is required.
2. If you are currently using the **Use the global set fuse** option and have not experienced any programming yield loss, the successfully programmed devices are reliable. Actel recommends regenerating the programming file (*.afm) if additional devices need to be programmed. Customers should use the Libero IDE service pack referenced above.
3. If **Use the global set fuse** option is selected and you have experienced any programming failures, the devices that failed to program should be returned to Actel. Please contact Actel's technical support team to initiate an RMA. To prevent additional programming yield loss, the programming file (*.afm) must be regenerated using the Designer software capture referenced below.



4. If you plan on using the **Use the global set fuse** option (for those customers in design phase), you must ensure that the programming file (*.afm) is generated with the Libero IDE Service Pack 8.5SP1.

In summary, programming yield loss may occur if and only if "GBSETFUS" option is selected in Designer flow. There are no reliability issues with devices that have successfully passed programming.

If you have any additional questions, please do not hesitate to contact Actel's Technical support at <http://www.actel.com/mycases> or tech@actel.com.

Regards,
Actel Corporation