

| ENGINEERING CHANGE FORM   |                                     |  |   |                   |  |  |
|---|-------------------------------------|--|---|-------------------|--|--|
| ENGINEERING REQUEST/NOTICE  |                                     | DRAWING/DOCUMENT TITLE   |   | DATE              |  |  |
| Request Notice X  | Number 011                          | 2.5V supply changed to 2.6V 10//2004                               |   | 10//2004          |  |  |
| SERIAL NUMBER<br>(If Applicable)  | ITEM TYPE<br>Hardware Software<br>X | DRAWING/DOCUMENT NUMBER<br>thm_lvps_schematic<br>thm_pcb_schematic |   | PROJECT<br>THEMIS |  |  |
| <b>REASON FOR REQU</b>  | EST                                 |  | REQUESTER   | 2                 |  |  |
| During thermal vacuum testing of the FM2/ FM discovered that the 2.5V supply was dropping c 2.25V at the SST and FGM Actels.  |                                     | M3 suite, it was     Ellen Taylor                                  |   | r                 |  |  |
|   |                                     |  | Disposition   | Date Effective    |  |  |
| CHANGE DESCRIPTI  | ION (Request/Response)              |  |   |                   |  |  |
| 1. Raise LVPS 2.5V supply to 2.6V per LVPS<br>LVPS FM1<br>LVPS FM2<br>LVPS FM3<br>LVPS FM4<br>LVPS FM6<br>2. Parallel PCB 2.5V current limit switch per rework instruction<br>2. Parallel PCB 2.5V current limit switch per rework instruction<br>PCB FM1<br>PCB FM2<br>PCB FM3<br>PCB FM4<br>PCB FM5<br>PCB FM6  |                                     |  | 3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3 |                   |  |  |
| <ul> <li>3. Test actual voltage at actels in IDPU system after modification are made on one unit.</li> <li>From ML e-mail (10/27/05):</li> <li>With the modified PCB with an additional FET on the 2.5VD supply switch the drop across both switches was 100mV (2.51 measured at the PCB backplane to 2.41 measured at the SST pins on the PCB backplane).</li> <li>4. Check with Actel on possible damage due to 2.5V overshoot discovered.</li> <li>From Bryan Rogerson (Actel) e-mail (11/03/05):</li> <li>Preliminary data from our Technology Development Department shows that it doesn't look like the 2.7V to 3V spike will cause any reliability concerns or damages. From the information you gave Actel, the cumulative worst case stress is 3V for 12 minutes with the conditions you described for 20yrs. This 12 minute stress at 3V should not cause any degradation to the part.</li> </ul> |                                     |  | 4   | 10/27/05          |  |  |



| DISPOSITION/REMARKS  | <b>DISPOSITION CODES</b><br>1) Change in design spec, drawing, |   |  |
|--|--|---|--|
| COGNIZANT ENGINEER           APPROVALS         (Initials/Date) | Class 1 Class 2  | <ul> <li>a) Change in design spee, drawing, or schematic</li> <li>2) Replace</li> <li>3) Rework</li> <li>4) Retest</li> <li>5) Use As Is</li> </ul> |  |
| Lead Engineer  | 2 Minor Cost/Schedule  | 6) See Note/Attachment  |  |
|  |  | NEXT HIGHER ASSEMBLY<br><u>IDPU</u>   |  |