

PIP30 Family Design Rules

Specific design rules have been applied during the complete design phase. These precaution include but are not limited to;

- **signal integrity** in terms of track impedance selecting and matching
- **track length matching and signal termination** which required to do the routing manually by highly skilled engineers.

These consideration are key when systems shall **run trouble free over years in extreme environments**. Further a strong attention has been given to the system efficiency during the design phase to exclude unnecessary power losses.

Within the design thoughts, the construction of the multilayer board has been looked at deeply from electrical as well as thermal point of view. The various specific design rules make the PIP30 unique compared to other 3rd generation Core i systems where the design is based on the Intel reference design and even plugged CPUs are used. One can see the **difference at the overall power consumption**.

Another key when designing a rugged product is the **selection of the components**. This is the base for **long-term availability** and efficiency and to insure a **life cycle of 10 years**. Another selection criteria is to use only parts whenever possible that are specified for the **extended temperature** range.

These precautions give the user the best **long-term availability and best quality in all environments**.