



Applications Information

Power Supply Characteristics

886LCD/mITX

This note describes the power supply characteristics of the 886LCD/mITX board including static/dynamic power consumption and power-on load characteristics.



Revision history

Revision	Date	Description/changes
0	27-Jun-2006	Initial 868LCD/mITX Power Supply Characteristics



Power Supply Characteristics of 886LCD/mITX

In order to ensure safe operation of the board, the ATX power supply must monitor the supply voltage and shut down if the supplies are out of range – refer to the hardware manual for actual power specification.

The 886LCD/mITX board is powered through the ATX connector and the additional 12V separate supply for CPU as specified in the ATX specification; besides this the power supplied to the board must be within the ATX specification.

The requirements to the supply voltages are as follows:

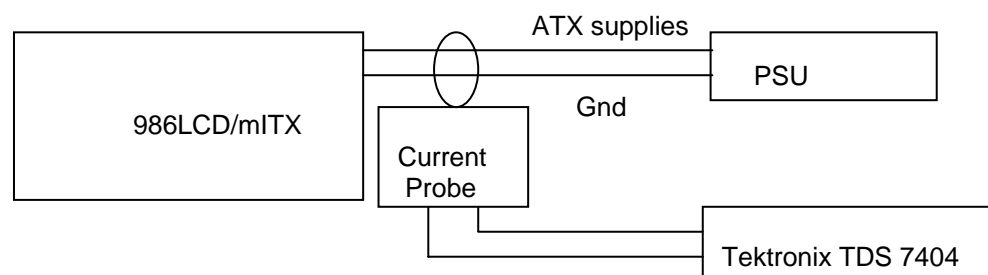
Supply	Min	Max	Note
Vcc3	3.168V	3.432V	Should be $\pm 4\%$ for compliance with the ATX specification
Vcc	4.75V	5.25V	Should be $\pm 5\%$ for compliance with the ATX specification
+12V	11.4V	12.6V	Should be $\pm 5\%$ for compliance with the ATX specification
-12V	-13.2V	-10.8V	Should be $\pm 10\%$ for compliance with the ATX specification
-5V	-5.50V	-4.5V	Not required for the 886LCD/mITX board
5VSB	4.75V	-5.25V	Should be $\pm 5\%$ for compliance with the ATX specification

Test system configuration

The following items were used in the test setup:

1. 886LCD/mITX board mounted w/ 3.06GHz P4 & 512MB DDR Ram
2. 12V active cooler
3. PS/2 keyboard & mouse
4. CRT
5. HD
6. ATX PSU
7. Tektronix TDS 7404, P6345 probes
8. Fluke Current Probe 80i-100S AC/DC

Test setup



Note: The Power consumption of CRT and HD is not included.

Static Power Consumption

The power consumption of the 886LCD/mITX Board is measured under:

- 1- DOS, idle, mean
- 2- WindowsXP, Running 3DMARK & CPU BURN, mean
- 3- WindowsXP, Running 3DMARK & CPU BURN, peak
- 4- S1, mean
- 5- S3, mean
- 6- S4, mean
- 7- Inrush, peak



886LCD/mITX

DOS, Idle, mean

Supply	Current draw	Power consumption
+12V	1.42A	17.04W
+5V	1.39A	6.95W
+3V3	0.53A	1.749W
-12V	0.08A	0.96W
5VSB	0.05A	0.25W
Total	X	26.949W

Windows XP, 3DMARK2000 & CPUBURN, mean

Supply	Current draw	Power consumption
+12V	3.82A	45.84W
+5V	1.84A	9.2W
+3V3	0.5A	1.65W
-12V	0.08A	0.72W
5VSB	0.05A	0.25W
Total	X	57.66W

Windows XP, 3DMARK2000 & CPUBURN, peak

Supply	Current draw	Power consumption
+12V	4.20A	50.04W
+5V	2.62A	13.1W
+3V3	0.64A	2.112W
-12V	0.1A	1.2W
5VSB	0.06A	0.30W
Total	X	66.752W

S1, mean

Supply	Current draw	Power consumption
+12V	1.35A	16.2W
+5V	0.96A	4.8W
+3V3	0.47A	1.551W
-12V	0.08A	0.96W
5VSB	0.04A	0.2W
Total	X	23.711W

S3, mean

Supply	Current draw	Power consumption
+12V	X	0W
+5V	X	0W
+3V3	X	0W
-12V	X	0W
5VSB	0.23A	1.15W
Total	X	1.15W



S4, mean

Supply	Current draw	Power consumption
+12V	X	0W
+5V	X	0W
+3V3	X	0W
-12V	X	0W
5VSB	0.05A	0.25W
Total	X	0.25W

Inrush, peak

Supply	Current draw
+12V	4.24A
+5V	3.52A
+3V3	3.48A
-12V	0.08A
5VSB	3.5A