



Applications Information

Power Supply Characteristics

886LCD/ATXU-GV

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



Revision history

Revision	Date	Description/changes
0	21-Jun-2006	Initial 868LCD/ATXU-GV Power Supply Characteristics



Power Supply Characteristics of 886LCD/ATXU-GV

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/ATXU-GV 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:

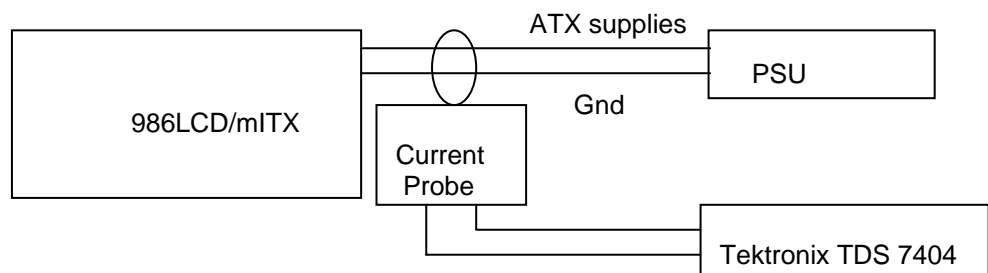
Supply	Min	Max	Note
Vcc3	3.168V	3.432V	Should be $\pm 4\%$ for compliance with the ATX specification
Vcc	4.75V	5.25V	Should be $\pm 5\%$ for compliance with the ATX specification
+12V	11.4V	12.6V	Should be $\pm 5\%$ for compliance with the ATX specification
-12V	-13.2V	-10.8V	Should be $\pm 10\%$ for 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/ATXU-GV board mounted w/ 2.0GHz Celeron & 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/ATXU-GV 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/ATXU-GV

DOS, Idle, mean

Supply	Current draw	Power consumption
+12V	1.18A	14.16W
+5V	0.82A	4.1W
+3V3	1.95A	6.435W
-12V	0.06A	0.72W
5VSB	0A	0W
Total	X	25.415W

Windows XP, 3DMARK2000 & CPUBURN, mean

Supply	Current draw	Power consumption
+12V	3.77A	45.24W
+5V	1.25A	6.25W
+3V3	2.20A	7.26W
-12V	0.06A	0.72W
5VSB	0A	0W
Total	X	59.47W

Windows XP, 3DMARK2000 & CPUBURN, peak

Supply	Current draw	Power consumption
+12V	4.16A	49.92W
+5V	1.56A	7.8W
+3V3	2.44A	8.052W
-12V	0.07A	0.84W
5VSB	0A	0W
Total	X	66.612W

S1, mean

Supply	Current draw	Power consumption
+12V	1.14A	13.68W
+5V	0.72A	3.6W
+3V3	1.90A	6.27W
-12V	0.06A	0.72W
5VSB	0A	0W
Total	X	24.27W

S3, mean

Supply	Current draw	Power consumption
+12V	X	0W
+5V	X	0W
+3V3	X	0W
-12V	X	0W
5VSB	0.22A	1.1W
Total	X	1.1W



S4, mean

Supply	Current draw	Power consumption
+12V	X	0W
+5V	X	0W
+3V3	X	0W
-12V	X	0W
5VSB	0.22A	1.1W
Total	X	1.1W

Inrush, peak

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