

Thermal Test Report
Model : YY-5409
Thermal Performance Contest

Date:Oct.04 2004

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1. Introduction

The purpose of this evaluation is to find the best performance thermal solution by system operated as for Intel P4 3.8G processor .

2. References

ATX spec <http://formfactors.org>

3. Thermal Test

3.1 Test Configuration

Chassis	YY-5409
Power Supply	Delta GPS-350CN-100A,350W
Chassis Fan	Jamicon KF1225BILS, Quantity:2 Speed: 1600RPM(Low Speed) Jamicon KF1225BIMS, Quantity:1 Speed: 1800RPM(Middle Speed) Jamicon KF1225B1HS, Quantity:1 Speed:2200RPM (High Speed) <i>System config. To be tested with various modes, please refer to table 4.1 & 4.2</i>
Processor	Intel P4 Prescott 3.8GHz/800MHz 1MB L2-Cache LGA-775, Quantity:1
Processor Thermal solution	Intel Boxed Cooler
Motherboard	GIGABYTE GA-8I915P-MF(Intel 915P)
Memory	Kingston DDR400 512MB, Quantity: 2
Hard Drive	SEAGATE 40G, Quantity: 1
CD ROM	Cyber CD526D 52X, Quantity: 1
Floppy Drive	Mitsumi D359M3, Quantity: 1
AGP Card	GIGABYTE GA-V-NX53128T, Quantity: 1
PCI-Lan Card	D-LINK DFE-530TX, Quantity: 1
PCI-Sound Card	ESS SC1938, Quantity: 1

3.2 Test Equipment Used

FULL SYSTEM OPERATION

Fluke Hydra 2635A

Software: Intel P4 Prescott MAXPOWER Rev:1.4.2

3.3 Test Process

The peripherals listed in section 1 were installed in the chassis and thermocouples were attached at the points designated in section 4. The chassis was tested in a controlled temperature held at a constant 35°C. The thermal readings communicated from the sensors on the test board to the test software. The system was exercised until the initial thermal gradient reached a consistent level with a slope-nearing zero. During testing, the ambient temperature was monitored approximately 2" from the front bezel of the chassis.

3.4 Data Recorded

Temperature readings are measured at the following location(s):

- Ambient -- Hotbox ambient temperature (2" from the front center of the chassis)
- Tinlet1 – Internal ambient temperature of the processor heatsink .5" away from the center of fan hub (near the rear port)
- Tinlet2 – Internal ambient temperature of the processor heatsink .5" away from the center of fan hub (near the PSU)
- Tinlet3 – Internal ambient temperature of the processor heatsink .5" away from the center of fan hub (near the DIMM slot)
- Tinlet4 – Internal ambient temperature of the processor heatsink .5" away from the center of fan hub (near the chipset)
- Tcase -- Processor case temperature

4. Test Result (see table 4.1), & Test mode details (Table 4.2)

5. Summary: PASS

According to the FMB guidance, the CPU is FMB04B, TDP=115W

Psc Tc= Px0.25+44.0 =75.75 °C (Tc spec)

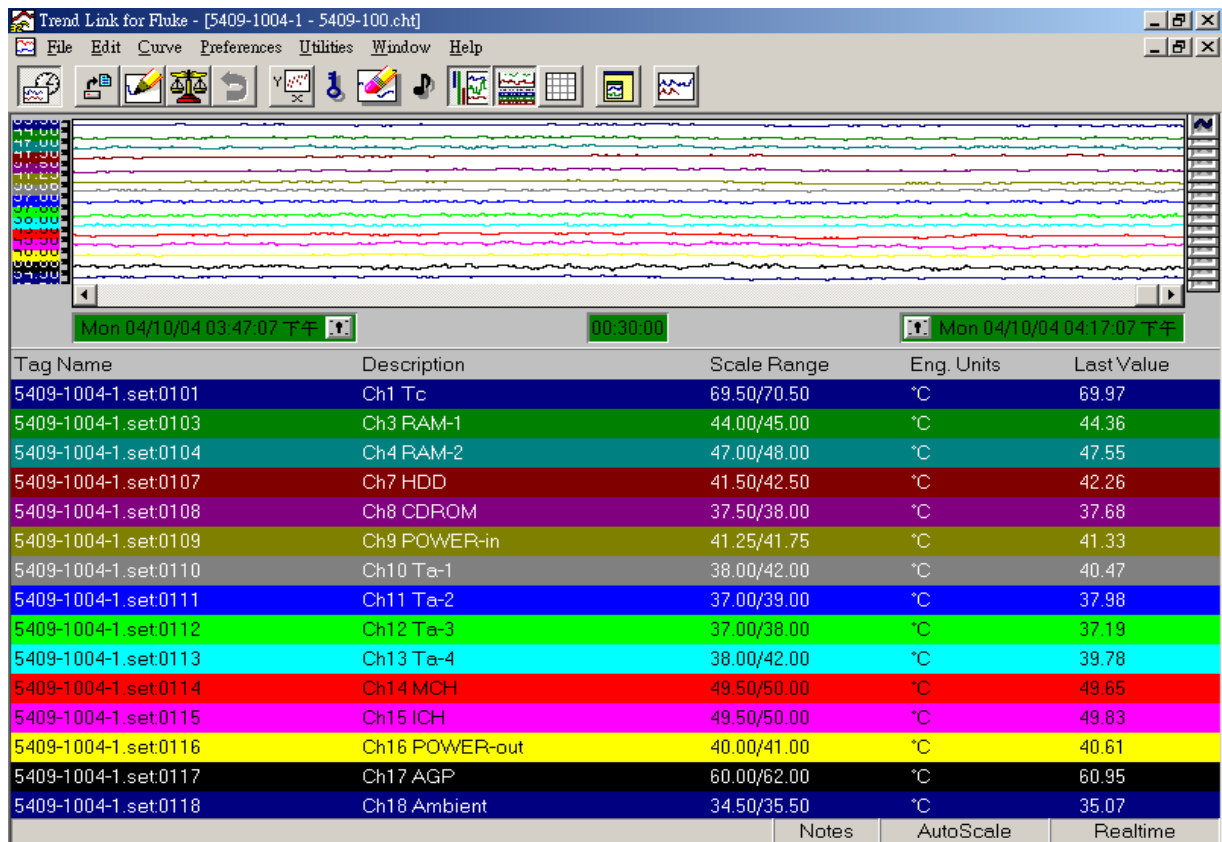
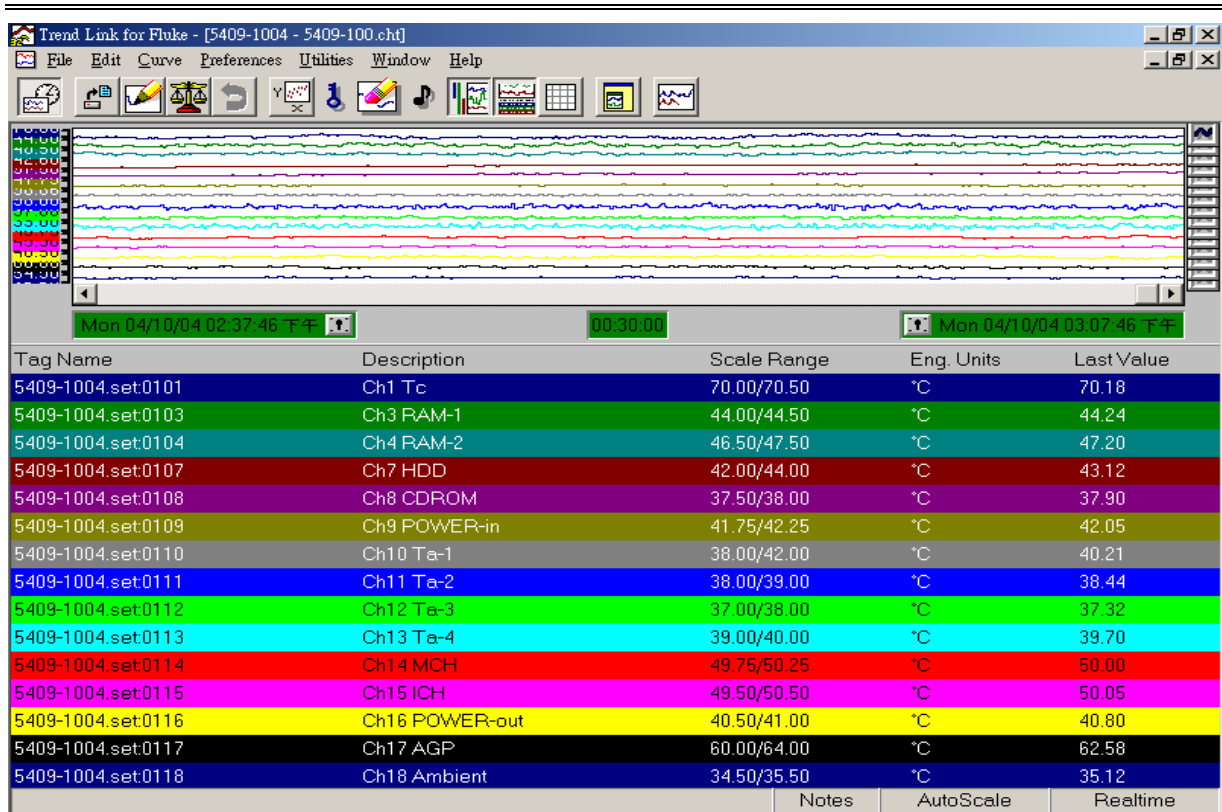
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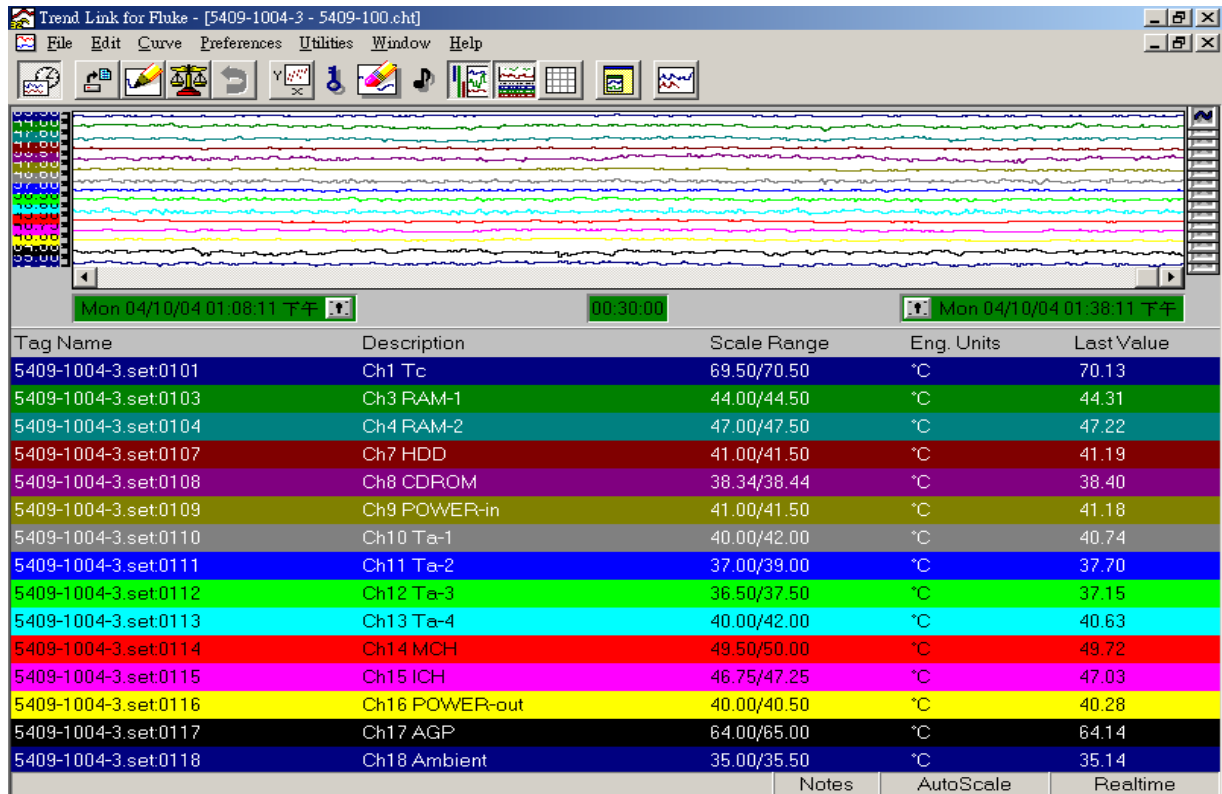
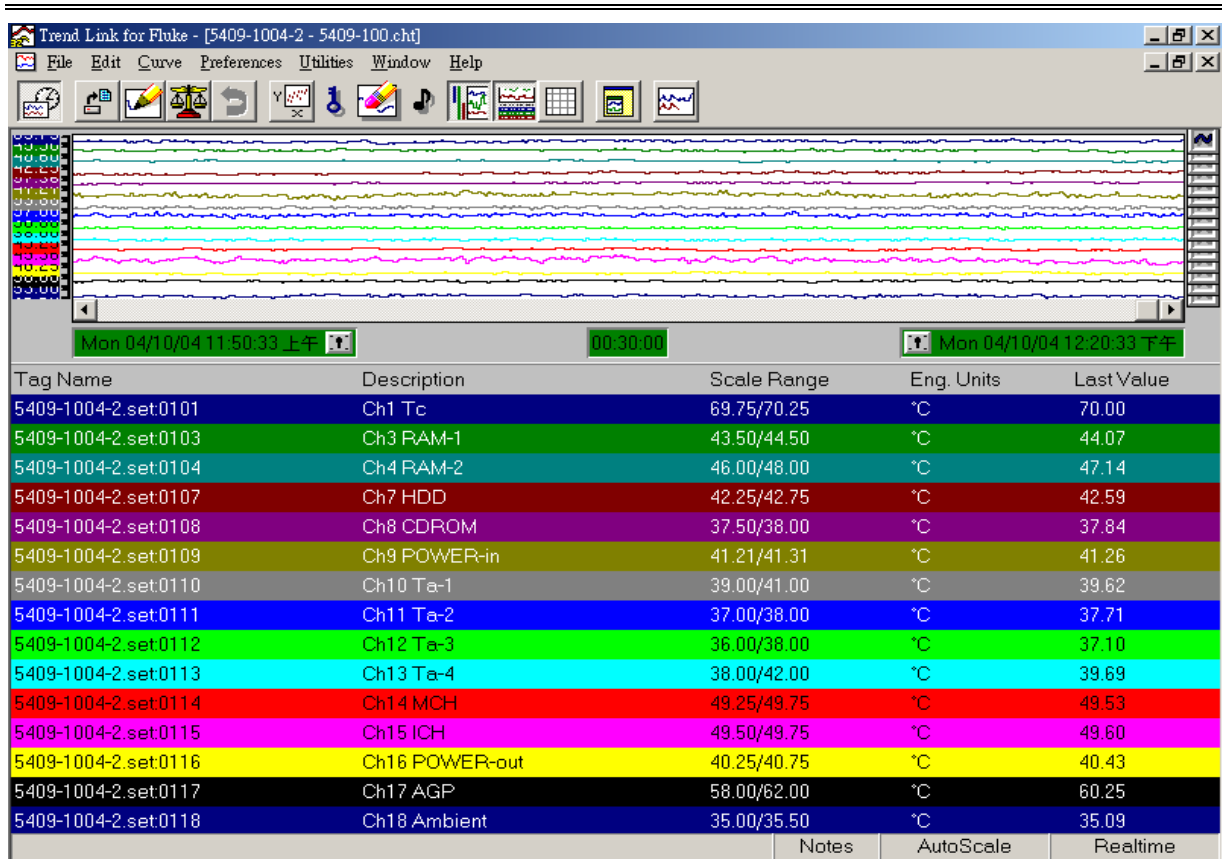
Table 4.1
Date: Oct.04.2004

position	Mode 1	Mode 2	Mode 3	Mode 4
Power model	Delta 350CN-100A (with 8cm Fan for airflow out, vents for air flow out)			
System Fan-12 cm (Mounted in front side of chassis)	No	No	No	Yes
System Fan-12 cm (Mounted in rear side of chassis)	Yes	Yes- Middle Speed	Yes- High Speed	Yes- High Speed
Airguide (CAG1.1- Only Vents no Airguide)	Yes	Yes	Yes	Yes
Run the test under the software on 90% level	90 %	90 %	90 %	90 %
Test Result (values was according to the screens of Fluke monitor)				
DIMM-1	44.2	44.4	44.1	44.3
DIMM-2	47.2	47.6	47.1	47.2
HDD	43.1	42.3	42.6	41.2
CD ROM	37.9	37.7	37.8	38.4
MCH	50	49.7	49.5	49.7
ICH	50.1	49.8	49.6	47
AGP	62.6	61	60.3	64.1
POWER-in	42.1	41.3	41.3	41.2
POWER-out	40.8	40.6	40.4	40.3
T-inlet 1	40.2	40.5	39.6	40.7
T-inlet 2	38.4	38	37.7	37.7
T-inlet 3	37.3	37.2	37.1	37.2
T-inlet 4	39.7	39.8	39.7	40.6
T-inlets average Tambient(1~4)	<u>38.9</u>	<u>38.9</u>	<u>38.5</u>	<u>39.1</u>
T-case	<u>70.2</u>	<u>70</u>	<u>70</u>	<u>70.1</u>
Ambient(case outside)	35.1	35.1	35.1	35.1

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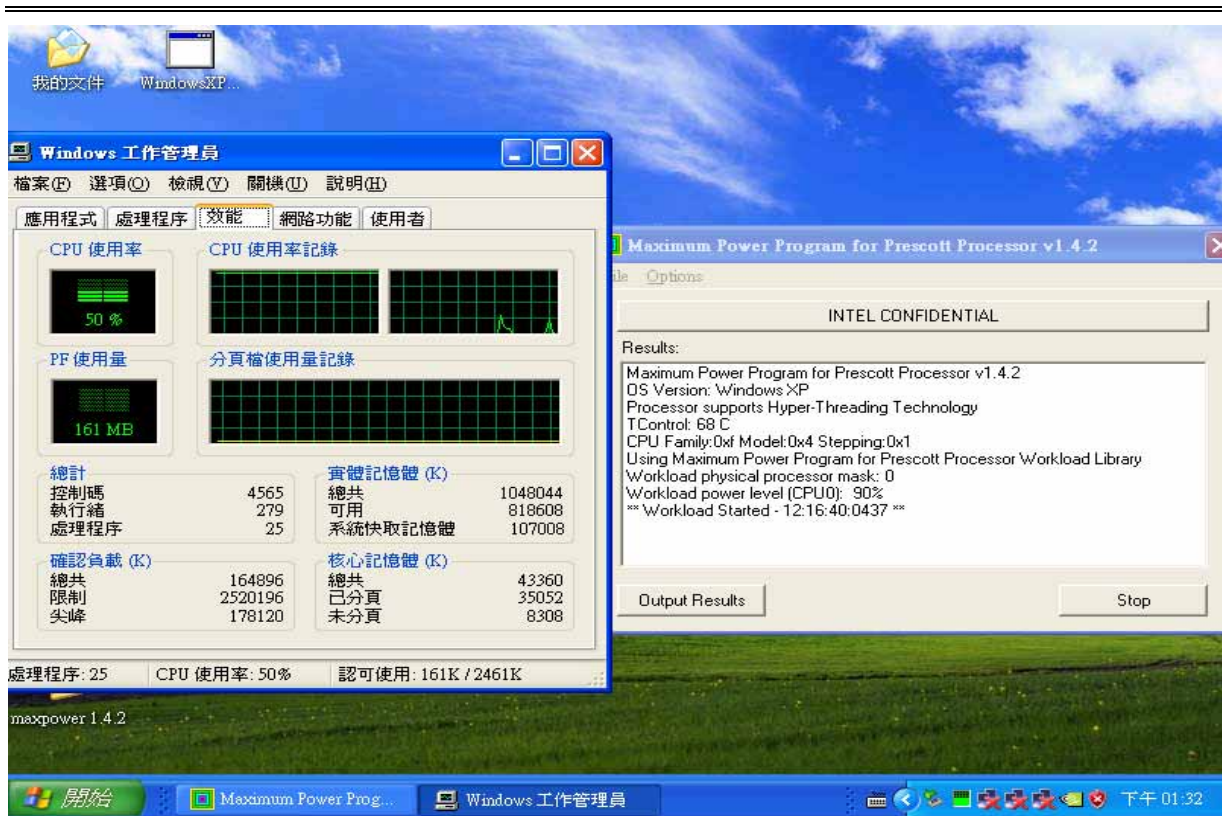


Table 4.2



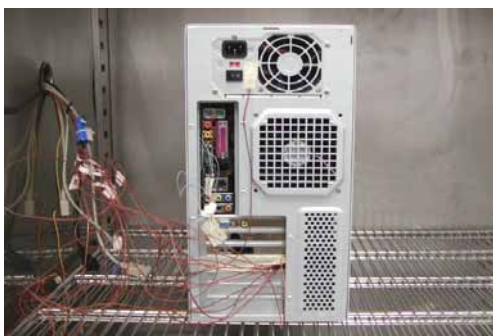
The view of the chassis front side.



The view of the chassis right side.



The view of the chassis left side.



The view of the chassis back side.



The view of the thermocouples connections.