

## ENVIRONMENTAL TEST REPORT

Company : ICP DAS CO., LTD.Address : No. 111, Kuangfu N. Rd., Hukou Shiang, Hsinchu, Taiwan 303, R.O.CSample Name : NS-205Date of Received : MAR. 27, 2004Date of Tested : MAR. 27, 2004

### TESTING LABORATORY IS ACCREDITED BY :

ISO/IEC/EN/CNLA 17025 General Requirements for the Competence of Calibration and Testing Laboratory

Certificate No. : CNLA-ZL02038

### WE HEREBY CERTIFY THAT:

The test shown in the attachment was made in accordance with the procedures indicated.  
We assume full responsibility for the accuracy and completeness of these tests and vouch for the qualifications of all persons taking them.

	Name	Signature	Date
Testing Engineer	Injel Chen		
Approving Manager	Michael Lei		

### **Notes :**

1. This report will be invalid if duplicated or photocopied in part.
2. This report refers only to the specimen(s) submitted to test, and is invalid as separately used.
3. This report is invalid without examination stamp and signature of this institute.
4. The tested specimen(s) will be preserved for thirty days from the date issued, if not taken back by the applicant.

## TABLE OF CONTENT

### **1. GENERAL INFORMATION**

1.1 DESCRIPTION OF EUT .....	Page 3
1.2 EUT TESTING SETUP .....	Page 3
1.3 EUT OPERATING CONDITION.....	Page 3

### **2. MECHANICAL SHOCK TEST**

2.1 DESCRIPTION OF TEST EQUIPMENT .....	Page 4
2.2 LABORATORY AMBIENCE CONDITION.....	Page 4
2.3 REFERENCE DOCUMENT .....	Page 4
2.4 TEST CONDITION.....	Page 4
2.5 SUMMARY OF TEST .....	Page 4

### **3. VIBRATION TEST**

3.1 DESCRIPTION OF TEST EQUIPMENT .....	Page 5
3.2 LABORATORY AMBIENCE CONDITION.....	Page 5
3.3 REFERENCE DOCUMENT .....	Page 5
3.4 TEST CONDITION.....	Page 5
3.5 SUMMARY OF TEST .....	Page 5

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## **1. GENERAL INFORMATION**

### **1.1 DESCRIPTION OF EUT**

MANUFACTURER : ICP DAS CO., LTD.

SAMPLE NAME : NS-205

SAMPLE QUANTITY : 3pcs

**1.2 EUT TESTING SETUP: See attachment**

**1.3 EUT OPERATING CONDITION: None**

## **2. MECHANICAL SHOCK TEST**

### **2.1 DESCRIPTION OF TEST EQUIPMENT**

Test equipment : LAB AUTO-SHOCK II 2432 Shock tester  
Max acceleration : 600g(8000g available-DMA use)  
Control sensor : PCB 352C22  
Calibration date : Oct-08-2003

### **2.2 LABORATORY AMBIENCE CONDITION**

Temperature :  $23\pm 3^{\circ}\text{C}$   
Relative humidity :  $55\%\pm 3\%$ (RH)

### **2.3 REFERENCE DOCUMNET**

The test is based on EN 50155 and EN11373.

### **2.4 TEST CONDITION**

EUT Power : on  
Pulse shape : half-sine waveform  
Impact acceleration : 30g  
Pulse duration : 18 ms  
Number of shock : one shock for each of the six faces(Total 6 shocks)

### **2.5 SUMMARY OF TEST**

The test report is not included EUT functional and mechanical structure inspection.

### **3. VIBRATION TEST**

#### **3.1 DESCRIPTION OF TEST EQUIPMENT**

Test equipment : King Design 9363EM-2000F2K-50N250 Vibrator  
Controller : Dactron Laser shake 4CH  
Control sensor : KISTLER 8704B100ME S/N C196179  
Calibration date : Oct.03.2003

#### **3.2 LABORATORY AMBIENCE CONDITION**

Temperature :  $23 \pm 3^{\circ}\text{C}$   
Relative humidity :  $55\% \pm 3\%(\text{RH})$

#### **3.3 REFERENCE DOCUMNET**

The test is based on EN 50155 and EN11373.

#### **3.4 TEST CONDITION**

##### **3.4.1 CONDITION 1 (Operating)**

EUT power : on  
Vibration waveform : random waveform  
Vibration frequency / PSD level : 5~20Hz /  $0.00031\text{g}^2/\text{Hz}$  ; 150Hz/-6dB  
Test time : 15 minutes/axis  
Vibration axes : X 、 Y and Z axes

##### **3.4.2 CONDITION 2 (Non-operating)**

EUT power : off  
Vibration waveform : random waveform  
Vibration frequency / PSD level : 5~20Hz /  $0.01933\text{g}^2/\text{Hz}$  ; 150Hz/-6dB  
Test time : 5 hours/axis  
Vibration axes : X 、 Y and Z axes

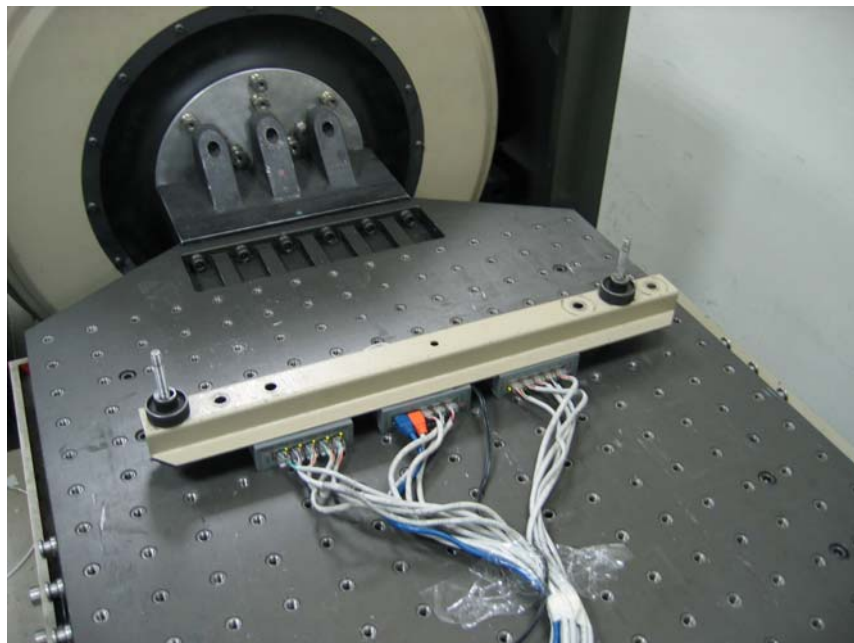
#### **3.5 SUMMARY OF TEST**

The test report is not included EUT functional and mechanical structure inspection.

Attachment 1 : Photo for mechanical shock test



Attachment 2 : Photo for vibration test (Operating)



Attachment 3 : Photo for vibration test (Non-operating)

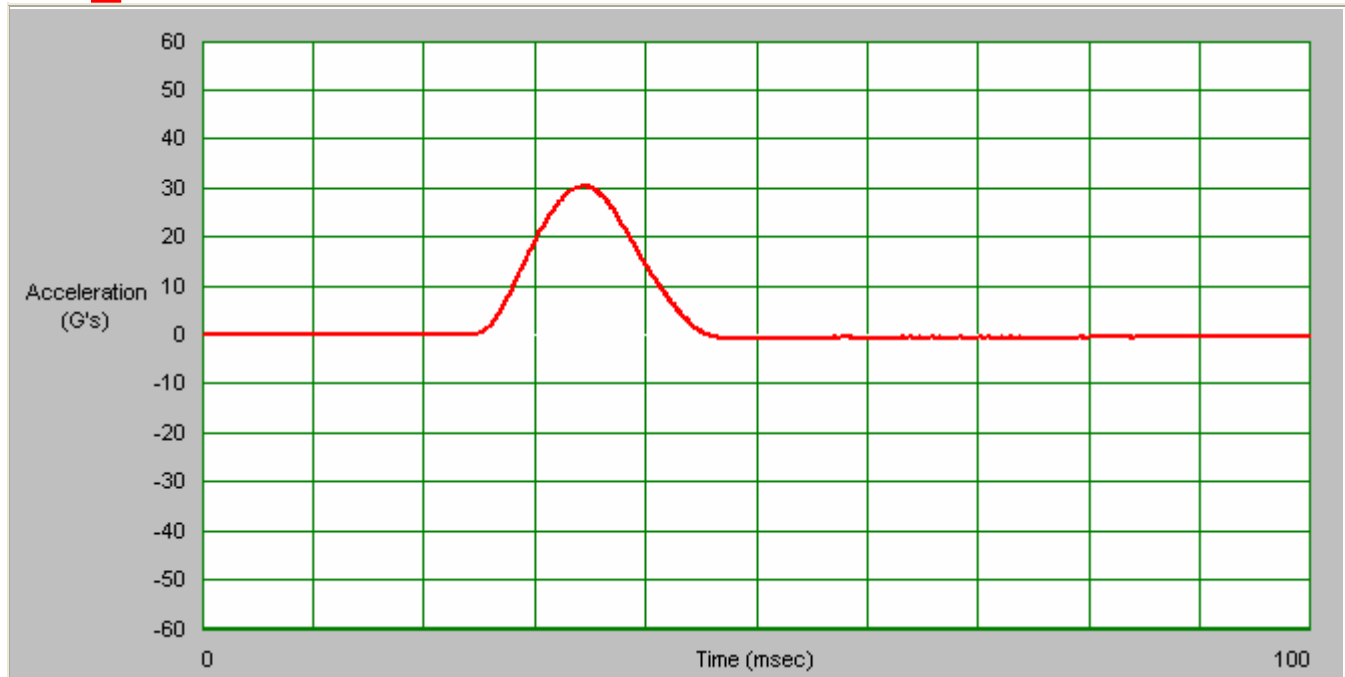




Attachment 4 : Mechanical shock test graph

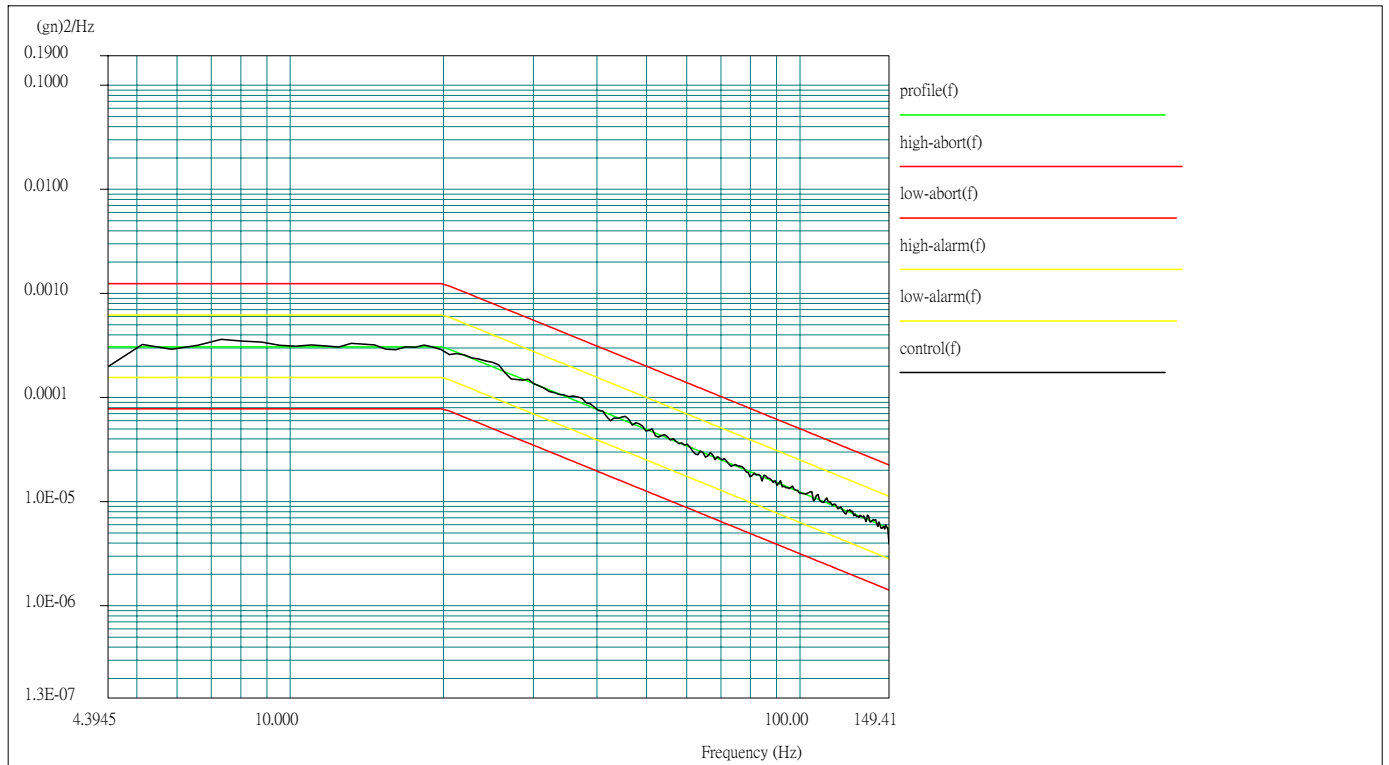
Acceleration vs Time

Channel Description:	G's	msec	In/S	Filter Hz	Max G's	Min G's
Ch1 shock table	30.32	17.40	125.53	330.00	30.32	-0.83





### Attachment 5 : Vibration test graph (Operating)



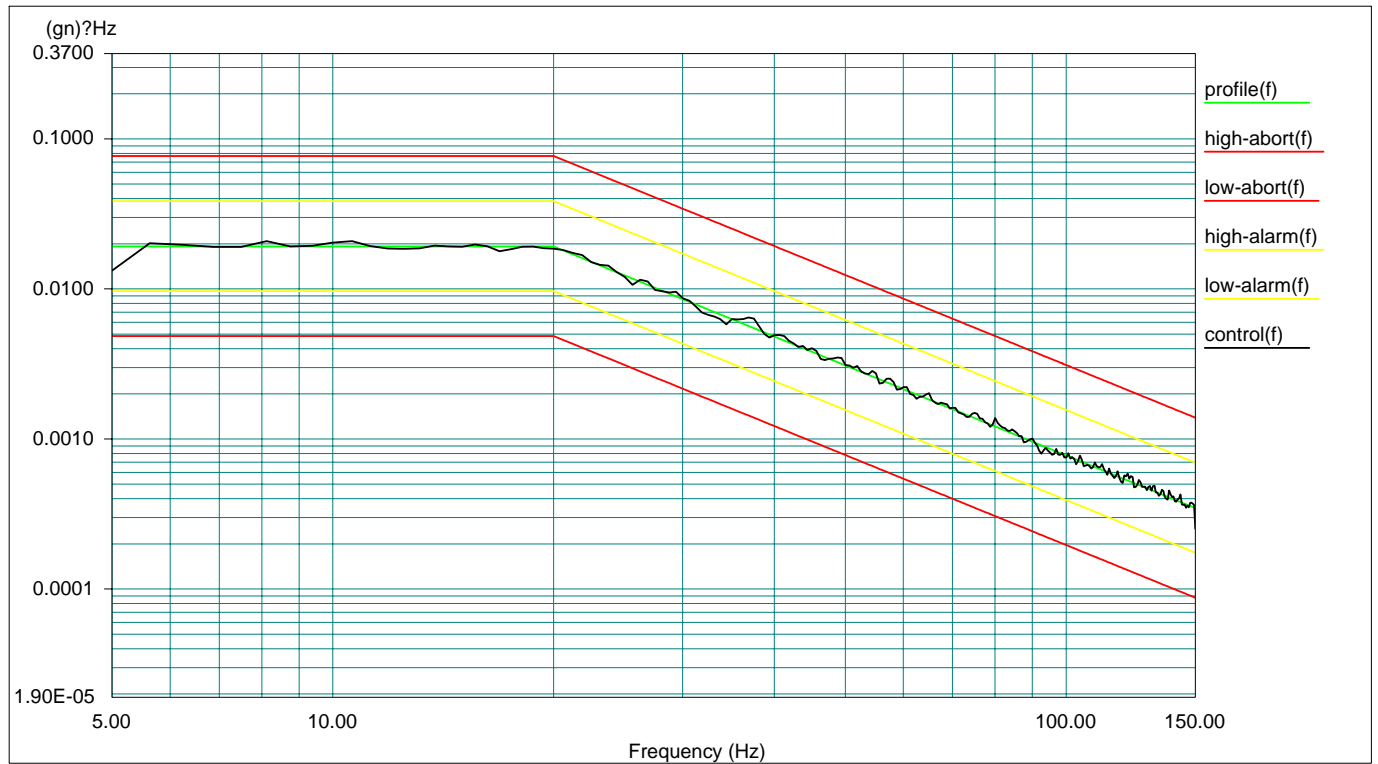
Level: 100 %

Control RMS: 0.101545 gn Full Level Elapsed Time: 00:15:00 Lines: 450

Frame Time: 1.365333 Seconds

Demand RMS: 0.100905 gn Remaining Time: 00:00:00 DOF:300 dF: 0.732422 Hz

### Attachment 6 : Vibration test graph (Non-operating)



Level: 100 %

Control RMS: 0.794843 gn    Full Level Elapsed Time: 05:00:00    Lines: 400

Frame Time: 1.600000 Seconds

Demand RMS: 0.792918 gn    Remaining Time: 00:00:00    DOF:300    dF: 0.625000 Hz