

# SPECIFICATION FOR APPROVAL

客 戶

CUSTOMER:

客 戶 料 號

CUSTOMER PARTS NO.:

品 名

AC AXIAL FAN

DESCRIPTION:

機種

4E-115S-W

MODEL NO.:

檔案序號

A4E0011HS-B1

FILE NO.:

核示	研發	品保	版數
ISSUE	R&D	QA	REVISION

客 戶 承 認

CUSTOMER APPROVAL

**BI-SONIC TECHNOLOGY CO., LTD**

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# PERFORMANCE SPECIFICATION

PRODUCT TITLE : AC AXIAL FAN

MODEL NO : 4E-115S-W

**1、SCOPE :**

THIS SPECIFICATION DEFINES THE ELECTRICAL AND MECHANICAL CHARACTERISTICS OF THE AC AXIAL FLOW FAN THE FAN MOTOR IS SHADED POLE MOTOR WITH EXTERNAL ROTOR.

**2、ELECTRICAL CHARACTERISTICS :**

ALL MEASUREMENTS PERFORMED AT 20-30°C ROOM TEMPERATURE & 50-70% R.H. UNLESS OTHERWISE SPECIFIED. SPEED MEASURED AFTER CONTINUOUS 10 MINUTE OPERATION AT RATED VOLTAGE IN CLEAN AIR.

ITEM	DESCRIPTION	UNIT	SYMBOL	SPEC.		CONDITION
				50Hz	60Hz	
1	RATED VOLTAGE	VOLTS	V	115	AC	
2	OPERATION VOLTAGE	VOLTS	V	105~125	AC	
3	INPUT CURRENT	AMP	A	0.25MAX	0.24MAX	AT RATED VOLTAGE
4	INPUT POWER	WATTS	W	24MAX	22MAX	AT RATED VOLTAGE
5	ROTATION SPEED	RPM	RPM	2650±10%	3000±10%	AT RATED VOLTAGE FREE AIR
6	ACOUSTICAL NOISE (AVG)	dB(A)	dB(A)	41±10%	45±10%	DETAILS SEE ATTACHED PAGE.
7	MAX. AIR-FLOW	CFM	Q	82.4±10%	95.6±10%	TWO-CHAMBER METHODS DETAILS SEE ATTACHED PAGE.
8	MAX. AIR-PRESSURE	mmH <sub>2</sub> O	P	6.7±10%	7.4±10%	TWO-CHAMBER METHODS DETAILS SEE ATTACHED PAGE.
9	INSULATION RESISTANCE	MEG. OHM	MΩ	100MΩ MIN. AT 500V DC		BETWEEN FRAME AND LEAD WIRE.
10	DIELECTRIC STRENGTH			WITHSTANDING AT 1400V AC 60Hz. FOR 1 MINUTE		BETWEEN FRAME AND LEAD WIRE.

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ITEM	DESCRIPTION	SPEC.	
11	ROTATION	CW VIEW FROM NAME PLATE SIDE	
12	AIR-FLOW DIRECTION	AIR INTAKE OVER THE STRUTS	
13	INSULATION CLASS	CLASS B	
14	LIFE EXPECTANCY	20000 HOURS CONTINUOUS	☐
15	SAFETY APPROVAL	UL. CSA. TUV. CE. IP54.	

☐ LIFE IS DEFINED AS THE TIME MOTOR SPEED DECREASED MORE THAN 30% COMPARED WITH INITIAL VALUE.

### 3、MECHANICAL

- 3-1. DIMENSIONS----- SEE SECTION 8
- 3-2. FRAME ----- METAL CONSTRUCTION WITH ALUMINUM DIE-CASTING.
- 3-3. IMPELLER----- MADE OF METAL MATERIAL SPOT WELDING ON ROTOR SHELL.
- 3-4. COATING ----- CED ( CATHONIC ELECTRODEPOSITION COATING WITH EPOXY ) COATING ON METAL SURFACE BE CAPABLE OF IMPACT RESISTANT AND ABRASION RESISTANT.
- 3-5. BEARING SYSTEM ----- SLEEVE BEARING
- 3-6. WEIGHT----- 600 GRAMS
- 3-7. LEAD WIRE ----- 1007 AWG # 22
- 3-8. TYPE OF OUTPUT : LEADWIRE
- 3-9. PLASTIC PARTS----- UNFLAMABLE MATERIAL , MEET UL 94V-0 RATING.

### 4、ENVIRONMENTAL :

- 4-1. OPERATING TEMPERATURE----- -10 TO +70°C
- 4-2. STORAGE TEMPERATURE ----- -30 TO +75°C

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4-3. OPERATING HUMIDITY ----- RH 20% ~ 85%

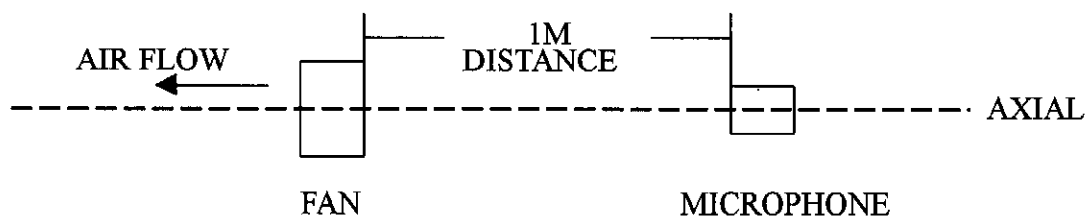
5 · PROTECTION :

5-1. IMPEDANCE PROTECTION

IMPEDANCE OF MOTOR COIL WINDING PROTECTS MOTOR FROM FLAMING IN THE CONDITION OF 72 Hrs LOCKED ROTOR AT RATED VOLTAGE.

6 · ACOUSTICAL NOISE :

6-1. MEASUREMENT SET-UP



6-2. MEASUREMENT PERFORMED IN ANECHOIC TEST CHAMBER UNDER FREE AIR CONDITION .

6-3. CHAMBER BACKGROUND NOISE 17dB MAX .

6-4. READING TAKEN FROM SPECTRUM ANALYZER .

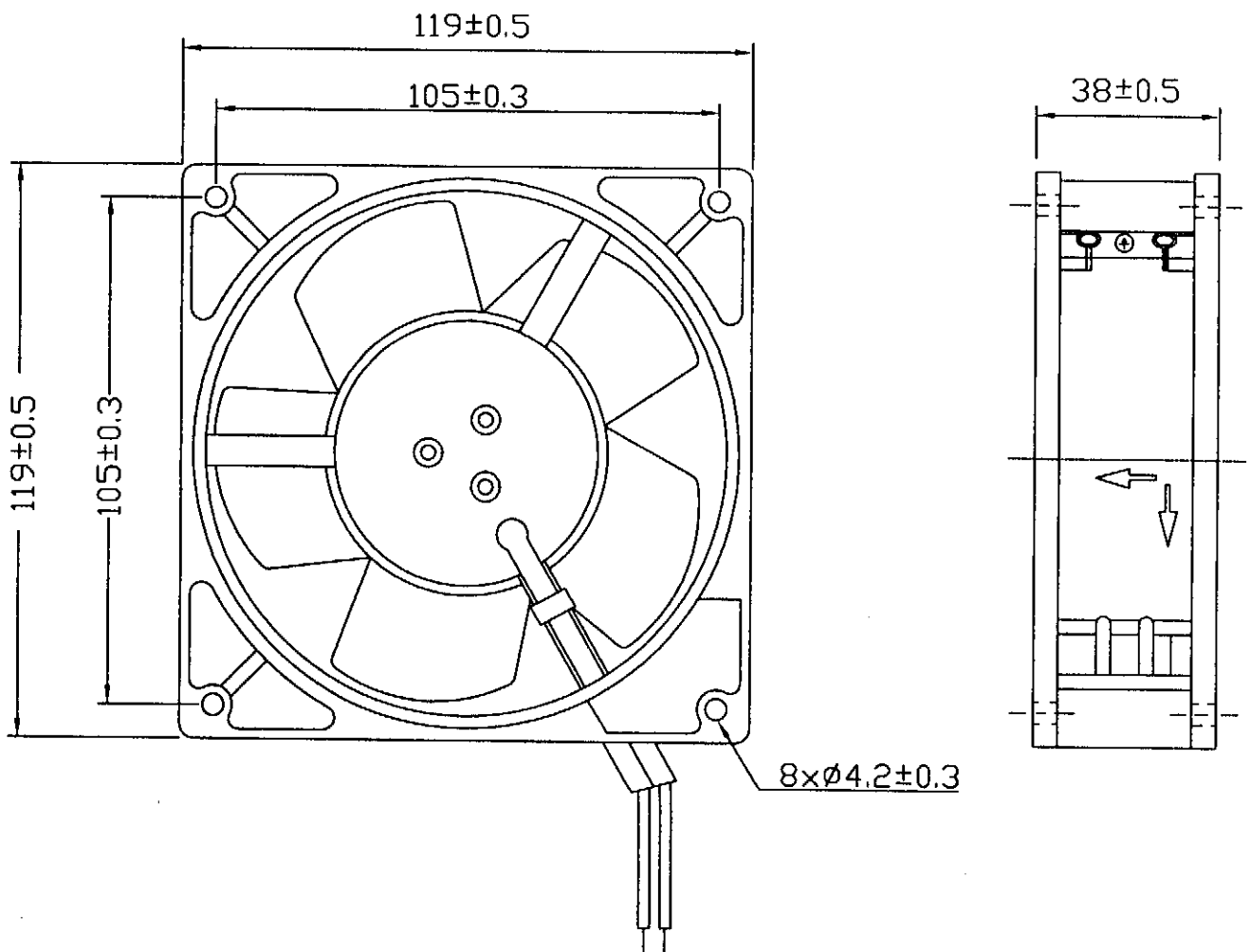
6-5. NOISE DISTRIBUTION CURVE SEE ATTACHED PAGE .

7 · STATICS PRESSURE VS AIR FLOW CURVE :

MEASURED PER TWO CHAMBER METHOD .  
DATA-CURVE SEE ATTACHED PAGE .

8、DIMENSIONS DRAWING：

UNIT:mm



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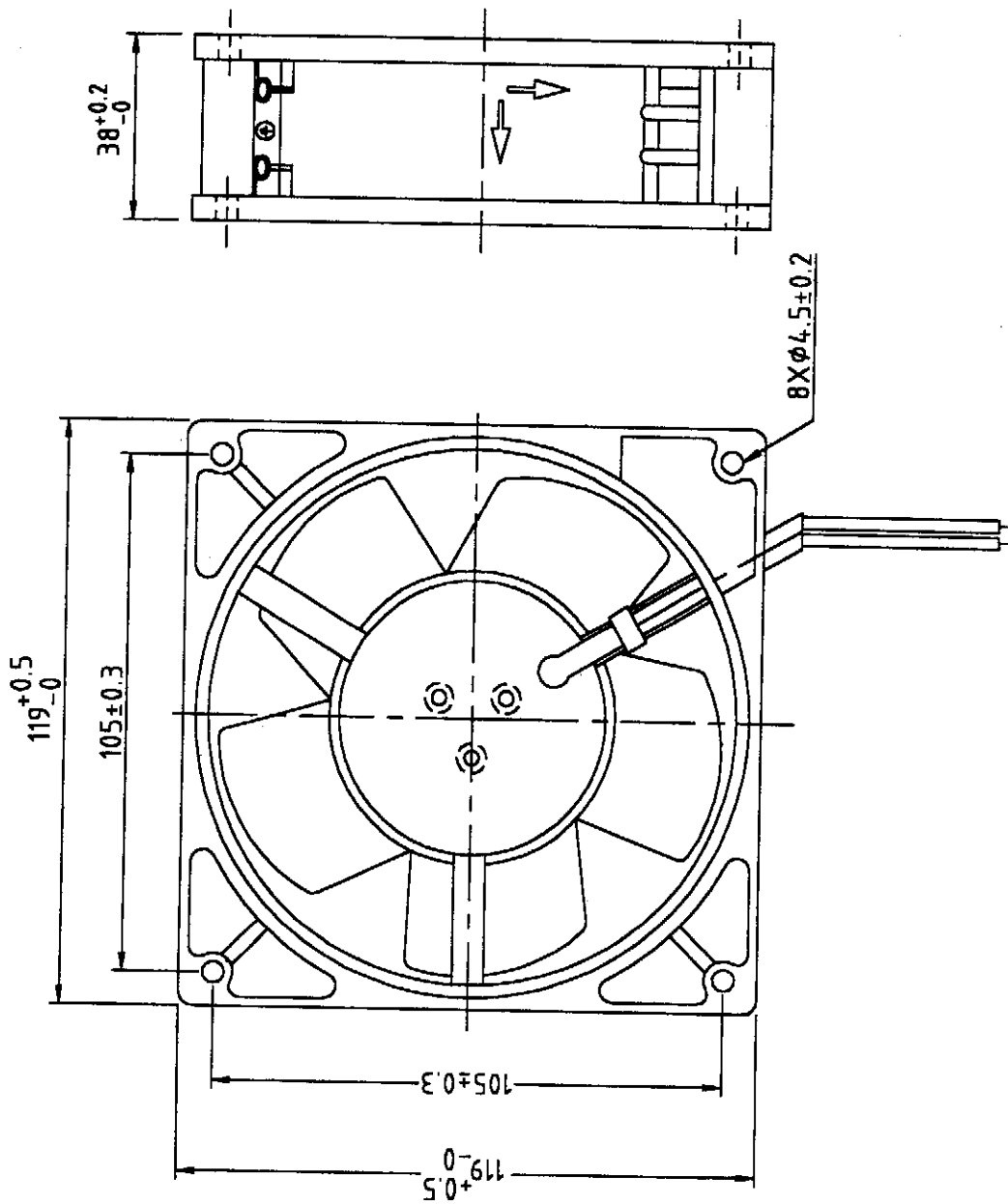
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8 · DIMENSIONS DRAWING :

UNIT: mm



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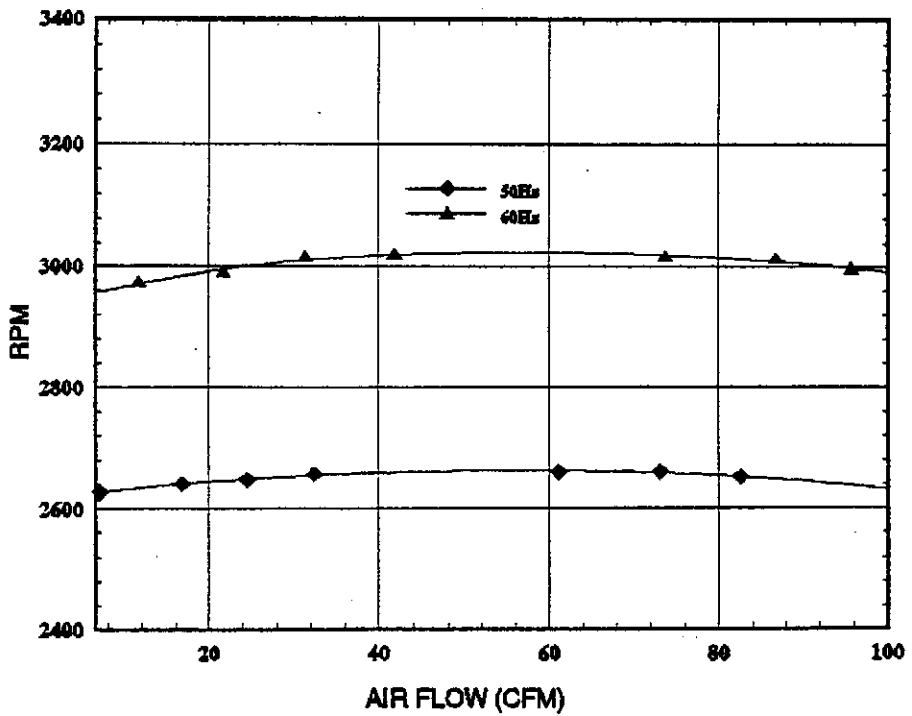
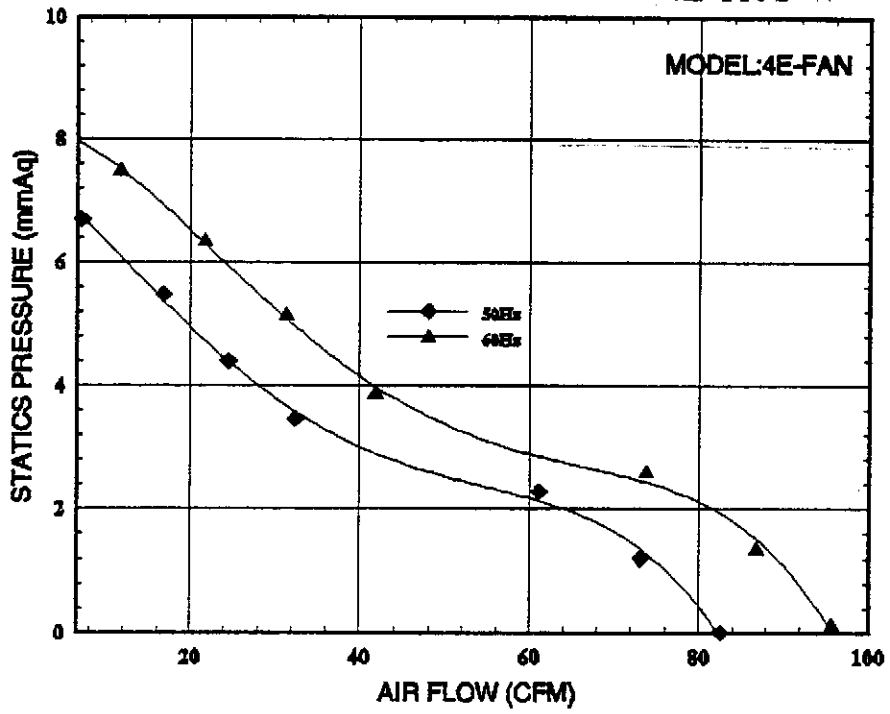
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# BI-SONIC FAN PERFORMANCE CURVES

4E-115S-W



## BI-SONIC FAN PERFORMANCE DATA SHEET

Customer: Fan Mode: 4E-115S-W Testing Method: Constant Voltage Testing Voltage: AC 115 V, 50/60Hz Barometric Pressure (cmHg): Dry Bulb Temperature ( C):25.1 Relative Humidity (%) 60 File Name: 4E-115S-W	Test No: 4E-115S-W System Setup:outlet Chamber Testing Date: 06-26-2000 Barometric Density (kg/m3):1.14 Testing Engineer:Chen Jr Wei Remark:
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No	CFM	mmAq	inAq	A	RPM	Watt
50Hz 1	82.48	0.013	0.005	0.21	2652	24
2	73.07	1.209	0.047	0.21	2661	24
3	61.03	2.283	0.089	0.21	2661	24
4	32.33	3.467	0.136	0.21	2658	24
5	24.45	4.401	0.173	0.21	2648	24
6	16.66	5.487	0.216	0.21	2641	24
7	7.02	6.695	0.263	0.21	2627	24
No	CFM	mmAq	inAq	A	RPM	Watt
60Hz 1	95.68	0.117	0.004	0.191	2996	22
2	86.75	1.343	0.052	0.194	3012	22
3	73.78	2.593	0.102	0.197	3016	22
4	41.73	3.867	0.152	0.195	3019	22
5	31.27	5.143	0.202	0.2	3016	22
6	21.64	6.349	0.249	0.203	2988	22
7	11.51	7.481	0.294	0.207	2972	22



# BI-SONIC TECHNOLOGY CORP NOISE TEST REPORT

測試機種: 4E-115S-W

測試目的:  Evaluation 評估

工 令: \_\_\_\_\_

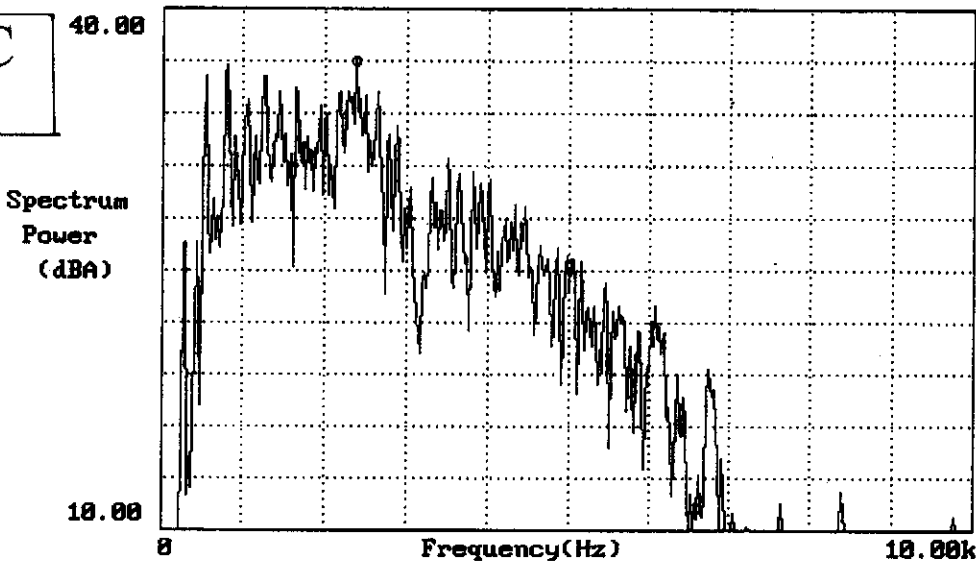
IPQC

取 樣: \_\_\_\_\_ pcs

QA

**115V AC**  
**60Hz**

資料代碼: 4E-60HZ  
 測試頻率: 10kHz  
 測試感度: 8dB  
 觸發感度: 0/128  
 觸發位置: 100點  
 Y軸上限: 40.00  
 Y軸下限: 10.00  
 平均次數: 3次



OV. AL	——	45.71814dB	MAXIM	2.375kHz	36.90125dB
LEFT	5.000kHz	23.74512dB	MINIM	0.0000Hz	-289.418dB

結果分析: \_\_\_\_\_

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- (1) Background Noise : 17dBA
  - (2) FFT Analyzer \_\_\_\_\_
  - (3) Sound Pressure Level Meter \_\_\_\_\_
- No. RR01.04A

Reporter: \_\_\_\_\_

Date : 2000/06/14

# BI-SONIC TECHNOLOGY CORP NOISE TEST REPORT

測試機種: 4E-115S-W

測試目的:  Evaluation 評估

工 令: \_\_\_\_\_

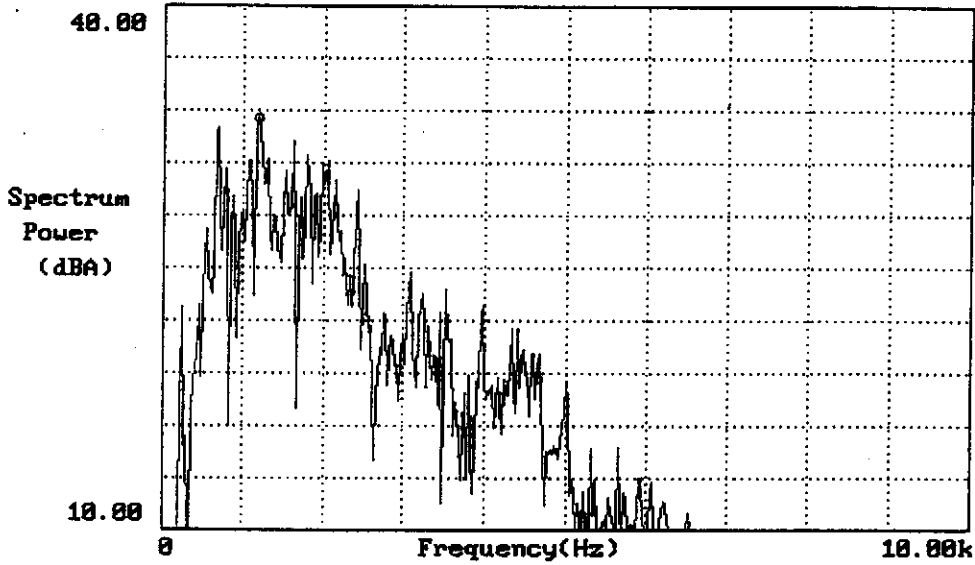
I.P.Q.C

取 樣: \_\_\_\_\_ pcs

Q.A

**115V AC**  
**50Hz**

資料代碼:  
4E-50HZ  
測試頻率:  
10KHz  
測試感度:  
8dB  
觸發感度:  
8/128  
觸發位置:  
100點  
Y軸上限:  
40.00  
Y軸下限:  
10.00  
平均次數:  
3次



OU. AL	——	40.52283dB	MAXIM	1.175kHz	33.55408dB
LEFT	5.000kHz	18.51929dB	MINIM	0.0000Hz	-289.418dB

結果分析: \_\_\_\_\_  
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 \_\_\_\_\_

- (1) Background Noise : 17dBA
  - (2) FFT Analyzer
  - (3) Sound Pressure Level Meter
- No. RR01.04A

Reporter: \_\_\_\_\_  
Date : 2000/06/14

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